Changes to Legislation: as of 3 November 2026, this Act is up to date with all changes known to be in force.



S.I. No. 299 *of* 2007

SAFETY, HEALTH AND WELFARE AT WORK (GENERAL APPLICATION) REGULATIONS 2007

REVISED

Updated to 24 May 2023

This Revised Statutory Instrument is an administrative consolidation of the *Safety, Health and Welfare at Work (General Application) Regulations 2007*. It is prepared by the Law Reform Commission in accordance with its function under the *Law Reform Commission Act 1975* (3/1975) to keep the law under review and to undertake revision and consolidation of statute law.

All Acts up to and including *Social Welfare (Child Benefit) Act 2023* (13/2023), enacted 25 May 2023, and all statutory instruments up to and including *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2023* (S.I. No. 255 of 2023), made 24 May 2023, were considered in the preparation of this Revised Statutory Instrument.

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S.I. No. 299 *of* 2007

SAFETY, HEALTH AND WELFARE AT WORK (GENERAL APPLICATION) REGULATIONS 2007

REVISED

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S.I. No. 299 *of* 2007

SAFETY, HEALTH AND WELFARE AT WORK (GENERAL APPLICATION) REGULATIONS 2007

REVISED

Updated to 24 May 2023

I, Tony Killeen, Minister of State at the Department of Enterprise, Trade and Employment, in exercise of powers conferred on me by section 58 of the Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005) and the Enterprise, Trade and Employment (Delegation of Ministerial Functions) Order 2005 (S.I. No. 316 of 2005), after consultation with the Health and Safety Authority, hereby make the following regulations—

PART 1

INTERPRETATION AND GENERAL

Citation and commencement.

1. (1)These Regulations may be cited as the Safety, Health and Welfare at Work (General Application) Regulations 2007.

(2) These Regulations come into operation on 1 November 2007.

Interpretation.

2. (1) In these Regulations:

"Act" means the Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005);

F1**[**"group 2 biological agent" has the meaning assigned to it by Regulation 2 of the Regulations of 2013;

"group 3 biological agent" has the meaning assigned to it by Regulation 2 of the Regulations of 2013;

"group 4 biological agent" has the meaning assigned to it by Regulation 2 of the Regulations of 2013;**]**

"lifting equipment" means work equipment for lifting, lowering loads or pile driving, and includes anything used for anchoring, fixing or supporting such equipment;

"personal protective equipment" means all equipment designed to be worn or held by an employee for protection against one or more hazards likely to endanger the employee's safety and health at work, and includes any additions and accessories to the equipment, if so designed, but does not include—

(a) ordinary working clothes and uniforms not specifically designed to protect the safety and health of an employee,

(b) personal protective equipment for the purposes of road transport,

(c) sports equipment,

(d) self-defence equipment or deterrent equipment, or

(e) portable devices for detecting and signalling risks and nuisances;

"public road" means a road the responsibility for the maintenance of which lies on a road authority;

F1**[**"Regulations of 2013" means the Safety, Health and Welfare at Work (Biological Agents) Regulations 2013 (S.I. No. 572 of 2013);**]**

F2**[**"relevant code of practice" means a code of practice, relating to these Regulations, published under section 60 of the Act;**]**

"road authority" means a county council, a city council or a town council (within the meaning of the Local Government Act 2001 (No. 37 of 2001)) other than the council of a town mentioned in Part 2 of Schedule 6 to that Act;

"work equipment" means any machinery, appliance, apparatus, tool or installation for use at work.

(2) An employer shall ensure that, where activities mentioned in sections 6 and 11(5) of the Act are being carried out, the safety, health and welfare of the employer's employees are protected as far as possible, taking account of the relevant statutory provisions.

(3) Without prejudice to the generality of section 19 of the Act, an employer shall, in identifying hazards and assessing risks under that section, take account of particular risks if any, affecting employees working alone at the place of work or working in isolation at remote locations.

(4) Any reference in these Regulations to provisions encompassed in the generality of the Act shall be without prejudice to the requirements of those provisions in the Act.

F2**[**(5) For the purposes of these Regulations, an employer shall take into account those measures set out in a relevant code of practice.**]**

Annotations

Amendments:

F1 Inserted (18.02.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016), reg. 3.

F2 Inserted (24.05.2023) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2023* (S.I. No. 255 of 2023), reg. 2(1), (2).

Revocations and savings.

3. The following are revoked:

(a) Factories (Report of Examination of Hoists and Lifts) Regulations 1956 (S.I. No. 182 of 1956),

(b) Factories Act 1955 (Hoists and Lifts) (Exemption) Order 1957 (S.I. No. 80 of 1957),

(c) Factories Act 1955 (Lifts) (Exemption) Order 1960 (S.I. No. 129 of 1960),

(d) Regulations 22 to 35 and 37 and 38 and the Schedule to the Docks (Safety, Health and Welfare) Regulations 1960 (S.I. No. 279 of 1960),

(e)Factories Act, 1955 (Hoistways) (Exemption) Order 1962 (S.I. No. 211 of 1962),

(f) Quarries (Electricity) Regulations 1972 (S.I. No. 50 of 1972),

(g) Mines (Electricity) Regulations 1972 (S.I. No. 51 of 1972),

(h) Quarries (General) Regulations 1974 (S.I. No. 146 of 1974) to the extent of in Regulation 3, the definitions of "lifting appliance" and "safe working load" Regulations 40 and 41, in the First Schedule "FORM No. 3" and "FORM No. 5" and the Second Schedule,

(i) Shipbuilding and Ship-Repairing (Safety, Health and Welfare) Regulations 1975 (S.I. No. 322 of 1975) to the extent of in Regulation 3(1), the definitions of "lifting equipment" and "lifting gear" and Regulations 32 to 48,

(j) Factories Act 1955 (Hoistways) (Exemption) Order 1976 (S.I. No. 236 of 1976),

(k) Factories Act 1955 (Hoists) (Exemption) Order 1977 (S.I. No. 13 of 1977),

(l) Mines (Electricity) (Amendment) Regulations 1979 (S.I. No. 125 of 1979),

(m) Quarries (Electricity) (Amendment) Regulations 1979 (S.I. No. 126 of 1979),

(n) Safety in Industry Acts 1955 and 1980 (Hoists and Hoistways) (Exemption) Order 1985 (S.I. No. 100 of 1985),

(o) Safety, Health and Welfare at Work (General Application) Regulations 1993 (S.I. No. 44 of 1993), other than Part X and the Twelfth Schedule,

(p) Safety, Health and Welfare at Work (Signs) Regulations 1995 (S.I. No. 132 of 1995),

(q) Safety, Health and Welfare at Work (Miscellaneous Welfare Provisions Regulations 1995 (S.I. No. 358 of 1995),

(r) Safety, Health and Welfare at Work (Children and Young Persons) Regulations 1998 (S.I. No. 504 of 1998*)*,

(s) Safety, Health and Welfare at Work (Night Work and Shift Work) Regulations 2000 (S.I. No. 11 of 2000),

(t) Safety, Health and Welfare at Work (Pregnant Employees etc.) Regulations 2000 (S.I. No. 218 of 2000),

(u) Safety, Health and Welfare at Work (General Application) (Amendment Regulations 2001 (S.I. No. 188 of 2001),

(v) Regulations 80 to 123 of the Safety, Health and Welfare at Work (Construction Regulations 2001 (S.I. No. 481 of 2001),

(w) Safety, Health and Welfare at Work (Explosive Atmospheres) Regulations 2003 (S.I. No. 258 of 2003),

(x) Safety, Health and Welfare at Work (Work at Height) Regulations 2006 (S.I. No. 318 of 2006),

(y) Safety, Health and Welfare at Work (Control of Vibration at Work) Regulations 2006 (S.I. No. 370 of 2006), and

(z) Safety, Health and Welfare at Work (Control of Noise at Work) Regulations 2006 (S.I. No. 371 of 2006), except Regulation 11(3) of those Regulations.

(2) Regulation 11(3) of the Safety, Health and Welfare at Work (Control of Noise at Work Regulations 2006 (S.I. No. 371 of 2006) is revoked on 14 February, 2008.

Part 2

Workplace and Work Equipment

Chapter 1 — Workplace

Interpretation for Chapter 1.

4. In this Chapter—

"place of work" means a place of work intended to house workstations on the premises of an undertaking and any other place within the area of the undertaking to which an employee has access in the course of his or her employment but does not include—

(a) means of transport used outside the undertaking or a place of work inside a means of transport,

(b) temporary or mobile work sites, including construction sites,

(c) extractive industries,

(d) fishing boats,

(e) fields, woods and land forming part of an agricultural or forestry undertaking but situated away from the undertaking's buildings.

Stability and solidity.

5. An employer shall ensure that buildings which house places of work shall have a structure and solidity appropriate to the nature of their use.

Ventilation of enclosed places of work.

6. An employer shall ensure that—

(a) sufficient fresh air is provided in enclosed places of work, having regard to the working methods used and the physical demands placed on the employer's employees,

(b) if a forced ventilation system is used, it is maintained in working order and any breakdown is indicated by a control system if necessary for the safety and health of employees,

(c) if air-conditioning or mechanical ventilation installations are used, they operate in such a way that employees are not exposed to draughts which cause discomfort, and

(d) any deposit or dirt likely to create an immediate danger to the safety and health of employees by polluting the atmosphere is removed without delay.

F3**[**(e) for the purposes of this Regulation, those measures to ensure sufficient fresh air is provided in enclosed places of work shall take into account those set out in a relevant code of practice.**]**

Annotations

Amendments:

F3 Inserted (24.05.2023) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2023* (S.I. No. 255 of 2023), reg. 2(3).

Room temperature.

7. (1) An employer shall ensure that—

(a) during working hours, the temperature in rooms containing workstations is appropriate for human beings, having regard to the working methods being used and the physical demands placed on the employees,

(b) for sedentary office work, a minimum temperature of 17.5°C, so far as is reasonably practicable, is achieved and maintained at every workstation after the first hour's work,

(c) for other sedentary work, at every workstation where a substantial proportion of the work is done sitting and does not involve serious physical effort, a minimum temperature of 16°C is, so far as is reasonably practicable, achieved and maintained after the first hour's work,

(d) means are available to enable persons at work to measure the temperature in any workplace inside a building,

(e) the temperature in rest areas, rooms for duty staff, sanitary facilities, canteens and first-aid rooms is appropriate to the particular purpose of such areas, and

(f) in relation to windows, skylights and glass partitions, excessive effects of sunlight are avoided in places of work, having regard to the nature of the work and the characteristics of the place of work.

(2) The temperature referred to in paragraphs (1)(b) and (c) shall be a dry bulb temperature taken at the working position of the employee at 1.1 m above the floor surface.

(3) Where, due to process requirements, a workplace temperature below 16°C is necessary the employer shall assess the risks and take any necessary measures to ensure the safety health and welfare of the employer's employees.

Natural and artificial lighting.

8. An employer shall ensure that—

(a) places of work receive, as far as possible, sufficient natural light and are equipped with artificial lighting adequate for the protection of the safety and health of the employer's employees,

(b) lighting installations in rooms containing workstations and in passageways are placed in such a way that there is no risk of accident to the employer's employees as a result of the type of lighting fitted, and

(c) places of work in which the employer's employees are especially exposed to risks in the event of failure of artificial lighting are provided with emergency lighting of adequate intensity.

Floors, walls, ceilings and roofs of rooms.

9. (1) An employer shall ensure that—

(a) the floors of rooms have no dangerous bumps, holes or slopes and are fixed, stable and, so far as is reasonably practicable, not slippery,

(b) the surfaces of floors, walls and ceilings in rooms are such that they can be cleaned or refurbished to an appropriate standard of hygiene,

(c) access to roofs and suspended ceilings made of materials of insufficient strength is not permitted unless—

(i) equipment is provided to ensure that the work can be carried out in a safe manner, and

(ii) appropriate warning signs in accordance with Part 7, Chapter 1 are placed at such access points,

(d) transparent and translucent walls, in particular all-glass partitions, in rooms or in the vicinity of workstations and traffic routes are—

(i) clearly indicated,

(ii) made of safety material, or

(iii) shielded from such places or traffic routes,

to prevent employees from coming into contact with the walls or being injured should the walls shatter, and

(e) places of work containing workstations are adequately thermally insulated, bearing in mind the type of undertaking involved and the physical activity of the employees.

(2) Paragraph (1)(e) does not apply to places of work in use prior to 31 December 1992 except as regards modifications, extensions or conversions made after that date.

Windows and skylights.

10. An employer shall ensure that—

(a) where it is possible for employees to open, close, adjust or secure windows skylights and ventilators—

(i) it may be done safely, and

(ii) when open, such windows, skylights and ventilators are not positioned so as to constitute a hazard to employees, and

(b) windows and skylights can be cleaned without risk to the safety, health or welfare of persons carrying out this work or of other persons present—

(i) by design,

(ii) by being fitted with devices, or

(iii) in conjunction with the use of equipment.

Doors and gates.

11. An employer shall ensure that—

(a) the position, number and dimensions of doors and gates, and the materials used in their construction, are determined by the nature and use of the rooms or areas and are appropriate for the safety, health and welfare of employees,

(b) swing doors and swing gates are transparent or have see-through panels,

(c) transparent doors are appropriately marked at a conspicuous level,

(d) if transparent or translucent surfaces in doors and gates are not made of safety material and, if there is a danger that employees may be injured if a door or gate should shatter, the surfaces are protected against breakage,

(e) sliding doors and sliding gates are fitted with a safety device to prevent them from being derailed or falling over,

(f) doors and gates opening upwards are fitted with a mechanism to secure them against falling back,

(g) there are doors or gates for pedestrian traffic in the immediate vicinity of gates intended primarily for vehicle traffic, unless it is safe for pedestrians to pass through, and such doors or gates are clearly marked and kept unobstructed at all times, and

(h) mechanical doors and gates—

(i) function in such a way that there is no risk of accident to employees,

(ii) are fitted with easily identifiable and accessible emergency shut-down devices, and

(iii) can be opened manually where they operate as an emergency exit, unless they open automatically in the event of a power failure.

Emergency routes and exits.

12. Without predjudice to section 11 of the Act, the Fire Services Acts 1981 and 2003 (No. 30 of 1981 and No.15 of 2003) and other relevant legislation, an employer shall ensure that—

(a) emergency routes to emergency exits and the exits themselves are kept clear at all times and lead as directly as possible to the open air or to a safe area,

(b) in the event of danger, it is possible for employees to evacuate all workstations quickly and as safely as possible,

(c) the number, distribution and dimensions of the emergency routes and exits are adequate for the use, equipment and dimensions of the place of work and the maximum number of persons that may be present,

(d) emergency exit doors open outwards,

(e) any sliding or revolving doors that are fitted are not used, or intended to be used, as emergency exits,

(f) emergency doors and gates are not so locked or fastened that they cannot be easily and immediately opened by any person who may need to use them in an emergency,

(g) specific emergency routes and exits are indicated by signs in accordance with Part 7 Chapter 1 and such signs are placed at appropriate points and are adequately durable,

(h) emergency routes and exits, and the traffic routes and doors giving access to them are free from obstruction so that they can be used at any time without hindrance, and

(i) emergency routes and exits requiring illumination are provided with emergency lighting of adequate intensity in case the lighting fails.

Fire detection and fire fighting.

13. Without prejudice to section 11 of the Act, the Fire Services Acts 1981 and 2003 (No. 30 of 1981 and No.15 of 2003) and other relevant legislation, an employer shall ensure that—

(a) a place of work is equipped with appropriate fire-fighting equipment and, as necessary, fire detectors and an alarm system, taking account of—

(i) the dimensions and use of the buildings,

(ii) the equipment they contain,

(iii) the physical and chemical characteristics of the substances present, and

(iv) the maximum potential number of people present,

(b) non-automatic fire-fighting equipment is—

(i) easily accessible and simple to use, and

(ii) indicated by signs in accordance with Part 7, Chapter 1 and the signs are placed at appropriate points and are adequately durable, and

(c) fire detection equipment and fire-fighting equipment is—

(i) inspected and maintained as frequently as necessary to ensure that it is in good working order, and

(ii) serviced by a competent person as frequently as necessary.

Movement of pedestrians and vehicles in danger areas.

14. An employer shall ensure that—

(a) outdoor and indoor places of work are organised in such a way that pedestrians and vehicles can circulate in a safe manner,

(b) traffic routes, including stairs, fixed ladders and loading bays and ramps, are designed, located and dimensioned to ensure easy, safe and appropriate access for pedestrians or vehicles in such a way as not to endanger employees employed in the vicinity of such routes,

(c) routes used for pedestrian traffic or goods traffic, or for both, are dimensioned in accordance with the number of potential users and the type of undertaking,

(d) sufficient safety clearance is provided for pedestrians if means of transport are used on traffic routes,

(e) sufficient clearance is allowed between vehicle traffic routes and doors, gates passages for pedestrians, corridors and staircases,

(f) pedestrian routes and traffic routes are clearly identified for the protection of employees, where the use and equipment of places of work so require, and

(g) if the places of work contain danger areas in which, owing to the nature of the work there is a risk of an employee or objects falling, these are—

(i) equipped, as far as possible, with devices preventing unauthorised employees from entering those areas, and

(ii) clearly indicated, and

appropriate measures are taken to protect employees authorised to enter danger areas.

Specific measures for escalators and travelators.

15. An employer shall ensure that escalators and travelators—

(a) function safely,

(b) are equipped with any necessary safety devices, and

(c) are fitted with easily identifiable and accessible emergency shutdown devices.

Loading bays and ramps.

16. An employer shall ensure that—

(a) loading bays and ramps are suitable for the dimensions of the loads to be transported,

(b) loading ramps are, as far as possible, safe enough to prevent employees from falling off,

(c) loading bays have at least one exit point, and

(d) loading bays longer than the width of 5 vehicles have an exit point at each end where technically feasible, or alternatively an appropriate refuge is provided which may be used to avoid persons at work being struck or crushed by a vehicle.

Room dimensions and air space in rooms and freedom of movement at the workstation.

17. An employer shall ensure that—

(a) workrooms have sufficient surface area, height and air space to allow employees to perform their work without risk to their safety, health or welfare, and

(b) the dimensions of the free unoccupied area at a workstation are calculated to allow employees sufficient freedom of movement to perform their work and, where this is not possible for reasons specific to the workstation, the

employee is provided with sufficient freedom of movement near his or her workstation.

General welfare requirements.

18. An employer shall ensure that—

(a) every place of work is kept in a clean state and accumulations of dirt, refuse, trade refuse and waste are removed by a suitable method as frequently as necessary to maintain an appropriate level of safety and health,

(b) the floor of every workroom is cleaned by a suitable method as frequently as necessary to maintain an appropriate level of safety and health,

(c) where any employees have in the course of their employment reasonable opportunities for sitting without detriment to their work or, where a substantial proportion of any work done by employees can properly be done sitting,

(i) suitable facilities for sitting are provided and maintained for their use, or

(ii) if this is not practical, they are otherwise ergonomically supported,

(d) an adequate supply of potable drinking water is provided and maintained at suitable points conveniently accessible to all employees,

(e) suitable and adequate facilities for boiling water and taking meals are provided and maintained for the use of employees, or that employees have reasonable access to other suitable and adequate facilities for the taking of meals, and

(f) the taking of meals by employees is prohibited at any location in the place of work where there is likely to be a risk to safety, health or welfare.

Rest rooms and rest areas.

19. An employer shall ensure that—

(a) where, because of—

(i) the type of activity carried out, or

(ii) the presence of more than a certain number of employees, and

(iii) the safety, health and welfare of employees so requires,

employees are provided with an easily accessible rest room or appropriate rest area except where the employees are employed in offices or similar workrooms providing relaxation during breaks,

(b) rest rooms are large enough and equipped with tables with easily cleaned surfaces and seats with backs, adequate for the number of employees, and

(c) if working hours are regularly and frequently interrupted and there is no rest room other rooms are provided in which employees can stay during such interruptions wherever this is required for the safety, health or welfare of employees.

Sanitary and washing facilities.

20. An employer shall provide and maintain and keep in a clean state—

(a) adequate and suitable sanitary and washing facilities for the use of employees,

(b) an adequate number of lavatories and washbasins, with hot and cold running water in the vicinity of workstations, rest rooms, changing rooms and rooms housing showers,

(c) separate use of lavatories or washbasins for men and women, when so required for reasons of propriety,

(d) adequate and suitable showers for employees if required by the nature of the work or for health reasons related thereto, and in such case—

(i) separate shower rooms or separate use of shower rooms for men and women,

(ii) shower rooms which are sufficiently large to permit each employee to wash without hindrance in satisfactory conditions of hygiene, and

(iii) showers which are equipped with hot and cold running water, and

(e) easy access between the rooms housing showers or washbasins where they are separate from the changing rooms.

Changing rooms and lockers.

21. (1) An employer shall provide or cause to be provided—

(a) appropriate changing rooms for persons at work if they have to wear special work clothes and if, for reasons of health or propriety, they cannot be expected to change in another area, which are—

(i) easily accessible,

(ii) of sufficient capacity, and

(iii) provided with seating,

(b) separate changing rooms or separate use of changing rooms for men and women and

(c) adequate provision for drying wet or damp work clothes.

(2) If circumstances so require where work clothes are likely to be contaminated by dangerous substances, atmospheric conditions or the conditions of the place of work, an employer shall provide, or cause to be provided, facilities in changing rooms to enable working clothes to be kept in a place separate from personal clothing and effects.

(3) If changing rooms are not required as referred to in paragraph (1), the employer shall ensure that every person at work is provided with a place to store his or her own clothes and personal effects.

Accommodation areas at a place of work.

22. An employer shall ensure that fixed living accommodation areas provided for employees at a place of work—

(a) are safe and without risk to health, and

(b) unless used in exceptional cases—

(i) have sufficient sanitary equipment,

(ii) are equipped with beds, cupboards, tables and seats with backs, taking account of the number of persons at work, and

(iii) are allocated taking account, where appropriate, of the presence of persons of both sexes.

Outdoor places of work, special provisions.

23. An employer shall ensure that when employees are employed at outdoor workstations, the workstations are, as far as possible, arranged so that employees—

(a) are protected against inclement weather conditions,

(b) are not exposed to harmful influences such as gases, vapours or dust, in compliance with the relevant statutory provisions, and

(c) cannot slip or fall.

Pregnant, postnatal and breastfeeding employees.

24. An employer shall ensure that pregnant, postnatal and breastfeeding employees are able to lie down to rest in appropriate conditions.

Employees with disabilities.

25. An employer shall ensure that places of work, where necessary, are organised to take account of persons at work with disabilities, in particular as regards doors, passageways, staircases showers, washbasins, lavatories and workstations used or occupied directly by those persons.

Agreements as to a premises used as a place of work.

26. (1) If, by reason of an agreement between the owner of a premises used as a place of work and an employer, the owner or employer is prevented from carrying out any structural or other alterations in the premises which are necessary to enable the employer to comply with these Regulations,

(a) the owner or employer may apply to the Circuit Court for an order under this Regulation, and

(b) the Court, after hearing the parties and any witnesses whom they desire to call, may make an order setting aside or modifying the terms of the agreement, as the Court considers appropriate in the circumstances of the case.

(2) Where, in any premises, the whole or any part of which has been let as a place of work,

(a) any structural or other alterations are required in order to comply with any provision of these Regulations, and

(b) the owner or employer, as the case may be, alleges that the whole or any part of the expenses of the alterations ought to be borne by the employer or owner,

the owner or employer may apply to the Circuit Court for an order under this Regulation and, after hearing the parties and any witnesses whom they desire to call, the Court—

(i) may make such an order concerning the expenses, or their apportionment, as the Court considers appropriate in the circumstances of the case, regard being had to the terms of any contract between the parties, or,

(ii) in the alternative, at the request of the owner or employer, may determine the lease on such terms, having regard to the provisions of the lease, as the Court considers appropriate.

Chapter 2 — Use of Work Equipment

Interpretation for Chapter 2.

27. In this Chapter:

"carrier" means the device by which persons or goods, or both, are supported in order to be lifted, lowered or moved;

"danger zone" means any zone within or around work equipment in which an employee is subject to a risk to his or her safety or health;

"EC declaration of conformity" refers to a declaration of conformity issued pursuant to Directive 98/37/EC[1] or Directive 2006/42/EC[2] of the European Parliament and of the Council on the approximation of the laws of the Member States relating to machinery;

"exposed employee" means any employee wholly or partially in a danger zone;

[1] Official Journal L 207, 23.7.98, p. 1-46;
[2] Official Journal L 157, 9.6.2006, p. 24-86

"fishing vessel" means a vessel to which the Safety, Health and Welfare at Work (Fishing Vessels) Regulations 1999 (S.I. No. 325 of 1999) apply;

F4**[**"hoist or lift" means a lifting machine which has its direction of movement restricted by a guide or guides but, for the purpose of this Chapter, does not include—

(*a*) a fork lift truck, order picker, self-propelled variable reach truck or similar type equipment,

(*b*) platform lifts for use by persons with impaired mobility,

(*c*) lifting equipment intended for lifting performers during artistic performances, or

(*d*) lifting equipment fitted in means of transport;**]**

"lifting accessories" include clamps and similar attachments, chain slings, rope slings, rings hooks, shackles, swivels, spreader beams, spreader frames and any other item placed between lifting equipment and the load or on the load in order to attach it, but excluding features of the load used for its lifting;

"load" includes a person;

"non-integrated cage or basket" means one which is not equipped with controls that control its movement;

F5**[**...**]**

"thorough examination" includes testing if—

(a) a competent person considers it to be necessary for the purpose of the examination or

(b) testing is required pursuant to Regulation 52 and Schedule 1.

F6**[**"use of work equipment" means any activity involving work equipment, including, its use, transport, repair, modification, maintenance, servicing, cleaning, and the starting or stopping of the equipment;**]**

Annotations

Amendments:

F4 Substituted (12.11.2007) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2007* (S.I. No. 732 of 2007), reg. 2(a), in effect as per reg. 1(2).

F5 Deleted (1.04.2020) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020), reg. 2(b)(i), in effect as per reg. 1(2).

F6 Inserted (1.04.2020) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020), reg. 2(b)(ii), in effect as per reg. 1(2).

F7 Inserted (20.11.2023) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2021* (S.I. No. 619 of 2021), reg. 2(a), to take affect as per reg. 1(2), not in effect as of date of revision.

Modifications (not altering text):

C1 Prospective affecting provision: definition inserted (20.11.2023) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2021* (S.I. No. 619 of 2021), reg. 2(a), to take affect as per reg. 1(2), not in effect as of date of revision.

27. ...

F7**[**"all-terrain vehicle" means a motorised vehicle, propelled by an internal combustion engine with liquid fuel or by other means, intended primarily to travel on unpaved surfaces on four wheels

with low-pressure tyres, having a seat designed to be straddled by the rider and handlebars for steering.**]**

Duties of employer, use of work equipment.

28. An employer shall ensure that—

(a) any work equipment provided for use by employees at a place of work complies, as appropriate, with the provisions of any relevant enactment implementing any relevant Directive of the European Communities relating to work equipment with respect to safety and health,

(b) in selecting the work equipment, account is taken of the specific working conditions, characteristics and hazards in the place of work having regard to the safety and health of the employees and any additional hazards posed by the use of such work equipment,

(c) the necessary measures are taken so that the work equipment is installed and located and is suitable for the work to be carried out, or is properly adapted for that purpose and may be used by employees without risk to their safety and health,

(d) where it is not possible fully to ensure that work equipment can be used by employees without risk to their safety or health, appropriate measures are taken to minimise any such risk,

(e) sufficient space to reduce such risks is provided between moving parts of work equipment and fixed or moving parts in its environment,

(f) where the use of work equipment is likely to involve a specific risk to the safety or health of employees—

(i) the use of such work equipment is restricted to those employees required to use it, and

(ii) in cases of work involving repairs, modifications, maintenance or servicing of such work equipment, the employees concerned are competent to carry out such work,

(g) the working posture and position of employees while using work equipment, and any ergonomic requirements, are taken into account having regard to the safety and health of the employees,

(h) areas and points for working on, or maintenance of, work equipment are suitably lit having regard to the operation to be carried out,

(i) work equipment parts at high or very low temperature are, where appropriate protected to avoid the risk of employees coming into contact or coming too close,

(j) work equipment bears warnings and markings essential to ensure the safety and health of employees,

(k) employees have safe means of access to, and egress from, and are able to remain safely in, all the areas necessary for production, adjustment and maintenance operations,

(l) work equipment is used only for operations and under conditions for which it is appropriate,

(m) all work equipment is appropriate for protecting employees against the risk of the work equipment catching fire or overheating, or of discharges of gas, dust, liquid vapour or other substances produced, used or stored in the work equipment,

(n) all work equipment is appropriate for preventing the risk of explosion of the work equipment or of substances produced, used or stored in the work equipment,

(o) work equipment is erected or dismantled under safe conditions in particular observing any instructions which may have been provided by the manufacturer,

(p) work equipment which may be struck by lightning while being used is protected by devices or appropriate means against the effects of lightning, and

(q) all forms of energy, substances and articles used or produced with work equipment are supplied or removed in a safe manner.

Information and instruction.

29. An employer shall ensure that—

(a) the necessary measures are taken so that employees have at their disposal adequate information and, where appropriate, written instructions on the work equipment containing at least adequate safety and health information concerning—

(i) the conditions of use of work equipment,

(ii) foreseeable abnormal situations, and

(iii) the conclusions to be drawn from experience, where appropriate, in using such work equipment, and

(b) employees are made aware of safety and health risks relevant to them associated with work equipment located at or near their workstation or to any changes relating to that work equipment, even if they do not use the equipment.

Inspection of work equipment.

30. An employer shall ensure that—

(a) where the safety of work equipment depends on the installation conditions—

(i) an initial inspection is carried out after installation is completed and before it is first put into service, and

(ii) an inspection is carried out after assembly at any new site or in any new location, and that the work equipment is installed correctly and is operating properly,

(b) in the case of work equipment which is exposed to conditions causing deterioration liable to result in a danger to safety or health—

(i) periodic inspections and, where appropriate, testing is carried out,

(ii) special inspections are carried out when exceptional circumstances arise which are liable to make the work equipment unsafe, including modification work, accidents, natural phenomena or prolonged inactivity, and

(iii) deterioration is detected and remedied in good time,

(c) inspections carried out under paragraphs (a) and (b) are carried out by a competent person and are appropriate to the nature, location and use of the work equipment,

(d) the results of inspections carried out under paragraphs (a) and (b) are recorded and kept available for 5 years from the date of inspection, for inspection by an inspector and access to these records is made available to users of the work equipment upon request, and

(e) when work equipment is used in another place of work, it is accompanied by evidence of the last inspection carried out under paragraphs (a) and (b).

Maintenance. **31.** An employer shall ensure that—

(a) throughout its working life work equipment is kept, by means of adequate maintenance, at a level such that it complies with the provisions of this Chapter,

(b) where possible, maintenance operations are carried out when work equipment is shut down, and where this is not possible, appropriate protection measures are taken for the carrying out of such operations or such operations are carried out outside the area of danger,

(c) work equipment is maintained in such a way as to reduce the risks to users of the work equipment and to other persons at work, and

(d) a maintenance log for any machine is kept up to date.

Control devices. **32.** (1) An employer shall ensure that—

(a) work equipment control devices which affect safety and health are clearly visible and identifiable and appropriately marked where necessary,

(b) control devices are located outside danger zones except where necessary,

(c) the operation of control devices cannot cause additional hazard,

(d) the operation of control devices cannot give rise to any hazard as a result of any unintentional operation,

(e) the absence of persons in the danger zones is verifiable from the main control position if necessary,

(f) where it is impracticable to comply with paragraph (e), a safe system such as an audible or visible warning signal, or such a signal that is both audible and visible, is given automatically whenever the machinery is about to start,

F8**[**(g) an exposed employee has the time and the means quickly to avoid hazards caused by the starting or stopping of the work equipment,**]**

(h) control systems are safe, and are chosen making appropriate allowances for the failures, faults and constraints to be expected in the planned circumstances of use,

(i) it is possible to start work equipment only by deliberate action on a control provided for the purpose,

(j) a control is included in work equipment to—

(i) restart it after a stoppage for whatever reason, and

(ii) to control a significant change in the operating conditions

unless such a restart or change does not subject exposed employees to any hazard,

(k) all work equipment is fitted with a control to stop it completely and safely,

(l) each workstation is fitted with a control to stop some or all of the work equipment depending on the type of hazard, so that the equipment is in a safe state,

(m) the equipment's stop control has priority over the start controls and, when the work equipment or the dangerous parts of it have stopped, the energy supply of the actuators concerned is switched off, and

(n) where appropriate, and depending on the hazards the equipment presents and its normal stopping time, work equipment is fitted with an emergency stop device.

(2) Paragraph (1)(j) does not apply to restarting or a change in operating conditions as a result of a normal operating cycle of an automatic device.

Annotations

Amendments:

F8 Substituted (1.04.2020) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020), reg. 2(c), in effect as per reg. 1(2).

Guards and protection devices.

33. An employer shall ensure that—

(a) work equipment presenting risk due to falling objects or projections is fitted with appropriate safety devices corresponding to the risk,

(b) work equipment presenting hazards due to emissions of gas, vapour, liquid or dust is fitted with appropriate containment devices, extraction devices, or both, near the sources of the hazard,

(c) work equipment and parts of such equipment are, where necessary for the safety and health of employees, stabilised by clamping or some other means,

(d) where there is a risk of rupture or disintegration of parts of work equipment, likely to pose significant danger to the safety and health of employees, appropriate protection measures are taken,

(e) where there is a risk of physical contact with moving parts of work equipment which could lead to accidents, those parts are provided with guards or protection devices to prevent access to danger zones or to halt movement of dangerous parts before the danger zones are reached,

(f) guards and protection devices where required under subparagraph (e)—

(i) are of robust construction,

(ii) do not give rise to any additional hazard,

(iii) are not easily removed or rendered inoperative,

(iv) are situated at sufficient distance from the danger zone,

(v) do not restrict more than necessary the view of the operating cycle of the equipment,

(vi) allow operations necessary to fit or replace parts, and

(vii) restrict access for maintenance work only to the area where the work is to be carried out, if possible, without removal of the guard or protection device,

(g) warning devices on work equipment are unambiguous and easily perceived and understood, and

(h) any part of a stock-bar which projects beyond the headstock of a lathe is securely fenced unless it is in such a position as to be safe to employees as it would be if securely fenced.

Connection to energy sources.

34. An employer shall ensure that—

(a) all work equipment is fitted with clearly identifiable means to isolate it from all its energy sources, and

(b) the reconnecting of the work equipment to its energy sources poses no risk to the employees concerned.

Contact with wheels or tracks of mobile work equipment.

35. An employer shall ensure that work equipment with ride-on employees is fitted out in such a way as to reduce the risks for employees during the journey, including risk of contact with or trapping by wheels or tracks.

Drive systems of mobile work equipment.

36. An employer shall ensure that—

(a) where an inadvertent seizure of the drive unit F9**[**between a mobile item of work equipment and its accessories or anything towed**]** creates a specific risk, the work equipment is equipped or adapted to prevent blockages of the drive units and where such seizure cannot be avoided, every possible measure is taken to avoid any adverse effects on employees, and

(b) where drive shafts for the transmission of energy between mobile items of work equipment can become soiled or damaged by trailing on the ground, facilities are available for fixing them.

Annotations

Amendments:

F9 Substituted (1.04.2020) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020), reg. 2(d), in effect as per reg. 1(2).

Combustion engines of mobile work equipment.

37. An employer shall ensure that mobile work equipment with a combustion engine is not used in working areas unless -

(a) specific provision is made for conducting the exhaust gases from the engine into the open air, or

(b) the working area is adequately ventilated so as to prevent danger to health from the exhaust gases.

Roll-over of mobile work equipment.

38. (1) An employer shall ensure that mobile work equipment with ride-on employees is designed to restrict, under actual conditions of use, the risks arising from roll over of work equipment either by—

(a) a protection structure to ensure that the equipment does not tilt by more than a quarter turn,

(b) a structure giving sufficient clearance around the ride-on employees if the tilting movement can continue beyond a quarter turn, or

(c) by some other device of equivalent effect.

(2) The protection structures referred to in paragraph (1) may be an integral part of the work equipment but are not required when the work equipment is stabilised during operation or where the design makes roll over impossible.

F10**[**(3) An employer shall ensure that, where there is a risk of a ride-on employee being crushed between parts of the work equipment and the ground should the equipment roll over, a restraining system for the ride-on employees is installed.**]**

Annotations

Amendments:

F10 Substituted (1.04.2020) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020), reg. 2(e), in effect as per reg. 1(2).

Fork-lift trucks.

39. An employer shall ensure that a fork-lift truck carrying one or more employees is equipped or adapted to limit the risk of it overturning—

(a) by the installation of an enclosure for the driver,

(b) by a structure preventing the fork-lift truck from overturning,

(c) by a structure ensuring that, if the fork-lift truck overturns, sufficient clearance remains between the ground and appropriate parts of the fork-lift truck for the F11**[**ride-on employees**]**, or

(d) by a structure restraining the employees on the driving seat so as to prevent them from being crushed by parts of the fork-lift truck which overturns.

Annotations

Amendments:

F11 Substituted (1.04.2020) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020), reg. 2(f), in effect as per reg. 1(2).

Safety of self-propelled work equipment.

40. An employer shall ensure that—

(a) self-propelled work equipment is operated only by competent persons who have been appropriately trained, and

(b) self-propelled work equipment, which when in motion may create risks for persons—

(i) has facilities for preventing unauthorised start-up;

(ii) has appropriate facilities for minimising the consequences of a collision where there is more than one item of track-mounted work equipment in motion at the same time;

(iii) has a device for braking and stopping equipment;

(iv) in the event of failure of the main facility for braking and stopping equipment where safety constraints so require, has available emergency facilities operated by readily accessible controls or automatic systems for braking and stopping the equipment;

(v) has adequate auxiliary devices installed to improve visibility where the driver's direct field of vision is inadequate;

(vi) is equipped with lighting appropriate to the work to be carried out and ensures sufficient safety for employees where designed for use at night or in dark places;

(vii) is equipped with appropriate fire-fighting appliances where such appliances are not available sufficiently nearby at the place of use, where such work equipment constitutes a fire hazard, either on its own or in respect of whatever it is towing or carrying, or both, and is liable to endanger employees;

(viii) if remote-controlled, stops automatically once it leaves the control range;

(ix) if it

(I) is remote-controlled, and

(II) creates, in normal conditions a crushing or impact hazard,

has facilities to guard against that hazard, unless other appropriate devices are present to control the hazard.

Annotations

Amendments:

F12 Inserted (20.11.2023) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2021* (S.I. No. 619 of 2021), reg. 2(b), to take affect as per reg. 1(2), not in effect as of date of revision.

Modifications (not altering text):

C2 Prospective affecting provision: para. (c) inserted (20.11.2023) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2021* (S.I. No. 619 of 2021), reg. 2(b), to take affect as per reg. 1(2), not in effect as of date of revision.

40. ...

F12**[**(c) where work involves the operation of an all-terrain vehicle –

(i) that the operator of the all-terrain vehicle has successfully completed an all-terrain vehicle safety training course provided by a registered training provider to a QQI Standard or equivalent,

(ii) that a risk assessment is conducted in accordance with section 19 of the Act,

(iii) that an assessment is conducted in accordance with Regulation 63, and

(iv) that personal protective equipment is provided to and worn by the operator of the all-terrain vehicle in accordance with Regulation 62.**]**

Traffic rules for mobile work equipment.

41. An employer shall ensure that—

(a) if work equipment is moving around in a work area, appropriate traffic rules are drawn up and followed,

(b) organisational measures are taken to prevent employees on foot coming within the area of operation of self-propelled work equipment and, if work can be done properly only if employees on foot are present, appropriate measures are taken to prevent them from being injured by the equipment, and

(c) the transport of employees on mechanically driven mobile work equipment is only permitted where safe facilities are provided F13**[**for that purpose**]** and if work is carried out during the journey, speeds are adjusted as necessary.

Annotations

Amendments:

F13 Substituted (1.04.2020) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020), reg. 2(g), in effect as per reg. 1(2).

Work equipment for lifting loads.

42. An employer shall ensure that—

(a) all lifting operations are properly planned, appropriately supervised and carried out to protect the safety of employees,

(b) when work equipment for lifting loads is installed permanently, its strength and stability during use is F14**[**ensured**]**, having regard to the loads to be lifted and the stress induced at the mounting or fixing points of the structure,

(c) lifting equipment designed for low frequency use is not installed where its anticipated use will render the equipment unsuitable,

(d) machinery for lifting loads is clearly marked to indicate its safe working load F14**[**and, where appropriate, is fitted with a load plate giving**]** the safe working load for each configuration of the machinery,

(e) work equipment which is not designed for lifting persons is appropriately and clearly marked to this effect,

(f) every drum or pulley round which the chain or wire rope of any lifting equipment is carried is of suitable diameter and construction for the chain or rope used,

(g) every chain or rope which terminates at the winding drum of any lifting equipment is properly secured thereto and at least two turns of such chains or rope remain on such drum in every operating position of the equipment,

(h) permanently installed work equipment is installed in such a way as to reduce the risk of the load—

(i) striking employees,

(ii) drifting dangerously or falling freely, and

(iii) being released unintentionally,

(i) work equipment which is mobile or can be dismantled and which is designed for lifting loads is used in such a way as to ensure the stability of the work equipment during use under all foreseeable conditions, taking into account the nature of the ground,

(j) lifting equipment is not used beyond its safe working load except when being tested under the direction of a competent person,

(k) unless required for the effective operation of the work, measures are taken to ensure that employees are not present under suspended loads,

(l) loads are not moved above unprotected workplaces usually occupied by employees and

(m) if the hazards referred to in paragraphs (k) and (l) cannot be avoided, appropriate procedures are laid down and applied where work cannot be carried out properly any other way.

Annotations

Amendments:

F14 Substituted (1.04.2020) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020), reg. 2(h)(i), (ii), in effect as per reg. 1(2).

Cranes.

43. (1) An employer shall ensure that, without prejudice to Regulations 42 and 45,

(a) every crane of variable operating radius, before it is taken into use—

(i) has plainly marked upon it or within the cab the safe working load at various radii of the jib, trolley or crab, and in the case of a crane with a derricking jib the maximum radius at which the jib may be worked,

(ii) is fitted with a suitable accurate automatic safe load indicator or rated capacity indicator, clearly visible to the driver showing at any time the radius of the jib, trolley or crab and the safe working load corresponding to that radius unless—

(I) it is a guy derrick crane (being a crane of which the mast is held upright solely by means of ropes with the necessary fittings and tightening screws),

(II) it is a hand crane which is being solely used for erecting or dismantling another crane, or

(III) it has been assigned by a competent person a safe working load of 1,000 kg or less, and

(iii) has an automatic safe load indicator or rated capacity indicator, if required under subparagraph (ii), which is—

(I) properly maintained,

(II) correctly used, and

(III) tested by a competent person after erection, installation or alteration of the crane for the purpose of any work before the crane is taken into use or returned to use as the case may be,

(b) in the case of a crane which is on occasion dismantled or partially dismantled any jib or boom which is separated from the crane in dismantling is clearly marked so as to indicate the crane of which it is a part,

(c) cranes with derricking jibs are provided with—

(i) such means as will minimise the risk of the accidental raising or lowering of the jib, and

(ii) a jib that does not exceed the maximum radius specified by the manufacturer or by a competent person in a report pursuant to Regulation 53,

(d) a crane travelling on rails is provided with deflector plates to remove from the rails any loose material likely to cause danger,

(e) where the safety of work equipment depends on the installation conditions on a construction site—

(i) after each assembly of a tower crane or after any adjustment to any member which may affect the strength or stability of the crane, and before it is put into use, it is subject to a static test with a test coefficient of 1.25 and a dynamic test with a test coefficient of 1.1, F15**[**unless the use of either coefficient is prohibited by direction from the equipment manufacturer, in which case the test at issue shall be carried out taking account of any direction from the machine manufacturer**]**, and

(ii) where the stability of a crane is secured by means of removable weights, a diagram or notice indicating the amount and position of such weights is affixed on the crane so that it can be readily seen and each such removable weight is clearly marked with its correct weight, and

(f) notwithstanding any other provisions of this Chapter, lifting equipment used on a construction site is examined weekly by the user as regards features related to its safe working and a record of the results is kept in a suitable

form which is kept available for inspection by an inspector for 3 months from the date of examination.

F15**[**(2) This Regulation does not apply to machines to which Regulation 55 applies.**]**

Annotations

Amendments:

F15 Substituted (1.04.2020) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020), reg. 2(i)(i), (ii), in effect as per reg. 1(2).

Support of lifting equipment.

44. An employer shall ensure that every platform or support, whether fixed or mobile, upon or from which lifting equipment is mounted or supported is suitable for the purpose.

Work equipment for lifting goods or persons.

45. An employer shall ensure that—

(a) persons may be lifted only by means of work equipment and accessories suitable for this purpose, and

(b) work equipment for lifting or moving persons or for lifting goods is, where applicable, provided such as to—

(i) prevent the risk of the carrier falling, where one exists, by the use of suitable devices,

(ii) prevent the risk of the user falling from the carrier, where one exists,

(iii) prevent the risk of persons being crushed, trapped or struck, in particular through inadvertent contact with objects,

(iv) where the carrier has a roof, be equipped with a suitable inspection control station and stopping device,

(v) where, in respect of a carrier with a roof, a hazard exists by virtue of the free distance in the horizontal plane beyond and perpendicular to the carrier's outer edge exceeding 0.30 m, measures to address the hazard, and

(vi) ensure that persons trapped in the carrier in the event of an incident are not exposed to danger, can raise the alarm and can be freed, and

(c) where, for reasons inherent in the site and height differences, the risks referred to in subparagraph (b)(i) cannot be avoided by other safety measures, an enhanced safety coefficient suspension rope is installed and checked every working day.

Hoists and lifts.

46. (1) Without prejudice to Regulations 42 and 45, this Regulation applies to a hoist, lift hoistway or liftway subject to the conditional exemptions under Part A of Schedule 1.

(2) An employer shall ensure that—

(a) every hoistway or liftway is efficiently protected by a substantial enclosure fitted with gates so as to prevent, when the gates are shut,

(i) any person falling down the way, or

(ii) coming into contact with any moving part of the hoist or lift,

(b) any gate referred to in subparagraph (a) is fitted with efficient interlocking or other devices to ensure that the gate cannot be opened except when the

carrier is at the landing and that the carrier cannot be moved away from the landing until the gate is closed,

(c) every hoist or lift and every such enclosure as is referred to in subparagraph (a) is constructed so as to prevent any part of any person or any goods carried in the hoist or lift being trapped between—

(i) any part of the hoist or lift and any fixed structure, or

(ii) between the counterbalance weight and any other moving part of the hoist or lift,

(d) efficient devices which will support the carrier together with its safe working load in the event of failure of the hoisting system are provided and maintained, where practicable, in connection with every hoist or lift,

(e) efficient automatic devices are provided and maintained in connection with every hoist or lift which will ensure that the carrier does not overrun the highest point set for its intended travel,

(f) every hoist or lift is installed so that it can be operated at any one time only from one position and is not operated from the carrier unless the requirements of subparagraph (h) are complied with,

(g) the carrier bears an easily visible plate clearly showing the rated load in kilograms and, if applicable, the maximum number of passengers which may be carried, and

(h) in the case of hoists and lifts used for carrying persons, whether together with goods or otherwise,

(i) efficient automatic devices are provided and maintained to prevent the carrier overrunning,

(ii) every carrier on each side from which access is afforded to a landing is fitted with a gate and, in connection with every such gate, efficient devices are provided to secure that, when persons or goods are in the carrier, the carrier cannot be raised or lowered unless the gate is closed and comes to rest when the gate is opened,

(iii) in the case of a hoist or lift where the carrier is suspended by rope or chain there are at least two ropes or chains separately connected to the carrier, each rope or chain and its attachments being capable of carrying the whole weight of the carrier and its maximum working load,

(iv) efficient devices are provided and maintained which will support the carrier with its maximum working load in the event of a breakage of the ropes or chains or any of their attachments, and

(v) suitable efficient automatic devices are provided which will ensure that the carrier comes to rest at a point above the lowest point to which the carrier can travel.

(3) This Regulation applies to a hoist, lift, hoistway or liftway, subject to the conditional exemptions under Part A of Schedule 1, and any reference to a gate includes reference to a door where the context so requires.

(4) An employer shall ensure that hoists or lifts or hoistways or liftways of a class or description specified in Part A of Schedule 1 are subject to the conditions set out therein

Winch-operated hoists and lifts.

47. An employer shall ensure that—

(a) where a hoist or lift is operated by means of a winch, the winch is so constructed that the brake is applied when the control device is not held in the operating position, and

(b) a hoist is not operated by a winch where it is fitted with a pawl and ratchet gear on which the pawl has to be disengaged before the carrier can be lowered.

Conditions regarding lifting of persons.

48. (1) An employer shall ensure that work equipment not specifically designed for the purpose of lifting persons is not used F16**[**for that purpose**]** other than in exceptional circumstances and subject to the following conditions:

(a) appropriate action including adequate supervision is taken to ensure safety;

(b) while employees are on work equipment designed for lifting loads, the control position is manned at all times;

(c) persons being lifted have reliable means of communication;

(d) in the event of danger, there is reliable means of evacuating persons from lifting equipment;

(e) the ground underneath the equipment is even and reasonably flat;

(f) the equipment is stable under all circumstances;

(g) persons in a nonintegrated cage or basket cannot reach the controls or other dangerous parts of the lifting machine;

(h) the cage/basket is properly secured to the lifting machine;

(i) the total load is less than half the rated capacity of the lifting equipment;

(j) the lifting equipment has a capacity not less than 1,000 kg unless its manufacturer indicates that the machine is suitable for such use;

(k) hydraulically-operated machines are fitted with check valves on the hydraulic lifting cylinders, or some other suitable device, to prevent a gravity fall of the load in the event of a hydraulic failure.

(2) An employer shall ensure that lifting equipment with provision for free fall is not used to lift persons.

Annotations

Amendments:

F16 Substituted (1.04.2020) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020), reg. 2(j), in effect as per reg. 1(2).

Lifting accessories.

49. An employer shall ensure that—

(a) lifting accessories are selected F17**[**by reference to**]** the loads to be handled, gripping points, attachment tackle and the atmospheric conditions, having regard to the mode and configuration of slinging,

(b) lifting accessories are stored in a way that ensures that they will not be damaged or degraded, and

(c) lifting accessories are marked in such a way that it is possible to identify the characteristics essential for safe use, having regard to Regulation 57.

Annotations

Amendments:

F17 Substituted (1.04.2020) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020), reg. 2(k), in effect as per reg. 1(2).

Work equipment for lifting non-guided loads.

50. An employer shall ensure that—

(a) when two or more items of work equipment used for lifting non-guided loads are installed or erected on a site in such a way that their working radii overlap appropriate measures are taken to avoid collision between loads or the work equipment parts themselves, or both,

(b) when using mobile work equipment for lifting non-guided loads,

(i) measures are taken to prevent the equipment from tilting, overturning or, if necessary, moving or slipping, and

(ii) checks are made to ensure that the measures are executed properly,

(c) if the operator of work equipment designed for lifting non-guided loads cannot observe the full path of the load either directly or by means of auxiliary equipment providing the necessary information,

(i) a competent person is in communication with the operator to guide him or her, and

(ii) organisational measures are taken to prevent collisions of the load which could endanger employees,

(d) work is organised in such a way that, when an employee is attaching or detaching a load by hand, it can be done safely, in particular through the employee retaining direct or indirect control of the work equipment,

(e) if a load has to be F18**[**lifted simultaneously**]** by two or more pieces of work equipment for lifting non-guided F18**[**loads**]**, a procedure is established and applied to ensure good co-ordination on the part of the operators,

(f) if work equipment designed for lifting non-guided loads cannot maintain its hold on the load in the event of a complete or partial power failure, appropriate measures are taken to avoid exposing employees to any resultant risks,

(g) suspended loads are not left without surveillance unless access to the danger zone is prevented and the load has been safely suspended and is safely held,

(h) open air use of work equipment designed for lifting non-guided loads is halted when meteorological conditions deteriorate to the point of jeopardising the safe use of the equipment and exposing employees to risks, and

(i) adequate protection measures, in F18**[**particular measures**]** to avoid work equipment turning over are taken to avoid any risks to employees.

Annotations

Amendments:

F18 Substituted (1.04.2020) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020), reg. 2(l)(i), (ii), (iii), in effect as per reg. 1(2).

Lifting equipment—signalling and operation.

51. An employer shall ensure that—

(a) lifting equipment is operated by a competent person or by a person who is under the direct supervision of a competent person for the purpose of training,

(b) no person under 18 years of age is employed to—

(i) give signals to the operator of lifting equipment driven by mechanical power or

(ii) to operate any such equipment,

(c) every signal given for directing the movement of lifting equipment—

(i) is distinctive in character, and

(ii) such that the person to whom it is given is able to hear or see it easily, and

(d) signalling devices are—

(i) properly maintained, and

(ii) the means of communication are adequately protected from accidental interference.

Examination and testing of lifting equipment.

52. (1) An employer shall ensure that, without prejudice to Regulation 30,

(a) fixed work equipment for lifting loads, including rail mounted work equipment for lifting loads, is not taken into use for the first time unless—

(i) it has been tested and thoroughly examined by a competent person, and

(ii) a certificate of test and examination specifying the safe working load and, if appropriate, the maximum numbers of persons permitted has been obtained,

(b) mobile work equipment for lifting loads is not taken into use in any place of work for the first time unless—

(i) it has been examined and certified in accordance with this Regulation, or

(ii) it is a new machine and which—

(I) is CE marked in accordance with the relevant directives of the European Communities,

(II) is accompanied by an EC declaration of conformity in accordance with the relevant directives of the European Communities,

F19**[**(III) is accompanied by any necessary information and instructions required under paragraph (c) of, and any relevant proofs of any assessment, research and tests required under paragraph (d) of, Regulation 4 of the European Communities (Machinery) Regulations 2008 (S.I. No. 407 of 2008), and**]**

(IV) has not been reassembled since dispatch from the manufacturer,

(c) where

(i) any alteration or repair is carried out to lifting equipment or a lifting accessory, and

(ii) the alterations or repairs are relevant to the safe operation of the equipment,

the equipment is examined by a competent person in compliance with this Regulation before the equipment's return to service, and

(d) where a report of an examination pursuant to paragraph (3) specifies conditions for the safe working of the equipment, the equipment is used only in accordance with those conditions.

(2) In the case of work equipment to which paragraph (1)(b)(ii) applies, the period to the first examination pursuant to paragraph (3) shall be determined by reference to the F19**[**the date of first use**]**.

(3) Without prejudice to Regulation 30, an employer shall ensure that work equipment of a type or class listed in column 1 of Parts B or C of Schedule 1 is not used unless it has been examined by a competent person at least once in the period specified in column 2 of Parts B or C of that Schedule or as required under the other circumstances described in Part C.

(4) Where equipment referred to in paragraph (3) has already been thoroughly examined in accordance with the relevant statutory provisions in force prior to the introduction of these Regulations, the beginning of the period referred to in paragraph (3) shall be deemed to be the date of the last such examination.

(5) The requirements of this Regulation do not apply to the work equipment listed under Part D of Schedule 1.

(6) Where a thorough examination has been carried out in compliance with the relevant statutory provisions in force immediately before the commencement of these Regulations the examination shall be regarded as being in compliance with this Chapter and this Regulation does not apply until after the expiry of the period specified under those statutory provisions.

(7) An employer shall ensure that a thorough examination is carried out as soon as practicable if one is outstanding under the relevant statutory provisions from the period before the commencement of these Regulations.

Annotations

Amendments:

F19 Substituted (1.04.2020) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020), reg. 2(m)(i), (ii), in effect as per reg. 1(2).

Reports by competent persons.

53. (1) A competent person carrying out an examination under Regulation 52 shall—

(a) prepare a report of the result of every examination and test as referred to in Regulation 52 containing the particulars that are set out in Part E of Schedule 1,

(b) where work equipment is examined pursuant to Regulation 52 and the examination reveals that the equipment can only be used safely if certain repairs are carried out or if the person making the examination foresees a need for such repairs—

(i) inform in writing the owner and user of the need for such repairs or the potential need,

(ii) not later than 20 days after the completion of the examination, send a copy of the report of the examination to the Authority where immediate cessation of the work has been advised, and

(iii) in the case of potential need for repairs, specify the period within which, in his or her opinion, the repairs shall be carried out.

(2) A competent person carrying out an examination under Regulation 52(3) may specify a period less than that in column 2 of Parts B or C of Schedule 1 if in that person's opinion a more frequent examination is required but, if this is done, he or she shall provide the reason for the opinion in writing to the owner and user of the work equipment.

Keeping of records and registers of lifting equipment.

54. (1) An employer shall ensure that a report produced under Regulation 53, or a copy of it—

(a) is kept at the place of work when the lifting equipment is permanently located there,

(b) in the case of lifting equipment on a construction site, is kept at the site office or at the business address of the contractor for whom the report was made, and

(c) in the case of mobile equipment, is kept on the equipment in addition to being available for inspection at the address of the equipment owner.

(2) An employer shall ensure that—

(a) a register of lifting equipment and lifting accessories containing details of the equipment, distinguishing number, date of first use and date of last thorough examination and testing is maintained and kept available for inspection by an inspector, and

(b) if the equipment does not have a distinguishing number or mark, one of long lasting duration is provided.

F20**[Safe working loads for excavators, telehandlers and backhoe loaders when used for object handling.]**

55. F20**[**(1) In this Regulation, reference to—

(a) "machine" is a reference to an excavator, a telehandler, or a backhoe loader when used for object handling, and

(b) "object handling" is a reference to lifting, lowering or transporting a load by the use of lifting accessories, whereby the assistance of a person or the operator of the machine is required for hooking or unhooking the load, or stabilising it while it is being transported.**]**

(2) An employer shall ensure that—

(a) before a machine to which this Regulation applies is first F20**[**used for object handling**]**, a competent person—

(i) specifies the safe working load or loads which may be raised and lowered by the machine, or where its safe working load depends on the configuration of the machine, its safe working load for the different configurations are determined, and

(ii) provides a signed certificate specifying the safe working F20**[**load for the different configurations of the machine and**]** any necessary safety provisions,

(b) the certificate referred to in subparagraph (a)(ii) is kept available for inspection with the machine,

F20**[**(c) a machine is not loaded beyond the relevant safe working load specified in the certificate required by subparagraph (a)(ii), or as specified by the manufacturer, whichever is the lower, except when Regulation 42(j) applies,**]**

(d) the specified safe working load or loads F20**[**and, where applicable, the outrigger or jack position**]** and the length of jib or boom to which the safe working loads relate is either plainly marked on the machine or F20**[**information**]** relating safe working loads to the distance worked is F20**[**displayed**]** in a clearly visible position in the driver's cab,

(e) if, after the issue of the certificate required by subparagraph (a)(ii), a machine undergoes any substantial alteration or repair likely to affect the specified safe working loads, that certificate is cancelled and a new certificate is obtained,

F20**[**(f) machines with a maximum rated lift capacity at a minimum lift point radius as specified by the manufacturer of greater than or equal to 1,000kg or an overturning moment greater than or equal to 40,000 Nm are fitted with—

(i) check valves on the cylinders used for lifting or by another means to prevent a gravity fall of the load in the event of a hydraulic failure, and

(ii) an acoustic or visual warning device that indicates to the operator when the rated lift capacity or corresponding load moment is reached.**]**

(g) F21**[**...**]**

(h) F21**[**...**]**

(i) means of identification are plainly marked on machines to which this Regulation applies, and

(j) machines to which this Regulation applies are examined and tested periodically in accordance with Parts B and C of Schedule 1.

Annotations

Amendments:

F20 Substituted (1.04.2020) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020), reg. 2(n)(i), (ii), (iii)(I)(A), (B), (II), (III)(A), (B), (C), (IV), in effect as per reg. 1(2).

F21 Deleted (1.04.2020) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020), reg. 2(n)(iii)(V), in effect as per reg. 1(2).

Specific requirements for scotch and guy derrick cranes.

56. An employer shall ensure that, where a scotch and guy derrick crane is to be used,

(a) the jib of a scotch derrick crane is not erected between the back stays of the crane,

(b) a load which lies in the angle between the back stays of a scotch derrick crane is not moved by that crane,

(c) appropriate measures are taken to prevent the foot of the king post of any scotch derrick crane from being lifted out of its socket or support whilst in use, and

(d) where the guys of a guy derrick crane cannot be fixed at approximately equal inclinations to the mast so that the angles between adjacent pairs of guys are approximately equal, such other measures are taken as will ensure the stability of the crane.

Construction, testing, examination and safe working load of lifting accessories.

57. (1) An employer shall ensure that—

(a) subject to paragraph (2), a chain, rope or other lifting accessory is not used in raising or lowering or as a means of suspension unless—

(i) it is of good construction, sound material, adequate strength, suitable quality and free from patent defect,

(ii) it is properly installed and used,

(iii) it is properly maintained,

(iv) it is used only for the purpose for which it was intended,

(v) except in the case of a fibre rope or fibre rope sling, it has been tested and examined by a competent person and there has been obtained a certificate of such test and examination specifying the safe working load and signed by the person making, or responsible for, the carrying out of the test and examination,

(vi) in the case of a fibre rope or fibre rope sling, information from the manufacturer on its safe working load is available, and

(vii) it is marked in plain legible figures and letters with the safe working load and a means of identification, unless paragraph (2) applies to the safe working load,

(b) a chain, rope or lifting gear is not loaded beyond its safe working load except for testing purposes as specified by, and under the direction of, a competent person appointed to carry out the tests,

(c) a hook used for raising or lowering or as a means of suspension is either—

(i) provided with an efficient device to prevent the displacement of the sling or load from the hook, or

(ii) of such shape as to reduce as far as possible the risk of such displacement,

(d) a sling used for raising or lowering on a lifting appliance is securely attached to the appliance and the method of attachment is not a method likely to result in damage to any part of the sling or to any lifting gear supporting it,

(e) a double or multiple sling is not used for raising or lowering if—

(i) the upper ends of the sling legs are not connected by means of a shackle, ring or link of adequate strength, or

(ii) the safe working load of any sling leg is exceeded because of the angle between the sling legs,

(f) where a load is being lifted or otherwise moved, adequate steps are taken by the use of suitable packing, or otherwise, to prevent the edges of the load from coming into contact with a sling, rope or chain, where this would involve risk of personal injury,

(g) a load is not raised, lowered or suspended on a chain or wire rope which has a knot tied in any part of the chain or rope under direct tension,

(h) a chain which is shortened or joined to another chain by means of bolts and nuts inserted through the links is not used for raising, lowering or suspending any load and

(i) where a chain or lifting gear is made of such material that would require annealing or a form of heat treatment to ensure its safety, the chain or lifting gear—

(i) is effectively annealed or subjected to an appropriate form of heat treatment under the supervision of a competent person and at intervals as specified by a competent person, and

(ii) is not used in raising or lowering or as a means of suspension unless a report has been made in writing of every annealing or appropriate heat treatment signed by the competent person under whose supervision the annealing or heat treatment was carried out.

(2) Where the safe working load of a rope or rope sling is—

(a) contained in the report made pursuant to Regulation 53 and the rope or sling is so marked as to enable its safe working load as specified in that report to be ascertained from the report, or

(b) in the case of a fibre rope or a fibre rope sling, contained in a table of safe working loads clearly visible in a prominent position at the workplace

the ropes or rope slings do not need to be marked with their safe working load.

Delivery of loads with lifting accessories attached.

58. Where—

(a) any article, material or other load intended for use in construction work is delivered at, or adjacent to, a construction site with a chain, rope or other lifting accessory attached thereto and designed for use as a means of raising and lowering that class of load when removing the same from the point of delivery to a position on the site and

(b) the chain, rope or gear is free from patent defect whether of construction or quality and is not owned or hired by any contractor who is undertaking construction work on the site,

this Chapter does not apply in respect of the use of such chain, rope or lifting gear for raising or lowering the load so long as the chain, rope or gear remains attached to the article, material or load.

Duty of persons who hire lifting equipment to others.

59. Without prejudice to section 16 of the Act, a person who hires out lifting equipment for use by others, shall comply with the duties set out in Regulations 52 and 54.

Duty of the master of a ship in respect of examination of lifting equipment.

60. The master of a ship shall comply with the duties set out in Regulations 52 and 54.

Duty of the owner of a fishing vessel in respect of examination of lifting equipment.

61. The owner of a fishing vessel shall comply with the duties set out in Regulations 52 and 54.

Chapter 3 — Personal Protective Equipment

Provision of personal protective equipment.

62. (1) An employer shall ensure that, without prejudice to section 8 of the Act, personal protective equipment is provided for use by the employer's employees where risks at a place of work to the safety or health of employees cannot be avoided or sufficiently limited by technical means of collective protection or by measures, methods or procedures of work organisation.

(2) Without prejudice to the generality of paragraph (1), an employer when providing personal protective equipment shall take into account the appropriate matters specified in Schedule 2.

(3) Without prejudice to section 16 of the Act, an employer shall ensure that personal protective equipment provided under these Regulations complies with relevant European Community directives F22**[**and European Union regulations**]** regarding design and manufacture of personal protective equipment with respect to safety and health.

Annotations

Amendments:

F22 Inserted (20.11.2021) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2021* (S.I. No. 610 of 2021), reg. 2(b), in effect as per reg. 1(2).

Assessment of personal protective equipment.

63. (1) Before choosing any personal protective equipment required to be provided under Regulation 62, an employer shall make an assessment to determine whether such equipment satisfies the requirements of this Regulation and Regulations 62 and 64.

(2) The assessment required by paragraph (1) shall consist of—

(a) an analysis and assessment of risks present which cannot be avoided by other means,

(b) the definition of the characteristics which personal protective equipment must have in order to be effective against the risks referred to in subparagraph (a), taking into account any risks which this equipment itself may create, and

(c) comparison of the characteristics of the personal protective equipment available with the characteristics referred to in subparagraph (b).

(3) An employer shall review forthwith the assessment required by paragraph (1) if any alteration takes place in any of the matters referred to in paragraph (2) and, where as a result of this review changes in the assessment are required, such changes shall be made.

Conditions of use and compatibility.

64. (1) Where it is necessary for an employee to use personal protective equipment, the employer shall determine the conditions of use of such equipment, in particular the period for which it is worn, on the basis of—

(a) the seriousness of the risk,

(b) the frequency of the exposure to the risk,

(c) the characteristics of the workstation of the employee, and

(d) the adequacy of the personal protective equipment.

(2) An employer shall ensure that personal protective equipment is used only for the purposes specified, except in specific and exceptional circumstances.

(3) Where it is necessary for an employee to wear simultaneously more than one item of personal protective equipment, the employer shall ensure that such items of personal protective equipment are compatible with each other and continue to be effective against the risks involved.

Personal use.

65. (1) An employer shall ensure that—

(a) the use of an item of personal protective equipment provided by the employer under Regulation 62 is normally confined to one employee, and

(b) where it is necessary for an item of personal protective equipment to be worn by more than one employee, such use does not create health or hygiene problems for any user.

(2) An employee to whom personal protective equipment is made available under these Regulations shall take all reasonable steps to ensure that such equipment is returned to storage after use by him or her.

Maintenance and replacement.

66. An employer shall ensure that any personal protective equipment provided by the employer under Regulation 62 is maintained at all times in good working order and in a satisfactory hygienic condition by means of any necessary storage, maintenance, repair or replacement.

Information, training and instruction.

67. Where an employer provides personal protective equipment for use by an employee under Regulation 62, the employer, without prejudice to sections 9 and 10 of the Act, shall—

(a) inform the employee of the risks against which the wearing of the equipment protects him or her,

(b) provide the employee with adequate information on the personal protective equipment provided,

(c) inform the employee of the level of protection afforded by the personal protective equipment provided for his or her use,

(d) provide the employee with instruction on the use of such personal protective equipment, and

(e) arrange for training and, if appropriate, organise demonstrations in the wearing of such equipment.

Chapter 4 — Manual Handling of Loads

Interpretation for Chapter 4.

68. In this Chapter, "manual handling of loads" means any transporting or supporting of a load by one or more employees and includes lifting, putting down, pushing, pulling, carrying or moving a load, which, by reason of its characteristics or of unfavourable ergonomic conditions, involves risk, particularly of back injury, to employees.

Duties of employer.

69. An employer shall—

(a) take appropriate organisational measures, or use the appropriate means, in particular mechanical equipment, to avoid the need for the manual handling of loads by the employer's employees,

(b) where the need for the manual handling of loads by the employer's employees cannot be avoided, take appropriate organisational measures, use appropriate means or provide the employer's employees with such means in order to reduce the risk involved in the manual handling of such loads, having regard to the risk factors specified in Schedule 3,

(c) wherever the need for manual handling of loads by the employer's employees cannot be avoided, organise workstations in such a way as to make such handling as safe and healthy as possible, and—

(i) taking account of the risk factors for the manual handling of loads specified in Schedule 3, assess the health and safety conditions of the type of work involved and take appropriate measures to avoid or reduce the risk particularly of back injury, to the employer's employees,

(ii) ensure that particularly sensitive risk groups of employees are protected against any dangers which specifically affect them in relation to the manual handling of loads and the individual risk factors, having regard to the risk factors set out in Schedule 3,

(iii) ensure that where tasks are entrusted to an employee, his or her capabilities in relation to safety and health are taken into account, including, in relation to the manual handling of loads by employees, the individual risk factors set out in Schedule 3, and

(iv) when carrying out health surveillance in relation to the manual handling of loads by employees, take account of the appropriate risk factors set out in Schedule 3, and

(d) without prejudice to section 9 of the Act, ensure that those of the employer's employees who are involved in manual handling of loads receive general indications and, where possible, precise information on—

(i) the weight of each load, and

(ii) the centre of gravity of the heaviest side when a package is eccentrically loaded.

Chapter 5 — Display Screen Equipment

Interpretation for Chapter 5.

70. In this Chapter:

"display screen equipment" means any alphanumeric or graphic display screen, regardless of the display process involved;

"employee" means an employee who habitually uses display screen equipment as a significant part of his or her normal work;

"workstation" means an assembly comprising display screen equipment, which may be provided with a keyboard or input device or software, or a combination of the foregoing determining the operator and machine interface, and includes—

(a) a work chair and work desk or work surface,

(b) any optional accessories and peripherals, and

(c) the immediate work environment of the display screen equipment.

Non-application of Chapter 5.

71. This Chapter does not apply to—

(a) drivers' cabs or control cabs for vehicles or machinery,

(b) computer systems on board a means of transport,

(c) computer systems mainly intended for public use,

(d) portable display screen equipment not in prolonged use at a workstation,

(e) calculators, cash registers and any equipment having a small data or measurement display required for direct use of the equipment, and

(f) typewriters of traditional design, of the type known as "typewriter with window".

Duties of employer.

72. (1) An employer, when providing display screen equipment for use by an employee at a workstation, shall—

(a) ensure that the general use of the equipment is not a source of risk for the employee,

(b) perform an analysis of the workstation in order to evaluate the safety and health conditions to which it gives rise for the employees, particularly as regards possible risks to eyesight, physical problems and problems of mental stress, and, on the basis of that evaluation, take appropriate measures to remedy any risks found, taking account of—

(i) the minimum requirements specified in Schedule 4, and

(ii) any additional or combined effects of any such risks so found,

(c) plan the activities of the employer's employees in such a way that daily work on display screen equipment is periodically interrupted by breaks or changes of activity which reduce workload at the display screen,

(d) without prejudice to section 9 of the Act, provide information to the employer's employees in relation to the measures applicable to workstations which have been implemented under this Regulation and Regulation 73,

(e) without prejudice to section 10 of the Act, provide training to employees in the use of workstations before commencing work with display screen equipment and whenever the organisation of the workstation is substantially modified, and

(f) perform a further analysis of the workstation as referred to in subparagraph (b where—

(i) an employee transfers to a new workstation, or

(ii) significant new work equipment, change of equipment or new technology is introduced at an individual's workstation.

(2) Schedule 4 applies only to the extent that the components concerned are present at a workstation and that the inherent requirements or characteristics of the work do not preclude such application.

Provision of eye tests and corrective appliances.

73. An employer shall, taking into account any entitlement which an employee may have to any tests and appliances provided by the State relating to eyesight and appliances, ensure that—

(a) the provision of an appropriate eye and eyesight test, carried out by a competent person, is made known to and is made available to every employee—

(i) before commencing display screen work,

(ii) at regular intervals thereafter, and

(iii) if an employee experiences visual difficulties which may be due to display screen work,

(b) if the results of a test under this Regulation show that it is necessary, an ophthalmologic examination is carried out on the employee concerned, and

(c) where the results of a test or an examination under this Regulation show that it is necessary, and if normal corrective appliances cannot be used, the employee concerned is provided with special corrective appliances appropriate to his or her work.

PART 3

ELECTRICITY

Interpretation for Part 3.

74. In this Part:

"authorised person" means a person who is—

(a) competent for the purpose of this Part, in relation to which the expression is used,

(b) either an employer, a self-employed person, or an employee appointed or selected by the employer or self-employed person, and

(c) engaged in work or duties incidental to the generation, transformation, conversion switching, controlling, regulating, rectification, storage, transmission, distribution provision, measurement or use of electrical energy;

"circuit" means part of an electrical installation supplied from the same origin, which may be protected against overcurrents by the same protective device;

"circuit breaker" means an electro-mechanical device capable of making, carrying and breaking currents under normal circuit conditions and also capable of making, carrying for a specified time, and breaking currents under specified abnormal circuit conditions such as those of short circuit;

"conductive part" means a part capable of conducting current although not necessarily used for carrying current in normal conditions;

"conductor" means a conductor of electrical energy;

"danger" means risk of personal injury from—

(a) electric shock, electric burn, electrical explosion or arcing,

(b) fire or explosion caused by the use of electricity, or

(c) mechanical movement of electrically driven equipment,

and preventing danger in this Part shall be construed as preventing danger so far as is reasonably practicable;

"earthing" means the connection of the exposed conductive parts of an installation to the conductive mass of the earth;

"electrical equipment" includes any conductor or electric cable and any part of any machine apparatus or appliance intended to be used or installed for use for the generation transformation, conversion, switching, controlling, regulating, rectification, storage transmission, distribution, provision, measurement or use of electrical energy;

"electrical installation" means an assembly of associated electrical equipment fulfilling a specific purpose or purposes and having co-ordinated characteristics;

"higher voltage" means any voltage exceeding—

(a) 1,000 volts alternating current, or

(b) 1,500 volts direct current;

"isolation" means the disconnection and separation of electrical equipment from every source of electrical energy in such a way that the disconnection and separation is secure;

"live" means electrically energised;

"medical electrical equipment" means medical electrical equipment as defined in the Electro-Technical Council of Ireland (ETCI) document entitled "National Rules for Electrical Installations in Medically Used Rooms" or other equipment as may be prescribed by the Minister;

"overcurrent" means any current exceeding the rated value of the electrical equipment concerned;

"overhead line" means any electric line suspended above ground carrying or intended to carry electrical energy at a voltage exceeding 80 volts to earth;

"portable equipment" means equipment, including hand-held portable equipment, which—

(a) because of the manner in which it is to be used, requires to be moved while it is working,

(b) is designed so that it can be moved while it is working, or

(c) is moved from time to time between the periods during which it is working;

"residual current device" means an electro mechanical switching device intended to disconnect a circuit when the residual current attains a stated value under specific conditions;

"substation" means any building, enclosure or other structure, or any part thereof, which -

(a) is large enough to enable a person to enter after the electrical equipment therein is in position, and

(b) contains equipment for transforming or converting electrical energy either to or from higher voltage (not being equipment for transforming or converting electrical energy solely for the operation of switchgear or instruments),

and includes that equipment, together with any other equipment for switching, controlling or otherwise regulating electrical energy;

"switch room" means a room intended primarily to house electrical switching and distribution equipment for a building;

"underground cable" means any electric cable below ground carrying or intended to carry electrical energy at a voltage exceeding 80 volts to earth.

Application of Part 3.

75. (1) This Part, without prejudice to section 16 of the Act, applies as appropriate to persons who design, install, maintain, use, or are in control to any extent of—

(a) an electrical installation or part of an electrical installation in a place of work, or

(b) an electrical network, including the generation, transformation, conversion switching, controlling, regulating, rectification, storage, transmission, distribution provision, measurement or use of electrical energy at a place of work.

(2) This Part does not apply to—

(a) any electrical equipment or electrical installation used exclusively for electrical testing or research purposes, or

(b) medical electrical equipment,

but persons using equipment referred to in subparagraph (b) shall ensure that the equipment or installation is constructed, installed, maintained, protected and used, with adequate precautions being taken, so as to prevent danger.

Suitability of electrical equipment and installations.

76. An employer shall ensure that—

(a) all electrical equipment and electrical installations are—

(i) designed,

(ii) constructed,

(iii) installed,

(iv) maintained,

(v) protected, and

(vi) used

so as to prevent danger, and

(b) all electrical equipment and electrical installations, including distribution boards sockets, transformers and connections, are suitably protected from ingress of moisture or of particles and foreseeable impacts, as appropriate to the location without prejudice to Regulation 77.

Adverse or hazardous environments.

77. An employer shall ensure that electrical equipment which may foreseeably be exposed to adverse or hazardous environments, including in particular—

(a) mechanical damage,

(b) the effects of weather, natural hazards, temperature or pressure,

(c) the effects of wet, dirty, dusty or corrosive conditions, and

(d) any flammable or potentially explosive atmosphere, including any mixture of air and a flammable substance in the form of gas, vapour, mist or dust,

is constructed, installed, maintained and modified or so protected as to prevent danger arising from the exposure.

Identification and marking.

78. An employer shall ensure that—

(a) all electrical equipment is suitably identified where necessary to prevent danger,

(b) all electrical equipment, other than cables and overhead lines, displays the maker's name together with all ratings necessary to show that it is suitable for the purpose for which it is used, and

(c) all electrical circuits are suitably identified at their source to allow those circuits to be safely and securely de-energised and isolated.

Protection against electric shock in normal conditions.

79. An employer shall ensure that all live parts which may cause danger—

(a) are suitably covered with insulating material and so protected as to prevent danger or

(b) are the subject of precautions taken to prevent danger, including, where appropriate the live parts being suitably placed to prevent danger.

F23[**Protection against electric shock in fault conditions.**

80. An employer shall ensure that—

(*a*) precautions are taken, either by—

(i) earthing and automatic disconnection of the supply of electricity, or

(ii) other suitable means,

to prevent danger arising where any exposed conductive part may become live, and

(*b*) all electrical circuits supplying—

(i) electric water heating devices,

(ii) electrically heated showers, and

(iii) pumps for electrically operated showers,

which are located in zone (1), as defined by the Electro-Technical Council of Ireland 'National Rules for Electrical Installations', of rooms in a place of work containing a bath or shower basin, are protected by a residual current

device having a tripping current not exceeding 30 milliamperes operating within such period of time so as to provide the necessary protection to prevent danger to any person coming into direct or indirect contact with any live part of the circuit.**]**

Annotations

Amendments:

F23 Substituted (12.11.2007) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2007* (S.I. No. 732 of 2007), reg. 2(b), in effect as per reg. 1(2).

Portable equipment.

81. (1) An employer shall ensure that—

(a) a circuit supplying portable equipment or a socket outlet intended to supply portable equipment, including any circuit supplied by an electrical generator, and in which is used alternating current at a voltage—

(i) exceeding 125 volts, and

(ii) not exceeding 1,000 volts,

is protected by one or more residual current devices having a tripping current not exceeding 30 milliamperes operating within such period of time so as to provide the necessary protection to prevent danger to any person coming into direct or indirect contact with any live part of the circuit,

(b) portable equipment is maintained in a manner fit for safe use, and

(c) portable equipment which is—

(i) exposed to conditions causing deterioration liable to result in danger, and

(ii) supplied at a voltage exceeding 125 volts alternating current,

is—

(I) visually checked by the user before use, and

(II) periodically inspected by a competent person, appropriate to the nature location and use of the equipment.

(2) An employer shall ensure, where appropriate, that a competent person—

(a) tests any portable equipment described in paragraph (1)(c)(i) and (ii), and

(b) certifies whether or not the portable equipment (including any cables and plugs was, on the day of test, as far as could reasonably be ascertained, safe and without risk to persons coming into direct or indirect contact with any live part of the equipment.

(3) If the certificate of the competent person referred to in paragraph (2) indicates that the portable equipment tested was not, on the day of the test, safe and without risk, as described in that paragraph, the employer shall ensure that the equipment is not used until it is made safe and certified as such in compliance with paragraph (2).

F24**[**(4) An employer shall ensure that—

(*a*) portable equipment, other than portable transformers and portable generators, supplied at a voltage exceeding 125 volts alternating current is not used in—

(i) construction work,

(ii) external quarrying activities, or

(iii) damp or confined locations,

unless its rating exceeds 2 kilovolt amperes,

(*b*) portable hand lamps supplied at a voltage exceeding 25 volts alternating current or 50 volts direct current are not used in—

(i) construction work,

(ii) external quarrying activities, or

(iii) damp or confined locations, and

(*c*) where a transformer or engine-driven generator is used to supply electricity to portable equipment at a voltage greater than 25 volts, but not exceeding 125 volts, alternating current, the neutral (star) point of the secondary windings of three-phase transformers and generators, or the midpoint of the secondary windings of single-phase transformers and generators, shall be connected to earth and in the case of transformers these shall be of the double wound isolating type.**]**

Annotations

Amendments:

F24 Substituted (12.11.2007) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2007* (S.I. No. 732 of 2007), reg. 2(c), in effect as per reg. 1(2).

Connections and cables.

82. An employer shall ensure that—

(a) an electrical joint and connection is of adequate construction as regards conductance, insulation, mechanical strength and protection so as to prevent danger,

(b) where a cable is used in construction work or in external quarrying operations, it is appropriately protected and insulated for the voltage of the cable to prevent danger and

(c) a cable for portable equipment—

(i) is connected to the equipment and to the system either by efficient permanent joints or by a properly constructed connector, and

(ii) is arranged so that tension in the cable cannot be transmitted through the conductors to the terminals at either end of the cable.

Overcurrent protection.

83. An employer shall ensure that effective means suitably located are provided to protect all electrical equipment and electrical installations from overcurrent so as to prevent danger.

Auxiliary generator and battery supply.

84. An employer shall ensure that—

(a) appropriate precautions are taken to prevent danger—

(i) when operating, installing, maintaining, transporting or storing auxiliary power supply batteries or auxiliary generators, and

(ii) to persons who install, maintain or use an electrical installation where auxiliary batteries or generators have been fitted or are intended to be fitted and

(b) where auxiliary batteries or generators have been fitted or are intended to be fitted appropriate precautions are taken to prevent danger to persons working on the external electrical network supplying an electrical installation.

Switching and isolation for work on equipment made dead.

85. (1) An employer shall ensure that—

(a) subject to paragraph (2), where necessary to prevent danger, suitable means (including, where appropriate, methods of identifying circuits) are available to switch off the supply of electricity to any electrical equipment and to isolate any electrical equipment,

(b) every switch, circuit breaker or other control device provided under subparagraph (a) is, where necessary to prevent danger,

(i) clearly marked to indicate the "ON" and "OFF" positions, unless these are otherwise self-evident, and

(ii) readily accessible for authorised persons and in a suitable and adequately lit location, and

(c) adequate precautions are taken to prevent the operation of any switch while carrying current where that switch is not capable of safely interrupting normal load current.

(2) Paragraph (1) does not apply to electrical equipment which is itself a source of electrical energy, provided that adequate precautions are taken to prevent danger.

Precautions for work on electrical equipment.

86. (1) An employer shall ensure that—

(a) work activity, including the operation, use and maintenance of electrical equipment or electrical installations, is carried out in a manner that prevents danger,

(b) before work is carried out on live electrical equipment the equipment is, where appropriate, made dead so as to prevent danger,

(c) adequate precautions are taken to prevent danger arising from—

(i) electrical equipment which has been made dead becoming live while work is carried out on or near that equipment, and

(ii) any electrical equipment inadvertently becoming live,

(d) where it is necessary for work to be carried out on or near any live part, other than one suitably covered with insulating material so as to prevent danger, of electrical equipment, a person is not engaged in work activity unless—

(i) it is unreasonable in the circumstances for it to be dead,

(ii) it is reasonable in the circumstances for such person to be at work on or near it while it is live, and

(iii) suitable precautions are taken to prevent danger, including, where necessary the provision of protective equipment.

(2) An employer shall ensure that any equipment provided under this Part for the purpose of protecting employees, or others to whom the relevant statutory provisions apply, near electrical equipment is—

(a) suitable for the use for which it is provided,

(b) maintained in a condition suitable for that use, and

(c) properly used.

Working space, access and lighting.

87. An employer shall ensure that—

(a) adequate working space, adequate means of access and egress and adequate lighting are provided at all electrical equipment on which, or near which, work is being done in circumstances which may cause danger, and

(b) emergency lighting is fitted in all switchrooms in order to give an adequate degree of lighting in the event of a loss of electrical supply.

Persons to be competent to prevent danger.

88. An employer shall ensure that no person is engaged in any work activity to which this Part relates where technical knowledge and experience is necessary to prevent danger unless that person is competent or is under such degree of supervision as is appropriate, having regard to the nature of the work.

Testing and inspection.

89. An employer shall ensure that—

(a) a new electrical installation and a major alteration of, or extension to, an existing electrical installation is, after completion, inspected and tested by a competent person and a report of the test is completed verifying that the relevant requirements of this Part have been complied with,

F25**[**(*b*) an existing electrical installation is tested by a competent person in an appropriate manner—

(i) from time to time where required having regard to the nature, location and use of the installation, or

(ii) if an inspector so requires,

and a report of the test is completed by the competent person carrying out the test,**]**

(c) the advice of an inspector, or competent person, on the necessity for further testing of an electrical installation is acted upon having regard to the condition of the installation and the outcome of any tests referred to in paragraphs (a) and (b), and

(d) all defects found during the testing and inspection of an electrical installation are rectified promptly so as to prevent danger.

Annotations

Amendments:

F25 Substituted (12.11.2007) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2007* (S.I. No. 732 of 2007), reg. 2(d), in effect as per reg. 1(2).

F26**[Earth leakage protection for higher voltage.**

90. An employer shall ensure, so far as is reasonably practicable, that effective means are provided in relation to every circuit in which higher voltage is used to prevent danger arising from leakage currents to earth. **]**

Annotations

Amendments:

F26 Substituted (12.11.2007) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2007* (S.I. No. 732 of 2007), reg. 2(e), in effect as per reg. 1(2).

Substation and main switch room.

91. (1) An employer shall ensure that a substation or a main switch room is—

(a) suitably constructed,

(b) arranged, so far as is reasonably practicable, so that no person can obtain access thereto otherwise than by the intended entrance,

(c) arranged, so far as is reasonably practicable, so that a person cannot interfere with the equipment or conductors therein from outside,

(d) provided with efficient means of ventilation and kept dry if under cover, and

(e) as appropriate to the tasks being undertaken, under the control of an authorised person or authorised persons.

(2) An employer shall ensure that only an authorised person or a person acting with his or her consent, or under his or her supervision, can enter any part of a substation or switch room in which there may be danger.

Fencing of outdoor equipment.

92. An employer shall ensure that, wherever any transformer or switchgear in which higher voltage is used is installed otherwise than in a building, the transformer or switchgear is adequately protected either by—

(a) suitable fencing not less than 2.4 m high, or

(b) some other effective means for preventing any unauthorised person gaining access to the equipment or to anything connected thereto which is used as a conductor

unless it is completely enclosed by—

(i) a metal casing which is connected to earth, or

(ii) some other equally suitable non-metal casing.

Overhead lines and underground cables.

93. (1) An employer shall ensure that—

(a) all overhead lines and their supporting structures and underground cables are constructed, installed, connected and maintained in a manner suitable for the work and conditions under which they are to be operated to prevent danger,

(b) where cables to be installed underground are to be enclosed in ducting of any material, other than in concrete ducts or in floor voids or floor slabs, such ducting—

(i) is coloured red,

(ii) has a high resistance to impact, and

(iii) is covered with suitable warning tape embedded in the ground above the duct,

(c) all overhead lines and other current-carrying parts connected to or containing part of overhead lines are arranged so that adequate clearance is provided from the ground or other accessible place to prevent dangerous contact with a person, article substance or any conducting material,

(d) means are provided to prevent danger—

(i) in the event of any live conductor accidentally falling due to breakage or otherwise, and

(ii) from excessive voltage on overhead lines arising from accidental contact with or leakage from any other overhead line or otherwise, and

(e) where excavation work is to be carried out in the proximity of a known or suspected underground cable—

(i) where reasonably practicable, the electrical supply to the underground cable is isolated,

(ii) the position of the underground cable is accurately determined, so far as is reasonably practicable, and

(iii) material immediately surrounding the underground cable is excavated only using an appropriate and safe system of work to prevent danger.

(2) A person in control to any extent of a place of work or any item at that place shall take such action, so far as is reasonably practicable, to ensure that any work activity carried out in the proximity of live overhead lines that would expose persons to any risk to their safety and health is not carried out until—

(a) the supply to the overhead line is isolated,

(b) if such isolation is not practicable, the overhead line is diverted,

(c) if such isolation or diversion is not practicable, adequate

(i) barriers,

(ii) protective measures,

(iii) warnings, or

(iv) other suitable means,

are, in so far as is reasonably practicable, put in place to minimise the risk of contact with the overhead line.

(3) The owner of a new or known underground cable, where practicable, shall determine the position of the cable and record the position on a plan to prevent dangerous contact with any person, article, substance or any conducting material.

PART 4

WORK AT HEIGHT

Interpretation for Part 4.

94. (1) In this Part:

"access" and "egress" include ascent and descent;

"fragile surface" means a surface, including fittings, that would be liable to fail if a person's weight were to be applied to it in reasonably foreseeable circumstances;

"ladder" includes a fixed ladder and a stepladder;

"line" includes rope, chain or webbing;

"personal fall protection system" means—

(a) a fall prevention, work restraint, work positioning, fall arrest or rescue system, other than a system in which the only safeguards are collective safeguards, or

(b) rope access and positioning techniques;

"scaffold" means any temporary structure, including its supporting components, whether fixed, suspended or mobile, that is used—

(a) for supporting employees and materials, or

(b) to gain access to any structure,

and includes a working platform, a working stage, a gangway, a run and a ladder or step-ladder (other than an independent ladder or step-ladder that does not form part of such a structure), together with any guard-rail, toe-board or other such safeguard and all fixings thereon, but does not include—

(i) lifting equipment, or

(ii) a structure used only to support another structure or equipment (including lifting equipment),

and "scaffolding" shall be construed accordingly;

"supporting structure" means any structure used for the purpose of supporting a working platform and includes any plant used for that purpose;

"work at height" means work in any place, including a place—

(a) in the course of obtaining access to or egress from any place, except by a staircase in a permanent place of work, or

(b) at or below ground level,

from which, if measures required by this Part were not taken, an employee could fall a distance liable to cause personal injury and any reference to carrying out work at height includes obtaining access to or egress from such place while at work;

"work equipment" means any machine, appliance, apparatus, tool or installation for use at work (whether exclusively or not) and includes anything to which Regulations 101 to 114 apply;

"working platform" means any platform used as a place of work or as a means of access to or egress from a place of work, including any scaffold, suspended scaffold, cradle, mobile platform, trestle, gangway, gantry and stairway that is so used.

(2) Any reference in this Part to the keeping of a copy of a report or plan includes reference to it being kept in a form in which it is—

(a) capable of being reproduced as a printed copy when required, and

(b) secure from loss or unauthorised interference.

Organisation, planning and risk assessment.

95. (1) An employer shall ensure that—

(a) work at height is properly planned, appropriately supervised and carried out in a manner that is, so far as is reasonably practicable, safe and without risk to health and

(b) in planning work at height—

(i) the selection of work equipment is in accordance with Regulation 100,

(ii) an appropriate risk assessment and safety statement pursuant to sections 19 and 20 of the Act are prepared, and

(iii) a plan is prepared for emergencies and rescues, without prejudice to section 11 of the Act.

(2) In identifying measures to comply with this Part, an employer shall take account of the risk assessment.

Checking of places of work at height.

96. An employer shall ensure that the surface and every parapet, permanent rail or other such fall protection measure at every place of work at height are checked visually prior to use and at appropriate intervals during use.

Weather conditions.

97. An employer shall ensure that work at height is carried out only when weather conditions do not place the safety and health of employees at risk.

Avoidance of risks from work at height.

98. Taking account of the general principles of prevention in Schedule 3 to the Act, an employer shall—

(a) ensure that work is not carried out at height where it is reasonably practicable to carry out the work safely and without risk to health otherwise than at height,

(b) without prejudice to the generality of paragraph (a), ensure that work is not carried out at height unless it is reasonably practicable to do so safely and without risk to health,

(c) where, having regard to paragraphs (a) and (b), it is necessary to carry out work at height, take suitable and sufficient measures to prevent an employee falling a distance liable to cause personal injury, including—

(i) ensuring that the work is carried out—

(I) from an existing place of work, or

(II) in the case of obtaining access or egress, by using an existing means of access or egress,

in compliance with this Part, where it is practicable to do so safely and under appropriate ergonomic conditions, and

(ii) where it is not practicable for the work to be carried out in accordance with subparagraph (i), ensuring that suitable and sufficient work equipment, in compliance with Regulation 100, is provided to prevent a fall occurring,

(d) where the measures taken under paragraph (c) do not eliminate the risk of a fall occurring—

(i) provide sufficient work equipment, in compliance with Regulation 100, to minimise the distance of a potential fall and the risk of personal injury, and

(ii) without prejudice to the generality of paragraph (c), provide such additional training and instruction or take other additional suitable and sufficient measures to prevent, so far as is practicable, any employee falling a distance liable to cause personal injury.

Protection of places of work at height.

99. An employer shall ensure that a place of work, or means of access or egress thereto, at which work at height is, or is to be, carried on—

(a) is stable and of sufficient strength and rigidity for the purpose for which it is intended to be or is being used,

(b) where applicable, rests on a stable, sufficiently strong surface,

(c) is of sufficient dimensions to permit the safe passage of employees and the safe use of any plant or materials required to be used and provide a safe working area having regard to the work to be carried out there,

(d) is provided with suitable and sufficient edge protection,

(e) possesses a surface that has no gap—

(i) through which an employee could fall,

(ii) through which any material or object could fall and injure an employee, or

(iii) giving rise to other risk of injury to any employee, unless measures have been taken to ensure that no employee could be so injured,

(f) is so constructed, used and maintained in such condition as to prevent, so far as is reasonably practicable—

(i) the risk of slipping or tripping, or

(ii) any employee being caught between it and any adjacent structure, and

(g) where it has moving parts, is prevented by appropriate devices from moving inadvertently during work at height.

Selection of work equipment for work at height.

100. An employer shall—

(a) in selecting work equipment for use in work at height—

(i) give collective protection measures priority over personal protection measures, and

(ii) take account of the following:

(I) the working conditions and the risks to the safety and health of employees at the place where the work equipment is to be used;

(II) in the case of work equipment for access and egress, the distance and height to be negotiated;

(III) the distance of a potential fall and the risk of personal injury;

(IV) the duration and frequency of use of the equipment;

(V) the need for easy and timely evacuation and rescue in an emergency;

(VI) any additional risk posed by the use, installation or removal of that work equipment or by evacuation and rescue from it;

(VII) the other requirements of this Part, and

(b) select work equipment for work at height that—

(i) has characteristics, including dimensions, that are appropriate to the nature of the work to be performed and the foreseeable loadings,

(ii) allows safe passage, and

(iii) in other respects, is the most suitable work equipment, having regard in particular to Regulation 98.

Condition of surfaces for supporting structures.

101. An employer shall ensure that a surface upon which any supporting structure rests is stable, of sufficient strength and of suitable composition to support safely the supporting structure, the working platform and any loading intended to be placed on the working platform.

F27**[Stability of supporting structure.**

102. An employer shall ensure that a supporting structure is—

(*a*) suitable and of sufficient strength and rigidity for the purpose for which it is being used,

(*b*) in the case of a mobile structure, prevented by appropriate devices from moving inadvertently during work at height,

(*c*) in a case other than a mobile structure, prevented from slipping by secure attachment to the bearing surface or to another structure, by provision of an effective anti-slip device, or by other means of equivalent effectiveness,

(*d*) stable while being erected, used and dismantled, and

(*e*) when altered or modified, so altered or modified as to ensure that it remains stable.**]**

Annotations

Amendments:

F27 Substituted (12.11.2007) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2007* (S.I. No. 732 of 2007), reg. 2(f), in effect as per reg. 1(2).

Guard-rails, toe-boards, barriers, etc.

103. (1) A reference in this Regulation to a means of protection is to a guard-rail, toe-board barrier or other similar means of protection.

(2) An employer shall ensure that a means of protection is—

(a) of sufficient dimensions, strength and rigidity for the purposes for which it is being used and is otherwise suitable,

(b) so placed, secured and used as to ensure, so far as is practicable, that it does not become accidentally displaced,

(c) so placed as to prevent, so far as is practicable, the fall of any employee, or any material or object from any place of work,

(d) in relation to work at height involved in construction work such that—

(i) the top guard-rail or other similar means of protection is at least 950 mm above the edge from which any employee is liable to fall,

(ii) toe-boards provided are suitable and sufficient to prevent the fall of any employee, or any material or object, from any place of work, and

(iii) any intermediate guard-rail or similar means of protection is positioned so that any gap between it and other means of protection does not exceed 470 mm.

(3) An employer shall ensure that—

(a) any structure or part of a structure that supports a means of protection, or to which a means of protection is attached, is of sufficient strength and suitable for the purpose of that support or attachment,

(b) subject to paragraph (2)(d), there is not a lateral opening in a means of protection other than at a point of access to a ladder or stairway where an opening is necessary,

(c) a means of protection may be removed only for the time, and to the extent necessary, to gain access or egress, or for the performance of a particular task, and is replaced as soon as practicable, and

(d) the particular task is not performed while the means of protection is removed, unless effective compensatory safety measures are in place.

Stability of working platforms.

104. An employer shall ensure that a working platform is—

(a) suitable and of sufficient strength and rigidity for the purpose for which it is intended to be used or is being used,

(b) so erected and used as to ensure that its components do not become accidentally displaced so as to endanger any employee,

(c) when altered or modified, so altered or modified as to ensure that it remains stable,

(d) where it has moving parts, prevented by appropriate devices from moving inadvertently during work at height, and

(e) dismantled in such a way as to prevent accidental displacement.

Safety on working platforms.

105. An employer shall ensure that a working platform—

(a) is of sufficient dimensions to permit the safe passage of employees and the safe use of any plant or materials required to be used, and provides a safe working area having regard to the work being carried out there,

(b) possesses a suitable surface and, in particular, is so constructed that the surface of the working platform has no gap—

(i) through which an employee could fall,

(ii) through which any material or object could fall and injure an employee, or

(iii) giving rise to other risk of injury to any employee, unless measures have been taken to ensure that no employee could be so injured, and

(c) is so erected and used, and maintained in such condition, as to prevent, so far as is reasonably practicable—

(i) the risk of slipping or tripping, or

(ii) any employee being caught between the working platform and any adjacent structure.

Loading of working platform and supporting structures.

106. An employer shall ensure that a working platform or a supporting structure is not so loaded as to give rise to a risk of collapse or to any deformation that could affect its safe use.

Scaffolding, additional requirements.

107. An employer shall ensure that—

(a) every scaffold and every part of it is of good design and construction, composed of suitable and sound material and is of adequate strength for the purpose for which it is used or intended to be used,

(b) strength and stability calculations for scaffolding are carried out unless—

(i) a record of the calculations covering the structural arrangements contemplated is available, or

(ii) it is assembled in conformity with a generally recognised standard configuration,

(c) depending on the complexity of the scaffolding selected, an assembly, use and dismantling plan is drawn up by a competent person, which plan may be in the form of a standard plan supplemented by information on the scaffolding in question,

(d) a copy of the plan referred to in paragraph (c), including any instructions it may contain, is kept available for the use of persons concerned in the assembly, use dismantling or alteration of scaffolding until it has been dismantled,

(e) the dimensions, form and layout of scaffolding decks are appropriate to the nature of the work to be performed, suitable for the loads to be carried and permit work and passage in safety,

(f) while a scaffold is not available for use, including during its assembly, dismantling or alteration, it is marked with warning signs in accordance with the requirements of Part 7, Chapter 1 and, where appropriate, is protected by barriers or other suitable means from unauthorised access or use, and

(g) any scaffolding assembled, dismantled or significantly altered is only carried out under the supervision of a competent person and by persons who have received appropriate and specific training in the operations envisaged that addresses specific risks that the operations may entail and precautions to be taken, and, in particular—

(i) in understanding the plan referred to in paragraph (c) for the assembly dismantling or alteration of the scaffolding concerned,

(ii) the need for safety during the assembly, dismantling or alteration of the scaffolding concerned,

(iii) measures to prevent the risk of persons, materials or objects falling,

(iv) safety measures in the event of changing weather conditions that could adversely affect the safety of the scaffolding concerned,

(v) permissible loadings, and

(vi) any other risks that the assembly, dismantling or alteration of the scaffolding concerned may entail.

Collective safeguards for arresting falls.

108. (1) Any reference in this Regulation to a safeguard is to a collective safeguard for arresting falls.

(2) An employer shall ensure that—

(a) a safeguard may be used only if—

(i) the risk assessment has demonstrated that the work activity can, so far as is reasonably practicable, be performed safely while using it and without affecting its effectiveness,

(ii) the use of other, safer work equipment is not practicable, and

(iii) a sufficient number of persons are available, if required, to assist with any aspect of the safeguard's operation and have received adequate training specific to the safeguard, including rescue procedures,

(b) a safeguard is suitable and of sufficient strength to arrest safely the fall of any employee who is liable to fall,

(c) a safeguard—

(i) in the case of a safeguard that is designed to be attached—

(I) is securely attached to all the required anchors, and

(II) has anchors, and the means of attachment thereto, that are suitable and of sufficient strength and stability for the purpose of safely supporting the foreseeable loading in arresting any fall or during any subsequent rescue,

(ii) in the case of an airbag, landing mat or other similar safeguard, is stable, and

(iii) in the case of a safeguard that expands when arresting a fall, affords sufficient clearance, and

(d) suitable and sufficient steps are taken to ensure, so far as is practicable, that in the event of a fall by any employee, the safeguard itself does not cause injury to that employee.

Personal fall protection systems.

109. An employer shall ensure that—

(a) a personal fall protection system is only used by an employee if—

(i) the risk assessment has demonstrated that—

(I) the work can, so far as is reasonably practicable, be performed safely while using that system, and

(II) the use of other, safer work equipment is not practicable, and

(ii) the user and a sufficient number of persons are available, if required, to assist with any aspect of the operations envisaged and have received adequate training specific to the operations envisaged, including immediate rescue procedures,

(b) a personal fall protection system is suitable and of sufficient strength for the purposes for which it is being used, having regard to the work being carried out and any foreseeable loading,

(c) where appropriate, a personal fall protection system—

(i) fits the employee,

(ii) is correctly fitted,

(iii) is adjustable to minimise injury to the user if a fall occurs, and

(iv) is so designed, installed and used as to prevent unplanned or uncontrolled movement of the user,

(d) where designed for use with an anchor, a personal fall protection system is securely attached to at least one anchor, and each anchor and the means of attachment thereto is suitable and of sufficient strength and stability for the purpose of supporting any foreseeable loading,

(e) suitable and sufficient steps are taken to prevent any employee falling or slipping from a personal fall protection system, and

(f) suitable and sufficient steps are taken to ensure, so far as is practicable, that in the event of a fall by any employee, an injury from the personal fall protection system is minimised.

Work positioning systems.

110. An employer shall ensure that—

(a) a work positioning system is used only if—

(i) the system includes a suitable backup system for preventing or arresting a fall and

(ii) where the system includes a line as a backup system, the user is connected to it, and

(b) if not practicable to comply with paragraph (a), all reasonably practicable measures are taken to ensure that the work positioning system does not fail.

Rope access or positioning technique.

111. An employer shall ensure that—

(a) a rope access or positioning technique is used only if—

(i) it involves a system comprised of at least two separately anchored lines, of which one (known in this Regulation as "the working line") is used as a means of access, egress and support, and the other is the safety line,

(ii) the user is provided with a suitable harness and is connected by it to the working line and the safety line,

(iii) the working line is equipped with safe means of ascent and descent and has a self-locking system to prevent the user falling should he or she lose control of his or her movements, and

(iv) the safety line is equipped with a mobile fall protection system that is connected to, and travels with, the user of the system,

(b) provision is made for a seat with appropriate accessories depending, in particular, on the duration of the job and the ergonomic constraints, and

(c) the system referred to in paragraph (a)(i) does not comprise a single line, except where—

(i) the risk assessment has demonstrated that the use of a second line would entail higher risk to employees, and

(ii) appropriate measures have been taken to ensure safety.

Fall arrest systems.

112. An employer shall ensure that—

(a) a fall arrest system incorporates means of absorbing energy and limiting the force applied to the user's body, and

(b) a fall arrest system is not used in a manner that—

(i) involves the risk of a line being cut,

(ii) where its safe use requires a clear zone (allowing for any pendulum effect) does not afford such zone, or

(iii) otherwise inhibits its performance or renders its use unsafe.

Work restraint systems.

113. An employer shall ensure that a work restraint system is only used if it is—

(a) designed so that, if used correctly, it prevents the user from getting into a position in which a fall can occur, and

(b) used correctly.

Ladders.

114. An employer shall ensure that—

(a) a ladder is used for work at height only if the risk assessment has demonstrated that the use of more suitable work equipment is not justified because—

(i) the level of risk is low, and

(ii) the duration of use is short, or

(iii) existing features at the place of work cannot be altered,

(b) any surface upon which a ladder rests is stable, firm, of sufficient strength and of suitable composition to support safely the ladder, so that the ladder's rungs or steps and any loading intended to be placed on it remain horizontal,

(c) a ladder is so positioned as to ensure its stability during use,

(d) a suspended ladder is attached in a secure manner so that, with the exception of a flexible ladder, it cannot be displaced and swinging is prevented,

(e) a portable ladder is prevented from slipping during use by—

(i) securing the stiles at or near their upper or lower ends,

(ii) effective anti-slip or other effective stability devices, or

(iii) any other arrangement of equivalent effectiveness,

(f) a ladder used for access is long enough to protrude sufficiently above the place of landing to which it provides access, unless other measures have been taken to ensure a firm handhold,

(g) no interlocking or extension ladder is used unless its sections are prevented from moving relative to each other while in use,

(h) a mobile ladder is prevented from moving before it is used,

(j) a ladder is used in such a way that—

(i) a secure handhold and secure support are always available to the employee and

(ii) the employee can maintain a safe handhold when carrying a load unless, in the case of a step ladder, the maintenance of a handhold is not practicable when a load is carried, and the risk assessment has demonstrated that the use of a stepladder is justified because—

(I) the level of risk is low, and

(II) the duration of use is short.

Fragile surfaces.

115. An employer shall—

(a) ensure that no employee passes across or near, or works on, from or near, a fragile surface, where work can be carried out safely and under appropriate ergonomic conditions without his or her doing so,

(b) where it is necessary to pass across or near, or work on, from or near a fragile surface—

(i) ensure, so far as is reasonably practicable, that suitable and sufficient platforms, coverings, guard rails or other similar means of support or protection are provided and used so that any foreseeable loading is supported by such supports or borne by such protection, and

(ii) where a risk of an employee falling remains despite the measures taken under this Regulation, take suitable and sufficient measures to minimise the distance of a potential fall and the risk of personal injury, and

(c) where an employee may pass across or near, or work on, from or near a fragile surface, ensure that—

(i) prominent warning notices are affixed at the approach to the place where the fragile surface is situated, or

(ii) where that is not practicable, such employee is made aware of it by other means.

Falling objects.

116. An employer shall—

(a) take suitable and sufficient steps to prevent, so far as is reasonably practicable, the fall of any material or object where necessary to prevent injury to any employee,

(b) where it is not practicable to prevent the fall of any material or object as referred to in paragraph (a), take suitable and sufficient steps to prevent any person being struck by any falling material or object that is liable to cause injury,

(c) ensure that no material or object is thrown or tipped from height in circumstances where it is liable to cause injury to any person, and

(d) ensure that materials and objects are stored in such a way as to prevent risk to any employee arising from the collapse, overturning or unintended movement of the materials or objects.

Danger areas.

117. An employer shall ensure, without prejudice to the preceding requirements of this Part, that where a place of work contains an area in which, owing to the nature of the work, there is a risk of any employee suffering personal injury by—

(a) falling a distance, or

(b) being struck by a falling object,

the place of work, so far as is practicable, is equipped with devices preventing unauthorised employees from entering the area and that the area is clearly indicated by warning signs or other appropriate means.

Interpretation for Regulation 119

118. (1) Subject to paragraph (2), in this Regulation and Regulation 119, "inspection" means such visual or more rigorous inspection by a competent person as is appropriate for safety purposes and includes any testing appropriate for those purposes.

(2) Where a thorough examination has been made of lifting equipment under a specific requirement of any of the relevant statutory provisions—

(a) the examination, for the purposes of Regulation 119, other than paragraph (1)(c) of that Regulation, shall be treated as an inspection of the lifting equipment, and

(b) where a report of the examination has been prepared under the relevant statutory provisions, the report shall be treated for the purposes of Regulation 119(4)(b) as the recording of the inspection.

Inspection of work equipment.

119. (1) An employer shall ensure that, as regards work equipment to which Regulations 101 to 114 apply—

(a) where the safety of the work equipment depends on how it is installed or assembled it is not used after installation or assembly in any position unless it has been inspected in that position,

(b) without prejudice to paragraphs (a) and (c), work equipment exposed to conditions causing deterioration which is liable to result in dangerous situations is inspected—

(i) at suitable intervals, and

(ii) where exceptional circumstances have occurred that are liable to jeopardise the safety of the work equipment, as soon as practicable following these exceptional circumstances, and

(c) without prejudice to paragraph (a), a working platform—

(i) used for construction work, and

(ii) from which an employee could fall 2 m or more,

is not used in any position unless it has been inspected in that position within the previous 7 days or, in the case of a mobile working platform, inspected on the site within the previous 7 days.

(2) A person carrying out an inspection of work equipment to which paragraph (1)(c) applies shall—

(a) promptly prepare a report containing the particulars as set out in Schedule 5, and

(b) within 24 hours of completing the inspection, provide the report, or a copy thereof to the person on whose behalf the inspection was carried out.

(3) An employer receiving a report under paragraph (2) shall keep the report or a copy of the report—

(a) at the site where the inspection was carried out until the construction work is completed, and

(b) thereafter, at an office of the employer.

(4) An employer shall ensure that—

(a) no work equipment under the employer's control is used in another place of work unless it is accompanied by evidence that the last inspection required to be carried out under this Regulation has been carried out, and

(b) the result of an inspection under this Regulation is recorded and kept available for inspection by an inspector for 5 years from the date of inspection.

PART 5

PHYSICAL AGENTS

Chapter 1 — Control of Noise at Work

Interpretation.

120. In this Chapter:

F28**[**'daily noise exposure level' expressed as (LEX, 8h) (dB(A) re. 20Pa) means the timeweighted average of the noise exposure level for a nominal eight-hour working day as defined by international standard ISO (International Organization for Standardization) 1999: 1990, point 3.6, covering all noises present at work, including impulsive noise;**]**

"exposure action values" mean the daily noise exposure level or peak sound pressure level which, if exceeded for any employee, requires specified action to be taken to reduce risk;

"exposure limit value" means the level of daily noise exposure or peak sound pressure which must not be exceeded for any employee;

"noise" means any audible sound;

"peak sound pressure" expressed as (p_{peak}) means the maximum value of the "C"-frequency weighted instantaneous noise pressure;

"weekly noise exposure level" expressed as ($L_{EX, 8h}$) means the time-weighted average of the daily noise exposure levels for a nominal week of five eight-hour working days as defined by international standard ISO 1999: 1990, point 3.6 (note 2).

Annotations

Amendments:

F28 Substituted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(c), in effect as per reg. 1(4).

Application.

121. This Chapter, subject to Regulation 122, applies to activities in which employees are or are likely to be exposed to risks to their safety and health arising from exposure to noise during their work and, in particular, the risk to hearing.

Transitional periods.

122. (1) In the case of employees on board seagoing vessels, Regulation 128 does not apply until 15 February 2011.

(2) Taking account of Regulation 3(1)(z) and (2), this Chapter does not apply to the music and entertainment sectors until 15 February 2008.

Exposure limit values and exposure action values.

123. (1) For the purposes of this Chapter, the exposure limit values and exposure action values in respect of the daily noise exposure levels and peak sound pressure are as follows:

(a) exposure limit values—

$L_{EX,8h}$ = 87 dB(A) and p_{peak} = 140dB(C) in relation to 20 µPa;

(b) upper exposure action values—

$L_{EX,8h}$ = 85 dB(A) and p_{peak} = 137dB(C) in relation to 20 µPa;

(c) lower exposure action values—

$L_{EX,8h}$ = 80 dB(A) and p_{peak} = 135dB(C) in relation to 20 µPa.

(2) An employer, when applying the exposure limit values referred to in paragraph (1)(a) in determining an employee's effective exposure, shall take account of the attenuation provided by individual hearing protectors worn by the employee.

(3) The exposure action values referred to in paragraphs (1)(b) and (c) apply irrespective of the attenuating effect of any such hearing protectors as referred to in paragraph (2).

(4) For activities where the daily noise exposure varies markedly from one working day to the next, an employer, for the purposes of applying the exposure limit values and the exposure action values, may use the weekly noise exposure level in place of the daily noise exposure level to assess the levels of noise to which the employer's employees are exposed, provided that—

(a) the weekly noise exposure level as shown by adequate monitoring does not exceed the exposure limit value of 87db(A), and

(b) appropriate measures are taken in order to reduce the risk associated with these activities to a minimum.

Determination and assessment of risks above a lower exposure action value.

124. An employer shall—

(a) without prejudice to sections 19 and 20 of the Act, where employees are liable to be exposed to noise at work above a lower exposure action value, in consultation with the employer's employees or their representatives, or both, make a suitable and appropriate assessment of the risk arising from such exposure,

(b) in carrying out the risk assessment referred to in paragraph (a), if necessary measure the levels of noise to which the employer's employees are exposed,

(c) be responsible for the assessment referred to in paragraphs (a) and (b) being planned and carried out competently at suitable intervals and for ensuring that any sampling is representative of the daily personal exposure of an employee to noise,

(d) ensure that the methods and apparatus used in the measurement of noise at work for the purposes of this Chapter are adapted to—

(i) the prevailing conditions, particularly in the light of the characteristics of the noise to be measured,

(ii) the length of exposure, ambient factors, and

(iii) the characteristics of the measuring apparatus, and

that it is possible to—

(I) determine the parameters defined in Regulation 120, and

(II) decide, whether in a given case, the values specified in Regulation 123 have been exceeded,

(e) give particular attention when carrying out a risk assessment under this Regulation to the following—

(i) the level, type and duration of exposure, including any exposure to impulsive noise,

(ii) the exposure limit values and the exposure action values specified in Regulation 123,

(iii) the effects of exposure to noise on employees whose safety or health is at particular risk from such exposure,

(iv) as far as technically possible, any effects on employees' safety and health resulting from interactions between noise and work-related ototoxic substances, and between noise and vibrations,

(v) any indirect effects on employees' safety or health resulting from interactions between noise and warning signals or other sounds that need to be observed in order to reduce the risk of accidents,

(vi) any information on noise emission provided by the manufacturers of work equipment in accordance with section 16 of the Act,

(vii) the availability of alternative equipment designed to reduce noise emission,

(viii) the extension of exposure to noise beyond normal working hours under the employer's responsibility,

(ix) appropriate information obtained from health surveillance including, where possible, published information, and

(x) the availability of hearing protectors with adequate attenuation characteristics,

(f) without prejudice to section 19(3) of the Act, review a risk assessment undertaken for the purposes of this Chapter where the results of health surveillance undertaken in accordance with Regulation 131 show it to be necessary,

(g) record in the safety statement drawn up pursuant to section 20 of the Act—

(i) the findings of the risk assessment as soon as it is practicable after it is made and

(ii) the steps which he or she has taken to comply with Regulations 125 to 130 and

(h) review the assessment and, if necessary, the measurement referred to in paragraph (b) at suitable intervals and, in particular, where either of the conditions specified in section 19(3) (a) and (b) of the Act are met.

Provisions aimed at avoiding or reducing exposure.

125. An employer shall—

(a) in compliance with the general principles of prevention set out in Schedule 3 to the Act, and in consultation with the employer's employees or representatives, or both ensure, so far as is reasonably practicable, that the risk arising from exposure of the employer's employees to noise is either eliminated at source or reduced to a minimum,

(b) in complying with paragraph (a), take into account, in particular—

(i) other methods of work which eliminate or reduce exposure to noise,

(ii) the choice of appropriate work equipment, taking account of the work to be done, emitting the least possible noise, including the possibility of making available to employees work equipment in compliance with section 16 of the Act with the aim or effect of limiting exposure to noise,

(iii) the design and layout of places of work and workstations,

(iv) adequate information and training to instruct employees to use work equipment correctly and safely in order to reduce their exposure to noise to a minimum,

(v) noise reduction by technical means, such as—

(I) reducing air-borne noise, for instance by use of shields, enclosures and sound absorbent coverings,

(II) reducing structure-borne noise, for instance by damping or isolation,

(vi) appropriate maintenance programmes for work equipment, the place of work workstations and systems of work, and

(vii) organisation of work to reduce noise by -

(I) limiting the duration and intensity of the exposure, and

(II) arranging appropriate work schedules with adequate rest periods,

(c) where, owing to the nature of the activity, rest facilities are provided, ensure that noise in those facilities is reduced to a level compatible with their purpose and the conditions of use, and

(d) adapt any measure taken in compliance with this Regulation and Regulations 126 and 127, to take account of any employee whose safety or health is at particular risk from exposure to noise.

Application of upper exposure action values.

126. If a risk assessment referred to in Regulation 124 indicates that an upper exposure action value is exceeded, an employer shall establish and implement a programme of technical or organisational measures, or both, designed to reduce exposure to noise, taking into account, in particular, the measures referred to in Regulation 125.

Prevention of exposure above noise level of 85dB(A).

127. If a risk assessment indicates that there are workstations within the place of work where employees are likely to be exposed to noise above 85dB(A), an employer shall—

(a) display mandatory warning signs, in accordance with Chapter 1, Part 7, to convey information that—

(i) the noise levels at those workstations are likely to exceed that upper exposure action value, and

(ii) hearing protectors are available and must be worn, and

(b) ensure that the workstations are protected from unauthorised access by barriers or other suitable means that are technically feasible and justified by the risk of exposure.

Application of exposure limit value.

128. Subject to Regulation 122, an employer shall ensure that—

(a) the employer's employees are not exposed to noise above the exposure limit value,

or

(b) if, despite the measures taken to comply with this Chapter, exposure above the exposure limit value is detected—

(i) immediate action is taken to reduce exposure to noise to below the exposure limit value,

(ii) the reasons for that limit being exceeded are identified, and

(iii) the organisational and technical measures taken in accordance with Regulation 125 are amended to prevent the exposure limit value being exceeded again.

Personal protection.

129. (1) An employer shall—

(a) in accordance with sections 8, 9, 10, 13 and 14 of the Act, and where the risks arising from exposure to noise cannot be prevented by other means, make available appropriate, properly fitting, individual hearing protectors which comply with the relevant statutory provisions,

(b) where noise exposure exceeds the lower exposure action values, make individual hearing protectors available,

(c) ensure that individual hearing protectors referred to in subparagraph (a) are selected following consultation with the employees concerned or their representatives, or both, so as to eliminate the risk to hearing or reduce the risk to a minimum, and

(d) ensure, so far as is reasonably practicable, that—

(i) hearing protectors are used in accordance with paragraph (2), and

(ii) the measures taken under this Regulation are effective.

(2) An employee whose exposure to noise equals or exceeds the upper exposure action values shall use individual hearing protectors.

Employee information, training and consultation.

130. An employer shall—

(a) without prejudice to sections 9 and 10 of the Act, where the employer's employees are exposed to noise at work at or above the lower exposure action value, provide them or their representatives, or both, with suitable and sufficient information and training relating to risks resulting from exposure to noise,

(b) ensure that, without prejudice to the generality of paragraph (a), the information and training provided under that paragraph includes—

(i) the nature of such risks,

(ii) the organisational and technical measures taken in order to comply with Regulation 125,

(iii) the exposure limit values and the exposure action values specified in Regulation 123,

(iv) the results of the assessment and measurements of the noise carried out in accordance with Regulation 124 and an explanation of their significance and the potential risks,

(v) the correct use of hearing protectors,

(vi) why and how to detect and report signs of hearing damage,

(vii) the circumstances in which health surveillance is made available to employees and its purpose, in accordance with Regulation 131,

(viii) safe working practices to minimise exposure to noise, and

(c) ensure that the consultation of employees in relation to this Chapter is effected in accordance with section 26 of the Act and includes in particular consultation in regard to Regulations 124(a), 125(a) and 129(1)(c).

Health surveillance, records and effects.

131. F29**[**(1) Without prejudice to section 22 of the Act, an employer shall—

(*a*) ensure that appropriate health surveillance is made available to those employees for whom a risk assessment referred to in Regulation 124 reveals a risk to their health, and

(*b*) without prejudice to the generality of paragraph (*a*)—

(i) in the case of employees whose exposure exceeds an upper exposure action value, make available to them the services of a registered medical practitioner to carry out, or to have carried out on his or her responsibility, a hearing check, and

(ii) in the case of employees whose exposure exceeds a lower exposure action value, make available to them preventive audiometric testing.**]**

(2) The purpose of hearing checks and audiometric tests referred to in paragraph (1) shall be to provide early diagnosis of any hearing loss due to noise and to assist in the preservation of hearing.

(3) An employer shall—

(a) ensure that—

(i) a health record in respect of each of the employer's employees who undergoes health surveillance in accordance with paragraph (1) is made and maintained and

(ii) the record or a copy of it is kept available in a suitable form so as to permit appropriate access at a later date, taking into account any confidentiality concerns,

(b) on request, allow an employee access to his or her personal health record,

(c) provide the Authority with copies of such health records as the Authority may require, and

(d) if the employer ceases to trade, notify the Authority forthwith in writing and make available to the Authority all health records kept by the employer in accordance with this Chapter.

(4) Where, as a result of surveillance of the hearing function in accordance with this Regulation, an employee is found to have identifiable hearing damage, the employer shall ensure that a registered medical practitioner assesses whether such damage is likely to be the result of exposure to noise at work and, if so established—

(a) every relevant employee shall be informed by the registered medical practitioner of the result which relates to the employee personally; and

(b) the employer shall—

(i) review the risk assessment carried out in accordance with Regulation 124,

(ii) review the measures provided to eliminate or reduce risks in accordance with Regulation 125,

(iii) take into account the advice of the registered medical practitioner or other suitably qualified person, or the Authority, in implementing any measures required to eliminate or reduce risk in accordance with

Regulations 125 to 130, including the possibility of assigning the employee to alternative work where there is no risk of further exposure, and

(iv) arrange systematic health surveillance and provide for a review of the health status of any other employee who has been similarly exposed.

Annotations

Amendments:

F29 Substituted (12.11.2007) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2007* (S.I. No. 732 of 2007), reg. 2(g), in effect as per reg. 1(2).

Exemptions.

132. (1) Subject to paragraphs (2) to (4), the Authority, in exceptional situations, by a certificate in writing, may exempt any person or class of persons from Regulations 128 and 129 where because of the nature of the work, the full and proper use of personal hearing protectors would be likely to cause greater risk to safety or health than not using such protectors.

(2) An exemption under paragraph (1) may be granted subject to conditions including a limit of time not exceeding 4 years.

(3) The Authority shall not grant an exemption under this Chapter unless—

(a) the Authority consults—

(i) representatives of employers and employees, and

(ii) any other persons

as the Authority considers appropriate,

(b) the risks resulting from the exemption concerned are reduced, so far as is reasonably practicable, to a minimum, and

(c) appropriate health surveillance is available to the employees concerned.

(4) The Authority, by a certificate in writing, may revoke an exemption under paragraph (1 at any time as soon as the justifying circumstances no longer obtain.

Chapter 2 — Control of Vibration at Work

Interpretation.

133. In this Chapter

"exposure action value" means the level of daily vibration exposure for any employee which if exceeded, requires specified action to be taken to reduce risk;

"exposure limit value" means the level of daily vibration exposure for any employee which must not be exceeded, save as set out in Regulation 142(2);

"hand-arm vibration" means mechanical vibration that, when transmitted to the human hand-arm system, entails risks to the safety and health of employees, in particular vascular bone or joint, neurological or muscular disorders;

"mechanical vibration" means vibration occurring in a piece of machinery or equipment, or in a vehicle as a result of its operation;

"whole-body vibration" means the mechanical vibration that, when transmitted to the whole body, entails risks to the safety and health of employees, in particular lower-back morbidity and trauma of the spine.

Transitional periods.

134. (1) Subject to paragraph (2), Regulation 139 applies on and after 6 July 2010, but not until then, where work equipment is used which—

(a) was first provided to employees before 6 July 2007 by an employer, and

(b) does not permit compliance with the exposure limit values.

(2) Regulation 139 applies on and after 6 July 2014, but not until then, in respect of work equipment, which is used in the agriculture and forestry sectors only, and—

(a) was first provided to employees before 6 July 2007 by an employer, and

(b) does not permit compliance with the exposure limit values.

(3) In using work equipment described in paragraph (1) or (2), an employer shall take into account the latest technical advances and the organisational measures taken in accordance with Regulation 137.

Exposure limit values and action values.

135. (1) For hand-arm vibration—

(a) the daily exposure limit value standardised to an eight-hour reference period shall be $5m/s^2$,

(b) the daily exposure action value standardised to an eight-hour reference period shall be $2.5\ m/s^2$, and

(c) exposure shall be assessed or measured on the basis set out in Part A of Schedule 6.

(2) For whole-body vibration—

(a) the daily exposure limit value standardised to an eight-hour reference period shall be $1.15\ m/s^2$,

(b) the daily exposure action value standardised to an eight-hour reference period shall be $0.5\ m/s^2$, and

(c) exposure shall be assessed or measured on the basis set out in Part B of Schedule 6.

Determination and assessment of risks.

136. An employer shall

(a) without prejudice to sections 19 and 20 of the Act, where employees are or are likely to be exposed to risks to their safety or health arising from exposure to mechanical vibration during their work, make a suitable and appropriate assessment of the risk arising from such exposure;

(b) in carrying out the risk assessment referred to in paragraph (a), assess daily exposure to mechanical vibration by means of—

(i) observation of specific working practices,

(ii) reference to relevant information on the probable level of the vibration corresponding to the equipment or the types of equipment used in the particular working conditions, and

(iii) if necessary, measurement of the magnitude of mechanical vibration to which the employer's employees are liable to be exposed, and carry out any such measurement on the basis set out in Schedule 6,

(c) ensure that the assessment referred to in paragraphs (a) and (b) are planned and carried out by a competent person at suitable intervals,

(d) in carrying out the risk assessment under this Regulation, give particular attention to—

(i) the level, type and duration of exposure, including any exposure to intermittent vibration or repeated shocks,

(ii) the exposure limit values and the exposure action values specified in Regulation 135,

(iii) the effects of exposure to vibration on employees whose safety or health is at particular risk from such exposure,

(iv) any indirect effects on employee safety or health resulting from interactions between mechanical vibration and the place of work or other work equipment,

(v) any information provided by the manufacturers of work equipment in compliance with section 16 of the Act,

(vi) the existence of replacement equipment designed to reduce exposure to mechanical vibration,

(vii) the extension of exposure to whole-body vibration beyond normal working hours under the employer's responsibility,

(viii) specific working conditions such as low temperatures, and

(ix) appropriate information obtained from health surveillance including, where possible, published information,

(e) record in the safety statement drawn up pursuant to section 20 of the Act—

(i) the findings of the risk assessment as soon as it is practicable after it is made and

(ii) the steps which the employer has taken to comply with Regulations 137 to 141, and

(f) review the assessment and, if necessary, the measurement referred to in paragraph (b) at suitable intervals and, in particular, where either of the conditions specified in section 19(3)(a) and (b), of the Act are met.

Provisions aimed at avoiding or reducing exposure.

137. An employer shall—

(a) having regard to the general principles of prevention in Schedule 3 to the Act ensure, so far as is reasonably practicable, that risk from the exposure of the employer's employees to mechanical vibration is either eliminated at source or reduced to a minimum, and

(b) adapt any measure taken in compliance with this Chapter to take account of any employee who is at particular risk from mechanical vibration.

Application of exposure action values.

138. If the risk assessment carried out under Regulation 136 indicates that an exposure action value is exceeded, an employer shall comply with the duty to reduce exposure to mechanical vibration and attendant risks to a minimum under Regulation 137 by establishing and implementing a programme of technical or organisational measures, or both, appropriate to the activity and consistent with the risk assessment, taking into account in particular—

(a) other methods of work which reduce exposure to mechanical vibration,

(b) the choice of work equipment of appropriate ergonomic design which, taking account of the work to be done, produces the least possible vibration,

(c) the provision of auxiliary equipment which reduces the risk of injuries caused by vibration, such as seats that effectively reduce whole-body vibration and handles which reduce the vibration transmitted to the hand-arm system,

(d) appropriate maintenance programmes for work equipment, the places of work workstations and systems of work,

(e) the design and layout of places of work and workstations,

(f) adequate information and training to instruct employees to use work equipment correctly, safely and without risk to health in order to reduce their exposure to mechanical vibration to a minimum,

(g) limitation of the duration and intensity of exposure to mechanical vibration,

(h) appropriate work schedules with adequate rest periods, and

(i) provision of clothing to protect employees exposed to cold and damp.

Application of exposure limit value.

139. Subject to Regulations 134 and 142, an employer shall ensure that—

(a) the employer's employees are not exposed to mechanical vibration above the relevant exposure limit value, and

(b) if, despite the measures taken to comply with this Chapter, the exposure limit value is exceeded,

(i) take action to reduce exposure to mechanical vibration to below the exposure limit value,

(ii) identify the reason for that limit being exceeded, and

(iii) amend the technical and organisational measures taken in accordance with Regulation 138 to prevent it being exceeded again.

Employee information and training.

140. Without prejudice to sections 9 and 10 of the Act, where employees are exposed to risk from mechanical vibration, an employer shall provide those employees or their representative, or both, with suitable and sufficient information, instruction and training, including—

(a) the technical and organisational measures taken in order to comply with this Chapter,

(b) the exposure limit values and the exposure action values,

(c) the results of the risk assessment and measurement of the mechanical vibration carried out in accordance with Regulation 136 and the potential injury arising from the work equipment in use,

(d) why and how to detect and report signs of injury,

(e) the circumstances in which health surveillance is made available to employees and its purpose, in accordance with Regulation 141, and

(f) safe working practices to minimise exposure to mechanical vibration.

Health surveillance, records and effects.

141. (1) Without prejudice to section 22 of the Act, an employer shall ensure that appropriate health surveillance is made available to those employees for whom a risk assessment referred to in Regulation 136 reveals a risk to their health, including employees exposed to mechanical vibration in excess of an exposure action value.

(2) The purpose of health surveillance referred to in this Regulation is to prevent or diagnose rapidly any disorder linked with exposure to mechanical vibration, and shall be regarded as being appropriate, when—

(a) the exposure of an employee to mechanical vibration is such that an identifiable illness or adverse health effect may be related to the exposure,

(b) there is a reasonable likelihood that the illness or effect may occur under the particular conditions of his or her work, and

(c) there are valid low risk tested techniques available to the employee for detecting indications of the illness or the effect.

(3) An employer shall ensure that—

(a) the results of health surveillance carried out in compliance with section 22 of the Act are taken into account in the application of preventive measures at a particular place of work,

(b) a health record in respect of each of the employer's employees who undergoes health surveillance in accordance with paragraph (1) is made and maintained,

(c) the health record referred to in paragraph (b) or a copy of the record is kept available in a suitable form so as to permit appropriate access at a later date, taking into account any confidentiality concerns,

(d) on request, an employee is allowed access to his or her personal health record,

(e) the Authority is provided with copies of such health records as it may require, and

(f) if the employer ceases to trade, the Authority is notified forthwith in writing and all health records kept by the employer in accordance with this Regulation are made available to the Authority.

(4) A registered medical practitioner under whose responsibility an employee receives health surveillance under this Regulation shall—

(a) keep an individual confidential medical record containing the results of the health surveillance and, where appropriate, medical examination carried out,

(b) ensure that such record or a copy thereof is kept in a suitable form for an appropriate time from the date of the last entry made in it,

(c) propose any protective or preventive measures necessary in respect of any individual employee,

(d) give access to an employee, upon request by that employee, to his or her own health surveillance records, and

(e) allow access to individual confidential medical records to a person who is designated under section 63(1) of the Act.

(5) Where, arising from health surveillance in accordance with this Regulation, an employee is found to have an identifiable illness or adverse health effect which, in the opinion of a registered medical practitioner, is the result of exposure at work to mechanical vibration the registered medical practitioner shall inform—

(a) the employee of the opinion and the reasons for that opinion, and

(b) the employer of the opinion but not of the reasons.

(6) In informing an employee as set out in paragraph (5), the registered medical practitioner must include information and advice regarding the health surveillance which the employee should undergo following the end of the exposure.

(7) An employer shall, where as a result of health surveillance in accordance with this Regulation, an employee is found to have an identifiable illness or adverse health effect which, in the opinion of a registered medical practitioner, is the result of exposure at work to mechanical vibration—

(a) review the risk assessment made under Regulation 136,

(b) review the measures provided to eliminate or reduce the risk under Regulations 137 and 138,

(c) take account of the advice of the registered medical practitioner or a relevant competent person, or an inspector, in implementing any measures required

to eliminate or reduce risk in accordance with Regulations 137 and 138, including the possibility of assigning the affected employee to alternative work where there is no risk of further exposure,

(d) arrange continued health surveillance and provide for a review of the health status of any employee who has been similarly exposed, and

(e) take account of the recommendations of the registered medical practitioner or a relevant competent person regarding further medical examination.

(8) F30**[**...**]**

Annotations

Amendments:

F30 Deleted (12.11.2007) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2007* (S.I. No. 732 of 2007), reg. 2(h), in effect as per reg. 1(2).

Exemptions.

142. (1) Subject to paragraphs (3) and (4), the Authority, by a certificate in writing, may exempt any person or class of persons from Regulation 139 in duly justified circumstances in respect of whole-body vibration only in the case of sea and air transport, where the latest technical advances and the specific characteristics of the place of work do not permit compliance with the exposure limit value despite the technical and organisational measures taken.

(2) Subject to paragraphs (3) and (4), the Authority, by a certificate in writing, may exempt any person or class of persons from Regulation 139 where the exposure of an employee to mechanical vibration is usually below the exposure action value but varies markedly from time to time and may occasionally exceed the exposure limit value, provided that—

(a) any exposure to mechanical vibration averaged over 40 hours in any one week is less than the exposure limit value, and

(b) there is evidence to show that the risk from the actual pattern of exposure is less than the corresponding risk from constant exposure at the exposure limit value.

(3) The Authority shall not grant any exemptions under this Regulation unless—

(a) the Authority consults the employers and the employees concerned or their representatives, or both,

(b) it applies conditions to any such exemption, taking into account the special circumstances, to ensure that the resulting risks are reduced to a minimum, and

(c) appropriate health surveillance is available to the employees concerned.

(4) Any exemption granted by the Authority under this Regulation shall be—

(a) reviewed by the Authority at least once every 4 years, and

(b) revoked by the Authority, by a certificate in writing, at any time as soon as the justifying circumstances no longer obtain.

PART 6

SENSITIVE RISK GROUPS

Chapter 1 — Protection of Children and Young Persons

Interpretation for Chapter 1.

143. In this Chapter:

"child" means a person resident in the State who is under 16 years of age;

"night work" means—

(a) in the case of a child, any work between 8 p.m. on any one day and 8 a.m. on the following day, and

(b) in the case of a young person, the hours mentioned in paragraph (b) of section 6(1 of the Protection of Young Persons (Employment) Act 1996 (No. 16 of 1996), as qualified by that section and sections 7 and 8 thereof;

"risk assessment" means the assessment of a risk referred to in Regulation 144;

"young person" means a person who has reached 16 years of age but is less than 18 years of age.

Risk assessment.

144. An employer shall—

(a) carry out a risk assessment before employing a child or young person and whenever there is a major change in the place of work which could affect the safety or health of such child or young person,

(b) without prejudice to the provisions of section 19 of the Act, assess any risk to the safety or health of a child or young person and any specific risk to their safety health and development arising from—

(i) his or her lack of experience, absence of awareness of existing or potential risks or lack of maturity,

(ii) any work activity likely to involve a risk of harmful exposure to the physical biological and chemical agents specified in Part A of Schedule 7, and

(iii) the processes and work specified in Part B of Schedule 7,

and take the necessary preventive and protective measures,

(c) take account of the following when carrying out a risk assessment:

(i) the fitting-out and the layout of the place of work and of the workstation,

(ii) the nature, degree and exposure to any physical, chemical or biological agent at the place of work,

(iii) the form, range and use of work equipment, in particular agents, machines apparatus and devices, and the way in which they are handled,

(iv) the arrangement of work processes and of work operations at the place of work and of the way in which these may be organised in combination for the purposes of carrying out work, and

(v) the training, instruction and level of supervision provided to a child or young person at the place of work,

F31**[**(*d*) in taking the protective and preventive measures in accordance with paragraph (*b*) and as regards planning for and implementing measures to monitor and protect the safety and health of a child or young person, take account of section 18 of the Act, and **]**

(e) without prejudice to the provisions of section 9 of the Act, inform a child or young person of any risk identified in accordance with paragraph (a) and of the preventive and protective measures taken and, in the case of a child,

inform the parent or guardian of such child of such risk and such preventive and protective measures.

Annotations

Amendments:

F31 Substituted (12.11.2007) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2007* (S.I. No. 732 of 2007), reg. 2(i), in effect as per reg. 1(2).

Circumstances prohibiting employment of a child or young person.

145. An employer shall not employ a child or young person at work where a risk assessment reveals that the work—

(a) is beyond the physical or psychological capacity of the child or young person concerned,

(b) involves harmful exposure to agents which are toxic, carcinogenic, cause heritable genetic damage, or harm to the unborn child or which in any other way chronically affects human health,

(c) involves harmful exposure to radiation,

(d) involves the risk of accidents which it may be assumed cannot be recognised or avoided by a child or young person owing to insufficient attention to safety or lack of experience or training, or

(e) which presents a risk to health from exposure to extreme heat or cold or to noise or vibration.

Health surveillance.

146. An employer shall—

(a) where a risk assessment reveals a risk to safety or health or to the physical or mental development of a child or young person, make available health surveillance in accordance with section 22 of the Act,

(b) make available to a child or young person a free assessment of his or her health and capabilities before assignment to night work and at regular intervals thereafter, and

(c) inform a child or young person of the result of any health surveillance or health assessment carried out in accordance with paragraphs (a) or (b) and, in the case of a child, inform the parent or guardian of the child of the results of any health surveillance or health assessment.

Chapter 2 — Protection of Pregnant, Post Natal and Breastfeeding Employees

Interpretation for Chapter 2.

147. In this Chapter:

"agent, process or working condition" includes an agent, process or working condition, lists of which are shown in Part A of Schedule 8;

"employee" means a pregnant employee, an employee who is breastfeeding or a post natal employee;

"employee who is breastfeeding" means an employee who, having given birth not more than 26 weeks previously, is breastfeeding;

"post natal employee" means an employee who gave birth not more than 14 weeks preceding a material date;

"pregnant employee" means an employee who is pregnant.

Application of Chapter 2.

148. (1) This Chapter applies to an employee subject to her—

(a) notifying her employer of her condition as soon as is practicable after it occurs, and,

(b) at the time of the notification, giving to her employer or producing for her employer's inspection a medical or other appropriate certificate confirming her condition.

(2) Section 6(2) of the Act does not apply to the application of this Chapter.

Risk assessment.

149. Without prejudice to section 19 of the Act, an employer shall—

(a) assess any risk to the safety or health of employees and any possible effect on the pregnancy of, or breastfeeding by, employees, resulting from any activity at that employer's place of work likely to involve a risk of exposure to any agent, process or working condition as referred to in Part A of Schedule 8 and, for that purpose determine the—

(i) nature,

(ii) degree and

(iii) duration

of any employee’s exposure to any agent, process or working condition;

(b) take the preventive and protective measures necessary to ensure the safety and health of such employees and avoid any possible effect on such pregnancy or breastfeeding; and

(c) without prejudice to paragraph (a) and the relevant statutory provisions relating to chemical agents and to the occupational exposure limits laid down in any relevant approved code of practice—

(i) assess any risk to safety or health likely to arise from exposure of a pregnant employee to an agent or working condition listed in Part B of Schedule 8 resulting from any activity at that employer's place of work,

(ii) assess any risk to safety or health likely to arise from exposure of an employee who is breastfeeding to an agent or working condition listed in Part C of Schedule 8 resulting from any activity at that employer's place of work and

(iii) ensure that any such employee is not required to perform duties for which the assessment reveals such risk.

Protective or preventive measures.

150. An employer shall—

(a) where—

(i) the risk assessment carried out under Regulation 149 reveals a risk to an employee's safety or health, or any possible adverse effect on the pregnancy or breastfeeding of an employee, and

(ii) it is not practicable to ensure the safety or health of such employee through protective or preventive measures,

adjust temporarily the working conditions or the working hours, or both, of the employee concerned so that exposure to such risk is avoided, and

(b) in cases in which the adjustment of working conditions or working hours, or both referred to in paragraph (a)—

(i) is not technically or objectively feasible, or both, or

(ii) cannot reasonably be required on duly substantiated grounds,

take the measures necessary to provide the employee concerned with other work which does not present a risk to the safety or health of, or any possible adverse effect on the pregnancy or breastfeeding by, the employee.

Night work.

151. (1) In this Regulation "night work" means work in the period between the hours of 11 p.m. on any day and 6 a.m. on the next following day where—

(a) the employee works at least 3 hours in that period as a normal course, or

(b) at least 25 per cent of the employee's monthly working time is performed in that period.

(2) An employer shall—

(a) if a registered medical practitioner certifies that it is necessary for the safety or health of an employee that she should not be required to perform night work during pregnancy or for 14 weeks following childbirth not oblige her to perform night work during that period, and

(b) in a case to which subparagraph (a) relates—

(i) transfer the employee to daytime work, or

(ii) where such a transfer is not technically or objectively feasible on duly substantiated grounds, or both, grant the employee leave or extend the period of maternity leave.

Information.

152. An employer shall, without prejudice to the provisions of section 9 of the Act, take appropriate steps to ensure that employees or their representative, or both, are provided with information on—

(a) the results of the assessment referred to in Regulation 149, and

(b) the measures to be taken concerning employees' safety and health pursuant to this Chapter.

Chapter 3 — Night Work and Shift Work

Interpretation for Chapter 3.

153. In this Chapter:

"1997 Act" means the Organisation of Working Time Act 1997 (No. 20 of 1997);

"night work" and "night worker" have the same meaning as they have in the 1997 Act;

"shift work" and "shift worker" have the same meaning as they have in the 1997 Act.

Application of Chapter 3.

154. This Chapter applies in respect of—

(a) an employee and employer to whom the 1997 Act applies, and

(b) a self-employed person.

Night work risk assessment.

155. For the purposes of section 16(2)(a) of the 1997 Act, an employer shall carry out, in compliance with section 19 of the Act, a risk assessment, taking account of—

(a) the specific effects and hazards of night work, and

(b) the risks to the safety and health of the employee concerned that attach to the work that a night worker is employed to do,

so as to determine whether that work involves special hazards or a heavy physical or mental strain.

Protective or preventive measures with respect to night workers and shift workers.

156. An employer, taking account of the risk assessment under Regulation 155, shall—

(a) take such steps as, having regard to the nature of the work concerned, are appropriate for the protection of the safety and health of a night worker or an employee who is a shift worker, and

(b) in taking steps to comply with section 18 of the Act, have regard to the employer's duty under paragraph (a).

Health assessment and transfer to day work.

157. (1) An employer,

(a) before employing a person as a night worker, and

(b) at regular intervals during the period that that person is employed as a night worker,

shall make available to that person, free of charge, an assessment by a registered medical practitioner, or a person under the practitioner's supervision, in relation to any adverse effects of that night work on the night worker's health.

(2) In discharging the duty under paragraph (1) the employer—

(a) may take into account any entitlement to an assessment referred to in that paragraph that is provided by the State, and

(b) shall facilitate the night worker's attendance at the assessment if so required.

(3) The person who performs an assessment referred to in paragraph (1) shall—

(a) endeavour to detect if the health of the employee concerned is being or will be adversely affected by the fact that the employee performs or will perform night work, and

(b) on the completion of the assessment, inform the employer and employee concerned—

(i) of the opinion of the person who performs the assessment as to whether the employee is fit or unfit to perform the night work concerned, and

(ii) if that opinion is that the employee is unfit to perform that night work by reason only of the particular conditions under which that work is performed suggesting changes in those conditions that could be made so that the employee could be considered fit to perform that night work.

(4) Neither a registered medical practitioner nor a person acting under his or her supervision shall disclose—

(a) the clinical details of the assessment referred to in paragraph (1) to any person other than the employee concerned or a person designated under section 63 of the Act, or

(b) the opinion of the registered medical practitioner of such an assessment to any person other than the employee and employer concerned.

(5) If a night worker—

(a) becomes ill or otherwise exhibits symptoms of ill-health, and

(b) that illness is or those symptoms are recognised as being connected with the fact that the night worker performs night work,

the employer, whenever possible, shall assign duties to the employee that do not involve performing any night work and to which the employee is suited.

PART 7

SAFETY SIGNS AND FIRST-AID

Chapter 1 — Safety Signs at Places of Work

Interpretation for Chapter 1.

158. In this Chapter:

"acoustic signal" means a coded sound signal which is released and transmitted by a device designed for that purpose, without the use of a human or artificial voice;

"emergency escape or first-aid sign" means a sign giving information on emergency exits or first-aid or rescue facilities;

"hand signal" means a movement, position, or both, of the arm, hands, or both, in coded form, for guiding persons who are carrying out manoeuvers which constitute a hazard or danger for persons at work;

"illuminated sign" means a sign produced by a device made of transparent or translucent materials which are illuminated from the inside or the rear in such a way as to give the appearance of a luminous surface;

"information sign" means a sign providing information other than that referred to in prohibition, warning, mandatory or emergency escape or first-aid signs;

"mandatory sign" means a sign requiring specific behaviour;

"prohibition sign" means a sign prohibiting behaviour likely to incur or cause danger;

"safety colour" means a colour to which a specific meaning is assigned;

"safety or health signs" means signs referring to a specific object, activity or situation and providing information or instructions about safety, health, or both, at work by means of a signboard, a colour, an illuminated sign, an acoustic signal, a verbal communication or a hand signal;

F32**[**...**]**

"signboard" means a sign which provides specific information or instructions by a combination of a geometric shape, colours and a symbol or pictogram, without written words, which is rendered visible by lighting of sufficient intensity;

"supplementary signboard" means a signboard used together with one of the signs covered by the definition of "signboard" and which gives supplementary information, including where appropriate, information in writing;

"symbol or pictogram" means a figure which describes a situation or requires specific behaviour and which is used on a signboard or illuminated surface;

"verbal communication" means a predetermined spoken message communicated by a human or artificial voice;

"warning sign" means a sign giving warning of a hazard or risk.

Annotations

Amendments:

F32 Deleted (12.11.2007) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2007* (S.I. No. 732 of 2007), reg. 2(j), in effect as per reg. 1(2).

Application of Chapter 1.

159. (1) Subject to paragraphs (2) and (3) of this Regulation and to Regulation 160(2), this Chapter applies to every place of work.

F33**[**(2) This Chapter shall not apply to signs used for the placing on the market of hazardous substances and mixtures, products and equipment (or either of them) except to the extent that any other enactment concerning a European act makes specific reference to such signs.

(2A) In paragraph (2), 'European act' has the same meaning as it has in the European Communities Act 2007 (No. 18 of 2007).**]**

(3) Subject to Regulation 160(1)(d), this Chapter does not apply to signs used for regulating road, rail, inland waterway, sea or air transport.

(4) This Chapter is without prejudice to sections 8 to 11, 13, 14, 18 to 23 and 25 to 31 of the Act.

Annotations

Amendments:

F33 Substituted and inserted (18.02.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016), reg. 4.

Provision of safety signs.

160. (1) An employer shall—

(a) provide safety or health signs, or both, at the place of work where hazards cannot be avoided or adequately reduced by techniques for collective protection or measures methods or procedures used in the organisation of work,

(b) ensure that such signs are in place,

(c) have regard to the risk assessment made under section 19 of the Act and the safety statement prepared under section 20 of the Act when determining whether or not to provide a sign under paragraph (a),

(d) use the appropriate sign prescribed under any enactment regulating transport or movement of traffic involving road, rail, inland waterway, sea or air in relation to risk, where such forms of transport—

(i) are present at the place of work, and

(ii) give rise to a risk to the safety or health of any employee, and

(e) ensure that a safety or health sign used at work complies with Schedule 9.

(2) Where a signboard is in place at the commencement of these Regulations, which, solely because it includes a word or words, is not a signboard as defined in Regulation 158, an employer may leave that signboard in place until 1 January 2011.

Information and instruction for employees.

161. Without prejudice to sections 9 and 10 of the Act, an employer shall—

(a) provide information to the employer's employees or representative, or both, as regards measures to be taken concerning safety or health signs used at work especially signs incorporating words and the general and specific behaviour to be adopted in relation to those signs, and

(b) give the employer's employees suitable instruction, in particular in the form of specific directions concerning the safety or health signs used at work, which must include the meaning of the signs.

Prohibition of unauthorised information on signs.

162. An employer shall ensure that signs at work which are displayed for the purposes of this Chapter do not include information other than that authorised by this Chapter.

Chapter 2 — First-aid

Interpretation for Chapter 2.

163. In this Chapter:

"first-aid" means—

(a) in a case where a person requires treatment from a registered medical practitioner or a registered general nurse, treatment for the purpose of preserving life or minimising the consequences of injury or illness until the services of a practitioner or nurse are obtained, or

(b) in a case of a minor injury which would otherwise receive no treatment or which does not need treatment by a registered medical practitioner or registered general nurse, treatment of that minor injury;

"occupational first-aider" means a person trained and qualified in occupational first-aid.

Application of Chapter 2.

164. (1) Subject to paragraph (2), this Chapter applies to every place of work.

(2) Regulation 166 does not apply to the following places of work:

(a) means of transport used outside the undertaking or a place of work inside a means of transport;

(b) a fishing boat;

(c) a field, wood or land forming part of an agricultural or forestry undertaking which is situated away from the undertaking's buildings.

Provisions for first-aid.

165. (1) An employer shall—

(a) provide and maintain suitably marked and easily accessible first-aid equipment, as is adequate and appropriate in the circumstances for enabling first-aid to be given to persons at every place where working conditions require it, at a place of work under the employer's control,

(b) designate at each place of work under the employer's control the number of occupational first-aiders as is necessary to give first-aid at the place of work concerned,

(c) ensure that the number of occupational first-aiders, their training and the equipment available to them is adequate, taking account of the size or hazards, or both, of each such place of work, and

(d) ensure that—

(i) details of arrangements made for the provision of first-aid, including the names of occupational first-aiders and the location of first-aid rooms equipment and facilities for or at the place of work are included in the safety statement, and

(ii) the names, addresses and telephone numbers of the local emergency services are clearly displayed at each place of work.

(2) Where an occupational first-aider provided under paragraph (1)(b) is absent in temporary and exceptional circumstances, it shall be sufficient compliance with that paragraph if the employer designates a person, or ensures that a person is designated, to take charge of an injured or ill person.

First-aid rooms.

166. An employer shall provide—

(a) one or, as appropriate, more first-aid rooms at every place of work under the employer's control where the size of the undertaking, the type and scale of

activity being carried out and the frequency of accidents so require, without prejudice to—

(i) Regulation 165(1)(a), and

(ii) existing requirements in the relevant statutory provisions as regards the provision of first-aid rooms, and

(b) ensure that every first-aid room provided under paragraph (a) is fitted with essential first-aid equipment and facilities and is easily accessible for stretchers.

PART 8

EXPLOSIVE ATMOSPHERES AT PLACES OF WORK

Interpretation for Part 8.

167. In this Part:

"ADR" means—

(a) the European Agreement concerning the international carriage of dangerous goods by road,

(b) the protocol of signature to that agreement, done at Geneva on 30 September 1957,

(c) the amending protocol to that agreement adopted at Geneva on 28 October 1993 and

(d) Annexes A and B to the ADR referred to in Annexes A and B to Council Directive No. 94/55/EC of 21 November 1994 as amended;

"explosion protection document" shall be construed in accordance with Regulation 169;

"hazard" means the physico-chemical or chemical property of a substance which has the potential to give rise to fire, explosion, or other events which can result in harmful physical effects of a kind similar to those which can be caused by fire or explosion affecting the safety of a person, and cognate words shall be construed accordingly;

"risk" means the likelihood of a person's safety being affected by harmful physical effects being caused to him or her from fire, explosion or other events arising from the hazardous properties of a substance in connection with work;

"substance" includes any natural or artificial substance whether in solid or liquid form or in the form of a gas or vapour;

"workplace" means any premises or part of premises used for or in connection with work and includes—

(a) any place within the premises to which a person has access while at work, and

(b) any room, lobby, corridor, staircase, road or other place—

(i) used as a means of access to or egress from that place of work, or

(ii) where facilities are provided for use in connection with that place of work,

other than a public road.

Application of Part 8.

168. (1) Subject to paragraph (2), this Part applies to a workplace where employees are potentially at risk from an explosive atmosphere.

(2) This Part does not apply to—

(a) areas used directly for and during the medical treatment of patients,

(b) the use of appliances burning gaseous fuels in accordance with Council Directive 90/396/EEC of 29 June 1990[3] on the approximation of the laws of the Member States relating to appliances burning gaseous fuels as amended by Council Directive 93/68/EEC of 22 July 1993[4],

(c) the manufacture, handling, use, storage and transport of explosives or chemically unstable substances,

(d) mineral extractive industries as referred to in the relevant statutory provisions, and

(e) the use of means of transport by land, water and air, to which the relevant provisions of the international agreements, including ADR, and the European Community directives giving effect to those agreements apply, but means of transport intended for use in a potentially explosive atmosphere shall not be excluded.

Assessment of explosion risk and explosion protection document.

169. (1) An employer shall—

(a) where an explosive atmosphere is or is likely to be present at or may, from time to time, arise in a workplace, make a suitable and appropriate assessment of the risk arising from such explosive atmosphere to the employees concerned having regard to all the circumstances,

(b) in carrying out the assessment referred to in paragraph (a), have regard to—

(i) the likelihood that explosive atmospheres will occur and their persistence,

(ii) the likelihood that ignition sources, including electrostatic discharges, will be present and become active and effective,

(iii) the installations, substances used, work processes and their possible interactions,

(iv) the scale of the anticipated effects,

(v) any places which are or can be connected via openings to places in which explosive atmospheres may occur, and

(vi) such additional safety information as the employer may need in order to complete the assessment;

(2) Having carried out an assessment under and in accordance with this Regulation, an employer shall—

(a) prepare an explosion protection document, as soon as practicable and before the commencement of work,

(b) revise that document as necessary if the workplace, work equipment or organisation of work undergoes significant changes, extensions or conversions,

(c) include that document, or make reference to it, in the employer's safety statement and

(d) make that document or any revision of it available to the employees concerned.

(3) The employer shall specify in the explosion protection document each of the following:

[3] O.J. No. L 196, 26.7.1990, p. 15
[4] O.J. No. L 220, 30.8.1993, p. 1

(a) that the explosion risks have been determined and assessed;

(b) that measures have been or will be taken pursuant to this Part and that such measures are adequate having regard to the risks;

(c) the places which have been classified into zones in accordance with Regulation 170 and, in respect of such classification, where Schedule 10 applies;

(d) that the workplace and work equipment, including warning devices, are designed operated and maintained with due regard for safety and that, in accordance with Part 2, Chapter 1 and Part 7, Chapter 1, adequate arrangements have been made for the safe use of work equipment;

(e) the purpose of any co-ordination required by Regulation 175 and the measures and procedures for implementing it.

(4) An employer, in drawing up the explosion protection document, may combine existing explosion risk assessments, documents or other equivalent reports which have been prepared by or on behalf of the employer under any other enactment.

Classification of places where explosive atmospheres may occur.

170. (1) An employer shall—

(a) classify places at the workplace where explosive atmospheres may occur into hazardous or non-hazardous places in accordance with Part A of Schedule 10,

(b) having done so, classify those places classified as hazardous into zones in accordance with paragraph 2 of that Part, and

(c) display in a prominent position in any place that is classified as hazardous in accordance with paragraph (b), a sign at or near each point of entry to the hazardous place and ensure that the sign complies with Part B of Schedule 10.

(2) Before a workplace containing a place that is classified as hazardous pursuant to paragraph (1) is used for the first time, an employer shall ensure that—

(a) the overall explosion safety of both the workplace and that place it contains is verified by a competent person, and

(b) any condition or conditions that are necessary, pursuant to this Part, for ensuring protection from explosion, is or are maintained.

(3) This Part applies to—

(a) the places classified as hazardous under paragraph (1)(a), as required by the features of workplaces, workstations, the equipment or substances used or the danger caused by the activity related to the risks from explosive atmospheres, and

(b) equipment in non-hazardous places which is required for, or helps to ensure, the safe operation of equipment located in hazardous places.

Prevention against explosion.

171. An employer shall—

(a) for the purpose of preventing and providing protection against explosions, take technical and organisational measures that are appropriate to the nature of the operation and in order of priority ensure that those measures—

(i) either

(I) prevent the formation of explosive atmospheres, or

(II) where the nature of the activity does not allow that, avoid the ignition of explosive atmospheres including by electrostatic discharges where

persons at work or the working environment act as charge carrier or charge producer, and

(ii) mitigate the detrimental effects of an explosion so as to ensure the health and safety of persons at work,

(b) where necessary, combine and supplement the measures referred to in paragraph (a with measures against the propagation of explosion,

(c) review the foregoing measures regularly and whenever significant changes occur,

(d) take the necessary measures, in compliance with Regulation 169, to ensure that—

(i) where explosive atmospheres may or are likely to arise in such quantities as to endanger the safety and health of persons at work, or of others, the working environment is such that work can be performed safely,

(ii) in working environments where explosive atmospheres may arise in such quantities as to endanger the safety and health of employees—

(I) there is appropriate supervision of employees, and

(II) that supervision includes the appropriate technical measures,

(iii) any escape or any release, or both, whether intentional or not, of flammable gases, vapours, mists or combustible dusts which may give rise to explosion hazards are suitably diverted or removed to a safe place or, if that is not practicable, safely contained or rendered safe by some other suitable method and

(iv) if an explosive atmosphere contains several types of flammable or combustible gases, vapours, mist or dusts, or any combination of them protective measures are appropriate to the greatest potential risk.

Safety of plant, equipment and protective systems.

172. (1) An employer shall ensure that—

(a) plant, equipment, protective systems and any associated connecting devices are only brought into service if the explosion protection document indicates that they can be safely used in an explosive atmosphere,

(b) necessary measures are taken to prevent confusion between connecting devices,

(c) all necessary measures are taken to ensure that the workplace, work equipment and any associated connecting device made available to employees are—

(i) designed,

(ii) constructed,

(iii) assembled,

(iv) installed,

(v) maintained, and

(vi) operated,

in such a way as—

(I) to minimise the risks of an explosion, and

(II) if an explosion does occur to control or minimise the propagation of the explosion within that workplace, work equipment, or both,

(d) for a workplace referred to in paragraph (c), appropriate measures are taken to minimise the risks to employees from the physical effects of an explosion,

(e) where the risk assessment shows it to be necessary—

(i) it is possible, where power failure can give rise to the spread of additional risks, to maintain equipment and protective systems in a safe state of operation independently of the rest of the installation in the event of power failure,

(ii) manual override by a competent employee is possible in order to shut down the equipment and protective systems incorporated within automatic processes which deviate from the intended operating conditions, provided that this does not compromise safety, and

(iii) on operation of the emergency shutdown, accumulated energy is dissipated as quickly and as safely as possible or isolated so that it no longer constitutes a hazard,

(f) if the explosion protection document drawn up pursuant to Regulation 169(2) does not state otherwise, equipment and protective systems for all places in which explosive atmospheres may occur is selected on the basis of the categories set out in the relevant statutory provisions intended for use in potentially explosive atmospheres, and

(g) in particular, the following categories of equipment are used in the zones indicated in Schedule 10, provided they are suitable for gases, vapours, mists or dusts, or any combination of them, as appropriate—

(i) in zone 0 or zone 20, category 1 equipment,

(ii) in zone 1 or zone 21, category 1 or 2 equipment, and

(iii) in zone 2 or zone 22, category 1, 2 or 3 equipment.

(2) Paragraph (1)(a) applies also to any equipment or protective systems to which the relevant statutory provisions relating to equipment and protective systems intended for use in potentially explosive atmospheres do not apply if their incorporation into an installation can in itself give rise to an ignition hazard.

Training, instructions, permits to work.

173. An employer shall—

(a) provide persons at work in workplaces where explosive atmospheres may occur with sufficient and appropriate training with regard to explosion protection, and

(b) ensure that, where required by the explosion protection document—

(i) work in hazardous places is carried out in accordance with written instructions issued by the employer,

(ii) a system of permits to work is applied for carrying out both hazardous activities and activities which may interact with other work to cause hazards and

(iii) permits to work are issued by a competent person responsible for this function, before the activity concerned commences.

Protection of employees from explosion.

174. An employer shall—

(a)provide work clothing which does not give rise to electrostatic discharges for use in places classified as hazardous pursuant to Regulation 170(1)(b) to any employee who is obliged to carry out work or duties in such places and is appropriate for the carrying out of such work or duties in such places;

(b) where necessary, ensure that persons at work are given optical or acoustic warnings or both, and are withdrawn before the explosion conditions are reached; and

(c) where required by the explosion protection document, provide and maintain escape facilities to ensure that, in the event of danger, persons at work can leave endangered places promptly and safely.

Coordination at workplaces.

175. Without prejudice to section 21 of the Act—

(a) where employees are present in or at the same workplace to which this Part refers and they are employed by different employers, each employer shall ensure the safety of the employer's employees and for that purpose shall ensure that the matters that arise under the employer's control comply with this Part, and

(b) where 2 or more employers share the same workplace in which an explosive atmosphere may occur, the employer responsible for the workplace shall co-ordinate the implementation of all the measures required by this Part to be taken to protect employees from any risk from the explosive atmosphere.

F34[PART 9

CONTROL OF ARTIFICIAL OPTICAL RADIATION AT WORK]

Annotations

Amendments:

F34 Inserted (29.04.2010) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2010* (S.I. No. 176 of 2010), reg. 2(c).

F34[**Interpretation for Part 9.**

176. (1) In this Part—

"Directive" means Directive 2006/25/EC of the European Parliament and of the Council of 5 April 2006 [2] ;

"exposure limit value" means the limits on exposure to optical radiation which are based directly on established health effects and biological considerations. Compliance with these limits will ensure that workers exposed to artificial sources of optical radiation are protected against all known adverse health effects;

"irradiance (E) or power density" means the radiant power incident per unit area upon a surface expressed in watts per square metre (W m -2);

"laser (light amplification by stimulated emission of radiation)" means any device which can be made to produce or amplify electromagnetic radiation in the optical radiation wavelength range primarily by the process of controlled stimulated emission;

"laser radiation" means optical radiation from a laser;

"level" means the combination of irradiance, radiant exposure and radiance to which an employee is exposed;
"non-coherent radiation" means any optical radiation other than laser radiation;

"optical radiation" means any electromagnetic radiation in the wavelength range between 100 nm and 1 mm. The spectrum of optical radiation is divided into ultraviolet radiation, visible radiation and infrared radiation:

2 OJ L114 27.04.2006, p.38

(*a*) ultraviolet radiation: optical radiation of wavelength range between 100 nm and 400nm. The ultraviolet region is divided into UVA (315-400 nm), UVB (280315 nm) and UVC (100-280 nm);

(*b*) visible radiation: optical radiation of wavelength range between 380 nm and 780 nm;

(*c*) infrared radiation: optical radiation of wavelength range between 780 nm and 1mm. The infrared region is divided into IRA (780-1400 nm), IRB (1400-3000nm) and IRC (3000 nm -1 mm);

"radiance (L)" means the radiant flux or power output per unit solid angle per unit area, expressed in watts per square metre per steradian (W m -2 sr-1);

"radiant exposure (H)" means the time integral of the irradiance, expressed in joules per square metre (J m -2).

(2) A word or expression that is used in this Part and is also used in the Directive has, unless the contrary intention appears, the same meaning in this Part as in the Directive.**]**

Annotations

Amendments:

F34 Inserted (29.04.2010) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2010* (S.I. No. 176 of 2010), reg. 2(c).

F35**[Application of Part 9.**

177. This Part shall apply to activities in which employees are, or are likely to be, exposed to risks to their safety and health arising from exposure to artificial optical radiation during their work and, in particular, the risk to the eyes and to the skin.**]**

Annotations

Amendments:

F35 Inserted (29.04.2010) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2010* (S.I. No. 176 of 2010), reg. 2(c).

F36**[Exposure Limit Values.**

178. (1) The exposure limit values for non-coherent radiation, other than that emitted by natural sources of optical radiation, are as set out in Part 1 of Schedule 11.

(2) The exposure limit values for laser radiation are as set out in Part 2 of Schedule 11.**]**

Annotations

Amendments:

F36 Inserted (29.04.2010) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2010* (S.I. No. 176 of 2010), reg. 2(c).

F37**[Determination of Exposure and Assessment of Risks.**

179. (1) Without prejudice to the requirements of sections 19 and 20 of the Act, where employees are exposed to artificial sources of optical radiation, an employer shall, in consultation with his or her employees or their representatives, or both, make a suitable and appropriate assessment of the risk arising from such exposure.

(2) In carrying out the assessment referred to in paragraph (1), an employer shall, if necessary, measure and or calculate the level of exposure to artificial optical radiation to which his or her employees are exposed.

(3) The level of exposure to artificial optical radiation shall be assessed, measured or calculated on the basis set out in Part 3 of Schedule 11.

(4) An employer shall be responsible for the assessment referred to in paragraph (1) being planned and competently carried out at suitable intervals.

(5) An employer shall give particular attention when carrying out the assessment referred to in paragraph (1) to the following—

(*a*) the level, wavelength range and duration of exposure to artificial sources of optical radiation,

(*b*) the exposure limit values specified in Regulation 178 and Schedule 11,

(*c*) the effects of exposure to artificial sources of optical radiation on employees whose safety or health is at particular risk from such exposure,

(*d*) any possible effects on employee safety or health resulting from workplace interactions between artificial optical radiation and photosensitising chemical substances,

(*e*) any indirect effects such as temporary blinding, explosion or fire,

(*f*) the existence of replacement equipment designed to reduce the levels of exposure to artificial optical radiation,

(*g*) appropriate information obtained from health surveillance, including published information, as far as possible,

(*h*) multiple sources of exposure to artificial optical radiation,

(*i*) a classification applied to a laser as defined in accordance with the relevant IEC standard and, in relation to any artificial source likely to cause damage similar to that of a laser of class 3B or 4, any similar classification,

(*j*) information provided by the manufacturers of artificial optical radiation sources and associated work equipment in accordance with the relevant Community Directives.

(6) An employer shall record in the safety statement prepared pursuant to section 20 of the Act—

(*a*) the findings of the assessment referred to in paragraph (1) as soon as possible after it is made, and

(*b*) the steps which he or she has taken to meet the requirements of Regulations 180 to 182.

(7) The assessment referred to in paragraph (1) and, if necessary, either or both the measurement and calculation referred to in paragraph (2) shall be reviewed at suitable intervals and, in particular, where either of the conditions specified in section 19(3)(*a*) or (*b*) of the Act are met.**]**

Annotations

Amendments:

F37 Inserted (29.04.2010) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2010* (S.I. No. 176 of 2010), reg. 2(c).

F38**[Provisions aimed at Avoiding or Reducing Exposure.**

180. (1) Having regard to the general principles of prevention in Schedule 3 to the Act, and in consultation with his or her employees or representatives, or both, an employer shall ensure, so far as is reasonably practicable, that risk from the exposure of his or her employees to artificial optical radiation is either eliminated at source or reduced to a minimum.

(2) Where the risk assessment carried out under Regulation 179 for employees exposed to artificial sources of optical radiation indicates any possibility that the exposure limit values may be exceeded, an employer shall devise and implement an action plan comprising either or both the technical and organisational measures designed to prevent the exposure exceeding the limit value, taking into account in particular:

(*a*) other methods of work which reduce the risk from exposure to artificial optical radiation,

(*b*) the choice of work equipment which, taking account of the work to be done, emits less artificial optical radiation including the possibility of making available to employees work equipment in compliance with section 16 of the Act with the aim or effect of limiting exposure to artificial optical radiation,

(*c*) technical means to reduce the emission of artificial optical radiation including, where necessary, the use of inter-locks, shielding or similar health protection mechanisms,

(*d*) appropriate maintenance programmes for work equipment, the places of work, workstations and systems of work,

(*e*) the design and layout of places of work and workstations,

(*f*) limitation of the duration and level of exposure to artificial optical radiation,

(*g*) provision of appropriate personal protective equipment, and

(*h*) the instructions of the manufacturer of the equipment where it is covered by relevant Community Directives.

(3) Where a risk assessment carried out pursuant to Regulation 179 indicates that there are workstations within the place of work where employees are likely to be exposed to artificial optical radiation above the exposure limit values, an employer shall—

(*a*) display mandatory signs, in accordance with Chapter 1 of Part 7, which convey that the artificial optical radiation level is likely to exceed that exposure limit value, and

(*b*) ensure that such workstations are identified and are protected from unauthorised access, by barriers or other suitable measures where such measures are technically feasible and where there is a risk that the exposure limit values could be exceeded.

(4) An employer shall ensure that his or her employees are not exposed to artificial optical radiation above the exposure limit values.

(5) Where, despite the measures taken to comply with this Part, exposure limit values are exceeded the employer shall—

(*a*) take immediate action to reduce exposure to artificial optical radiation to below the exposure limit values,

(*b*) as soon as practicable, identify the reasons for the exposure limit values being exceeded, and,

(*c*) amend either or both the technical and organisational measures taken in accordance with paragraph (2) to prevent the exposure limit values being exceeded again.

(6) Without prejudice to the provisions of section 10(1)(*d*) of the Act, an employer shall adapt any measures taken in compliance with the requirements of this Regulation to take account of any employee whose safety or health is at particular risk from exposure to artificial optical radiation.**]**

Annotations

Amendments:

F38 Inserted (29.04.2010) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2010* (S.I. No. 176 of 2010), reg. 2(c).

F39**[Employee Information and Training.**

181. (1) Without prejudice to sections 9 and 10 of the Act, an employer shall, where his or her employees are exposed to risk from artificial optical radiation, provide them or their representatives, or both, with suitable and sufficient information and training relating to the outcome of the risk assessment made pursuant to Regulation 179.

(2) Without prejudice to the generality of paragraph (1), the information and training provided under this Regulation shall include—

(*a*) the technical and organisational measures taken in order to comply with this Part,

(*b*) the exposure limit values and associated potential risks,

(*c*) the results of the risk assessment and either or both the measurement and calculation of the levels of exposure to artificial optical radiation carried out in accordance with Regulation 179 and an explanation of their significance and potential risks,

(*d*) how to detect and report signs of adverse health effects,

(*e*) the circumstances in which health surveillance is made available to employees and its purpose, in accordance with Regulation 182,

(*f*) safe working practices to minimise risks from exposure to artificial optical radiation, and

(*g*) proper use of appropriate personal protective equipment.

(3) Consultation of employees pursuant to Regulations 179(1) and 180(1) shall be effected in accordance with section 26 of the Act.**]**

Annotations

Amendments:

F39 Inserted (29.04.2010) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2010* (S.I. No. 176 of 2010), reg. 2(c).

F40**[Health Surveillance.**

182. (1) Without prejudice to section 22 of the Act, it shall be the duty of an employer to ensure that appropriate health surveillance is made available to those employees for whom a risk assessment referred to in Regulation 179 reveals a risk to their health, including employees exposed to artificial optical radiation in excess of an exposure limit value.

(2) Health surveillance, the results of which are taken into account in the application of preventive measures at a particular place of work, shall be intended to prevent or

diagnose rapidly any long-term health risks and any risk of chronic disease resulting from exposure to artificial optical radiation.

(3) An employer shall ensure that a health record in respect of each of his or her employees who undergoes health surveillance is made and maintained and that that record or a copy thereof is kept available in a suitable form so as to permit appropriate access at a later date, taking into account any confidentiality concerns.

(4) An employer shall—

(*a*) on request, allow an employee access to his or her personal health record,

(*b*) provide the Authority with copies of such health records as the Authority may require,

(*c*) provide the registered medical practitioner, under whose responsibility an employee receives health surveillance, with the results of the risk assessment referred to in Regulation 179 where such results may be relevant to the health surveillance, and

(*d*) if he or she ceases to trade, notify the Authority forthwith in writing and make available to the Authority all health records kept by him or her in accordance with this Part.

(5) Without prejudice to the generality of paragraph (1), an employer shall in the case of an employee whose exposure exceeds the limit values, or where as a result of health surveillance an employee is found to have an identifiable illness or adverse health effect which, in the opinion of a registered medical practitioner, is the result of exposure at work to artificial optical radiation, make available to them the services of a registered medical practitioner to carry out, or to have carried out on his or her responsibility a medical examination.

(6) Without prejudice to the generality of paragraph (1), when an employee's exposure to artificial optical radiation exceeds the exposure limit values, or where as a result of health surveillance an employee is found to have an identifiable illness or adverse health effect which, in the opinion of a registered medical practitioner, is the result of exposure at work to artificial optical radiation—

(*a*) the registered medical practitioner shall inform the employee of the result which relates to him or her personally, including information and advice regarding such health surveillance which he or she should undergo following the end of the exposure,

(*b*) the registered medical practitioner shall inform the employer of any significant findings of the health surveillance, taking into account any medical confidentiality,

(*c*) the employer shall:

(i) review the risk assessment made under Regulation 179,

(ii) review the measures provided to eliminate or reduce the risk under Regulation 180,

(iii) take account of the advice of the registered medical practitioner or a relevant competent person, or the Authority, in implementing any measures required to eliminate or reduce risk in accordance with Regulation 180,

(iv) arrange continued health surveillance and provide for a review of the health status of any employee who has been similarly exposed, and

(v) take account of the recommendations of the registered medical practitioner or a relevant competent person regarding further medical examination.**]**

Annotations

Amendments:

F40 Inserted (29.04.2010) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2010* (S.I. No. 176 of 2010), reg. 2(c).

F41**[PART 10**

PRESSURE SYSTEMS]

Annotations

Amendments:

F41 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(d), in effect as per reg. 1(4).

F41**[Interpretation for Part 10.**

183. (1) In this Part—

'danger' in relation to a pressure system means reasonably foreseeable danger to persons from system failure;

'examination' means a careful and critical scrutiny of a pressure system or part of a pressure system, in or out of service as appropriate, using suitable techniques, including testing where appropriate, to assess—

(*a*) its actual condition, and

(*b*) whether, for the period up to the next examination, it is safe to operate when properly used if normal maintenance is carried out;

'fluid' means gases, liquids and vapours in pure phase as well as mixtures thereof and fluid may contain a suspension of solids;

'maximum allowable pressure' or 'minimum allowable pressure' means the maximum pressure and minimum pressure, as the case may be, for which the equipment, or part thereof, is designed, as specified by the manufacturer;

'maximum allowable temperature' or 'minimum allowable temperature' means the maximum or minimum temperature, as the case may be, for which the equipment is designed, as specified by the manufacturer;

'pipeline' means a pipe or system of pipes used for the conveyance of relevant fluid across the boundaries of premises, together with any apparatus for inducing or facilitating the flow of relevant fluid through, or through a part of, the pipe or system, and any valves, valve chambers, pumps, compressors and similar works which are annexed to, or incorporated in the course of, the pipe or system;

'piping' means piping components intended for the transport of fluids, when connected together for integration into a pressure system and includes in particular a pipe or system of pipes, tubing, fittings, expansion joints, hoses, bellows or other pressure-bearing components as appropriate, and heat exchangers consisting of pipes for the purpose of cooling or heating air shall be considered as piping;

'pressure' means pressure relative to atmospheric pressure, i.e. gauge pressure, and, as a consequence, vacuum is designated by a negative value;

'pressure accessories' means devices with an operational function and having pressure-bearing housings;

'pressure equipment' means vessels, piping, protective devices and pressure accessories used with a relevant fluid and where applicable, pressure equipment includes attachments relevant to the integrity of the equipment;

'pressure system' means a system comprising one or more pressure vessels of rigid construction, any associated piping and protective devices and pressure accessories which contains or is liable to contain a relevant fluid;

'protective devices' means devices designed to protect the pressure equipment against the safe operating limits being exceeded, including:

(*a*) devices for direct pressure limitation, such as safety valves, bursting disc safety devices, buckling rods, controlled safety pressure relief systems,

(*b*) limiting devices, which either activate the means for correction or provide for shutdown or shutdown and lockout, such as pressure switches, temperature switches or fluid level switches and safety related measurement control and regulation devices, and

(*c*) devices designed to give warning that the safe operating limits are being exceeded;

'relevant fluid' means—

(*a*) steam,

(*b*) any gas which is at a pressure greater than 0.5 bar above atmospheric pressure (1013 mbar),

(*c*) a liquid which would have a vapour pressure greater than 0.5 bar above atmospheric pressure (1013 mbar) when in equilibrium with its vapour at either the actual temperature of the liquid or 17.5 degrees Celsius;

'safe operating limits' means the operating limits (incorporating a suitable margin of safety) beyond which system failure is liable to occur;

'system failure' means the unintentional release of stored energy from a pressure system;

'user' in relation to a pressure system, means the employer or self-employed person who has control of the operation of the pressure system and includes, in the case of a lease of the pressure system, the lessee;

'vessel' means a housing designed and built to contain relevant fluids including its direct attachments up to the coupling point connecting it to other equipment, and a vessel may be composed of more than one chamber.**]**

Annotations

Amendments:

F41 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(d), in effect as per reg. 1(4).

F42**[Application of Part 10.**

184. This Part applies to the use, examination and testing of pressure equipment or pressure systems (other than pressure systems referred to in Part A of Schedule 12) which are used or intended to be used at work.**]**

Annotations

Amendments:

F42 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(d), in effect as per reg. 1(4).

F43**[Revocations, saver and transitional matters.**

185. (1) The following are revoked:

(*a*) Factories (Preparation of Steam Boiler for Examination) Regulations 1956 (S.I. No. 174 of 1956),

(*b*) Factories (Report of Examination of Steam Boiler) Regulations 1956 (S.I. No. 183 of 1956),

(*c*) Factories (Report of Examination of Steam Receivers) Regulations 1956 (S.I. No. 184 of 1956),

(*d*) Factories (Report of Examination of Air Receivers) Regulations 1956 (S.I. No. 185 of 1956),

(*e*) Factories (Report of Examination of Air Receivers) (Amendment) Regulations 1978 (S.I. No. 357 of 1978),

(*f*) Factories (Report of Examination of Steam Receivers) (Amendment) Regulations 1978 (S.I. No. 358 of 1978), and

(*g*) Factories (Report of Examination of Steam Boiler) (Amendment) Regulations 1978 (S.I. No. 359 of 1978).

(2) Where an examination has been carried out, or commenced, under and in compliance with an applicable statutory provision prior to the coming into operation of this Part, the examination shall be regarded as being in compliance with this Part and Regulation 191 (other than paragraph (1) thereof) shall not apply until after the expiry of the period relating to that examination, as appropriate, specified under the applicable statutory provision.

(3) An employer who is a user or owner of a pressure vessel shall ensure that an examination is carried out under this Part not later than 3 months after the coming into operation of this Part where such an examination was required and was due be to be carried out under an applicable statutory provision but was not carried out before the coming into operation of this Part.**]**

Annotations

Amendments:

F43 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(d), in effect as per reg. 1(4).

F44**[Design, construction and safe operating limits of a pressure system, or parts thereof.**

186. An employer shall ensure that in respect of a pressure system or parts thereof—

(*a*) without prejudice to the generality of Regulation 28:

(i) it is of good construction, sound material, adequate strength, suitable quality and free from patent defect;

(ii) it is properly installed and used;

(iii) it is properly maintained;

(iv) the safe operating limits of pressure equipment or the pressure system have been established, and adequate information on said limits is available;

(v) each vessel is marked with the information specified in Part C of Schedule 12, where known;

(vi) each vessel is uniquely marked in a plainly visible and durable form to enable it to be readily identifiable;

(vii) in the case of a steam boiler, the safe operating limit shall be clearly displayed,

(*b*) it is not operated or allowed to be operated beyond its safe operating limits except for testing purposes as specified by, and under the direction of, a competent person,

(*c*) it is provided with adequate and appropriate protective devices, and any such device designed to release contents shall do so safely.**]**

Annotations

Amendments:

F44 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(d), in effect as per reg. 1(4).

F45**[Installation of pressure equipment or a pressure system.**

187. A person who installs pressure equipment or a pressure system at a place of work shall ensure that it is installed so that it may be used safely, without risk to health or impairing the operation of any protective device or inspection facility.**]**

Annotations

Amendments:

F45 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(d), in effect as per reg. 1(4).

F46**[Marking.**

188. (1) No person shall remove from pressure equipment any mark, plate or label containing any of the information required under Regulation 186 (*a*)(v).

(2) No person shall falsify any mark on pressure equipment or on a plate or label attached to it, relating to its design, construction, test or operation.**]**

Annotations

Amendments:

F46 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(d), in effect as per reg. 1(4).

F47**[Information and instruction.**

189. (1) Without prejudice to the generality of Regulation 29, an employer shall ensure that in respect of pressure equipment or a pressure system—

(*a*) the necessary measures are taken so that employees have at their disposal adequate information and, where appropriate, written instructions concerning—

(i) conditions of use,

(ii) safe operation,

(iii) foreseeable abnormal situations,

(iv) action to be taken in the event of an emergency, and

(v) conclusions to be drawn from experience in using such equipment, where appropriate,

and

(*b*) employees are made aware, whether or not they use the equipment, of safety and health risks relevant to them associated with pressure systems located at or near their workstation.

(2) An employer shall ensure that pressure equipment or a pressure system is not operated except in accordance with information or instructions provided under paragraph (1) (*a*) and (*b*).

(3) An employer of a person, or a self-employed person, who modifies or repairs pressure equipment or a pressure system shall provide sufficient written information concerning the modification or repair to the user of the system, as may reasonably be needed, to enable the provisions of this Part to be complied with and such information shall be provided to that user as soon as is practicable after the modification or repair and before the pressure system is put back into operation.**]**

Annotations

Amendments:

F47 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(d), in effect as per reg. 1(4).

F48**[Maintenance of pressure systems.**

190. An employer who is a user or owner of a pressure system shall ensure that—

(*a*) so far as is reasonably practicable, in regard to maintenance operations where there is a hazard from pressure, that they are carried out when the pressure system is depressurised and, where this is not practicable, appropriate protection measures are taken for the carrying out of such operations,

(*b*) where appropriate, a maintenance file for any pressure system is maintained and kept up to date, and

(*c*) where the need for repairs which are significant in relation to the system being able to safely withstand pressure becomes apparent, a competent person is consulted on the particulars of those repairs.**]**

Annotations

Amendments:

F48 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(d), in effect as per reg. 1(4).

F49**[Examination of pressure equipment or a pressure system.**

191. (1) Without prejudice to Regulation 30 an employer shall ensure when pressure equipment or a pressure system is installed for the first time at a location that—

(*a*) in the case of new fixed pressure equipment or a pressure system—

(i) it is inspected by a competent person and, where appropriate, safety devices are tested, prior to first commission, and

(ii) in the case of pressure vessels, a certificate of commissioning and where appropriate test, by the competent person specifying the safe operating limits has been obtained,

(*b*) in the case of previously used fixed pressure equipment or a pressure system being installed at a new location, it is inspected and any vessel is examined in accordance with paragraph (3),

(*c*) in the case of a portable or transportable vessel, it has been examined in accordance with paragraph (3) unless it can be shown that the equipment has been in service from new for a period shorter than that to the first periodic examination as determined under paragraph (3).

(2) The period (other than where the period is determined in accordance with paragraph (2) or (3) of Regulation 185) within which the first of the examinations referred to in paragraph (3) shall be carried out in respect of a pressure vessel referred to in paragraph (3) shall be determined by reference to the date it was first taken into use, which shall be recorded in the register referred to in Regulation 193(2).

(3) Without prejudice to the generality of Regulation 30, an employer shall ensure that a pressure vessel of a type or class specified in column 1 of Part B of Schedule 12, and any associated protective devices and pressure accessories, are not used unless they have been examined by a competent person—

(*a*) at least once during the period specified in column 2 of Part B of that Schedule, unless that period has been amended under Regulation 192(4) or a different period has been specified in writing by the manufacturer,

(*b*) after modification or repair and before return to service where any modification or repair is carried out to a pressure vessel, and the modifications or repairs are significant in relation to the vessel being able to safely withstand pressure, or

(*c*) at any time at the request of an inspector of the Authority.

(4) The examination referred to in paragraph (3)—

(*a*) may be completed in a number of phases and the examination is not complete until all phases are completed,

(*b*) shall, in the case of equipment which is heated, consist of an examination of the equipment when it is cold and an examination of the equipment when under normal pressure; the examination under pressure shall be made on the first occasion when normal pressure is raised after the examination when cold, within 28 days of the completion of the first part of the examination or within a reasonable period specified by the competent person, and

(*c*) may include a test.

(5) An employer shall provide every assistance to the competent person carrying out inspections and examinations under these Regulations.

(6) Where a report of an examination under Regulation 192(2) specifies conditions for the safe working of the pressure equipment or system, an employer shall ensure that it is used only in accordance with those conditions.**]**

Annotations

Amendments:

F49 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(d), in effect as per reg. 1(4).

F50**[Report by a competent person.**

192. (1) A competent person carrying out an examination or test of a pressure vessel under Regulation 185(3) or 191 shall prepare a report of the result of every such examination or test, which shall contain the particulars specified in Part D of Schedule 12 and shall furnish a copy of the report to the owner and user.

(2) Where a report referred to in paragraph (1) provides for—

(*a*) the immediate cessation of the use of a pressure vessel, or part thereof, or

(*b*) the carrying out of certain repairs or modifications necessary for the safe use of the vessel,

the competent person concerned shall not later than 20 days after the completion of the examination, send a copy of the report of the examination to the Authority.

(3) Where a report furnished in accordance with paragraph (1) states that immediate cessation of the use of the pressure vessel is required, the employer, user or owner shall ensure that the pressure vessel is not operated until the repairs or modifications, as the case may be, have been carried out.

(4) A competent person carrying out an examination under Regulation 191(3)—

(*a*) may specify a longer period of examination than the period specified in column 2 of Part B of Schedule 12 in relation to a pressure vessel of a class referred to in column 1 of that Part of that Schedule, where the competent person forms the opinion that it is appropriate for the conditions of operation and the class of pressure vessel concerned and he or she shall provide the reason for the opinion in writing to the owner and user of the vessel, and

(*b*) may specify a shorter period of examination than the period specified in column 2 of Part B of Schedule 12 in relation to a pressure vessel of a class referred to in column 1 of that Part of that Schedule, where the competent person forms the opinion that a more frequent examination is required for the conditions of operation and the class of pressure vessel concerned and he or she shall provide the reason for the opinion in writing to the owner and user of the vessel.

(5) A competent person shall review the forming of his or her opinion referred to in paragraph (4) where an inspector in the course of his or her duties directs that a review is undertaken, and following the review the competent person shall, within 30 days of the giving of that direction if he or she is satisfied to do so, amend the interval within which an examination may take place.**]**

Annotations

Amendments:

F50 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(d), in effect as per reg. 1(4).

F51**[Keeping of records and registers of pressure vessels.**

193. (1) An employer shall ensure that any report produced under Regulation 192, or a copy of it,—

(*a*) is kept for inspection by an inspector at the place of work where the pressure vessel is permanently located, and

(*b*) in the case of a pressure vessel used from time to time at different places of work, is kept for inspection by an inspector, with the pressure vessel and at the address of the owner of the pressure vessel.

(2) An employer shall ensure that—

(*a*) a register of pressure vessels containing details of the equipment, distinguishing numbers, date of first use and date of last examination and testing is established, maintained and kept available for inspection by an inspector, and

(*b*) if the vessel does not have a distinguishing number or mark for the purpose of identifying the vessel on the register referred to in subparagraph (*a*), that one of long lasting duration is provided and placed on the vessel.

(3) The previous owner shall, on the completion of a change of ownership of a pressure vessel or, as soon as is practicable thereafter, give to the new owner any report or other written information relating to the vessel or part thereof, as the case may be, held by him or her under this Part in relation to the pressure vessel.**]**

Annotations

Amendments:

F51 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(d), in effect as per reg. 1(4).

F52**[Duty of persons who hire pressure equipment to others.**

194. Where pressure equipment is hired out for use by others, Regulations 191 and 193 and paragraph (3) of Regulation 192 shall apply, subject to the modification that references, in those Regulations and that paragraph, to the person who hires out pressure equipment to others shall be substituted for references to the employer and any other necessary modifications.**]**

Annotations

Amendments:

F52 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(d), in effect as per reg. 1(4).

F53[PART 11

WOODWORKING MACHINES]

Annotations

Amendments:

F53 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F53**[Interpretation for Part 11.**

195. In this Part—

"band sawing machine" means a sawing machine designed to be fitted with a blade in the form of a continuous band or strip the cutting portion of which runs in a vertical direction, but does not include a log band sawing machine or a band re-sawing machine;

"circular sawing machine" means a sawing machine comprising a saw bench (including a rack bench) with a spindle situated below the machine table to which a circular saw blade can be fitted, for the purpose of dividing material into separate parts, but does not include a multiple rip sawing machine, a straight line edging machine or any sawing machine in the operation of which the blade is moved towards the material which is being cut;

"CNC machine" means a machine where automatic control of the machine's operational process is performed by an electronic computing device as that machine completes its operational function;

"combined machine" means a machine for surfacing and thicknessing;

"cutters" means cutters forming part of a woodworking machine and includes saw blades, chain cutters, knives, boring tools, detachable cutters and solid cutters;

"high-risk woodworking machine" includes any hand-fed woodworking machine, any sawing machine fitted with a circular blade or saw band and any planing machine when used for surfacing;

"machine table" includes, in relation to a circular sawing machine, any frame which supports the material being cut;

"planing machine" means a machine for surfacing or for thicknessing or a combined machine but does not include a multi-cutter moulding machine having two or more cutter spindles;

"squared stock" means material having a rectangular (including square) cross section the dimensions of which remain substantially constant throughout the length of the material;

"surfacing" means planing or smoothing the surface of material by passing it over cutters and includes chamfering and bevelling but does not include moulding, tenoning, rebating or recessing;

"vertical spindle moulding machine" includes a high-speed routing machine;

"woodworking machine" means any machine (including a portable machine) of a kind specified in Schedule 13 which is designed or intended for use on all or any one or more of the following, namely, wood, cork or fibre board and material composed partly of any of those materials.**]**

Annotations

Amendments:

F53 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F54**[Application of Part 11.**

196. (1) Subject to paragraph (2), this Part applies to an employer in respect of the use of any woodworking machine at a place of work for which that employer has responsibility under the Act or these Regulations.

(2) This Part, in so far as it relates to the design of a woodworking machine used at a place of work, does not apply to a woodworking machine where the design of that machine meets the requirements of the European Communities (Machinery) Regulations 2008 (S.I. No. 407 of 2008).**]**

Annotations

Amendments:

F54 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F55**[Space around woodworking machines.**

197. (1) An employer shall ensure that sufficient clear and unobstructed space, free of trip hazards, is provided around each woodworking machine while the machine is in use to enable, so far as is practicable, the work being done at the machine to be done without risk of injury to any person.

(2) Without prejudice to the generality of paragraph (1), an employer shall ensure that effective measures are taken to ensure that materials or articles around a woodworking machine are not placed, stacked, or stored in a manner likely to cause harm.**]**

Annotations

Amendments:

F55 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F56**[Training, instruction and information.**

198. (1) Subject to paragraph (3), an employer shall ensure that an employee who operates a woodworking machine—

(*a*) has been trained in operating the machine,

(*b*) has received instruction in accordance with paragraph (2)(*a*), and

(*c*) has been provided with the information specified in paragraph (2)(*b*).

(2) An employer shall ensure that in advance of operating a woodworking machine an employee shall—

(*a*) receive instruction on—

(i) the dangers arising in connection with the machine, the precautions to be observed and the requirements of the Regulations in this Part which apply to the machine,

(ii) how to use the guards and any other protection measures required to be provided by Regulation 199 and Regulations 201 to 207 which relate to the machine, and

(iii) procedures for setting up, adjusting, using and cleaning the machine,

and

(*b*) be provided with information on the use of the machine, including where relevant—

(i) the speed, range, type and dimensions of tools suitable for the machine,

(ii) any limitation on the cutting speeds of the machine, particular operations or size and material of any workpiece,

(iii) procedures relating to the repair or replacement of any guard or protection device,

(iv) the availability, suitability and use of any additional protection device,

(v) safe methods of handling tools,

(vi) correct procedures for start-up, shutdown and isolation of the machine, taking into account the time required for all parts of the machine to come to a halt,

(vii) procedures for cleaning the machine,

(viii) procedures for setting or adjusting any guard, tool, clamp or other part of a machine, and

(ix) in the case of CNC machines, programming.

(3) An employer shall only allow a person who has reached 16 years of age but is less than 18 years of age operate a high-risk woodworking machine—

(*a*) for the purposes of training, and

(*b*) when the person is under the direct supervision of another person who has knowledge of, and experience of working on, the machine.**]**

Annotations

Amendments:

F56 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F57**[Guarding and other protection measures for woodworking machines.**

199. (1) An employer shall, in relation to each woodworking machine in operation provide such guarding and other protection devices including spikes, push-sticks, push-blocks, jigs, holders and back stops, gripping devices and powered feed devices as are necessary to ensure that the machine in question is safe to operate.

(2) An employer shall not require an employee to use a woodworking machine unless guarding and any other protection device referred to in paragraph (1), necessary to ensure the machine is safe to operate, are in place.

(3) An employer shall ensure the proper maintenance of—

(*a*) all woodworking machines in operation in that employers workplace, and

(*b*) all guards and other protection devices used with the machines.

(4) Subject to paragraph (5), an employer shall ensure that any employee operating a woodworking machine shall use, and keep properly adjusted the guards, devices or other safeguards provided for use with the machine in accordance with paragraph (1).

(5) Paragraph (4) shall not apply whenever, because of the nature of the work being done, to use the guards, devices or other safeguards referred to in that paragraph would be impracticable.

(6) Subject to paragraph (8) and paragraphs (2) and (3) of Regulation 207, and without prejudice to Regulation 33, an employer shall ensure that—

(*a*) every guard and other protection device provided for a woodworking machine shall be of suitable design, good construction, sound material and adequate strength for the purpose for which it is intended,

(*b*) subject to paragraph (7), the cutters on every woodworking machine are enclosed by a guard or guards to the greatest extent practicable, having regard to the work being done,

(*c*) at all times while cutters are in motion the guarding required by this Regulation is kept in position, properly secured and adjusted except when, and only to the extent to which, because of the nature of the work being done, the use of any such guarding is rendered impracticable,

(*d*) the guard at a machine provides a sufficient degree of protection in the event of the cutter disintegrating or the cutter being ejected, and

(*e*) where a guard comprises an outer fence of the perimeter type, any hinged, sliding or moveable guards forming a part of that fence or enclosure should be interlocked so that the machine will not run unless each of them are effectively closed.

(7) Subparagraph (*b*) of paragraph 6 shall not apply in respect of a woodworking machine—

(*a*) if the cutters are positioned so as to be as safe as the cutters would be if they were enclosed by the guard or guards referred to in that subparagraph, or

(*b*) where a safeguard is provided which renders the machine as safe as it would be if the guard or guards referred to in that subparagraph were provided.

(8) The exception referred to in paragraph (6)(*c*) shall not apply to the use of any guard required by Regulation 203(7)(*b*) or by paragraphs (1) or (7) of Regulation 206.**]**

Annotations

Amendments:

F57 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F58**[Maintenance of woodworking machines.**

200. (1) An employer shall ensure that an employee does not examine, repair, clean, oil or grease any woodworking machine while it is in motion if the examination, repairing, cleaning, oiling or greasing would expose that employee or any other person to risk of injury from any moving part either of the woodworking machine or other adjacent machinery.

(2) An employer shall ensure that an employee does not make any adjustment to any part of a woodworking machine or to any guard on the machine while the cutters are in motion, unless the adjustment can be made without risk of injury to any person.

(3) An employer shall ensure that the blade of—

(*a*) a circular sawing machine,

(*b*) a band re-sawing machine, or

(*c*) a band mill,

is not cleaned by hand scraping while the blade is in motion.**]**

Annotations

Amendments:

F58 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F59**[Precautions to reduce risk of contact during rundown of woodworking machine**

201. An employer shall ensure that the necessary technical measures are taken to control any risk of contact by a person with any parts of a woodworking machine which are still in motion after the machine has been switched off.**]**

Annotations

Amendments:

F59 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F60**[Discharge of dust emitted by woodworking machines.**

202. An employer shall take such measures as are reasonably practicable to protect persons from inhaling wood dust emitted from woodworking machines and where reasonably practicable, provide and maintain exhaust appliances as near as possible to the origin of the dust.**]**

Annotations

Amendments:

F60 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F61**[Circular sawing machines.**

203. (1) Subject to paragraph (12), an employer shall ensure that—

(*a*) the part of the saw blade of a circular sawing machine which is below the machine table is securely fenced,

(*b*) every circular sawing machine is provided with a riving knife which—

(i) is securely fixed by means of a suitable device situated below the machine table,

(ii) is behind and in a direct line with, the saw blade, and

(iii) fulfils the conditions set out in subparagraph (*c*),

(*c*) in relation to the riving knife referred to in subparagraph (*b*)—

(i) it has a smooth surface, is strong, rigid and easily adjustable,

(ii) the edge of the knife nearer the saw blade forms an arc of a circle having a radius not exceeding the radius of the largest saw blade with which the saw bench is designed to be used,

(iii) it is capable of being adjusted, and is kept adjusted, so that-

(I) it is as close as practicable to the saw blade, having regard to the nature of the work being done, and

(II) at the level of the machine table the distance between the edge of the knife nearer to the saw blade and the teeth of the saw blade does not exceed 12 millimetres,

(iv) with a saw blade with a diameter of—

(I) less than 600 millimetres, the knife extends upwards from the machine table to a height above the surface of the machine table which is not more than 25 millimetres below the highest point of the saw blade, and

(II)600 millimetres or more, the knife extends upwards from the machine table to a height of at least 225 millimetres above the machine table,

and

(v) with a parallel plate saw blade, it is thicker than the plate of the saw blade.

(2) Subject to paragraph (12), and without prejudice to the requirements of paragraph (7)(*b*), an employer shall ensure that the part of the saw blade of every circular sawing machine which is above the machine table is guarded by a suitable and easily adjustable guard—

(*a*) capable of being moved horizontally and vertically and parallel to the saw blade,

(*b*) having along the whole of its length a flange of adequate depth on the side of the saw blade furthest from the fence,

(*c*) kept adjusted so that the flange referred to in subparagraph (*b*) extends beyond the roots of the teeth of the saw, and

(*d*) extending from the top of the riving knife to a point as low as practicable at the cutting edge of the saw.

(3) Where a guard is provided in accordance with paragraph (2), an employer shall ensure the guard is fitted with an adjustable front extension piece which shall have along the whole of its length a flange of adequate depth on the side further from the fence and the extension piece shall be kept adjusted so that the flange referred to extends beyond the roots of the teeth of the saw blade.

(4) An employer shall ensure that where the spindle of a circular sawing machine is not capable of operating at more than one working speed, no saw blade is used with the machine for dividing material into separate parts which has a diameter of less than six-tenths of the diameter of the largest saw blade with which the saw bench is designed to be used.

(5) An employer shall ensure that where the spindle of a circular sawing machine is capable of operating at more than one working speed, no saw blade is used with the machine for dividing material into separate parts which has a diameter of less than six-tenths of the diameter of the largest saw blade which can properly be used at the fastest speed of the spindle at that saw bench.

(6) An employer shall ensure that a notice is securely fixed to every circular sawing machine specifying the diameter of the smallest saw blade which may be used with the machine in accordance with paragraph (4) or (5), as may be appropriate.

(7) An employer shall ensure that a circular sawing machine is not used—

(*a*) for work which involves feeding a workpiece to the saw blade by hand and starting a cut otherwise than at the end or outer edge of a surface of the workpiece,

(*b*) for cutting any rebate, tenon, mould or groove, unless that part of the saw blade or other cutter which is above the machine table is effectively guarded, or

(*c*) for cross-cutting logs, branches or any material intended for firewood unless the material being cut is firmly held by a gripping device securely fixed to a travelling table.

(8) An employer shall ensure that a suitable push-stick is provided and kept available for use at every circular sawing machine when fed by hand.

(9) Subject to paragraph (10), push-sticks shall be used—

(*a*) to exert feeding pressure on the material between the saw blade and the fence throughout any cut of 300 millimetres or less in length,

(*b*) to exert feeding pressure on the material between the saw blade and the fence during the last 300 millimetres of any cut of more than 300 millimetres in length, and

(*c*) to remove from between the saw blade and the fence, pieces of material which have been cut.

(10) It shall not be necessary to use a push-stick where the distance between a circular saw blade and its fence is so great, or the method of feeding material to the saw blade is such, that the use of a push-stick can safely be dispensed with.

(11) An employer shall ensure that where any employee (other than the operator) is removing material which has been cut at a circular sawing machine—

(*a*) that employee stands at the delivery end of the machine for that purpose, and

(*b*) the machine table is constructed, or other arrangements are made by suitably extending the table, to ensure that the distance between the delivery end of the table, over the whole of its width together with any extension, and the up-running part of the saw blade, is not less than 1,200 millimetres.

(12) Paragraphs (1), (2) and (3) shall not apply to any circular sawing machine in respect of which safeguards are provided which render the machine as safe as it would be if the requirements set out in those paragraphs were complied with.**]**

Annotations

Amendments:

F61 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F62**[Multiple rip sawing machines and straight line edging machines.**

204. (1) Subject to paragraph (2), an employer shall ensure that every multiple rip sawing machine and straight line edging machine—

(*a*) has provided on the operators side of the in-feed pressure rollers, an effective device which is designed and constructed to contain, as far as practicable, any material accidentally ejected by the machine, and every such device extends to not less than the full width of the said pressure rollers, and

(*b*) on which the saw spindle is mounted above the machine table, is fitted on the side remote from the fence with a suitable guard, which extends from the edge of the device referred to in paragraph (*a*) along a line parallel to the blade of the saw at least 300 millimetres towards the axis of the saw and is of such a design, and so constructed, as to contain, as far as practicable, any material accidentally ejected from the machine.

(2) Paragraph (1) shall not apply to any woodworking machine in respect of which safeguards are provided which render the machine as safe as it would be if the requirements set out in that paragraph were complied with.**]**

Annotations

Amendments:

F62 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F63**[Band sawing machines.**

205. (1) Subject to paragraph (2), an employer shall ensure that, in relation to a band sawing machine—

(*a*) the saw wheels of the machine and the whole of the blade of that machine, other than that part of the blade which runs downwards between the top wheel and the machine table, is enclosed by a guard or guards of substantial construction, and

(*b*) that part of the blade of the machine which is above the friction disc or rollers and below the top wheel is guarded by a frontal plate which is as close as is practicable to the saw blade and has at least one flange at right angles to the plate and extending behind the saw blade.

(2) Paragraph (1) shall not apply to any band sawing machine in respect of which safeguards are provided which render the machine as safe as it would be if the requirements set out in that paragraph were complied with.**]**

Annotations

Amendments:

F63 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F64**[Planing machines.**

206. (1) An employer shall ensure that a planing machine is not used for cutting any rebate, recess, tenon or mould unless the cutter is effectively guarded.

(2) An employer shall ensure that every planing machine for surfacing is—

(*a*) fitted with a cylindrical cutter block,

(*b*) designed and constructed so as to be capable of adjustment so that the clearances between the cutters and the front edge of the delivery table, and the gap between the feed table and the delivery table, are as small as practicable having regard to the operation being performed and a machine which is not so adjusted is not used for surfacing,

(*c*) subject to paragraph (11), provided with a bridge guard which—

(i) is strong and rigid,

(ii) has a length not less than the full length of the cutter block,

(iii) has a width not less than the diameter of the cutter block,

(iv) is constructed so as to be capable of easy adjustment in both a vertical and horizontal direction,

(v) is mounted on the machine in a position which is approximately central over the axis of the cutter block,

(vi) is constructed so as to prevent the guard being accidentally displaced from that position, and

(vii) is properly adjusted so as to avoid the risk of injury to any person.

(3) Subject to paragraph (5), an employer shall ensure that where a planing machine for surfacing is being used to machine a face surface of squared stock, the bridge guard is kept adjusted so that—

(*a*) the distance between the end of the guard and the fence does not exceed 10 millimetres, and

(*b*) the underside of the guard is not more than 10 millimetres above the upper surface of the material.

(4) Subject to paragraph (5), an employer shall ensure where a planing machine for surfacing is being used to machine an edge surface of squared stock the bridge guard is kept adjusted so that—

(*a*) the end of the guard is at a point not more than 10 millimetres from the surface of the squared stock which is further from the fence, and

(*b*) the underside of the guard is not more than 10 millimetres above the surface of the feed table.

(5) An employer shall ensure where a planing machine for surfacing is being used to machine both a face surface of squared stock and an edge surface of squared stock, one operation immediately following the other, the bridge guard is kept so that—

(*a*) when a face surface is being machined the underside of the guard is not more than 10 millimetres above the upper surface of the squared stock, and

(*b*) when an edge surface is being machined, the end of the guard is at a point not more than 10 millimetres from the surface of the squared stock which is further from the fence.

(6) An employer shall ensure that where a planing machine for surfacing is being used for the machining of one or more adjoining surfaces of squared stock of square cross section, the operator of the machine keeps the bridge guard adjusted in accordance with the requirements of paragraph (4) or paragraph (5).

(7) Subject to paragraph (11), an employer shall ensure that every planing machine for surfacing is provided with a strong, effective and easily adjustable guard for that part of the cutter block which is on the non working side of the fence.

(8) An employer shall ensure that where a face surface is being planed or smoothed on a planing machine and, by reason of the shortness of the material, work cannot be done with the bridge guard adjusted in accordance with the requirements of paragraphs 2(*c*), (3), (4), (5), and (6), a suitable push-block having suitable hand-holds which afford the operator of the machine a firm grip of the push-block is provided and used.

(9) Subject to paragraph (11), an employer shall ensure that the part of the cutter block of a combined machine which is exposed in the table gap is effectively guarded whenever the machine is used for thicknessing.

(10) Subject to paragraph (11), an employer shall ensure that every planing machine used for thicknessing is provided on the operators side of the feed roller with a device to restrain, so far as practicable, any workpiece accidentally ejected by the machine.

(11) Paragraphs (2)(*c*), (7), (9) and (10) shall not apply to any planning machine in respect of which safeguards are provided which render the machine as safe as it would be if the requirements set out in those paragraphs were complied with.

(12) In this Regulation, in relation to squared stock—

"edge" means either of the surfaces which are the narrower surfaces;

"face" means either of the surfaces which are the wider surfaces;

"surfaces" do not include cross-sections.**]**

Annotations

Amendments:

F64 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F65**[Vertical spindle moulding machines.**

207. (1) An employer shall ensure, in relation to each vertical spindle moulding machine, that—

(*a*) every cutter and cutter block is of good construction, sound material and properly maintained,

(*b*) every detachable cutter is mounted in or on the cutter block or spindle so as to prevent the cutter, in so far as is practicable, from becoming accidentally detached from the machine, and

(*c*) where straight fences are being used for the purposes of any work being done at the machine, the gap between the fences is reduced as far as practicable either by the use of a false fence or otherwise.

(2) An employer shall ensure that where, by reason of the nature of the work being done at a vertical spindle moulding machine, it is impracticable to provide a guard enclosing the cutters of the machine so that the cutters are effectively guarded in accordance with Regulation 199(6)(*a*) and (*b*), but it is practicable to provide a jig or holder of such design and construction that any material being machined is held firmly, and having suitable handholds which will afford the operator a firm grip, the machine shall not be used unless such a jig or holder is provided.

(3) Subject to paragraph (4), an employer shall ensure that every guard provided in accordance with paragraphs (*a*) and (*b*) of Regulation 199(6) for the cutters of any vertical spindle moulding machine is of such design and construction so as to contain, in so far as is reasonably practicable, any ejected part of the cutters or their fixing appliances.

(4) Paragraph (3) shall not apply to any vertical spindle moulding machine in respect of which safeguards are provided which render the machine as safe as it would be if the requirements set out in that paragraph were complied with.

(5) Where—

(*a*) the vertical spindle moulding machine is cutting material,

(*b*) the cutting commences otherwise than at the end of a surface of the material, and

(*c*) it is impracticable to provide a jig or holder in accordance with paragraph (2),

an employer shall ensure the trailing end of the material is, if practicable, supported by a suitable backstop to prevent the material being thrown back when the cutters first make contact with the material.

(6) An employer shall ensure that no work is done on a vertical spindle moulding machine where—

(*a*) the cutting of the material by the machine commences otherwise than at the end of a surface of the material, and

(*b*) during the progress of the cutting the material is being moved in the same direction as the movement of the cutters,

unless a jig or holder provided in accordance with paragraph (2) is being used.

(7) An employer shall ensure that where the nature of the work being done on a vertical spindle moulding machine is such that the use of a suitable spike or push-stick would enable the work to be carried out without unnecessary risk of harm to the machine operator, such a spike or push-stick is provided and used.

(8) An employer shall ensure that where the motor driving a vertical spindle moulding machine (other than a high-speed routing machine) is designed to operate at two working speeds, the device controlling the speed of the motor is arranged so that the motor cannot run at the higher speed without first running at the lower speed.**]**

Annotations

Amendments:

F65 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F66**[PART 12**

ABRASIVE WHEELS]

Annotations

Amendments:

F66 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F66**[Interpretation for Part 12.**

208. In this Part—

"abrasive wheel" means—

(*a*) a wheel, cylinder, disc or cone which, whether or not any other material is comprised in it, consists of abrasive particles held together by bonds,

(*b*) a mounted wheel or point and a wheel or disc having (in either case) separate segments of abrasive material,

(*c*) a wheel or disc made (in either case) of metal, wood, cloth, felt, rubber or paper and having any surface consisting wholly or partly of abrasive material, or

(*d*) a wheel, disc or saw to which a rim or segments consisting of diamond abrasive particles are attached,

which is, or is intended to be, power-driven and is for use in any grinding or cutting operation;

"mounted wheel or point" means a wheel or point consisting (in either case) of abrasive particles held together by mineral, metallic or organic bonds, whether natural or artificial, and securely and permanently mounted on the end of a mandrel or quill.**]**

Annotations

Amendments:

F66 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F67**[Application of Part 12.**

209. This Part applies to an employer in respect of the use of any abrasive wheel for any grinding or cutting operation at a place of work for which the employer has responsibility under the Act or these Regulations.**]**

Annotations

Amendments:

F67 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F68**[Use of abrasive wheels.**

210. An employer shall ensure that an abrasive wheel is suitable for the work for which it is used, having regard to the risk of personal injury to any person.**]**

Annotations

Amendments:

F68 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F69**[Speed of revolution.**

211. (1) An employer shall ensure that an abrasive wheel having a diameter of more than 80 millimetres is not used unless the abrasive wheel, its blotter or label is clearly marked with—

(*a*) the maximum permissible speed specified by the manufacturer for that abrasive wheel,

(*b*) any other information necessary for its safe use including expiry dates and restrictions of use.

(2) An employer shall ensure that an abrasive wheel having a diameter of 80 millimetres or less is not used unless it is clearly marked in accordance with subparagraphs (*a*) and (*b*) of paragraph (1) or information in writing has been given to a user of the wheel stating—

(*a*) the maximum permissible speed specified by the manufacturer for that abrasive wheel, or for the class of abrasive wheels to which that abrasive wheel belongs,

(*b*) in the case of a mounted wheel or point, the overhang permissible at that speed, and

(*c*) any other information necessary for its safe use including expiry dates and restrictions of use.

(3) Subject to paragraph (4), an employer shall ensure that an abrasive wheel is not operated at a speed in excess of the appropriate maximum permissible speed specified by the manufacturer for that wheel.

(4) Where the diameter of an abrasive wheel has been reduced, its spindle speed may be increased as long as the maximum peripheral surface speed specified for the wheel is not exceeded.

(5) An employer shall ensure that every machine is marked with the maximum speed or speed range of the spindle on which an abrasive wheel is, or is intended to be, mounted.

(6) An employer shall ensure that a spindle on a machine having a mounted abrasive wheel is not operated at a speed in excess of the appropriate maximum working speed as specified by the manufacturer.

(7) An employer shall ensure that—

(*a*) the speed of every air-driven spindle on which an abrasive wheel is mounted is controlled by a governor or other device which prevents the speed of the spindle from exceeding the maximum working speed for that spindle as specified by the manufacturer, and

(*b*) the governor or other device referred to in subparagraph (*a*) is properly maintained.

(8) An employer shall, when requested to do so by an inspector, provide the inspector with all such facilities and information as are necessary to enable that inspector determine the working speed of any spindle or abrasive wheel.

(9) In this Regulation "overhang", in relation to a mounted wheel or point, means that part of the mandrel or quill which is exposed between the collet in which the mandrel or quill is held and the part of the abrasive material nearest to the collet.

(10)(*a*) This Regulation does not apply to an abrasive wheel within the meaning of paragraph (*c*) of the definition of abrasive wheel.

(*b*) Paragraphs (1), (2), (3) and (4) do not apply to an abrasive wheel having separate segments of abrasive material.

(*c*) Paragraphs (5), (6) and (7) do not apply to an abrasive wheel when it is used for grinding glass.**]**

Annotations

Amendments:

F69 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F70**[Mounting of abrasive wheels.**

212. An employer shall ensure that every abrasive wheel is properly mounted.**]**

Annotations

Amendments:

F70 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F71**[Authorisation and training.**

213. (1) Subject to paragraphs (3) and (4), an employer shall ensure that an employee does not mount an abrasive wheel unless the employee has been authorised by the employer to mount the abrasive wheel or a class of abrasive wheel to which that wheel belongs.

(2) A person who stands appointed under Regulation 9 of the Safety in Industry (Abrasive Wheels) Regulations 1982 (S.I. No. 30 of 1982) immediately prior to the coming into operation of this Part shall, on the coming into operation of this Part, be taken to be authorised under paragraph (1) and these Regulations shall apply accordingly.

(3) An employer shall not authorise an employee under paragraph (1) unless that employee—

(*a*) has been trained and instructed in accordance with Schedule 14, and

(*b*) is competent to mount the wheel.

(4) Paragraph (1) does not apply where the employee referred to in that paragraph is undergoing training in mounting abrasive wheels and is working under the immediate supervision of an employee authorised under that paragraph.

(5) An employer shall enter details of each authorisation under paragraph (1) including particulars of the abrasive wheel or the class of abrasive wheel, as the case may be, to which the authorisation relates, in the safety statement prepared by the employer.

(6) An employer may revoke an authorisation under paragraph (1) at any time and where the employer does so shall amend the details included in the safety statement in accordance with paragraph (5).**]**

Annotations

Amendments:

F71 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F72**[Guarding and rests for workpieces and flanges.**

214. (1) An employer shall ensure that a guard is provided and kept in position at every abrasive wheel in motion, unless the use of a guard would be impracticable due to the nature of—

(*a*) the work being done at the wheel,

(*b*) the work ordinarily done or intended to be done at the wheel, or

(*c*) the wheel itself.

(2) An employer shall ensure that every guard provided under paragraph (1)—

(*a*) in so far as is reasonably practicable, is of such a design and construction so as to contain every part of the abrasive wheel in the event of a fracture of the wheel, or of any part of the wheel, while that wheel is in motion,

(*b*) is properly maintained and secured so as to prevent the displacement of the guard in the event of any such fracture, and

(*c*) encloses the whole of the abrasive wheel except where a part of the wheel is necessarily exposed—

(i) for any work being done at the wheel, or

(ii) for work which is ordinarily done, or ordinarily intended to be done, at the wheel where a non adjustable guard is used.

(3) An employer shall ensure that where at any abrasive wheel there is a rest for supporting a workpiece, the rest is of substantial construction, properly maintained and properly secured and adjusted so as to be as close as practicable to the exposed part of the abrasive wheel at all times while the wheel is in motion.

(4) An employer shall provide an abrasive wheel with a suitable protective flange or flanges, as the case may be, where such is necessary for the safe operation of the abrasive wheel.

(5)(*a*) Subparagraphs (*a*) and (*b*) of paragraph (2) do not apply to an abrasive wheel—

(i) manufactured of metal, wood, cloth, felt, rubber or paper and having any surface consisting wholly or partly of abrasive material, or

(ii) consisting wholly of abrasive particles held together by natural bonds.

(*b*) Paragraphs (1) and (2) do not apply to an abrasive wheel—

(i) which does not exceed 235 millimetres in diameter, is manufactured of cloth, felt, rubber or paper and has any surface consisting wholly or partly of abrasive material, when the wheel is used in a portable machine, or

(ii) when it is used for grinding glass.**]**

Annotations

Amendments:

F72 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F73**[PART 13**

ABRASIVE BLASTING OF SURFACES]

Annotations

Amendments:

F73 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F73**[Interpretation for Part 13.**

215. In this Part—

"blasting" means the cleaning, smoothing, roughening or removing of part of any surface by the use as an abrasive of a jet of sand, metal shot, grit or other material, propelled by a blast of compressed air or steam or by a wheel;

"blasting enclosure" means—

(*a*) a chamber, barrel, cabinet or other similar enclosure designed for blasting, or

(*b*) any enclosure in which blasting is done;

"blasting chamber" means a blasting enclosure which a person can enter into;

"HEPA" means high efficiency particulate air.**]**

Annotations

Amendments:

F73 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F74**[Application of Part 13.**

216. (1)(*a*) This Part, other than Regulations 222 and 223, apply to all places of work in which blasting is done.

(*b*) Regulations 222 and 223 apply in relation to blasting in any place of work for the purpose of cleaning of castings.

(2) In this Part, "cleaning of castings" means cleaning which is an incidental or supplemental process in connection with the making of metal castings, the freeing of the castings from adherent sand or other substances and includes the removal of cores and the general smoothing of the castings where such freeing is done, but does not include the freeing of castings from scale formed during annealing or heat treatment.**]**

Annotations

Amendments:

F74 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F75**[Provision of blasting apparatus, enclosures and ventilating plant.**

217. Without prejudice to Regulation 28, an employer shall ensure that any blasting apparatus, blasting enclosure and associated ventilating plant is installed, equipped, adapted and maintained so as to minimise the risk of personal injury to employees and other persons.**]**

Annotations

Amendments:

F75 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F76**[Prohibition on silica.**

218. An employer shall ensure that no sand or other substance containing free silica is introduced as an abrasive into any blasting apparatus.**]**

Annotations

Amendments:

F76 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F77**[Protection of employees and other persons.**

219. An employer shall ensure, as far as reasonably practicable, that all necessary measures are taken to protect employees and other persons against inhalation of dust emitted in connection with blasting.**]**

Annotations

Amendments:

F77 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F78**[Persons under 18 years of age.**

220. (1) Without prejudice to the generality of the requirements of Chapter 1 of Part 6 an employer shall ensure that no person under the age of 18 years of age is employed, except for the purposes of training or instruction—

(*a*) in any blasting operation,

(*b*) to assist in any blasting operation,

(*c*) in any blasting chamber, or

(*d*) in cleaning, maintaining or repair of any blasting apparatus, blasting enclosure or ventilating plant connected with the enclosure.

(2) An employer shall ensure that no person under the age of 18 years of age works within six metres of a blasting enclosure when blasting is being carried out by means of compressed air or steam unless-

(*a*) the enclosure is in a room, and

(*b*) the person is not exposed to any dust coming from that enclosure.**]**

Annotations

Amendments:

F78 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F79**[Personal protective equipment.**

221. (1) Without prejudice to the requirements of Chapter 3 of Part 2, an employer shall provide an appropriate protective helmet to each employee engaged—

(*a*) in blasting,

(*b*) to work in a blasting chamber, or

(*c*) to clean the inside of a blasting chamber.

(2) An employer shall ensure that the helmets provided under paragraph (1) are properly maintained.

(3) An employer shall ensure that every employee while engaged in an activity referred to in paragraph (1)—

(*a*) wears the protective helmet provided, and

(*b*) does not remove that helmet until the blasting has ceased, or that employee has ceased working in or cleaning the blasting chamber and is outside that chamber, as the case may be.

(4) An employer shall ensure that each helmet provided under paragraph (1), when in use, is supplied with uncontaminated breathable air.

(5) An employer shall ensure that—

(*a*) suitable gauntlets and overalls are provided for the use of all employees engaged in blasting or assisting in any blasting operation, and

(*b*) every employee while blasting, or assisting in any blasting operation, wears the gauntlets and overalls provided.

(6) An employer shall ensure that—

(*a*) adequate, clean and suitable storage space is provided outside, and conveniently near to, every blasting enclosure, for the helmets, gauntlets and overalls provided under this Regulation, and

(*b*) the helmets, gauntlets and overalls, when not in use, are stored in that storage space.

(7) An employee shall ensure that any helmet, gauntlets, overalls and any other protective devices or clothing provided to the employee are—

(*a*) worn for the purposes for which they are intended,

(*b*) kept in good condition, and

(*c*) freed from dust after use in so far as is reasonably practicable.

(8) Where dust arising from the cleaning of helmets, gauntlets, overalls and other protective devices or clothing provided by an employer in accordance with these Regulations is likely to be inhaled by any person, the employer shall ensure, in so far as is reasonably practicable, that—

(*a*) measures are taken to prevent such inhalation,

(*b*) vacuum cleaners with a HEPA filter are used for removing dust,

(*c*) compressed air is not used for removing dust, and

(*d*) any person carrying out the cleaning is provided with all relevant information about the hazards of dust inhalation.**]**

Annotations

Amendments:

F79 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F80**[Blasting enclosures for cleaning of castings.**

222. (1) An employer shall ensure that blasting is only carried out in a blasting enclosure.

(2) An employer shall ensure that the only work carried out in a blasting enclosure is—

(*a*) blasting and work immediately incidental to blasting, and

(*b*) the cleaning and repairing of the enclosure and any plant and appliances situated in the enclosure.

(3) An employer shall ensure that every door of a blasting enclosure is kept closed while blasting is being carried out.

(4) An employer shall ensure that blasting enclosures are maintained in good condition and that all reasonably practicable measures are taken to prevent dust escaping from such enclosures into the air of any other room.

(5) An employer shall ensure that there is provided and maintained, in connection with every blasting enclosure, efficient apparatus for separating, in so far as is reasonably practicable, an abrasive which has been used in a blasting apparatus and which is to be used again as an abrasive in a blasting apparatus, from dust or particles of other material arising from blasting.

(6) An employer shall ensure that an abrasive referred to in paragraph (5) is not used again in a blasting apparatus until it has been separated in accordance with that paragraph.

(7) An employer shall provide and maintain an efficient ventilating plant for each blasting enclosure to—

(*a*) extract any dust produced in the enclosure by exhaust draught effected by mechanical means, and

(*b*) remove and dispose of that dust so that it does not escape into the air of any other room.

(8) An employer shall ensure that any ventilating plant provided under paragraph (7) is kept in continuous operation whenever—

(*a*) the blasting enclosure is in use whether or not blasting is taking place in the enclosure, or

(*b*) a blasting chamber is in operation and when any person is inside the chamber for the purpose of cleaning or repairing work.

(9) An employer shall ensure that each of the employer's blasting enclosures is inspected by a competent person at least once every week to ensure that each enclosure is in good working order.

(10) An employer shall ensure that at least once a month a competent person—

(*a*) examines each of the employer's blasting enclosures, the apparatus connected with each such enclosure and any ventilating plant provided under paragraph (7), for defects, and

(*b*) tests each ventilating plant of the employer to monitor its performance.

(11) An employer shall ensure that the results of any inspection, examination and test carried under paragraphs (9) and (10) are kept by the employer, and made available for inspection by the employees of the employer and any inspector for a period of one year from the date of inspection, examination or test, as the case may be.

(12) An employer shall ensure that results kept in accordance with paragraph (11) are available for inspection for the period referred to in that paragraph by any other person engaged in, or in connection with, blasting at that location.

(13) A competent person who carries out an inspection, examination or test under paragraph (9) or (10) shall notify the employer concerned as soon as practicable of any defect found on such inspection, examination or test.

(14) An employer shall, as soon as practicable after any defect is notified to the employer under paragraph (13), remedy that defect.

(15) A register kept by an employer in accordance with Regulation 18 of the Factories (Abrasive Blasting of Surfaces) Regulations 1974 (S.I. No. 357 of 1974) shall, on the coming into operation of these Regulations, be kept for a period of one year after that coming into operation and the information contained in that register shall continue to be available for inspection by an inspector, any employee or any other person engaged in, or in connection with, blasting for that period.**]**

Annotations

Amendments:

F80 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F81**[Cleaning blasting enclosures, blasting apparatus and ventilating plant.**

223. (1) An employer shall ensure that all reasonably practicable measures are taken to prevent inhalation of dust arising from blasting by any person engaged in—

(*a*) cleaning any blasting enclosure,

(*b*) cleaning any blasting apparatus or ventilating plant connected with any blasting enclosure,

(*c*) cleaning the surroundings of any blasting enclosure, or

(*d*) any other work relating to any blasting enclosure, blasting apparatus or ventilating plant connected with any blasting enclosure.

(2) An employer shall ensure that all reasonably practicable measures are taken to dispose of dust in such a manner that the dust does not enter the air of any room where the dust arises as a result of—

(*a*) the cleaning operations referred to in paragraph (1), or

(*b*) the removal of dust from filtering or settling devices.

(3) An employer shall ensure that, wherever practicable, vacuum cleaners with a HEPA filter are provided, maintained and used for the cleaning operations referred to in paragraph (1).**]**

Annotations

Amendments:

F81 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(c), in effect as per reg. 4.

F82[PART 14

REPORTING OF ACCIDENTS AND DANGEROUS OCCURRENCES]

Annotations

Amendments:

F82 Inserted (1.11.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 3) Regulations 2016* (S.I. No. 370 of 2016), reg. 6(c), in effect as per reg. 2.

Modifications (not altering text):

C3 Application of Part restricted (30.04.2018) by *Safety, Health and Welfare at Work (Mines) Regulations 2018* (S.I. No. 133 of 2018), reg. 79, in effect as per reg. 1(2).

Reportable incidents

79. Notwithstanding the requirements of Regulations 224 to 229 of the General Application Regulations the operator shall report, or cause to be reported to the Authority, as soon as reasonably practicable following its occurrence, an incident where a person reports suffering any electric shock or burn at a mine, from direct or indirect contact with a conductor in an electric circuit (being a circuit in which the voltage for the time being exceeds twenty five volts).

F82[**Interpretation for Part 14**

224. (1) In this Part—

"dangerous occurrence" means an occurrence listed in Schedule 15 which occurs at any place of work other than at a mine within the meaning of the Mines and Quarries Act 1965 (No. 7 of 1965);

"personal injury" does not include any disease, occupational illness or any impairment of mental condition;

"pipeline" has the same meaning as it has in Part 10;

"relevant fluid" has the same meaning as it has in Part 10;

"responsible person" means—

(*a*) in the case of any event required to be reported under Regulation 225 involving an employee at work, his or her employer;

(*b*) in any other case, except where paragraph (*c*) applies, the person having control of a place of work for the purpose of any trade, business or undertaking (whether for profit or not) at which the accident or dangerous occurrence required to be reported under Regulation 225 occurs; and

(*c*) where a self-employed person is fatally injured at a place of work, the person who owns the place of work or, in the case of a tenancy existing in respect of the place of work, the tenant except where the fatally injured person is the owner or tenant.

(2) In this Part, a reference to an accident or a dangerous occurrence arising at or in connection with work includes a reference to an accident or dangerous occurrence which is attributable to the manner of conducting the undertaking concerned or to any article or substance used for the purposes of the undertaking concerned or to the condition of any part of the place of work where the undertaking concerned is carried on.**]**

Annotations

Amendments:

F82 Inserted (1.11.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 3) Regulations 2016* (S.I. No. 370 of 2016), reg. 6(c), in effect as per reg. 2.

F83**[Reporting of Accidents and Dangerous Occurrences**

225. (1) Where—

(*a*) an employee dies as a result of an accident at their place of work or in the course of carrying out their work in a location other than their normal place of work,

(*b*) an employee, as a result of an accident at their place of work or in the course of carrying out their work in a location other than their normal place of work, is prevented from performing their normal work for more than 3 consecutive days, excluding the day of the accident but including any days which would not have been working days,

(*c*) an employee dies within one year as a result of an accident at their place of work or in the course of carrying out their work in a location other than their normal place of work,

(*d*) any person who is not at work but who as a result of an accident related to a place of work or a work activity dies, within one year of the accident,

(*e*) any person who is not at work but who as a result of an accident related to a place of work or a work activity suffers any injury or condition which, due to the nature or severity of the injury or condition, results in the person being taken from the location of the accident to receive treatment in respect of that injury in a hospital or medical facility, or

(*f*) there is a dangerous occurrence,

the responsible person shall—

(i) in the case of a death, as soon as possible after the death comes to his or her knowledge, supply the Authority by the quickest practicable means with the name of the deceased, brief particulars and the location of the accident and, within 5 working days of the death, send a written report to the Authority in the approved form, or

(ii) in the case of a non-fatal injury, or a dangerous occurrence, as soon as reasonably practicable and not later than 10 working days after the event, send a written report to the Authority in the approved form.

(2) In the case where a responsible person is a self-employed person, it shall be sufficient compliance with paragraph (1) if the self-employed person makes arrangements with some other person for that person to make the notification or report required by that paragraph on behalf of the self-employed person.

(3)(*a*) Where an accident which is reportable under paragraph (1) occurs and causes loss of life to a person, no person shall disturb the place where it occurred or tamper with anything at that place before—

(i) that place has been inspected by an inspector, or

(ii) the expiration of 3 clear days after reporting in accordance with paragraph (1) of the accident.

(*b*) Nothing in this Regulation shall prohibit the doing of anything by or with the consent of an inspector, or anything required to be done in compliance with any other statutory provision.

(*c*) In any proceedings taken in respect of a contravention of this paragraph consisting of the doing of any act, it shall be a defence to prove that the doing of the act was necessary for securing the safety or health of any person.**]**

Annotations

Amendments:

F83 Inserted (1.11.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 3) Regulations 2016* (S.I. No. 370 of 2016), reg. 6(c), in effect as per reg. 2.

F84**[Keeping of Records**

226. (1) The responsible person shall keep a record of any accident or dangerous occurrence which is required to be reported under Regulation 225 to the Authority, for a period of 10 years from the date of the accident or dangerous occurrence.

(2) A record required to be kept under this Regulation shall contain the same information as in the approved form referred to in Regulation 225(1).

(3) A record required to be kept under this Regulation shall be kept at the place where the work to which it relates is carried on or, if this is not practicable, at the usual place of business of the responsible person.

(4) Where an employer is required by or under statute (other than the Act) to keep a record of injuries or deaths at work, such a record shall be sufficient compliance with paragraph (1) if it contains the particulars specified in paragraph (2).

(5) Where the Authority requests a responsible person to send it extracts from a record required to be kept by this Regulation, the responsible person shall comply with such a request as soon as possible.**]**

Annotations

Amendments:

F84 Inserted (1.11.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 3) Regulations 2016* (S.I. No. 370 of 2016), reg. 6(c), in effect as per reg. 2.

F85**[Application of Part 14**

227. (1) Regulation 225 does not apply in a case where a person dies or is injured or suffers ill health and such person is a patient undergoing medical treatment carried out by a registered medical practitioner or a registered dentist when the death, injury or ill health occurs and the person is not undergoing treatment for an accident which occurred at a place of work or an injury due to a dangerous occurrence, unless the cause of death or injury is unrelated to the patient's pre-existing medical condition or the treatment being provided.

(2) This Part does not apply to an accident which occurs at a place of work or as a result of a work activity in relation to which a person suffers any disease, occupational illness or any impairment of mental condition.**]**

Annotations

Amendments:

F85 Inserted (1.11.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 3) Regulations 2016* (S.I. No. 370 of 2016), reg. 6(c), in effect as per reg. 2.

F86**[Defence in Proceedings**

228. It shall be a defence in any proceedings against any person for an offence under this Part for such person to prove that he or she was not aware of the accident or dangerous occurrence in relation to which he or she was required by Regulation

225 to send a written report to the Authority and that he or she had taken all reasonable steps to have such accident or dangerous occurrence brought to his or her notice.**]**

Annotations

Amendments:

F86 Inserted (1.11.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 3) Regulations 2016* (S.I. No. 370 of 2016), reg. 6(c), in effect as per reg. 2.

F87**[Examinations and Tests**

229. (1) Where there is an accident or a dangerous occurrence at a place of work and the Authority is satisfied that the accident or occurrence may have been caused (whether wholly or partly) by any article, if the Authority considers it necessary for the proper investigation of the accident or occurrence, it may, by a notice in writing, require the employer, self-employed person or the owner of the article concerned—

(*a*) to have such article, or in a case where the accident or occurrence is believed to have been so caused by a part thereof, that part, examined and tested forthwith by a competent person,

(*b*) to have a report of the results of the examination and test prepared and submitted to the employer, self-employed person or such owner, as may be appropriate, by the person by whom the examination and test was carried out, as soon as may be and in any case not later than 28 days after the completion of the examination and test, and

(*c*) to give to the Authority a copy of such report within 7 days of its receipt in pursuance of subparagraph (*b*).

(2) A report required under paragraph (1) shall include particulars of—

(*a*) the manner in which the relevant examination was carried out,

(*b*) the method used when making tests,

(*c*) any defect which in the opinion of the person carrying out the examination could account for or contribute to any failure in the article examined, and

(*d*) such other matter as the Authority may specify when making the requirement.

(3) Where the Authority is not satisfied as to the adequacy of a report under this Regulation, or as to the competence of a person employed to make an examination and test referred to in this Regulation or as to the adequacy of such an examination and test, it may require the employer, self-employed person or owner of the article concerned to have it re-examined and tested at the expense of such employer, self-employed person or owner by a person nominated by the Authority, and where the Authority makes a requirement under this paragraph, such employer, self-employed person or owner shall give any necessary facilities for such re-examination and test.

(4) In any proceedings for an offence under this Regulation it shall be a good defence for the accused to prove that he or she used all due diligence to comply with the requirements of the relevant notice.**]**

Annotations

Amendments:

F87 Inserted (1.11.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 3) Regulations 2016* (S.I. No. 370 of 2016), reg. 6(c), in effect as per reg. 2.

Schedule 1

Regulations 43, 46, 52, 53, 55

Requirements for Work Equipment

Part A — Exemption from certain provisions of Regulation 46

Class or description of hoist or hoistway	*Requirements of Regulation 46 which do not apply*	*Condition*
1. Pavement hoist for goods. Hoistways of pavement hoists, that is to say, hoists in the case of which the provision of a permanent enclosure at the top landing would obstruct a street or public place or yard or other open space where persons are required or liable to pass.	Paragraph (2)(a) in so far as it requires the hoistway to be protected by an enclosure and gate at or above the top landing. Paragraph (2)(b) in the case of the top landing.	The hoistway shall be securely covered and fastened at the top landing except when access is required for goods or materials. Measures shall be taken to minimise the risk of persons falling down the hoistway whilst the top landing is open.
2. Hoists used solely for lifting material directly into a machine.	Paragraph (2)(a) and (b).	Measures shall be taken to prevent hazards from falling objects or contact with moving parts.
3. Hoists used for raising or lowering or tipping- standard gauge or broader gauge railway rolling stock.	Paragraph (2)(a), (b) and (h)(ii).	So far as is reasonably practicable, means shall be provided at such entrances to the enclosure to prevent any person from falling down the hoistway or being struck by any moving part of the hoist.
4. Drop-pit hoists used for raising or lowering wheels or bogies detached from standard-gauge or broader gauge railway rolling stock.	Paragraph (2)(a), (b) and (h)(ii) and (iii).	
5. Hoistways of hoists into or from which goods or materials are loaded or unloaded automatically and to the carrier to which there is no access for persons.	Paragraph (2)(a) in so far as it requires the fitting of gates at the openings in the enclosure where goods or materials are loaded or unloaded.	So far as is reasonably practicable, means shall be provided at such openings to the hoistway to prevent any person from falling down the hoistway or being struck by any moving part of the hoist.
6. Any hoist or lift used to raise a motor vehicle.	Paragraphs (2)(a), (b) and (c).	
7. Hoists and lifts, used as working platforms, not of a movable type, which do not pass through any floor and which are used in the butchering of animals	Paragraphs (2)(a), (b) and (h)(iii).	

Part B — Period of thorough examination of lifting equipment, lifting accessory equipment or other miscellaneous equipment

Column 1	Column 2
Description of lifting equipment or lifting accessory or other miscellaneous equipment	*Period within which a thorough examination must occur*
Hoist or Lift	6 months
Tailboard goods lift	12 months
Suspended access equipment	6 months
Mast climbing work platform	6 months
Lifting accessories including chains, ropes, rings, hooks, shackles, clamps, swivels, spreader beams and spreader frames, vacuum lifting devices	6 months
Items provided for support of lifting equipment	12 months
Mobile elevating work platform	6 months
Crane	12 months
Tower crane climbing rig	6 months
Crane used in dock work, shipbuilding, ship-repairing	12 months
Fork lift truck including interchangeable accessories	12 months (6 if used to lift persons)
Telehandler including interchangeable accessories	12 months (6 if used to lift persons)
Vehicle lifting table	12 months
Hoisting equipment on fishing vessels	12 months
Winches used for lifting loads	12 months
Other lifting machines (materials only) unless specified in Part D of this Schedule	12 months
Other lifting machines (personnel) unless specified in Part D of this Schedule	6 months
Equipment located in premises used primarily for generating, transforming switching or otherwise regulating electrical energy.	In compliance with a scheme of inspection and testing drawn up by a competent person
Patient hoist	6 months

F88[**Part C — Circumstances requiring testing of lifting equipment as part of a thorough examination**

Column 1	**Column 2**
Description of Equipment	*Period within which or conditions under which testing is required*
All lifting equipment	After any substantial alteration or repair affecting its strength or stability
Fixed lifting equipment	Before first use
Tower crane	After each assembly
Mobile crane	Every 4 years
Winch	Every 4 years

Self erecting crane	After erection and before first use on site and after any change in configuration or support conditions
Pulley block, gin wheel or sheer legs or supporting systems for same, used in the raising or lowering of any load weighing 1,000 kg or more	Before first use **]**

Annotations

Amendments:

F88 Substituted (12.11.2007) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2007* (S.I. No. 732 of 2007), reg. 2(k), in effect as per reg. 1(2).

Part D — Equipment that has a lifting function, is subject to Regulation 30 and is not subject to Regulation 52

(a) Bottle jack

(b) Pallet truck

(c) Tractor hitch

(d) Height adjusting components of machine tools

(e) Fixed machinery for raising/lowering pallets

(f) Vehicle wheelchair hoist

(g) Lifting equipment designed to lift wheelie bins of volume less than 360 litres

(h) Escalators and conveyors

(i) Platform lifts for level changes of 1.2 m or less

Part E — Information to be contained in report of thorough examination

1. The name and address of the employer or owner for whom the thorough examination was made.

2. The address of the premises at which the thorough examination was made.

3. Particulars sufficient to identify the lifting equipment including, where known, its date of manufacture.

4. Date of this examination and date of the last thorough examination if known.

5. The safe working load of the lifting equipment or, where its safe working load depends on the configuration of the lifting equipment, its safe working load for the different configurations that have been determined.

6. The purpose of the examination including examination before putting into use for the first time, examination after installation or after assembly at a new site or in a new location, examination after repairs or alterations and periodic examination.

7. In relation to every thorough examination of lifting equipment—

(a) identification of any part found to have a defect which is or could become a danger to persons and a description of the defect;

(b) particulars of any repair, renewal or alteration required to remedy a defect found to be a danger to persons;

(c) in the case of a defect which is not yet but could become a danger to persons—

(i) the time by which it could become such danger;

(ii) particulars of any repair, renewal or alteration required to modify it;

(d) the latest date by which the next thorough examination must be carried out;

(e) where the thorough examination included testing, particulars of any test;

(f) identification of parts not accessible for examination.

8. The name, address and qualifications of the individual making the report and, where appropriate, the name and address of the individual's employer.

9. Where appropriate, the name and position of a person signing or authenticating the report on behalf of its author.

F89[**Schedule 2**

SCHEDULE 2

PART A

-

RISKS IN RELATION TO THE BODY PARTS TO BE PROTECTED BY PPE

This list of risks/parts cannot be expected to be exhaustive

The risk assessment will determine the need to provide a PPE and its characteristics according to Directive 89/656/EEC

RISKS

			Physical														Chemical (incl. nanomaterial)(*)					Biological Agents (contained in)				Other Risks		
			Mechanical							Noise	Thermal		Electrical		Radiation		Aerosols		Liquids		Gases or Vapours	Aerosols	Liquids		Materials, animals persons etc	Drowning	Oxygen deficiency	Non-viability
			(1)	(2)	(3)	(4)	(5)	(6)	(7)		Heat and/or Fire	Cold	Electric Shock (8)	Static Electricity	Non-ionizing (9)	Ionizing	Solid (10)	Liquid (11)	Immersion	Splashes, sprays, jets		Solids or liquids	Direct and indirect contact	Splashes, sprays, jets	Direct and indirect contact			
	Head	Cranium																										
		Whole Head																										

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Parts of the body to be protected																												
	Ears																											
	Eyes																											
	Face																											
	Respiratory system																											
	Hands																											
	Arms (partial)																											
	Foot																											
	Legs (Part)																											

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	Skin																											
	Trunk (Abdomen)																											
	Partial Body																											
	Whole Body																											

(1) Impact caused by falling or ejected objects, collision with an obstacle and high-pressure jets
(2) Falls due to slipping
(3) Falls from a height
(4) Vibration
(5) Static compression of parts of the body
(6) Mechanical injuries (abrasion, perforation, cuts, bites, wounds or stabs)
(7) Entanglement or trapping
(8) Direct or indirect contact
(9) Including sunlight (other than direct observation)
(10) Dusts, fumes, smokes and fibres
(11) Mists and fogs

(*) See Recommendation 2011/696/EU for definition of nanomaterial

PART B

NON-EXHAUSTIVE LIST OF TYPES OF PERSONAL PROTECTIVE EQUIPMENT WITH REGARD TO THE RISKS THEY PROVIDE PROTECTION AGAINST

Equipment for HEAD PROTECTION

— Helmets and/or caps/balaclavas/headgears against:

  — Impacts caused by falling or ejected object

  — Collision with an obstacle

  — Mechanical risks (perforation, abrasion)

  — Static compression (lateral crushing)

  — Thermal risks (fire, heat, cold, hot solids including molten metals)

  — Electric shock and live working

  — Chemical risks

  — Non-ionizing radiation (UV, IR, solar or welding radiation)

— Hairnets against risk of entanglement

Equipment for HEARING PROTECTION

— Earmuffs (including e.g. earmuffs attached to a helmet, active noise reduction earmuffs, earmuffs with electrical audio input)

— Earplugs (including e.g. level-dependent earplugs, earplugs adapted to the individual)

Equipment for EYE AND FACE PROTECTION

— Spectacles, goggles and face shields (prescription lenses where appropriate) against:

  — Mechanical risks

  — Thermal risks

  — Non-ionizing radiation (UV, IR, solar or welding radiation)

  — Ionizing radiation

  — Solid aerosols and liquids of chemical and biological agents

Equipment for RESPIRATORY PROTECTION

— Filtering devices against:

  — Particles

  — Gases

  — Particles and gases

  — Solid and/or liquid aerosols

— Insulating devices, including with an air supply

— Self-rescue devices

— Diving equipment

Equipment for HAND AND ARM PROTECTION

— Gloves (including mittens and arm protection) against:

  — Mechanical risks

  — Thermal risks (heat, flame and cold)

  — Electric shock and live working (antistatic, conductive, insulating)

  — Chemical risks

  — Biological agents

  — Ionizing radiation and radioactive contamination

  — Non-ionizing radiation (UV, IR, solar or welding radiation)

  — Vibration risks

— Finger stalls

Equipment for FOOT AND LEG PROTECTION and anti-slip protection

— Footwear (e.g. shoes, including in certain circumstances clogs, boots that may have steel toe-caps) to protect against:

  — Mechanical risks

  — Slipping risks

— Thermal risks (heat, flame and cold)

— Electric shock and live working (antistatic, conductive, insulating)

— Chemicals risks

— Vibration risks

— Biological risks

— Removable instep protectors against mechanical risks

— Kneepads against mechanical risks

— Gaiters against mechanical, thermal and chemical risks and biological agents

— Accessories (e.g. spikes, crampons)

SKIN PROTECTION — BARRIER CREAMS[1]

— There could be barrier creams to protect against:

— Non ionizing radiation (UV, IR, solar or welding radiation)

— Ionizing radiation

— Chemicals

— Biological agents

— Thermal risks (heat, flame and cold)

Equipment for BODY PROTECTION/OTHER SKIN PROTECTION

— Personal protective equipment for protection against falls from a height, such as retractable type fall arresters, full body harnesses, sit harnesses, belts for work positioning and restraint and work positioning lanyards, energy absorbers, guided-type fall arresters including an anchor line, rope adjustment devices, anchor devices that are not designed to be permanently fixed and that do not require fastening works before use, connectors, lanyards, rescue harness

— Protective clothing, including whole body (i.e. suits, overalls) protection and partial body (i.e. gaiters, trousers, jackets, waistcoats, aprons, kneepads, hoods, balaclavas) protection against:

— Mechanical risks

— Thermal risks (heat, flame and cold)

— Chemicals

— Biological agents

— Ionizing radiation and radioactive contamination

— Non-ionizing radiation (UV, IR, solar or welding radiation)

— Electric shock and live working (antistatic, conductive, insulating)

1 In certain circumstances, as a result of the risk assessment, barrier creams could be used together with other PPE with the aim of protecting workers' skin from related risks. Barrier creams are PPE under the scope of Directive 89/656/EEC as this type of equipment can be considered in certain circumstances as "additional or accessory" within the meaning of Article 2 of Directive 89/656/EEC. However, barrier creams are not PPE according to the definition in Article 3(1) of Regulation (EU) 2016/425.

— Entanglement and trapping

— Lifejackets for prevention of drowning and buoyancy aids

— PPE for signalling the user's presence visually

PART C

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NON-EXHAUSTIVE LIST OF SECTORS OR ACTIVITIES WHICH MAY REQUIRE THE PROVISION OF PERSONAL PROTECTIVE EQUIPMENT

The risk assessment will determine the need to provide a PPE and its characteristics according to provisions of Directive 89/656/EEC

I. PHYSICAL RISKS

Risks	Body part affected **Type of PPE**	Examples of activities where the use of the corresponding type of PPE may be necessary	Industry and Sectors
		PHYSICAL — MECHANICAL	
Impact caused by falling or ejected objects, collision with an obstacle and high-pressure jets	Cranium **Protective helmet**	– Work on, underneath or in the vicinity of scaffolding and elevated workplaces – Carcase work and road work – Formwork's erection and stripping – Scaffolding's assembly and installation – Assembly and installation works – Demolitions – Blasting works – Work in pits, trenches, shafts and tunnels – Work in the vicinity of lifts, lifting gear, cranes, and conveyors – Works in underground workings, quarries, open diggings – Work with industrial furnaces, containers, machinery, silos, bunkers and pipelines	– Building construction – Civil engineering construction – Machinery manufacturing, installation and maintenance – Shipbuilding – Mining works – Energy production – Infrastructure construction and maintenance – Iron and steel industry – Slaughterhouses – Railway shunting work – Harbours, transport and logistics – Forest industry

	– Slaughtering and cutting line at slaughterhouses – Load handling or transport and storage – Forest work – Work on steel bridges, steel building construction, steel hydraulic structures, blast furnaces, steel works and rolling mills, large containers, large pipelines, boiler plants and power stations – Earth and rock works – Work with bolt-driving tools – Work with blast furnaces, direct reduction plants, steelworks, rolling mills, metalworks, forging, drop forging and casting – Work involving travelling on bicycles and mechanically propelled bikes	
Eyes and/or face **Spectacles, goggles and face shields**	– Welding, grinding and separating work – Manual hammering – Caulking and chiselling – Rock working and processing – Work with bolt-driving tools – Work on stock removing machines for small chippings – Drop forging – The removal and breaking up of fragments – Spraying of abrasive substances	– Building construction – Civil engineering construction – Machinery manufacturing, installation and maintenance – Shipbuilding – Mining works – Energy production – Infrastructure construction and maintenance – Iron and steel industries

		– Metal and wood industries
	– Use of brush cutter or chainsaw	– Stone carving
	– Dental and surgical procedures	– Gardening
		– Healthcare
		– Forestry
	– Carcase work and road work	
	– Erection and stripping of formwork	
	– Scaffolding's assembly and installation	– Building construction
	– Demolitions	– Civil engineering construction
	– Blasting works	
	– Working and processing of rock	– Machinery manufacturing, installation and maintenance
	– Slaughtering and cutting line works	– Shipbuilding
	– Transport and storage	– Mining works
Foot and leg (parts)	– Work with moulds in the ceramics industry	– Energy production
Footwear(shoes/boots, etc.) with safety or protective toecap Footwear with metatarsal protection	– Work with frozen meat blocks and preserved foods packaging	– Infrastructure construction and maintenance
	– Flat glass products and container glassware manufacture, working and processing	– Iron and steel industry
		– Slaughterhouses
	– Conversion and maintenance work	– Logistic companies
	– Forest works	– Manufacturing industry
	– Work with concrete and prefabricated parts involving formwork erection and stripping	– Glass industry
		– Forest industry
	– Work in contractors' yards and warehouses	
	– Roof work	

		– Work on steel bridges, steel building construction, masts, towers, lifts, steel hydraulic structures, blast furnaces, steelworks and rolling mills, large containers, large pipelines, cranes, boiler plants and power stations – Furnace construction, heating and ventilation installation and metal assembly work – Work with blast furnaces, direct reduction plants, steelworks, rolling mills, metal works, forging, drop forging, hot pressing and drawing plants – Work in quarries and open diggings, coal stock removal – Work with moulds in the ceramics industry – Lining of kilns in the ceramics industry – Railway shunting work	– Building construction – Civil engineering construction
Falls due to slipping	Foot **Slip-resistant footwear**	– Works on slippery surfaces – Works on humidity environments	– Shipbuilding – Slaughterhouse – Cleaning – Food industries – Gardening – Fishing industry
Falls from a height	Whole body **PPE designed to prevent or arrest falls from height**	– Work on scaffolding – Assembly of prefabricated parts – Works on masts	– Building construction – Civil engineering construction

		– Roof work	
		– Work on vertical or slope surfaces	
		– Work in high crane cabs	
		– Work in high cabs of warehouse stacking and retrieval equipment	– Shipbuilding – Infrastructure maintenance
		– Work in high sections of drilling towers	
		– Work in shafts and sewers	
Vibration	Hands **Protective Gloves**	– Works with hand-guided tools	– Manufacturing industries – Building work – Civil engineering work
	Knee (leg parts) **Kneepads**	– Installation of blocks, tiles and pavers on the floor	– Building construction – Civil engineering construction
Static compression of parts of the body	Foot **Footwear with toecaps**	– Demolitions – Load handling	– Building construction – Civil engineering construction – Transport and storage – Maintenance
Mechanical injuries (abrasion, perforation, cuts, bites, wounds or stabs)	Eyes and/or face **Spectacles, goggles, face shields**	– Works with hand-guided tools – Welding and forging – Grinding and separating work – Chiselling – Rock working and processing – Work on stock removing machines for small chippings – Drop forging	– Building construction – Civil engineering construction – Shipbuilding – Mining works – Energy production – Infrastructure maintenance – Iron and steel industries – Metal and wood industries

		– The removal and breaking up of fragments	– Stone carving
		– Spraying of abrasive substances	– Gardening
		– Use of brush cutter or chainsaw	– Forestry
		– Works with steel framework	– Building construction
		– Handling of sharp-edged objects, other than machines where there is a danger of the gloves being caught	– Civil engineering construction
	Hands		– Shipbuilding
	Mechanical protective gloves	– Regular cutting using a hand knife for production and slaughtering	– Infrastructure maintenance
		– Changing the knives of cutting machines	– Manufacturing industries
		– Forest works	– Food industry
		– Gardening work	– Slaughter
	Forearms		– Forest industry
	Arm protection	– Boning and cutting	– Food industry
	Trunk/Abdomen/Leg		– Slaughter
	Protective apron, gaiters	– Regular cutting using a hand knife for production and slaughtering	– Food industry
	Penetration resistance trousers (cut resistant trousers)	– Forest works	– Slaughter
		– Carcase works and road works	– Forest industry
	Foot		– Building construction
	Penetration resistance footwear	– Demolition	– Civil engineering construction
		– Formwork's erection and stripping	– Shipbuilding
		– Forest works	– Mining works
			– Forest industry
	Whole body	– Entangle oneself in parts of machines	– Machine building
Entanglement and trapping	**Protective clothing for use where there is a risk of entanglement with moving parts**	– Get caught in parts of machines	– Manufacture of heavy-duty machines
		– Get caught with garment in parts of machines	– Engineering
			– Construction

		– Get swept away	– Agriculture
PHYSICAL — NOISE			
Noise	Ears **Hearing protection**	– Work with metal presses – Work with pneumatic drills – The work of ground staff at airports – Works with power tools – Blasting works – Pile-driving work – Wood and textile working	– Metal industry – Manufacturing industry – Building construction – Civil engineering construction – Aeronautical industry – Mining works
PHYSICAL — THERMAL			
Heat and/or fire	Face/Whole head **Welding headshields, helmets/caps against heat or fire, protective hoods against heat and/or flame**	– Work in presence of high temperatures, radiating heat or fire – Work with or in the vicinity of molten substances – Work with welding plastics guns	– Iron and steel industry – Metal industry – Maintenance services – Manufacturing industry
	Trunk/abdomen/legs **Protective apron, gaiters**	– Welding and forging – Casting	– Iron and steel industry – Metal industry – Maintenance services – Manufacturing industry
	Hand **Protective gloves against heat and/or flame**	– Welding and forging – Work in presence of high temperatures, radiating heat or fire – Work with or in the vicinity of molten substances	– Iron and steel industry – Metal industry – Maintenance services – Manufacturing industry
	Forearms **Sleeves**	– Welding and forging – Work with or in the vicinity of molten substances	– Iron and steel industry – Metal industry – Maintenance services

			– Manufacturing industry
			– Iron and steel industry
	Foot **Footwear against heat and/or flame**	– Work with or in the vicinity of molten substances	– Metal industry – Maintenance services
			– Manufacturing industry
	Whole/partial body **Protective clothing against heat and/or flame**	– Work in presence of high temperatures, radiating heat or fire	– Iron and steel industry – Metal industry – Forest industry
			– Building construction
	Hand **Protective gloves against cold**	– Work in the open air in extreme cold conditions	– Civil engineering construction
		– Work in deep-freeze rooms	– Shipbuilding
	Foot **Footwear against cold**	– Work with cryogenic liquids	– Mining works – Food industry
			– Agriculture and fisheries sector
Cold			– Building construction
			– Civil engineering construction
	Whole/partial body including head **Protective clothing against cold**	– Work in the open air in cold weather conditions	– Shipbuilding – Mining works
		– Work in deep-freeze rooms	– Food Industry
			– Agriculture and fisheries sector
			– Transport and storage
	PHYSICAL — ELECTRICAL		
	Whole head **Electrically insulating helmets**	– Live working or close to live parts under electrical tension	– Energy production – Transmission and distribution of electrical energy
Electric shock (direct or indirect contact)	Hands **Electrically insulating gloves**	– Work on electrical system	– Industrial facilities maintenance

	Foot **Electrically insulating footwear**		
	Wholebody/Hands/Foot **Conductive PPE intended to be worn by skilled persons during live working at a nominal power system voltage up to 800 kV AC and 600 kV DC**		– Building construction – Civil engineering construction
Static electricity	Hands **Antistatic gloves** Foot **Antistatic/conductive footwear** Whole body **Antistatic clothing**	– Handling plastic and rubber – Pouring, collecting or loading into a container – Work near to highly charged elements such as conveyor belts – Handling explosives	– Manufacturing industry – Feed industry – Bagging and packing plants – Production, storage or transport of explosives
	PHYSICAL — RADIATION		
Non-ionizing radiation, including sunlight (other than direct observation)	Head **Caps and helmets**	– Work in open air – Work with radiant heat	– Fishing and agriculture – Building construction – Civil engineering construction
	Eyes **Protective spectacles, goggles and face shields**	– Furnace operations – Work with laser – Work in open air – Welding and gas cutting – Glass blowing – Germicidal lamps	– Iron and steel industries – Manufacturing industry – Fishing and agriculture
	Whole body (skin) **PPE against natural and artificial UV**	– Work in the open air – Electrical welding – Germicidal lamps – Xenon lamps	– Building construction – Civil engineering construction – Shipbuilding – Mining works

			– Energy production – Infrastructure maintenance – Fishing and agriculture – Forest industry – Gardening – Food industry – Plastic industry – Printing industry
Ionizing radiation	Eyes **Protective spectacles/goggles against ionizing radiation** Hands **Protective gloves against ionizing radiation**	– Operating in X-ray facilities – Operating in the area of medical radio diagnosis – Work with radioactive products	– Healthcare – Veterinary care – Radioactive waste plant – Energy production
	Trunk/abdomen/partial body **Protective apron against x-rays /Coat/Vest/Skirt against x-rays**	– Operating in X-ray facilities – Operating in the area of medical radio diagnosis	– Healthcare – Veterinary care – Dental care – Urology – Surgery – Interventional radiology – Laboratories
	Head **Headwear & Caps PPE for protection against e.g. development of brain tumours**	– Medical X-ray work places and facilities	– Healthcare – Veterinary care – Dental care – Urology – Surgery – Interventional radiology
	Partial body **PPE for thyroid protection**	– Operating in X-ray facilities	– Healthcare – Veterinary care

PPE for protection	**gonads**	– Operating in the area of medical radio diagnosis	
Protective clothing against ionizing radiation	Whole body	– Operating in the area of medical radio diagnosis	– Energy production
		– Work with radioactive products	– Radioactive waste plant

II. CHEMICAL RISKS (including nanomaterial)

Risks	Body part affected **Type of PPE**	Examples of activities where the use of the corresponding type of PPE may be necessary	Industry and Sectors
		CHEMICAL — AEROSOLS	
Solids (dusts, fumes, smokes, fibres, and nanomaterial)	Respiratory system **Respiratory protective devices against particles**	– Demolition – Blasting works – Sanding and Polishing of surfaces – Work in presence of asbestos – Use of materials consisting of/containing nanoparticles – Welding – Chimney sweeper – Work on the lining of furnaces and ladles where there may be dust – Work in the vicinity of blast furnace taps where there may be heavy metal fumes – Work in the vicinity of the blast furnace charge	– Building construction – Civil engineering construction – Shipbuilding – Mining works – Iron and steel industries – Metal and wood industries – Automotive industry – Stone carving – Pharmaceuticals industry – Healthcare services – Preparation of cytostatics
	Hands **Chemical Protective gloves and barrier cream as an additional/accessory protection**	– Work in presence of asbestos – Use of materials consisting of/containing nanoparticles	– Building construction – Civil engineering construction – Shipbuilding

			– Industrial facilities maintenance
		– Demolition	
		– Work in presence of asbestos	– Building construction
	Whole body	– Use of materials consisting of/containing nanoparticles	– Civil engineering construction
	Protective clothing against solid particles		– Shipbuilding
		– Chimney sweeper	– Industrial facilities maintenance
		– Preparation of plant protection products	– Agriculture
			– Mining industry
	Eyes	– Woodworking	– Metal and wood industry
	Spectacles/goggles and face shields	– Road work	
			– Civil engineering construction
	Respiratory system	– Surface treatment (e.g. varnishing/painting, abrasive blasting)	– Metal industry
	Respiratory protective devices against particles		– Manufacturing industry
		– Surface cleaning	– Automotive sector
		– Surface treatment	
		– Surface cleaning	
Liquids (mists and fogs)	Hands		– Metal industry
	Chemical protective gloves	– Work with liquid sprays	– Manufacturing industry
		– Works with acids and caustic solutions, disinfectants and corrosive cleaning substances	– Automotive sector
	Whole body		– Metal industry
		– Surface treatment	– Manufacturing industry
	Chemical protective clothing	– Surface cleaning	
			– Automotive sector
		CHEMICAL — LIQUIDS	
		– Work with liquid sprays	– Textile and clothing industry
Immersion Splashes, sprays and jets	Hands	– Works with acids and caustic solutions, disinfectants and corrosive cleaning products	– Cleaning industry
	Chemical protective gloves		– Automobile industry
		– Processing of coating materials	– Beauty and hairdressing sectors

		– Tanning	
		– Work in hairdressers and beauty salons	
	Forearms **Chemical protective sleeves**	– Works with acids and caustic solutions, disinfectants and corrosive cleaning products	– Cleaning – Chemical industry – Cleaning industry – Automobile industry
	Foot **Chemical protective boots** – Work with liquid sprays	– Works with acids and caustic solutions, disinfectants and corrosive cleaning products	– Textile and clothing industry – Cleaning industry – Automobile industry
	Whole body **Chemical protective clothing**	– Work with liquid sprays – Works with acids and caustic solutions, disinfectants and corrosive cleaning products	– Cleaning – Chemical industry – Cleaning industry – Automobile industry – Agriculture
	CHEMICAL — GASES AND VAPOURS		
Gases and vapours	Respiratory system **Respiratory protective devices against gases**	– Surface treatment (e.g. varnishing/painting, abrasive blasting) – Surface cleaning – Work in fermentation and distilling rooms – Work inside tanks and digesters – Work in containers, restricted areas and gas-fired industrial furnaces where there may be gas or insufficient oxygen – Chimney sweeper – Disinfectants and corrosive cleaning substances – Work in the vicinity of gas converters and blast furnace gas pipes	– Metal industry – Automotive sector – Manufacturing industry – Cleaning industry – Alcoholic drinks production – Wastewater treatment plants – Waste treatment plant – Chemical industry – Petrochemical industry

			– Metal industry
		– Surface treatment	– Automotive sector
		– Surface cleaning	– Manufacturing industry
		– Work in fermentation and distilling rooms	– Alcoholic drinks production
	Hands		
	Chemical protective gloves	– Work inside tanks and digesters	– Wastewater treatment plants
		– Work in containers, restricted areas and gas-fired industrial furnaces where there may be gas or insufficient oxygen	– Waste treatment plant
			– Chemical industry
			– Petrochemical industry
			– Metal industry
		– Surface treatment	– Automotive sector
		– Surface cleaning	– Manufacturing industry
		– Work in fermentation and distilling rooms	– Alcoholic drinks production
	Whole body		
	Chemical protective clothing	– Work inside tanks and digesters	– Wastewater treatment plants
		– Work in containers, restricted areas and gas-fired industrial furnaces where there may be gas or insufficient oxygen	– Waste treatment plant
			– Chemical industry
			– Petrochemical industry
			– Automotive sector
			– Manufacturing industry
	Eyes	– Spray painting	
	Spectacles, goggles and face shields	– Woodworking	– Mine industry
		– Mining operations	– Chemical industry
			– Petrochemical industry

III. BIOLOGICAL AGENTS

Risks	Body part affected **Type of PPE**	Examples of activities where the use of the corresponding type of PPE may be necessary	Industry and Sectors

BIOLOGICAL AGENTS (contained in) - AEROSOLS

			– Healthcare – Veterinary clinics – Clinical analysis laboratories – Research laboratories – Retirement homes – Home assistance – Wastewater treatment plants – Waste treatment plant – Food industry – Biochemical production
Solids and liquids	Respiratory system **Respiratory protective devices against particles**	– Work that involves contact with human body and animal fluids and tissues – Work in presence of biological agent	– Healthcare – Veterinary clinics – Clinical analysis laboratories – Research laboratories – Retirement homes – Home assistance – Wastewater treatment plants – Waste treatment plant – Food industry
	Hands **Protective gloves against microorganisms** Whole/partial body **Protective clothing against biological agents** Eyes and/or face **Protectivespectacles, goggles and face shields**	– Work that involves contact with human body and animal fluids and tissues – Work in presence of biological agent	– Healthcare – Veterinary clinics – Clinical analysis laboratories – Research laboratories – Retirement homes – Home assistance – Wastewater treatment plants – Waste treatment plant – Food industry
	BIOLOGICAL AGENTS (contained in) – LIQUIDS		
Direct and indirect contact	Hands **Protective gloves against microorganisms** Whole/partial body **Protective clothing against biological agents** Eyes and/or face **Protective goggles and face shields**	– Work that involves contact with human body – and animal fluids and tissues (bites, stings) – Work in presence of biological agent	– Healthcare – Veterinary clinics – Clinical analysis laboratories – Research laboratories – Retirement homes – Home assistance – Wastewater treatment plants

			– Waste treatment plant – Food industry – Forest industry – Healthcare – Veterinary clinics – Clinical analysis laboratories – Research laboratories – Retirement homes – Home assistance – Wastewater treatment plants – Waste treatment plant – Food industry – Healthcare – Veterinary clinics – Clinical analysis laboratories – Research laboratories – Retirement homes – Home assistance – Wastewater treatment plants – Waste treatment plant – Food Industry – Healthcare – Veterinary clinics – Clinical analysis laboratories – Research laboratories – Retirement homes – Home assistance
	Hands **Protective gloves against microorganisms**	– Work that involves contact with human body and animal fluids and tissues – Work in presence of biological agent	
Splashes, sprays and jets	Forearms **Protective sleeves against microorganisms**	– Work that involves contact with human body and animal fluids and tissues – Work in presence of biological agent	
	Foot/legs **Protective over boots and gaiters**	– Work that involves contact with human body and animal fluids and tissues – Work in presence of biological agent	

			– Wastewater treatment plants – Waste treatment plant – Food industry – Healthcare – Veterinary clinics – Clinical analysis laboratories – Research laboratories – Retirement homes – Home assistance – Wastewater treatment plants – Waste treatment plant – Food industry
	Whole body **Protective clothing against biological agents**	– Work that involves contact with human body and animal fluids and tissues – Work in presence of biological agent	
BIOLOGICAL AGENTS (contained in) – MATERIALS, PERSONS, ANIMALS, ETC			
Direct and indirect contact	Hands **Protective gloves against mircoorganisms** Whole/partial body **Protective clothing against biological agents** Eyes and/or face **Protective goggles and face shields**	– Work that involves contact with human body and animal fluids and tissue (bites and stings) – Work in presence of biological agent	– Healthcare – Veterinary clinics – Clinical analysis laboratories – Research laboratories – Retirement homes – Home assistance – Wastewater treatment plants – Waste treatment plant – Food industry – Forest industry

IV. OTHER RISKS

Risks	Body part affected **Type of PPE**	Examples of activities where the use of the corresponding type of PPE may be necessary	Industry and Sectors

		– Work in proximity of movement of vehicles	– Building construction
	Whole body	– Asphalt works and road marking	– Civil engineering construction
Non-visibility	**PPE for signalling the user's presence visually**	– Railway works	– Shipbuilding
		– Driving means of transport	– Mining works
		– Work of ground staff at airport	– Transport services and passenger transports
		– Work in confined spaces	
		– Work in fermentation and distilling rooms	
		– Work inside tanks and digesters	– Alcoholic drinks production
	Respiratory system	– Work in containers, restricted areas and gas-fired industrial furnaces where there may be gas or insufficient oxygen	– Civil engineering construction
Oxygen deficiency	**Insulatingrespiratory protectives devices**		– Chemical industry
			– Petrochemical industry
		– Work in shafts, sewers and other underground areas connected with sewage	
	Respiratory system	– Underwater works	– Civil engineering construction
	Diving equipment		– Fishing industry
			– Aeronautical industry
	Whole body	– Work on or near water	– Building construction
Drowning	**Life jacket**	– Work in the sea	– Civil engineering construction
		– Work in an airplane	– Shipbuilding
			– Docks and harbours**]**

Annotations

Amendments:

F89 Subsitituted (20.11.2021) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2021* (S.I. No. 610 of 2021), reg. 2(c), in effect as per reg. 1(2).

Schedule 3

Regulation 69

Risk Factors for Manual Handling of Loads

1. Characteristics of the load

The manual handling of a load may present a risk particularly of back injury if it is:

too heavy or too large,

unwieldy or difficult to grasp,

unstable or has contents likely to shift,

positioned in a manner requiring it to be held or manipulated at a distance from the trunk, or with a bending or twisting of the trunk, or

likely, because of its contours or consistency (or both), to result in injury to employees, particularly in the event of a collision.

2. Physical effort required

A physical effort may present a risk particularly of back injury if it is:

too strenuous,

only achieved by a twisting movement of the trunk,

likely to result in a sudden movement of the load, or

made with the body in an unstable posture.

3. Characteristics of the working environment

The characteristics of the working environment may increase a risk particularly of back injury if:

there is not enough room, in particular vertically, to carry out the activity,

the floor is uneven, thus presenting tripping hazards, or is slippery in relation to the employee's footwear,

the place of work or the working environment prevents the handling of loads at a safe height or with good posture by the employee,

there are variations in the level of the floor or the working surface, requiring the load to be manipulated on different levels,

the floor or foot rest is unstable, or

the temperature, humidity or ventilation is unsuitable.

4. Requirements of the activity

The activity may present a risk particularly of back injury if it entails one or more of the following requirements:

over-frequent or over prolonged physical effort involving in particular the spine,

an insufficient bodily rest or recovery period,

excessive lifting, lowering or carrying distances, or

a rate of work imposed by a process which cannot be altered by the employee.

5. Individual Risk Factors

The employee may be at risk if he or she:

is physically unsuited to carry out the task in question,

is wearing unsuitable clothing, footwear or other personal effects, or

does not have adequate or appropriate knowledge or training.

Schedule 4

Regulation 72

Minimum Requirements for all Display Screen Equipment

1. Equipment

(a) Display screen

(i) The characters on the screen shall be well defined and clearly formed, of adequate size and with adequate spacing between the characters and lines.

(ii) The image on the screen shall be stable, with no flickering or other forms of instability.

(iii) The brightness or the contrast (or both) between the characters and the background shall be easily adjustable by the employee and easily adjustable to ambient conditions.

(iv) The screen shall be free of reflective glare and reflections liable to cause discomfort to a user.

(v) The screen shall be able to swivel and tilt easily and freely to suit the needs of the user.

(vi) It shall be possible to use either a separate base for the screen or an adjustable table.

(b) Keyboard

(i) The keyboard shall have a matt surface to avoid reflective glare.

(ii) The arrangement of the keyboard and the characteristics of the keys shall be such as to facilitate the use of the keyboard.

(iii) The symbols on the keys shall be adequately contrasted and legible from the design working position.

(iv) The keyboard shall be tiltable and separate from the screen so as to allow the user to find a comfortable working position which avoids fatigue in the arms or hands.

(v) The space in front of the keyboard shall be sufficient to provide support for the hands and arms of the user.

(c) Work desk or work surface

(i) The work desk or work surface shall have a sufficiently large, low-reflectance surface and allow a flexible arrangement of the screen, keyboard, documents and related equipment.

(ii) The document holder shall be stable and adjustable and shall be positioned so as to minimise the need for uncomfortable head and eye movement.

(iii) There shall be adequate space for users to find a comfortable position.

(d) Work chair

(i) The work chair shall be stable and allow the user easy freedom of movement and a comfortable position.

(ii) The seat shall be adjustable in height.

(iii) The seat back shall be adjustable in both height and tilt.

(iv) A footrest shall be made available to any user who requires one.

2. Environment

(a) Space Requirements

The workstation shall be dimensioned and designed so as to provide sufficient space for the user to change position and vary movements.

(b) Lighting

(i) Lighting (including room lighting, spot lighting or work lamps) shall ensure satisfactory lighting conditions and an appropriate contrast between the screen and the background environment, taking into account the type of work and the user's vision requirements.

(ii) Possible disturbing glare and reflections on the screen or other equipment shall be prevented by co-ordinating the layout of workstations within the place of work with the positioning and technical characteristics of the artificial light sources.

(c) Reflections and glare

(i) Workstations shall be so designed that sources of light, such as windows and other openings, transparent or translucent walls and brightly coloured fixtures or walls cause no direct glare and, as far as possible, no distracting reflections on the screen.

(ii) Windows shall be fitted with a suitable system of adjustable covering to attenuate the daylight which falls on the workstation.

(d) Radiation

All radiation, with the exception of the visible part of the electromagnetic spectrum, shall be reduced to negligible levels from the point of view of the protection of employees' safety and health.

(e) Noise

Noise emitted by equipment belonging to a workstation shall be taken into account when a workstation is being equipped, in particular so as not to distract attention or disturb speech.

(f) Heat

Equipment belonging to a workstation shall not produce excess heat which could cause discomfort to employees.

(g) Humidity

An adequate level of humidity shall be established and maintained.

3. Employee/Computer Interface

In designing, selecting, commissioning and modifying software, and in designing tasks using display screen equipment, the employer shall take into account the following principles:

(i) software shall be suitable for the task,

(ii) software shall be easy to use and, where appropriate, adaptable to the employee's level of knowledge or experience; no quantitative or qualitative checking facility may be used without the knowledge of the employees,

(iii) systems shall provide feedback to employees on their performance,

(iv) systems shall display information in a format and at a pace which are adapted to employees, and

(v) the principles of software ergonomics shall be applied, in particular to human data processing.

Schedule 5

Regulation 119

Particulars to Be Included in a Report of Inspection

1 The name and address of the person for whom the inspection was carried out.

2 The location of the work equipment inspected.

3 A description of the work equipment inspected.

4 The date and time of the inspection.

5 Details of any matter identified that could give rise to a risk to the safety or health of any employee.

6 Details of any action taken as a result of any matter identified in paragraph 5.

7 Details of any further action considered necessary.

8 The name and position of the person making the report.

Schedule 6

Regulations 135, 136

Hand-Arm Vibration and Whole-Body Vibration

Part A — Hand-arm vibration

1. Assessment of exposure

(a) The assessment of the level of exposure to hand-arm vibration is based on the calculation of the daily exposure value normalised to an eight-hour reference period A(8), expressed as the square root of the sum of the squares (rms) (total value) of the frequency-weighted acceleration values determined on orthogonal axes ahwx, ahwy, ahwz as defined in Chapters 4 and 5 and Annex A to ISO (International Organization for Standardization) Standard 5349-1 (2001).

(b) The assessment of the level of exposure may be carried out on the basis of an estimate based on information provided by the manufacturers concerning the level of emission from the work equipment used and based on the observation of specific work practices or on measurement.

2. Measurement

When measurement is employed in accordance with Regulation 136—

(a) the methods used may include sampling, which must be representative of the personal exposure of an employee to the mechanical vibration in question, with the methods and apparatus used adapted to the particular characteristics of the mechanical vibration to be measured, to ambient factors and to the characteristics of the measuring apparatus in accordance with ISO Standard 5349-2(2001), and

(b) in the case of devices which need to be held with both hands—

(i) measurement shall be made on each hand,

(ii) the exposure shall be determined by reference to the higher value of the 2, and

(iii) information for the other hand shall also be given.

3. Interference

Regulation 136 applies, in particular, where the mechanical vibration interferes with the proper handling of controls or reading of indicators.

4. Indirect risks

Regulation 136 applies, in particular, when the mechanical vibration interferes with the stability of structures or the security of joints.

5. Individual protectors

Personal protective equipment against hand-arm vibration may contribute to the programme of measures referred to in Regulation 138.

Part B — Whole-body vibration

1. Assessment of exposure

F90**[**(*a*) The assessment of the level of exposure to mechanical vibration is based on the calculation of the daily exposure A(8) expressed as equivalent continuous acceleration over an eight-hour period, calculated as the highest (rms) value, determined on three orthogonal axes (1,4awx, 1,4awy, awz for a seated or standing employee), in accordance with Chapters 5, 6 and 7, Annex A and Annex B to ISO Standard 2631-1(1997).**]**

(b) The assessment of the level of exposure may be carried out on the basis of an estimate based on information provided by the manufacturers concerning the level of emission from the work equipment used and based on observation of specific work practices or on measurement.

(c) In the case of maritime shipping, only vibrations exceeding a frequency of 1 Hz need to be considered.

2. Measurement

When measurement is carried out under Regulation 136, the methods used may include sampling which must be representative of the personal exposure of an employee to the mechanical vibration in question with the methods and apparatus used adapted to the particular characteristics of the mechanical vibration to be measured, to ambient factors and to the characteristics of the measuring apparatus in accordance with ISO Standard 2631-1(1997).

3. Interference

Regulation 136 applies, in particular, where the mechanical vibration interferes with the proper handling of controls or reading of indicators.

4. Indirect risks

Regulation 136 applies, in particular, when the mechanical vibration interferes with the stability of structures or the security of joints.

5. Extension of exposure

Regulation 136 applies where, owing to the nature of the activity, an employee benefits from the use of rest facilities supervised by the employer, on condition that exposure to whole-body vibration in those facilities is reduced to a level compatible with their purpose and conditions of use, except in cases of "force majeure".

Annotations

Amendments:

F90 Substituted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(e), in effect as per reg. 1(4).

Schedule 7

Regulations 144

Protection of Children and Young Persons

Part A — Guide list of agents, processes and work

Agents

1. Physical AGENTS

(a) Ionising radiation;

(b) Work in a high-pressure atmosphere such as in pressurised containers or diving.

F91**[**2. Biological agents

Biological agents of—

(*a*) group 3 biological agent, and

(*b*) group 4 biological agent.**]**

3. Chemical agents

F92**[**(*a*) Substances and mixtures which meet the criteria for classification under Regulation (EC) No. 1272/2008 of the European Parliament and of the Council in one or more of the following hazard classes and hazard categories with one or more of the following hazard statements:

(I) acute toxicity, category 1, 2 or 3 (H300, H310, H330, H301, H311, H331);

(II) skin corrosion, category 1A, 1B or 1C (H314);

(III) flammable gas, category 1 or 2 (H220, H221);

(IV) flammable aerosols, category 1 (H222);

(V) flammable liquid, category 1 or 2 (H224, H225);

(VI) explosives, categories "Unstable explosive", or explosives of Divisions 1.1, 1.2, 1.3, 1.4, 1.5 (H200, H201, H202, H203, H204, H205);

(VII) self-reactive substances and mixtures, type A, B, C or D (H240, H241, H242);

(VIII) organic peroxides, type A or B (H240, H241);

(IX) specific target organ toxicity after single exposure, category 1 or 2 (H370, H371);

(X) specific target organ toxicity after repeated exposure, category 1 or 2 (H372, H373);

(XI) respiratory sensitisation, category 1, subcategory 1A or 1B (H334);

(XII) skin sensitisation, category 1, subcategory 1A or 1B (H317);

(XIII) carcinogenicity, category 1A, 1B or 2 (H350, H350i, H351);

(XIV) germ cell mutagenicity, category 1A, 1B or 2 (H340, H341);

(XV) reproductive toxicity, category 1A or 1B (H360, H360F, H360FD, H360Fd, H360D, H360Df);**]**

(b) F93**[**...**]**

(c) F93**[**...**]**

(d) F93**[**...**]**

(e) Substances and F94**[**mixtures**]** referred to in the Safety, Health and Welfare at Work (Carcinogens) Regulations 2001 (S.I. No. 78 of 2001) F95**[**(amended by the Safety, Health and Welfare at Work (Carcinogens) (Amendment) Regulations 2015 (S.I. No. 622 of 2015))**]**;

(f) Lead and compounds thereof, in as much as the agents in question are absorbable by the human organism;

(g) Asbestos.

Annotations

Amendments:

F91 Substituted (18.02.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016), reg. 5(a).

F92 Substituted (18.02.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016), reg. 5(b).

F93 Deleted (18.02.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016), reg. 5(c).

F94 Substituted (18.02.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016), reg. 5(d)(i).

F95 Inserted (18.02.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016), reg. 5(d)(ii).

Part B — Processes and work

1. Processes at work referred to in the Safety, Health and Welfare at Work (Carcinogens) Regulations 2001 (S.I. No. 78 of 2001) F96**[**(amended by the Safety, Health and Welfare at Work (Carcinogens) (Amendment) Regulations 2015 (S.I. No. 622 of 2015))**]**.

2. Manufacture and handling of devices, fireworks or other objects containing explosives.

3. Work with dangerous, fierce or poisonous animals.

4. Animal slaughtering on an industrial scale.

5. Work involving the handling of equipment for the production, storage or application of compressed, liquefied or dissolved gases.

6. Work with vats, tanks, reservoirs or carboys containing chemical agents referred to in item 3 of Part A of this Schedule.

7. Work involving a risk of structural collapse.

8. Work involving high-voltage electrical hazards.

9. Work the pace of which is determined by machinery and involving payment by results.

Annotations

Amendments:

F96 Inserted (18.02.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016), reg. 5(e).

Schedule 8

Lists of Agents, Processes and Working Conditions Relating to Pregnant, Post Natal and Breastfeeding Employees

Regulations 147, 149

Part A — Pregnant, post natal and breastfeeding employees

1. Agents

(a) Physical agents

Physical agents where these are regarded as agents causing foetal lesions or likely to disturb placental attachment (or both), and in particular—

(i) shocks, vibration or movement,

(ii) handling of loads entailing risks, particularly of a dorsolumbar nature,

(iii) noise,

(iv) ionising radiation,

(v) non-ionising radiation,

(vi) extremes of cold or heat,

(vii) movements and postures, travelling, either inside or outside the place of work, mental or physical fatigue and other physical burdens connected with the activity of the employee.

(b) Biological Agents

Biological agents of F97**[**group 2 biological agent, group 3 biological agent and group 4 biological agent (within the meaning of Regulation 2 of the Regulations of 2013),**]** in so far as it is known that these agents or the therapeutic measures necessitated by such agents endanger the health of pregnant employees and the unborn child F97**[**and in so far as they do not yet appear in Part B , or Part C, of this Schedule**]**.

(c) Chemical Agents

The following chemical agents insofar as it is known that they endanger the health of pregnant employees and the unborn child but excluding those referred to in Part B F98**[**, or Part C,**]** of this Schedule—

F97**[**(i) substances and mixtures which meet the criteria for classification under Regulation (EC) No. 1272/2008 of the European Parliament and of the Council[2] in one or more of the following hazard classes and hazard categories with one or more of the following hazard statements, in so far as they do not yet appear in Part B, or Part C, of this Schedule:

(I) germ cell mutagenicity, category 1A, 1B or 2 (H340, H341),

(II) carcinogenicity, category 1A, 1B or 2 (H350, H350i, H351),

(III) reproductive toxicity, category 1A, 1B or 2 or the additional category for effects on or via lactation (H360, H360D, H360FD, H360Fd, H360Df, H361, H361d, H361fd, H362), and

(IV) specific target organ toxicity after single exposure, category 1 or 2 (H370, H371),", and**]**

(ii) Substances and F97**[**mixtures**]** referred to in Schedule 1 to the Safety, Health and Welfare at Work (Carcinogens) Regulations 2001 (S.I. No. 78 of 2001) F98**[**(amended by the Safety, Health and Welfare at Work (Carcinogens) (Amendment) Regulations 2015 (S.I. No. 622 of 2015))**]**,

(iii) Substances and F97**[**mixtures**]** released by a process referred to in Schedule 1 to the Safety Health and Welfare at Work (Carcinogens) Regulations 2001 (S.I. No. 78 of 2001) F98**[**(amended by the Safety, Health and Welfare at Work (Carcinogens) (Amendment) Regulations 2015 (S.I. No. 622 of 2015))**]**,

(iv) mercury and mercury derivatives,

(v) antimitotic (cytotoxic) drugs,

(vi) carbon monoxide,

(vii) chemical agents of known and dangerous percutaneous absorption.

2. Processes

Industrial processes listed in Schedule 1 to the Safety, Health and Welfare at Work (Carcinogens Regulations 2001 (S.I. No. 78 of 2001) F98**[**(amended by the Safety, Health and Welfare at Work (Carcinogens) (Amendment) Regulations 2015 (S.I. No. 622 of 2015))**]**.

3. Working Conditions

Underground mining work.

Annotations

Amendments:

F97 Substituted (18.02.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016), reg. 6(1)(a), (c), (d)(i)(I), (d)(ii)(I).

F98 Inserted (18.02.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016), reg. 6(1)(b), (d)(i)(II), (d)(ii)(II), (2).

Part B — Pregnant employees

2 O.J. No. L353, 31.12.2008, p.1

1. Agents

(a) Physical Agents

Work in hyperbaric atmosphere, such as in pressurised enclosures and underwater diving.

(b) Biological Agents

The following biological agents—

Toxoplasma

Rubella virus,

unless the pregnant employees are proved to be adequately protected against such agents by immunisation.

(c) Chemical Agents

Lead and lead derivatives insofar as these agents are capable of being absorbed by the human organism.

2. Working Conditions

Underground mining work.

Part C — Employees who are breastfeeding

1. Agents

Chemical Agents

Lead and lead derivatives insofar as these agents are capable of being absorbed by the human organism.

2. Working Conditions

Underground mining work.

Schedule 9

Safety and Health Signs at Work

Regulation 160

Part A — General requirements

1.Types of signs

1.1. Permanent signs

1.1.1. Permanent signboards shall be used for signs relating to prohibitions, warnings and mandatory requirements and the location and identification of emergency escape routes and first-aid facilities.

Signboards or a safety colour (or both) shall be used to mark permanently the location and identification of fire-fighting equipment.

1.1.2. Signboards on containers and pipes shall be placed as laid down in Part C of this Schedule.

1.1.3. Places where there is a risk of colliding with obstacles or of falling shall be permanently marked with a safety colour or with signboards (or both).

1.1.4. Traffic routes shall be permanently marked with a safety colour.

1.2. Occasional signs

1.2.1. Illuminated signs, acoustic signals or verbal communication (or both) shall be used where the occasion requires, taking into account the possibilities for interchanging and combining signs set out in Paragraph 2, to signal danger, to call persons to take a specific course of action and for the emergency evacuation of persons.

1.2.2. Hand signals or verbal communication (or both) shall be used where the occasion requires, to guide persons carrying out hazardous or dangerous manoeuvres.

2.Interchanging and combining signs

2.1. Any one of the following may be used if equally effective—

- a safety colour or a signboard to mark places where there is an obstacle or a drop,

- illuminated signs, acoustic signals or verbal communication,

- hand signals or verbal communication.

2.2. Some types of signs may be used together—

- illuminated signs and acoustic signals,

- illuminated signs and verbal communication,

- hand signals and verbal communication.

3. The instructions in the table below apply to all signs incorporating a safety colour—

Colour	Meaning or Purpose	Instructions and Information
Red	*Prohibition sign*	*Dangerous behaviour*
	Danger alarm	Stop, shutdown, emergency cut-out devices Evacuate
	Fire-fighting equipment	Identification and location
Yellow or Amber	Warning sign	Be careful, take precautions Examine
Blue	Mandatory sign	Specific behaviour or action Wear personal protective equipment
Green	Emergency escape, first aid sign	Doors, exits, routes, equipment, facilities

	No danger	Return to normal

4.The effectiveness of a sign shall not be adversely affected by:

4.1. the presence of another emission source of the same type which interferes with visibility or audibility; therefore, in particular—

4.1.1. the placing of too many signs too close together shall be avoided,

4.1.2. two illuminated signs which are likely to be confused shall not to be used at the same time,

4.1.3. an illuminated sign shall not be used in the proximity of another similar illuminated source,

4.1.4. two acoustic signals shall not be used at the same time,

4.1.5. an acoustic signal shall not be used if there is too much ambient noise.

4.2. poor design, insufficient number, incorrect positioning, poor state of repair or incorrect functioning of the signs or signalling devices.

5.Depending on requirements, signs and signalling devices shall be cleaned, maintained, checked repaired, and if necessary replaced on a regular basis to ensure that they retain their intrinsic or functional qualities (or both).

6. The number and positioning of signs or signalling devices to be installed will depend on the extent of the hazards or dangers or on the zone to be covered.

7. Signs requiring some form of power shall be provided with a guaranteed emergency supply in the event of a power cut, unless the hazard has thereby been eliminated.

8. The triggering of an illuminated sign or acoustic signal (or both) indicates when the required action should start and the sign or signal shall be activated for as long as the action requires.

Illuminated signs and acoustic signals shall be reactivated immediately after use.

9. Illuminated signs and acoustic signals shall be checked to ensure that they function correctly and that they are effective before they are put into service and subsequently at sufficiently frequent intervals.

10. If the hearing or the sight of the persons concerned is impaired, including impairment caused by the wearing of personal protective equipment, measures shall be taken to supplement or replace the signs concerned.

11. Areas, rooms or enclosures used for storage of significant quantities of F99**[**hazardous**]** substances or F99**[**mixtures**]** shall be indicated by a suitable warning sign taken from paragraph 3.2 of Part B, or marked as provided in paragraph 1 of Part C of this Schedule, unless the labelling of the individual packages or containers is adequate for this purpose.

F100**[**11A. For the purposes of paragraph 11, if there is no equivalent warning sign in paragraph 3.2 of Part B to warn about hazardous chemical substances or mixtures, the relevant hazard pictogram, as set out in Annex V to Regulation (EC) No. 1272/2008 of the European Parliament and of the Council, must be used.**]**

Annotations

Amendments:

F99 Substituted (18.02.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016), reg. 7(a)(i), (ii).

F100 Inserted (18.02.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016), reg. 7(a)(iii).

Part B — Signboards

1. Intrinsic features

1.1. The shape and colours are set out in paragraph 3, in accordance with their specific object (signboards indicating a prohibition, a warning, a mandatory action, an escape route, an emergency or fire-fighting equipment).

1.2. Pictograms shall be as simple as possible and shall contain only essential details.

1.3. The pictograms used may be slightly different from or more detailed than those shown in paragraph 3, provided that they convey the same meaning and that no difference or adaptation obscures the meaning.

1.4. Signboards shall be made of shock and weather-resistant material suitable for the surrounding environment.

1.5. The dimensions and colorimetric and photometric features of signboards shall be such that they can be easily seen and understood.

2. Conditions of use

2.1. Signboards shall be installed at a suitable height and in a position appropriate to the line of sight, taking account of any obstacles, either at the access point to an area in the case of a general hazard, or in the immediate vicinity of a specific hazard or object, and in a well-lit and easily accessible and visible location.

Without prejudice to the provisions of Part 2, Chapter 1, phosphorescent colours, reflective materials or artificial lighting shall be used where the level of natural light is poor.

2.2. The signboard shall be removed when the situation to which it refers ceases to exist.

3. Signboards to be used

3.1.Prohibitory signs—

Intrinsic features:

Round shape;

Black pictogram on white background, red edging and diagonal line (the red part to take up at least 35% of the area of the sign);

The script underneath each of the following pictograms is included here to show the meaning of the sign but is not to be included in the signboard.

That script or any other relevant script may be shown on a supplementary signboard.

Signs to be used



3.2. Warning signs—

Intrinsic features:

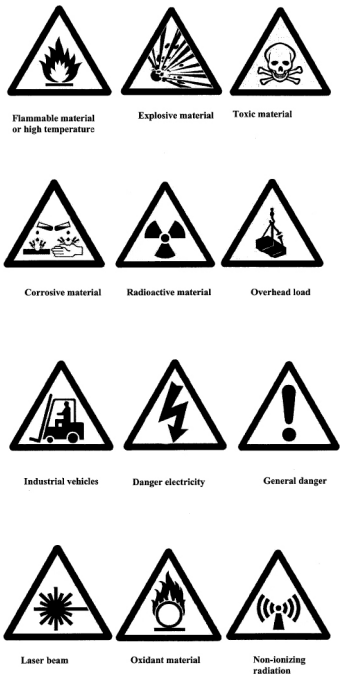
Triangular shape;

Black pictogram on a yellow background with black edging (the yellow part to take up at least 50% of the area of the sign);

The script underneath each of the following pictograms is included here to show the meaning of the sign but is not to be included in the signboard.

That script or any other relevant script may be shown on a supplementary signboard.

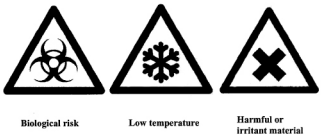
Signs to be used



Note—"Flammable material or high temperature" sign in the absence of a specific sign for high temperature

F101**[**Note: The warning sign "General danger" shall not be used to warn about hazardous chemical substances or mixtures, except for cases when the warning sign is used in accordance with the second subparagraph of paragraph 5 of Part C to this Schedule to indicate the stores of hazardous substances or mixtures.**]**





F102**[**...**]**

F102**[**...**]**

3.3. Mandatory signs

Intrinsic features:

Round shape;

White pictogram on a blue background (the blue part to take up at least 50% of the area of the sign);

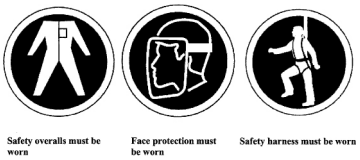
The script underneath each of the following pictograms is included here to show the meaning of the sign but is not to be included in the signboard.

That script or any other relevant script may be shown on a supplementary signboard.

Signs to be used







Safety overalls must be worn | Face protection must be worn | Safety harness must be worn



Pedestrians must use this route | General mandatory sign (to be accompanied where necessary by another sign)

3.4. Emergency escape or first-aid signs

Intrinsic features:

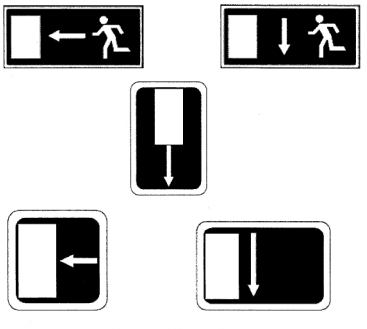
Rectangular or square shape;

White pictogram on a green background (the green part to take up at least 50% of the area of the sign.);

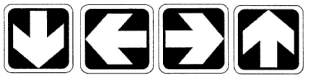
The script underneath each of the following pictograms is included here to show the meaning of the sign but is not to be included in the signboard.

That script or any other relevant script may be shown on a supplementary signboard.

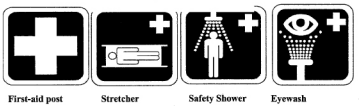
Signs to be used



Emergency exit/escape route



This way (supplementary information sign)



First-aid post | Stretcher | Safety Shower | Eyewash



Emergency telephone for first-aid or escape

3.5. Fire-fighting signs

Intrinsic features:

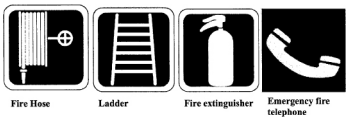
Rectangular or square shape;

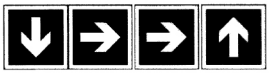
White pictogram on a red background (the red part to take up at least 50% of the area of the sign);

The script underneath each of the following pictograms is included here to show the meaning of the sign but is not to be included in the signboard.

That script or any other relevant script may be shown on a supplementary signboard.

Signs to be used





This way
(supplementary information sign)

Annotations

Amendments:

F101 Inserted (18.02.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016), reg. 7(b)(iii).

F102 Sign for Harmful or irritant material deleted (greyed out in image) and Note on this sign deleted (18.02.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016), reg. 7(b)(i), (ii).

Part C — Signs on containers and pipes

F103**[**1. Containers used at work for chemical substances or mixtures classified as hazardous according to the criteria for any physical or health hazard class in accordance with Regulation (EC) No. 1272/2008, and containers used for the storage of such hazardous substances or mixtures, together with the visible pipes containing or transporting such hazardous substances and mixtures, shall be labelled with the relevant hazard pictograms in accordance with that Regulation.

This paragraph does not apply to containers used at work for brief periods nor to containers whose contents change frequently, provided that alternative adequate measures are taken, in particular for information or training (or both of them) which guarantee the same level of protection.

The labels referred to in this paragraph may be—

(*a*) replaced by warning signs as provided for in Part B of Schedule 9, using the same pictograms or symbols, and where there is no equivalent warning sign in paragraph 3.2 of Part B of this Schedule, the relevant hazard pictogram set out in Annex V of Regulation (EC) No. 1272/2008 shall be used,

(*b*) supplemented by additional information, including the name or formula (or both of them) of the hazardous substance or mixture and the details of the hazard, and

(*c*) used for the transporting of containers at the place of work, supplemented or replaced by signs that are applicable throughout the European Union for the transport of hazardous substances or mixtures.**]**

2. Signs shall be mounted as follows—

(a) on visible sides, and

(b) in unpliable, self-adhesive or painted form.

3. Where appropriate, the signs referred to in paragraph 1 of this Part shall have the intrinsic features defined in paragraph 1.4. of Part B and shall fulfil the conditions of use for signboards laid down in paragraph 2 of Part B.

4. Without prejudice to paragraphs 1, 2 and 3, the labels used on pipes shall be positioned visibly in the vicinity of the most dangerous points, such as valves and joints, and at reasonable intervals.

5. Areas, rooms or enclosures used for the storage of significant quantities of F103**[**hazardous**]** substances or F103**[**mixtures**]** shall be indicated by a suitable warning sign taken from paragraph 3.2 of Part B, or marked as provided in paragraph 1 of this Part, unless the labelling of the individual packages or containers is adequate for this purpose, taking into account paragraph 1.5 of Part B, with regard to dimensions.

Stores of a number of F103**[**hazardous**]** substances or F103**[**mixtures**]** may be indicated by the warning sign for general danger.

The signs or labels referred to above must be positioned, as appropriate, near the storage area or on the door leading into the storage room.

Annotations

Amendments:

F103 Substituted (18.02.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016), reg. 7(c), (d).

Part D — Identification and location of fire-fighting equipment used exclusively for fire-fighting purposes

1. Fire-fighting equipment shall be identified by using a specific colour for the equipment and placing a location signboard, or by using a specific colour or both for the places where such equipment is kept, or their access points.

2. For the purposes of paragraph 1 the specific colour shall be red.

The red area shall be sufficiently large to allow the equipment to be identified easily.

3. The signboards provided for in paragraph 3.5 of Part B shall be used to mark the locations of this equipment.

Part E — Signs used for obstacles and dangerous locations and for marking traffic routes

1. Signs for obstacles and dangerous locations

1.1 Places where there is a risk of colliding with obstacles, of falling or of objects falling shall be marked with alternating yellow and black, or red and white stripes in built up zones in the place of work to which employees have access during their work.

1.2. The dimensions of the markings shall be commensurate with the scale of the obstacle or dangerous location in question.

1.3. The yellow and black or red and white stripes shall be at an angle of approximately 45° and of more or less equal size.

1.4. Example:



2. Marking of traffic routes

2.1. Where the use and equipment of rooms so requires for the protection of persons, traffic routes for vehicles shall be clearly identified by continuous stripes in a clearly visible colour, preferably white or yellow, taking into account the colour of the ground.

2.2. The stripes shall be located so as to indicate the necessary safe distance between the vehicles and any object which may be nearby, and between pedestrians and vehicles.

2.3. Permanent traffic routes in built-up areas outdoors shall, as far as is practicable, be similarly marked, unless they are provided with suitable barriers or pavements.

Part F — Illuminated signs

1. Intrinsic features

1.1.The light emitted by a sign shall produce a luminous contrast which is appropriate to its environment, in accordance with the intended conditions of use of the sign, but without producing glare or an excessive amount of light or poor visibility as a result of insufficient light.

1.2. The luminous area emitting a sign may be of a single colour or contain a pictogram on a specified background.

1.3. The single colour shall correspond to the table of colours and their meanings set out in paragraph 3 of Part A.

1.4. When the sign contains a pictogram, it shall comply with all the relevant requirements of Part B.

2. Specific rules governing use

2.1. If a device can emit both continuous and intermittent signs, the intermittent sign shall be used to indicate a higher level of danger or a more urgent need for the requested or required intervention or action than is indicated by the continuous sign.

The duration of each flash and the frequency of the flashes of an intermittent illuminated sign shall be such as to ensure the proper perception of the message, and avoid any confusion either between different illuminated signs or with a continuous illuminated sign.

2.2. If a flashing sign is used instead of or together with an acoustic signal, identical codes shall be used.

2.3. Devices for emitting flashing signs in the event of grave danger shall be under special surveillance or be fitted with an auxiliary lamp.

Part G — Acoustic signs

1. Intrinsic features

1.1. Acoustic signals shall:

(a) have a sound level which is considerably higher than the level of ambient noise, so that it is audible without being excessive or painful, and

(b) be easily recognisable, particularly in terms of pulse length and the interval between pulses or groups of pulses, and be clearly distinct from any other acoustic signal and ambient noises.

1.2. If a device can emit an acoustic signal at variable and constant frequencies, the variable frequency shall be used to indicate a higher level of danger or a more urgent need for the requested or imposed intervention or action in relation to the stable frequency.

2. Code

The signal for evacuation shall be continuous.

Part H — Verbal communication

1. Intrinsic features

1.1. Verbal communication between a speaker or emitter and one or more hearers shall take the form of (sometimes coded) short texts, phrases, groups of words or individual words.

1.2. Spoken messages shall be short, simple and clear as possible and in a language understood by the persons involved; the verbal skills of the speaker and the hearing abilities of hearers shall be such as to ensure reliable verbal communication.

1.3. Verbal communication may be direct (by means of the human voice) or indirect (by means of a human or artificial voice which is broadcast by whatever means is appropriate).

2. Specific rules governing use

2.1. The persons involved must have a good knowledge of the language used so thst they are able to pronounce and understand the spoken message correctly and consequently behave in a way which is appropriate to safety or health (or both).

2.2. If verbal communication is used instead of or together with gestures, code words should be used such as:

-'*start*'	to indicate the start of a command
-'*stop*'	to interrupt or end a movement
-'*end*'	to stop the operation
-'*raise*'	to have a load raised
-'*lower*'	to have a load lowered
-'*forwards*'	to be coordinated with the corresponding hand signals

-'*backwards*'	to be coordinated with the corresponding hand signals
-'*right*'	to be coordinated with the corresponding hand signal
-'*left*'	to be coordinated with the corresponding hand signals
-'*danger*'	for an emergency stop
-*'quickly'*	to speed up a movement for safety reasons

Part I — Hand signals

1. Features:

1.1 Hand signals shall be precise, simple, expansive, easy to make and to understand, and clearly distinct from other such signals.

1.2 Where both arms are used at the same time, they shall be moved symmetrically and for giving one sign only.

1.3 Without prejudice to other codes applicable at European Union level, used for the same manoeuvres in certain sectors, hand signals used shall be consistent with any relevant code of practice.

2. Specific rules governing use:

2.1. The person giving the signs, hereinafter referred to as the "signaller", shall use arm or hand movements to give manoeuvring instructions to the person receiving the signs, hereinafter referred to as the "operator".

2.2. The signaller shall be able to monitor all manoeuvres visually without being endangered thereby.

2.3. The signaller's duties shall consist exclusively of directing manoeuvres and ensuring the safety of persons in the vicinity.

2.4. If the conditions described in paragraph 2.2. are not fulfilled, one or more extra signallers shall be deployed.

2.5. The operator shall interrupt the ongoing manoeuvre in order to request new instructions if unable to carry out the orders received with the necessary safety guarantees.

2.6. Accessories:

2.6.1 The operator shall be able to recognise the signaller without difficulty.

2.6.2 The signaller shall wear one or more appropriate distinctive items, e.g. jacket, helmet, sleeves or armbands, or carry bats.

2.6.3 The distinctive items shall be brightly coloured, preferably all of the same colour and for the exclusive use of signallers.

3. Coded signals to be used

Preliminary remark

The following set of coded signals are without prejudice to other codes applicable at European Community level, used for the same manoeuvres in certain sectors:

Meaning	**Description**	**Illustration**
A. General signals		

START Attention Start of command	Both arms are extended horizontally with the palms facing forward	
STOP Interruption End of movement	The right arm points upwards with the palm facing forwards	
END Of the operation	Both hands are clasped at chest height	
B. Vertical movements		
RAISE	The right arm points upwards with the palm facing forward and slowly makes a circle	
LOWER	The right arm points downwards with the palm facing inwards and slowly makes a circle	
VERTICLE DISTANCE	The hands indicate the relevant distance	
C. Horizontal Movements		
MOVE FOR WARDS	Both arms are bent with the palms facing upwards, and the forearms make slow movements towards the body	
MOVE BACKWARDS	Both arms are bent with the palms facing downwards, and the forearms make slow movements away from the body	
RIGHT To the signaller's right	The right arm is extended more or less horizontally with the palm facing downwards and slowly makes small movements to the right	
LEFT To the signaller's left	The left arm is extended more or less horizontally with the palm facing downwards and slowly makes small movements to the left	
HORIZONTAL DISTANCE	The hands indicate the relevant distance	
D. Danger		
DANGER Emergency stop	Both arms point upwards with the palms facing forwards	
QUICK	All movements faster	
SLOW	All movements slower	

Schedule 10

Regulations 169 and 170

Explosive Atmospheres

Part A — Classification of places where explosive atmospheres may occur

1. Places where explosive atmosphere may occur:

(a) A place in which an explosive atmosphere may occur in such quantities as to require special precautions to protect the health and safety of the workers concerned is deemed to be hazardous within the meaning of Part 8 of these Regulations.

(b) A place in which an explosive atmosphere is not expected to occur in such quantities as to require special precaution is deemed to be non-hazardous within the meaning of Part 8 of these Regulations.

Flammable or combustible substances are considered as materials, which may form an explosive atmosphere unless an investigation of their properties has shown that in mixtures with air they are incapable of independently propagating an explosion.

2. Classification of hazardous places

Hazardous places are classified in terms of zones on the basis of the frequency and duration of the occurrence of an explosive atmosphere.

The extent of the measures to be taken in accordance with Part 8 is determined by this classification.

Zone 0:

A place in which an explosive atmosphere consisting of a mixture with air of flammable substances in the form of gas, vapour or mist is present continuously or for long periods or frequently.

Zone 1:

A place in which an explosive atmosphere consisting of a mixture with air of flammable substances in the form of gas, vapour or mist is likely to occur in normal operation occasionally.

Zone 2:

A place in which an explosive atmosphere consisting of a mixture with air of flammable substances in the form of gas, vapour or mist is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

Zone 20:

A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is present continuously or for long periods or frequently.

Zone 21:

A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is likely to occur in normal operation occasionally.

Zone 22:

A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

Notes:

1. Layers, deposits and heaps of combustible dust must be considered as any other source, which can form an explosive atmosphere.

2. "Normal operation" means the situation when installations are used within their design parameters.

Part B — Warning sign for places where explosive atmospheres may occur



Place where explosive atmospheres may occur

Distinctive features:

triangular shape,

black letter on a yellow background with black edging (the yellow part to take up at least 50% of the area of the sign).

F104[SCHEDULE 11

Regulations 178 and 179

ARTIFICIAL OPTICAL RADIATION]

F104[*Part 1*

Non-Coherent Optical Radiation

The biophysically relevant exposure values to optical radiation can be determined with the formulae below. The formulae to be used depend on the range of radiation emitted by the source and the results should be compared with the corresponding exposure limit values indicated in Table 1.1. More than one exposure value and corresponding exposure limit can be relevant for a given source of optical radiation.

Numbering (*a*) to (*o*) refers to corresponding rows of Table 1.1.

(a) $H_{eff} = \int_{0}^{t} \int_{\lambda=180\,nm}^{\lambda=400\,nm} E_{\lambda}(\lambda, t) \cdot S(\lambda) \cdot d\lambda \cdot dt$ (H_{eff} is only relevant in the range 180 to 400 nm)

(b) $H_{UVA} = \int_{0}^{t} \int_{\lambda=315\ nm}^{\lambda=400\ nm} E_{\lambda}(\lambda, t) \cdot d\lambda \cdot dt$ (H_{UVA} is only relevant in the range 315 to 400 nm)

(c), (d) $L_B = \int_{\lambda=300\ nm}^{\lambda=700\ nm} L_{\lambda}(\lambda) \cdot B(\lambda) \cdot d\lambda$ (L_B is only relevant in the range 300 to 700 nm)

(e), (f) $E_B = \int_{\lambda=300\ nm}^{\lambda=700\ nm} E_{\lambda}(\lambda) \cdot B(\lambda) \cdot d\lambda$ (E_B is only relevant in the range 300 to 700 nm)

(g) to (l) $L_R = \int_{\lambda_1}^{\lambda_2} L_{\lambda}(\lambda) \cdot R(\lambda) \cdot d\lambda$ (See Table 1.1 for appropriate values of λ_1 and λ_2)

(m), (n) $E_{IR} = \int_{\lambda=780\ nm}^{\lambda=3000\ nm} E_{\lambda}(\lambda) \cdot d\lambda$ (E_{IR} is only relevant in the range 780 to 3000 nm)

(o) $H_{skin} = \int_{0}^{t} \int_{\lambda=380\ nm}^{\lambda=3000\ nm} E_{\lambda}(\lambda, t) \cdot d\lambda \cdot dt$ (H_{skin} is only relevant in the range 380 to 3000 nm)

For the purposes of these Regulations, the formulae above can be replaced by the following expressions and the use of discrete values as set out in the following tables:

(a) $E_{eff} = \sum_{\lambda=180nm}^{\lambda=400nm} E_\lambda \cdot S(\lambda) \cdot \Delta\lambda$ and $H_{eff} = E_{eff} \cdot \Delta t$

(b) $E_{UVA} = \sum_{\lambda=315nm}^{\lambda=400nm} E_\lambda \cdot \Delta\lambda$ and $H_{UVA} = E_{UVA} \cdot \Delta t$

(c), (d) $L_B = \sum_{\lambda=300nm}^{\lambda=700nm} L_\lambda \cdot B(\lambda) \cdot \Delta\lambda$

(e), (f) $E_B = \sum_{\lambda=300nm}^{\lambda=700nm} E_\lambda \cdot B(\lambda) \cdot \Delta\lambda$

(g) to (l) $L_R = \sum_{\lambda_1}^{\lambda_2} L_\lambda \cdot R(\lambda) \cdot \Delta\lambda$ (See Table 1.1 for appropriate values of λ_1 and λ_2)

(m), (n) $E_{IR} = \sum_{\lambda=780nm}^{\lambda=3000nm} E_\lambda \cdot \Delta\lambda$

(o) $E_{skin} = \sum_{\lambda=380nm}^{\lambda=3000nm} E_\lambda \cdot \Delta\lambda$ and $H_{skin} = E_{skin} \cdot \Delta t$

Notes:

$E\lambda$ (λ,t), $E\lambda$	*spectral irradiance or spectral power density:* the radiant power incident per unit area upon a surface, expressed in watts per square metre per nanometre [W m^{-2} nm^{-1}]; values of $E\lambda$ (λ, t) and $E\lambda$ come from measurements or may be provided by the manufacturer of the equipment;
E_{eff}	*effective irradiance (UV range):* calculated irradiance within the UV wavelength range 180 to 400 nm spectrally weighted by S (λ), expressed in watts per square metre [W m^{-2}];
H	*radiant exposure:* the time integral of the irradiance, expressed in joules per square metre [J m^{-2}];
H_{eff}	*effective radiant exposure:* radiant exposure spectrally weighted by S (λ), expressed in joules per square metre [J m-2];
E_{UVA}	*total irradiance (UVA):* calculated irradiance within the UVA wavelength range 315 to 400 nm, expressed in watts per square metre [W m^{-2}];
H_{UVA}	*radiant exposure:* the time and wavelength integral or sum of the irradiance within the UVA wavelength range 315 to 400 nm, expressed in joules per square metre [Jm^{-2}];
S (λ)	*spectral weighting* taking into account the wavelength dependence of the health effects of UV radiation on eye and skin, (Table 1.2) [dimensionless];
t, Δt	*time, duration of the exposure*, expressed in seconds [s];
λ	*wavelength*, expressed in nanometres [nm];
$\Delta\lambda$	*bandwidth*, expressed in nanometres [nm], of the calculation or measurement intervals;
$L\lambda$ (λ), L_λ	*spectral radiance of the source* expressed in watts per square metre per steradian per nanometre [W m^{-2} sr^{-1} nm^{-1}];
R (λ)	*spectral weighting* taking into account the wavelength dependence of the thermal injury caused to the eye by visible and IRA radiation (Table 1.3) [dimensionless];
L_R	*effective radiance (thermal injury)*: calculated radiance spectrally weighted by R(λ) expressed in watts per square metre per steradian [W m^{-2} sr^{-1}];
B (λ)	*spectral weighting* taking into account the wavelength dependence of the photochemical injury caused to the eye by blue light radiation (Table 1.3) [dimensionless];
L_B	*effective radiance (blue light)*: calculated radiance spectrally weighted by B(λ), expressed in watts per square metre per steradian [W m^{-2} sr^{-1}];
E_B	*effective irradiance (blue light)*: calculated irradiance spectrally weighted by B(λ) expressed in watts per square metre [W m^{-2}];
E_{IR}	*total irradiance (thermal injury)*: calculated irradiance within the infrared wavelength range 780 nm to 3000 nm expressed in watts per square metre [W m^{-2}];
E_{skin}	*total irradiance (visible, IRA and IRB)*: calculated irradiance within the visible and infrared wavelength range 380 nm to 3000 nm, expressed in watts per square metre [Wm^{-2}];
H_{skin}	*radiant exposure*: the time and wavelength integral or sum of the irradiance within the visible and infrared wavelength range 380 to 3000 nm, expressed in joules per square metre (J m^{-2});
α	*angular subtense*: the angle subtended by an apparent source, as viewed at a point in space, expressed in milliradians (mrad). Apparent source is the real or virtual object that forms the smallest possible retinal image.

Table 1.1: Exposure limit values for non-coherent optical radiation

Index	Wavelength nm	Exposure limit value	Units	Comment	Part of the body	Hazard
a.	180-400 (UVA, UVB and UVC)	$H_{eff} = 30$ Daily value 8 hours	[J m^{-2}]		eye cornea conjunctiva lens skin	photokeratitis conjunctivitis cataractogenesis erythema elastosis skin cancer
b.	315-400 (UVA)	$H_{UVA} = 10^4$ Daily value 8 hours	[J m^{-2}]		eye lens	cataractogenesis
c.	300-700 (Blue light) *see note 1*	$L_B = \frac{10^6}{t}$ for $t \leqslant 10000$ s	L_B:[W m^{-2} sr^{-1}] t: [seconds]	for $\alpha \geqslant 11$ mrad	eye retina	photoretinitis
d.	300-700 (Blue light) see note 1	$L_B = 100$ for $t > 10000$ s	[W m^{-2} sr^{-1}]			
e.	300-700 (Blue light) *see note 1*	$E_B = \frac{100}{t}$ for $t \leqslant 10000$ s	E_B: [W m^{-2}] t: [seconds]	for $\alpha < 11$ mrad *see note 2*		
f.	300-700 (Blue light) see note 1	$E_B = 0.01$ $t > 10000$ s	[W m^{-2}]			
g.	380-1400 (Visible and IRA)	$L_R = \frac{2.8 \cdot 10^7}{C_\alpha}$ for $t > 10$ s	[W m^{-2} sr^{-1}]	$C_\alpha = 1.7$ for $\alpha \leqslant 1.7$ mrad $C_\alpha = \alpha$ for $1.7 \leqslant \alpha \leqslant 100$ mrad $C_\alpha = 100$ for $\alpha > 100$ mrad $\lambda_1 = 380$; $\lambda_2 = 1400$	eye retina	retinal burn
h.	380-1400 (Visible and IRA)	$L_R = \frac{5 \cdot 10^7}{C_\alpha t^{0.25}}$ for 10 µs $\leqslant t \leqslant$ 10 s	L_R:[W m^{-2} sr^{-1}] t: [seconds]			
i.	380-1400 (Visible and IRA)	$L_R = \frac{8.89 \cdot 10^8}{C_\alpha}$ for $t <$ 10 µs	[W m^{-2} sr^{-1}]			
j.	780-1400 (IRA)	$L_R = \frac{6 \cdot 10^6}{C_\alpha}$ for $t > 10$ s	[W m^{-2} sr^{-1}]	$C_\alpha = 11$ for $\alpha \leqslant 11$ mrad $C_\alpha = \alpha$ for $11 \leqslant \alpha \leqslant 100$ mrad $C_\alpha = 100$ for $\alpha > 100$ mrad (measurement field-of-view: 11 mrad) $\lambda_1 = 780$; $\lambda_2 = 1400$	eye retina	retinal burn
k.	780-1400 (IRA)	$L_R = \frac{5 \cdot 10^7}{C_\alpha t^{0.25}}$ for 10 µs $\leqslant t \leqslant$ 10 s	L_R: [W m^{-2} sr^{-1}] t: [seconds]			
l.	780-1400 (IRA)	$L_R = \frac{8.89 \cdot 10^8}{C_\alpha}$ for $t <$ 10 µs	[W m^{-2} sr^{-1}]			
m.	780-3000 (IRA and IRB)	$E_{IR} = 18000t^{-0.75}$ for $t \leqslant 1000$ s	E: [W m^{-2}] t: [seconds]		eye cornea lens	corneal burn cataractogenesis
n.	780-3000 (IRA and IRB)	$E_{IR} = 100$ for $t > 1000$ s	[W m^{-2}]			
o.	380-3000 (Visible, IRA and IRB)	$H_{skin} = 20000t^{0.25}$ for $t < 10$ s	H: [J m^{-2}] t: [seconds]		skin	burn

Note 1: The range of 300 to 700 nm covers parts of UVB, all UVA and most of visible radiation; however, the associated hazard is commonly referred to as *blue light* hazard. Blue light strictly speaking covers only the range of approximately 400 to 490 nm.

Note 2: For steady fixation of very small sources with an angular subtense < 11 mrad, L B can be converted to E B . This normally applies only for ophthalmic instruments or a stabilised eye during anaesthesia. The maximum "stare time" is found by:t max = 100 / E B with E B expressed in W m -2 . Due to eye movements during normal visual tasks this does not exceed 100 s.

Table 1.2: S () [dimensionless], 180 nm to 400 nm

λ in nm	S (λ)	λ in nm	S (λ)	λ in nm	S (λ)	λ in nm	S (λ)	λ in nm	S (λ)
180	0.0120	228	0.1737	276	0.9434	324	0.000520	372	0.000086
181	0.0126	229	0.1819	277	0.9272	325	0.000500	373	0.000083
182	0.0132	230	0.1900	278	0.9112	326	0.000479	374	0.000080
183	0.0138	231	0.1995	279	0.8954	327	0.000459	375	0.000077
184	0.0144	232	0.2089	280	0.8800	328	0.000440	376	0.000074
185	0.0151	233	0.2188	281	0.8568	329	0.000425	377	0.000072
186	0.0158	234	0.2292	282	0.8342	330	0.000410	378	0.000069
187	0.0166	235	0.2400	283	0.8122	331	0.000396	379	0.000066
188	0.0173	236	0.2510	284	0.7908	332	0.000383	380	0.000064
189	0.0181	237	0.2624	285	0.7700	333	0.000370	381	0.000062
190	0.0190	238	0.2744	286	0.7420	334	0.000355	382	0.000059
191	0.0199	239	0.2869	287	0.7151	335	0.000340	383	0.000057
192	0.0208	240	0.3000	288	0.6891	336	0.000327	384	0.000055
193	0.0218	241	0.3111	289	0.6641	337	0.000315	385	0.000053
194	0.0228	242	0.3227	290	0.6400	338	0.000303	386	0.000051
195	0.0239	243	0.3347	291	0.6186	339	0.000291	387	0.000049
196	0.0250	244	0.3471	292	0.5980	340	0.000280	388	0.000047
197	0.0262	245	0.3600	293	0.5780	341	0.000271	389	0.000046
198	0.0274	246	0.3730	294	0.5587	342	0.000263	390	0.000044
199	0.0287	247	0.3865	295	0.5400	343	0.000255	391	0.000042
200	0.0300	248	0.4005	296	0.4984	344	0.000248	392	0.000041
201	0.0334	249	0.4150	297	0.4600	345	0.000240	393	0.000039
202	0.0371	250	0.4300	298	0.3989	346	0.000231	394	0.000037
203	0.0412	251	0.4465	299	0.3459	347	0.000223	395	0.000036
204	0.0459	252	0.4637	300	0.3000	348	0.000215	396	0.000035
205	0.0510	253	0.4815	301	0.2210	349	0.000207	397	0.000033
206	0.0551	254	0.5000	302	0.1629	350	0.000200	398	0.000032
207	0.0595	255	0.5200	303	0.1200	351	0.000191	399	0.000031
208	0.0643	256	0.5437	304	0.0849	352	0.000183	400	0.000030
209	0.0694	257	0.5685	305	0.0600	353	0.000175		
210	0.0750	258	0.5945	306	0.0454	354	0.000167		
211	0.0786	259	0.6216	307	0.0344	355	0.000160		

212	0.0824	260	0.6500	308	0.0260	356	0.000153
213	0.0864	261	0.6792	309	0.0197	357	0.000147
214	0.0906	262	0.7098	310	0.0150	358	0.000141
215	0.0950	263	0.7417	311	0.0111	359	0.000136
216	0.0995	264	0.7751	312	0.0081	360	0.000130
217	0.1043	265	0.8100	313	0.0060	361	0.000126
218	0.1093	266	0.8449	314	0.0042	362	0.000122
219	0.1145	267	0.8812	315	0.0030	363	0.000118
220	0.1200	268	0.9192	316	0.0024	364	0.000114
221	0.1257	269	0.9587	317	0.0020	365	0.000110
222	0.1316	270	1.0000	318	0.0016	366	0.000106
223	0.1378	271	0.9919	319	0.0012	367	0.000103
224	0.1444	272	0.9838	320	0.0010	368	0.000099
225	0.1500	273	0.9758	321	0.000819	369	0.000096
226	0.1583	274	0.9679	322	0.000670	370	0.000093
227	0.1658	275	0.9600	323	0.000540	371	0.000090

Table 1.3: B (), R () [dimensionless], 380 nm to 1400 nm

λ in nm	B (λ)	R (λ)
300 ≤ λ < 380	0.01	—
380	0.01	0.1
385	0.013	0.13
390	0.025	0.25
395	0.05	0.5
400	0.1	1
405	0.2	2
410	0.4	4
415	0.8	8
420	0.9	9
425	0.95	9.5
430	0.98	9.8
435	1	10
440	1	10
445	0.97	9.7
450	0.94	9.4
455	0.9	9
460	0.8	8
465	0.7	7
470	0.62	6.2
475	0.55	5.5
480	0.45	4.5

485	0.32	3.2
490	0.22	2.2
495	0.16	1.6
500	0.1	1
500 < λ ≤ 600	$10^{0.02\cdot(450-\lambda)}$	1
600 < λ ≤ 700	0.001	1
700 < λ ≤ 1050	—	$10^{0.002\cdot(700-\lambda)}$
1050 < λ ≤ 1150	—	0.2
1150 < λ ≤ 1200	—	$0.2 10^{0.02\cdot(1150-\lambda)}$
1200 < λ ≤ 1400	—	0.02**]**

F105**[***Part 2*

Laser Optical Radiation

The biophysically relevant exposure values to optical radiation can be determined with the formulae below. The formulae to be used depend on the wavelength and duration of radiation emitted by the source and the results should be compared with the corresponding exposure limit values indicated in the Tables 2.2 to 2.4. More than one exposure value and corresponding exposure limit can be relevant for a given source of laser optical radiation.

Coefficients used as calculation tools within the Tables 2.2 to 2.4 are listed in Table 2.5 and corrections for repetitive exposure are listed in Table 2.6.

$$E = \frac{dP}{dA} \ [W\ m^{-2}]$$

$$H = \int_0^t E(t) \cdot d\,t \ [J\ m^{-2}]$$

Notes:

dP	*power* expressed in watt [W];
dA	*surface* expressed in square metres [m2];
E (*t*), E	*irradiance or power density*: the radiant power incident per unit area upon a surface, generally expressed in watts per square metre [W m^{-2}]. Values of E(*t*), E come from measurements or may be provided by the manufacturer of the equipment;
H	*radiant exposure*: the time integral of the irradiance, expressed in joules per square metre [Jm^{-2}];
t	*time, duration of the exposure*, expressed in seconds [s];
λ	*wavelength*, expressed in nanometres [nm];
γ	*limiting cone angle of measurement field-of-view* expressed in milliradians [mrad];
γ_m	*measurement field of view* expressed in milliradians [mrad];

α	*angular subtense of a source* expressed in milliradians [mrad];
	limiting aperture: the circular area over which irradiance and radiant exposure are averaged;
G	*integrated radiance*: the integral of the radiance over a given exposure time expressed as radiant energy per unit area of a radiating surface per unit solid angle of emission, in joules per square metre per steradian [Jm^{-2} sr^{-1}].

Table 2.1: Radiation hazards

Wavelength [nm] λ	Radiationrange	Affected organ	Hazard	Exposure limit value table
180 to 400	UV	eye	photochemical damage and thermal damage	2.2, 2.3
180 to 400	UV	skin	erythema	2.4
400 to 700	visible	eye	retinal damage	2.2
400 to 600	visible	eye	photochemical damage	2.3
400 to 700	visible	skin	thermal damage	2.4
700 to 1400	IRA	eye	thermal damage	2.2, 2.3
700 to 1400	IRA	skin	thermal damage	2.4
1400 to 2600	IRB	eye	thermal damage	2.2
2600 to 10^6	IRC	eye	thermal damage	2.2
1400 to 10^6	IRB. IRC	eye	thermal damage	2.3
1400 to 10^6	IRB. IRC	skin	thermal damage	2.4

Table 2.2 Exposure limit values for laser exposure to the eye Short exposure duration < 10 s

Wavelength[a] [nm]		Aperture	Duration [s]				
			10^{-13} — 10^{-11}	10^{-11} — 10^{-9}	10^{-9} — 10^{-7}	10^{-7} — $1.8 \cdot 10^{-5}$	$1.8 \cdot 1$ $5 \cdot 1$
UVC	180 — 280	1 mm for $t < 0.3$ s; $1.5 \cdot t^{0.375}$ for $0.3 < t < 10$ s	$E = 3\ 10^{10}$ [W m^{-2}] See note [c]		$H = 30$ [		
UVB	280 — 302				$H = 40$ [J m^{-2}];	if $t < 2.6 \cdot 10^{-9}$ then H =	
	303				$H = 60$ [J m^{-2}];	if $t < 1.3 \cdot 10^{-8}$ then H =	
	304				$H = 100$ [J m^{-2}];	if $t < 1.0 \cdot 10^{-7}$ then H =	
	305				$H = 160$ [J m^{-2}];	if $t < 6.7 \cdot 10^{-7}$ then H =	
	306				$H = 250$ [J m^{-2}];	if $t < 4.0 \cdot 10^{-6}$ then H =	
	307				$H = 400$ [J m^{-2}];	if $t < 2.6 \cdot 10^{-5}$ then H =	
	308				$H = 630$ [J m^{-2}];	if $t < 1.6 \cdot 10^{-4}$ then H =	
	309				$H = 10^{3}$ [J m^{-2}];	if $t < 1.0 \cdot 10^{-3}$ then H =	
	310				$H = 1.6 \cdot 10^{3}$ [J m^{-2}];	if $t < 6.7 \cdot 10^{-3}$ then H =	
	311				$H = 2.5 \cdot 10^{3}$ [J m^{-2}];	if $t < 4.0 \cdot 10^{-2}$ then H =	
	312				$H = 4.0 \cdot 10^{3}$ [J m^{-2}];	if $t < 2.6 \cdot 10^{-1}$ then H =	
	313				$H = 6.3 \cdot 10^{3}$ [J m^{-2}];	if $t < 1.6 \cdot 10^{0}$ then H =	
	314						
UVA	315 — 400				$H = 5.6 \cdot 10^{3}$ t		

Wavelength[a] [nm]		Aperture	Duration [s]				
			10^{-13} — 10^{-11}	10^{-11} — 10^{-9}	10^{-9} — 10^{-7}	10^{-7} — $1.8 \cdot 10^{-5}$	$1.8 \cdot 1$ $5 \cdot 1$
Visible & IRA	400 — 700	7 mm	$H = 1.5 \cdot 10^{-4} C_E$ [Jm^{-2}]	$H = 2.7 \cdot 10^{4} t^{0.75} C_E$ [Jm^{-2}]	$H = 5 \cdot 10^{-3} C_E$[J m^{-2}]		
	700 — 1050		$H = 1.5 \cdot 10^{-4} C_A C_E$ [Jm^{-2}]	$H = 2.7 \cdot 10^{4} t^{0.75} C_A C_E$[Jm^{-2}]	$H = 5 \cdot 10^{-3} C_A C_E$[J m^{-2}]		
	1050- 1400		$H = 1.5 \cdot 10^{-3} C_C C_E$ [Jm^{-2}]	$H = 2.7 \cdot 10^{5} t^{0.75} C_C C_E$[Jm^{-2}]	$H = 5 \cdot 10^{-2} C_C C_E$[Jm^{-2}]		
IRB & IRC	1400 — 1500	See note [b]	$E = 10^{12}$[Wm^{-2}] See note [c]		$H = 10^{3}$[Jm^{-2}]		
	1500 — 1800		$E = 10^{13}$[Wm^{-2}] See note [c]				$H = 10^{4}$
	1800 — 2600		$E = 10^{12}$[Wm^{-2}] See note [c]		$H = 10^{3}$[Jm^{-2}]		
	2600 — 10^{6}		$E = 10^{11}$[Wm^{-2}] See note [c]		H=100[Jm^{-1}]		H =

a If the wavelength of the laser is covered by two limits, then the more restrictive applies.

b When 1400 < 10 5 nm: aperture diameter = 1 mm for t 0.3 s and 1.5 t 0.375 mm for 0.3 s < t < 10 s; when 10 5 < 10 6 nm: aperture diameter = 11 mm.

c Due to lack of data at these pulse lengths, ICNIRP recommends the use of the 1 ns irradiance limits.

d The table states values for single laser pulses. In case of multiple laser pulses, then the laser pulse durations of pulses falling within an interval Tmin (listed in table 2.6) must be added up and the resulting time value must be filled in for t in the formula: 5.6 10 3 t 0.25

Table 2.3 Exposure limit values for laser exposure to the eye — Long exposure duration 10 s

Wavelength[a] [nm]		Aperture	Duration [s]		
			10^{-1} — 10^{2}	10^{2} — 10^{4}	10^{4} - 3 · 10^{4}
UVC	180 — 280	3.5mm	H = 30 [J m^{-2}]		
UVB	280 — 302		H = 30 [J m^{-2}]		
	303		H = 40 [J m^{-2}]		
	304		H = 60 [J m^{-2}]		
	305		H = 100 [J m^{-2}]		
	306		H = 160 [J m^{-2}]		
	307		H = 250 [J m^{-2}]		
	308		H = 400 [J m^{-2}]		
	309		H = 630 [J m^{-2}]		
	310		H = 1.0·10^{3} [J m^{-2}]		
	311		H = 1.6·10^{3} [J m^{-2}]		
	312		H = 2.5·10^{3} [J m^{-2}]		
	313		H = 4.0·10^{3} [J m^{-2}]		
	314		H = 6.3·10^{3} [J m^{-2}]		
UVA	315 — 400		H = 10^{4} [J m^{-2}]		

Wavelength[a] [nm]		Aperture	Duration [s]		
			10^{-1} — 10^{2}	10^{2} — 10^{4}	10^{4} - 3 · 10^{4}
Visible 400 — 700	400 — 600 Photochemical[b] Retinal damage	7 mm	H = 100 C_B[Jm^{-2}] (γ = 11 mrad)[b]	E = 1C_B[Wm^{-2}] (γ = 1.1 $t^{0.5}$ mrad)[b]	E = 1C_B [Wm^{-2}] (γ = 110 mrad)[b]
	400 — 700 Thermal[b] Retinal damage		if α<1.5mrad then E = 10 [Wm^{-2}] if α>1.5mrad and t ⩽ T_2 then H = 18 C_E $t^{0.75}$ [Jm^{-2}] if α>1.5mrad and t > T_2 then E = 18 C_E $T_2^{-0.25}$ [Wm^{-2}]		
IRA	700 — 1400		if α<1.5mrad then E = 10 C_A C_C [Wm^{-2}] if α>1.5mrad and t ⩽ T_2 then H = 18 C_A C_C C_E $t^{0.75}$ [Jm^{-2}] if α>1.5mrad and t > T_2 then E = 18 C_A C_C C_E $T_2^{-0.25}$ [Wm^{-2}] (not to exceed 1000 Wm^{-2})		
IRB & IRC	1400 — 10^{6}	See[c]	E = 1000 [Wm^{-2}]		

a If the wavelength or another condition of the laser is covered by two limits, then the more restrictive applies.

b For small sources subtending an angle of 1.5 mrad or less, the visible dual limits E from 400 nm to 600 nm reduce to the thermal limits for 10 s≤ t<T_1 and to photochemical limits for longer times. For T_1 and T_2 see Table 2.5. The photochemical retinal hazard limit may also be expressed as a time integrated radiance G = 10^6 C_B [J m^{-2} sr^{-1}] for t > 10s up to t = 10000 s and L=100 C_B [W m^{-2} sr^{-1}] for t> 10000 s. For the measurement of G and $L_{\gamma m}$ must be used as averaging field of view. The official border between visible and infrared is 780 nm as defined by the CIE. The column with wavelength band names is only meant to provide

better overview for the user. (The notation G is used by CEN; the notation L t is used by CIE; the notation L_P is used by IEC and CENELEC.)

c For wavelength 1400 — 10^5 nm: aperture diameter = 3.5 mm; for wavelength 10^5 — 10^6 nm: aperture Diameter = 11 mm.

d For measurement of the exposure value the consideration of γ is defined as follows: If α (angular subtense of a source) > γ (limiting cone angle, indicated in brackets in the corresponding column) then the measurement field of view γ_m should be the given value of γ. (If a larger measurement field of view is used, then the hazard would be overestimated). If α < γ then the measurement field of view γ_m must be large enough to fully enclose the source but is otherwise not limited and may be larger than γ.

Table 2.4: Exposure limit values for laser exposure of skin

<table>
<tr><th colspan="2">Wavelength[a] [nm]</th><th>Aperture</th><th colspan="6">Duration [s]</th></tr>
<tr><th colspan="2"></th><th></th><th>$< 10^{-9}$</th><th>$10^{-9} — 10^{-7}$</th><th>$10^{-7} — 10^{-3}$</th><th>$10^{-3} — 10^{1}$</th><th>$10^{1} — 10^{3}$</th><th>$10^{3} — 3{\cdot}10^{4}$</th></tr>
<tr><td>UV (A, B, C)</td><td>180-400</td><td>3.5mm</td><td>$E = 3{\cdot}10^{10}$ [Wm^{-2}]</td><td colspan="5">Same as Eye Exposure Limits</td></tr>
<tr><td rowspan="2">Visible & IRA</td><td>400-700</td><td rowspan="5">3.5mm</td><td>$E = 2{\cdot}10^{11}$ [Wm^{-2}]</td><td>$H = 200\ C_A$ [$J\ m^{-2}$]</td><td colspan="2" rowspan="2">$H = 1.1\ 10^{4} C_A\ t^{0.25}$ [Jm^{-2}]</td><td colspan="2" rowspan="2">$E = 2{\cdot}10^{3} C_A$ [Wm^{-2}]</td></tr>
<tr><td>700 —1400</td><td>$E = 2{\cdot}10^{11}\ C_A$ [Wm^{-2}]</td><td></td></tr>
<tr><td rowspan="3">IRB & IRC</td><td>1400-1500</td><td>$E = 10^{12}$ [$W\ m^{-2}$]</td><td colspan="5" rowspan="3">Same as Eye Exposure Limits</td></tr>
<tr><td>1500-1800</td><td>$E = 10^{13}$ [$W\ m^{-2}$]</td></tr>
<tr><td>1800-2600</td><td>$E = 10^{12}$ [$W\ m^{-2}$]</td></tr>
<tr><td></td><td>2600-10^{6}</td><td></td><td>$E = 10^{11}$ [$W\ m^{-2}$]</td><td colspan="5"></td></tr>
</table>

a If the wavelength or another condition of the laser is covered by two limits, then the more restrictive applies

Table 2.5: Applied correction factors and other calculation parameters

Parameter as listed in ICNIRP	Valid spectral range (nm)	Value
C_A	$\lambda < 700$	$C_A = 1.0$
	700 — 1050	$C_A = 10^{0.002(\lambda - 700)}$
	1050 — 1400	$C_A = 5.0$
C_B	400 — 450	$C_B = 1.0$
	450 — 700	$C_B = 10^{0.02(\lambda - 450)}$
C_C	700 — 1150	$C_C = 1.0$
	1150 — 1200	$C_C = 10^{0.018(\lambda - 1150)}$
	1200 — 1400	$C_C = 8.0$
T_1	$\lambda < 450$	$T_1 = 10$ s
	450 — 500	$T_1 = 10 \cdot [10^{0.02(\lambda - 450)}]$ s
	$\lambda > 500$	$T_1 = 100$ s
Parameter as listed in ICNIRP	Valid for biological effect	Value
α_{min}	all thermal effects	$\alpha_{min} = 1.5$ mrad
Parameter as listed in ICNIRP	Valid angular range (mrad)	Value
C_E	$\alpha < \alpha_{min}$	$C_E = 1.0$
	$\alpha_{min} < \alpha < 100$	$C_E = \alpha / \alpha_{min}$
	$\alpha > 100$	$C_E = \alpha^2 / (\alpha_{min} \cdot \alpha_{max})$ mrad with $\alpha_{max} = 100$ mrad
T_2	$\alpha < 1.5$	$T_2 = 10$ s
	$1.5 < \alpha < 100$	$T_2 = 10 \cdot [10^{(\alpha - 1.5)/98.5}]$ s
	$\alpha > 100$	$T_2 = 100$ s
Parameter as listed in ICNIRP	Valid exposure time range(s)	Value
γ	$t \leqslant 100$	$\gamma = 11$ [mrad]
	$100 < t < 10^4$	$\gamma = 1.1\ t^{0.5}$ [mrad]
	$t > 10^4$	$\gamma = 110$ [mrad]

Table 2.6 Correction for repetitive exposure

Each of the following three general rules should be applied to all repetitive exposures as occur from repetitively pulsed or scanning laser systems:

1. The exposure from any single pulse in a train of pulses shall not exceed the exposure limit value for a single pulse of that pulse duration.

2. The exposure from any group of pulses (or sub-group of pulses in a train) delivered in time t shall not exceed the exposure limit value for time t.

3. The exposure from any single pulse within a group of pulses shall not exceed the singlepulse exposure limit value multiplied by a cumulative-thermal correction factor Cp=N-0.25, where N is the number of pulses. This rule applies only to

exposure limits to protect against thermal injury, where all pulses delivered in less than Tmin are treated as a single pulse.

Parameter	Valid spectral range (nm)	Value
T_{min}	$315 < \lambda \leqslant 400$	$T_{min} = 10^{-9}$ s (= 1 ns)
	$400 < \lambda \leqslant 1050$	$T_{min} = 18 \cdot 10^{-6}$ s (= 18 µs)
	$1050 < \lambda \leqslant 1400$	$T_{min} = 50 \cdot 10^{-6}$ s (= 50 µs)
	$1400 < \lambda \leqslant 1500$	$T_{min} = 10^{-3}$ s (= 1 ms)
	$1500 < \lambda \leqslant 1800$	$T_{min} = 10$ s
	$1800 < \lambda \leqslant 2600$	$T_{min} = 10^{-3}$ s (= 1 ms)
	$2600 < \lambda \leqslant 10^{6}$	$T_{min} = 10^{-7}$ s (= 100 ns)

]

F106**[***Part 3*

Assessment, Measurement and Calculation of Exposure

The methodology applied in assessment, measurement and/or calculations shall follow the standards of the International Electrotechnical Commission (IEC) in respect of laser radiation and the recommendations of the International Commission on Illumination (CIE) and the European Committee for Standardisation (CEN) in respect of non-coherent radiation.

In exposure situations which are not covered by these standards and recommendations, and until appropriate EU standards or recommendations become available, assessment, measurements and/or calculations shall be carried out using available international science-based guidelines. In both exposure situations, the assessment may take account of data provided by the manufacturers of the equipment when it is covered by relevant Community Directives.**]**

Annotations

Amendments:

F104 Inserted (29.04.2010) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2010* (S.I. No. 176 of 2010), reg. 2(d).

F105 Inserted (29.04.2010) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2010* (S.I. No. 176 of 2010), reg. 2(d).

F106 Inserted (29.04.2010) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2010* (S.I. No. 176 of 2010), reg. 2(d).

F107**[**SCHEDULE 12

Regulations 184, 186, 191 and 192

PRESSURE SYSTEMS**]**

F107[*Part A*

PRESSURE SYSTEMS EXCEPTED FROM PART 10

These Regulations shall not apply to—

1. pipelines comprising piping or a system of piping designed for the conveyance of any fluid or substance to or from an installation (onshore or offshore) starting from and including the last isolation device located within the confines of the installation, including all the annexed equipment designed specifically for pipelines;

2. networks for the supply, distribution and discharge of water and associated equipment and headraces such as penstocks, pressure tunnels, pressure shafts for hydroelectric installations and their related specific accessories;

3. that part of a system which is only a pressure system because it is—

(*a*) subject to a leak test;

(*b*) pressurised unintentionally, such pressurisation being not reasonably foreseeable;

4. well-control equipment used in the gas, petroleum or geothermal exploration and extraction industry and in underground storage which is intended to contain and control (or both) well pressure, comprising the wellhead (Christmas tree), the blow out preventers (BOP), the piping manifolds and all their equipment upstream;

5. any pressure system which—

(*a*) is an electrical or telecommunications cable or is a pressurised pipe for the containment of transmission systems, e.g. for electrical power and telephone cables,

(*b*) is an enclosure for high-voltage electrical equipment such as switchgear, control gear, transformers, and rotating machines,

(*c*) contains sulphur hexafluoride gas and forms an integral part of high or medium voltage electrical apparatus,

(*d*) consists of a water filled fluid coupling and used in power transmission;

6. equipment comprising casings or machinery where the dimensioning, choice of material and manufacturing rules are based primarily on requirements for sufficient strength, rigidity and stability to meet the static and dynamic operational effects or other operational characteristics and for which pressure is not a significant design factor including:

(*a*) engines including turbines and internal combustion engines, and

(*b*) steam engines, gas/steam turbines, turbo-generators, compressors, pumps and actuating devices;

7. blast furnaces including the furnace cooling system, hot-blast recuperators, dust extractors and blast-furnace exhaust-gas scrubbers and direct reducing cupolas, including the furnace cooling, gas converters and pans for melting, re-melting, de-gassing and casting of steel and non-ferrous metals;

8. hydraulic systems in work equipment, except for accumulators;

9. a pressure system which forms part of the equipment of ships, rockets, aircraft, hovercraft or hydrofoil, and mobile off-shore units, as well as equipment specifically intended for installation on board or the propulsion thereof;

10. a pressure system which forms part of, or is intended to form part of, a weapons system;

11. (*a*) pressure systems and equipment intended for the functioning of a wheeled, tracked or rail mounted vehicle, such as equipment forming part of any braking, control or suspension system;

(*b*) pressure equipment associated with gas propulsion or other operating systems on motor vehicles or trailers;

12. pressure equipment consisting of a flexible casing, e.g. tyres, air cushions, inflatable craft and other similar pressure equipment;

13. exhaust and inlet silencers;

14. radiators and pipes used for space heating;

15. any water cooling system on an internal combustion engine or on a compressor;

16. equipment to which Regulation 56 of the Safety, Health and Welfare at Work (Quarries) Regulations 2008 (S.I. No. 28 of 2008) applies;

17. equipment to which Regulations 83 to 85 of the Mines (General) Regulations 1975 (S.I. No. 331 of 1975) apply;

18. a working chamber, manlock or an airlock within which persons work in compressed air, being work to which Part 7, Compressed Air, of the Safety, Health and Welfare at Work (Construction) Regulations 2006 (S.I. No. 504 of 2006) applies;

19. pressure equipment to which the following apply:

(*a*) European Communities (Carriage of Dangerous Goods by Road and Use of Transportable Pressure Equipment) Regulations 2011 (S.I. No. 349 of 2011);

(*b*) European Communities (Transport of Dangerous Goods by Rail) Regulations 2010 (S.I. No. 651 of 2010);

(*c*) Merchant Shipping (Dangerous Goods) Rules 1992 (S.I. No. 391 of 1992);

(*d*) Aeronautical Notice described as Aeronautical Notice NR 0.1, Issue 18, Date 01.02.2010 and issued by the Irish Aviation Authority;

(*e*) any statute or instrument made under a power conferred by statute or an aeronautical notice described as such and issued by the Irish Aviation Authority made for the purpose of giving effect to—

(i) a provision of the Treaties governing the European Communities or an act adopted by the European Communities, or

(ii) an international agreement to which the State is a party,

in relation to the carriage of dangerous goods by road, rail, inland waterway, sea or air or for that purpose amending the instruments or aeronautical notice referred to in subparagraph (*a*), (*b*), (*c*) or (*d*);

20. pressure equipment to which the Dangerous Substances (Storage of Liquefied Petroleum Gas) Regulations 1990 (S.I. No. 201 of 1990) apply;

21. pressure equipment to which Regulation 9 of the Safety, Health and Welfare (Offshore Installations) (Operations) Regulations 1991 (S.I. No. 16 of 1991) apply;

22. vapour compression refrigeration system incorporating compressor drive motors, including standby compressor motors, having a total installed power not exceeding 25 kW;

23. a mobile system of the type known as a slurry tanker, and containing or intended to contain agricultural slurry, and used in agriculture;

24. a portable fire extinguisher with a working pressure below 25 bar at 60°C and having a total mass not exceeding 23 kilogrammes;

25. any part of a tool or appliance designed to be held in the hand which is a pressure vessel;

26. vessels designed to contain liquids with a gas pressure above the liquid of not more than 0.5 bar;

27. any pressure system containing a relevant fluid (other than steam) if the product of the pressure in bar and internal volume in litres of its pressure vessels is in each case less than 250 bar litres;

28. pressure equipment used for diving operations;

29. self contained breathing apparatus sets.**]**

Annotations

Amendments:

F107 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012), reg. 2(f) and sch., in effect as per reg. 1(4).

F108**[***Part B*

PERIOD OF EXAMINATION OF PRESSURE VESSELS*

Column 1	**Column 2**
Description of pressure equipment	*Period within which an examination must occur*
Category 1 Steam and hot water boilers such as shell boilers (fired or unfired, horizontal or vertical), watertube boilers, cast iron sectional boilers.Superheaters and economisers connected to boilers in this category and steam tube ovens or hotplates.Self generating autoclaves and self generating jacketed pans.Coil steam generators.	14 months
Category 2 Steam receivers, air receivers, autoclaves, jacketed pans and steam accumulators. All other pressure vessels not listed in Category 1.	26 months

*Note: The period for any particular piece of equipment maybe subject to change pursuant to the application of Regulation 191(3)**]**

Annotations

Amendments:

F108 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012, reg. 2(f) and sch., in effect as per reg. 1(4).

F109[*Part C*

MARKING OF PRESSURE VESSELS

A non-exhaustive list of information referred to in Regulation 186(*a*)(v) is as follows—

1. The manufacturer's name.

2. A serial number to identify the vessel.

3. The date of manufacture of the vessel.

4. The standard to which the vessel was built.

5. The following specified by the manufacturer:

(*a*) the maximum allowable pressure of the vessel;

(*b*) the minimum allowable pressure of the vessel where it is other than atmospheric;

(*c*) if relevant to the safe operation of the vessel, the maximum allowable temperature or the minimum allowable temperature, or both the maximum allowable temperature and the minimum allowable temperature.

6. If applicable and if different to the operating limits referred to in paragraph 5, safe operating limits specified by a competent person following an examination of the vessel by that person.**]**

Annotations

Amendments:

F109 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012, reg. 2(f) and sch., in effect as per reg. 1(4).

F110[*Part D*

INFORMATION TO BE CONTAINED IN REPORT OF EXAMINATION

1. The name and address of the employer, user or owner for whom the examination was made.

2. The address of the premises at which the examination was made.

3. Particulars sufficient to identify the pressure vessel including, where known, its date of manufacture.

4. Date of this examination and date of the last examination, if known.

5. The safe operating limits of the pressure vessel and any associated protective devices, indicating if the immediate cessation of the use of the pressure vessel, or part thereof, is advised.

6. The purpose of the examination including examination—

(*a*) after installation or assembly at a new site or new location,

(*b*) after repairs or modifications, or

(*c*) which is periodic, and where applicable, hot or cold.

7. In relation to every examination of pressure vessels and any associated protective devices and pressure accessories—

(*a*) identification of any part found to have a defect which is or could become a danger to persons and a description of the defect,

(*b*) particulars of any repair, renewal or modification required to remedy a defect found to be a danger to persons and the period within which the necessary remedial action is to be completed,

(*c*) in the case of a defect which is not yet but could become a danger to persons—

(i) particulars of any repair, renewal or modification required to remedy it, and

(ii) the period within which the required repair, renewal or modification should be completed,

(*d*) the latest date by which the next examination shall be carried out (and if the interval to the next examination is lesser or greater than the interval specified in column 2 of Part B a written justification shall be provided),

(*e*) where the examination included testing, particulars of any test,

(*f*) identification of parts not accessible for examination, and

(*g*) particulars of any further examination or test necessary to establish whether a pressure vessel is safe to use.

8. The name, address and qualifications of the individual making the report and, where appropriate, the name and address of the individual's employer.**]**

Annotations

Amendments:

F110 Inserted (1.01.2013) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012, reg. 2(f) and sch., in effect as per reg. 1(4).

F111[Schedule 13

Woodworking Machines

Regulation 195

1. Any sawing machine designed to be fitted with one or more circular blades.

2. Any sawing machine designed to be fitted with a blade in the form of a continuous band or strip.

3. Automatic and semi-automatic lathes.

4. Boring machines.

5. Chain sawing machines.

6. Grooving machines.

7. Mortising machines.

8. Multi-cutter moulding machines having two or more cutter spindles.

9. Planing machines.

10. Trenching machines.

11. Tenoning machines.

12. Vertical spindle moulding machines.**]**

Annotations

Amendments:

F111 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(d), in effect as per reg. 4.

F112**[**Schedule 14

Training and Instruction**]**

F112**[*Regulation 213***

Where an employer proposes to give an authorisation under Regulation 213 to an employee, the employer shall ensure that the employee is trained and instructed—

1. in relation to each abrasive wheel, or class of abrasive wheel, in respect of which the authorisation is proposed, on the following matters:

(1) proper methods relating to the mounting of the abrasive wheel or class of abrasive wheel, as the case may be;

(2) hazards arising from the use of the abrasive wheel or class of abrasive wheels, as the case may be, and precautions which should be observed;

(3) methods of marking an abrasive wheel or class of abrasive wheel, as the case may be, as to type and speed;

(4) methods of storing, handling and transporting the abrasive wheel or class of abrasive wheel, as the case may be;

(5) methods of inspecting and testing the abrasive wheel, or class of abrasive wheels, as the case may be, to check for damage;

(6) the functions of all components used with the abrasive wheel, or class of abrasive wheel, as the case may be, including flanges, washers, bushes and nuts used in mounting, and knowledge of the correct and incorrect methods of assembling all components and of correct balancing of the abrasive wheel, or class of abrasive wheel, as the case may be;

(7) the proper method of dressing the abrasive wheel, or class of abrasive wheel, as the case may be;

(8) the adjustment of the rest of the abrasive wheel or class of abrasive wheel, as the case may be;

(9) the use of advisory literature relating to the mounting of the abrasive wheel, or class of abrasive wheel, and

2. on the requirements of Part 12.**]**

Annotations

Amendments:

F112 Inserted (1.07.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016), reg. 9(d), in effect as per reg. 4.

F113[Schedule 15

Dangerous Occurrences]

F113[*Regulation 225*

Vehicles, lifting and mobile machinery, etc.

1. (1) The collapse of, the overturning of, or the failure of any load-bearing part of—

(*a*) any lift or lifting equipment,

(*b*) any excavator, or

(*c*) any pile-driving frame or pile-driving machine having an overall height, when operating, of more than 7 metres.

(2) The overturning of any vehicle or 'ride-on' mobile work equipment or its trailer or semi-trailer towing equipment.

(3) The load shift or loss of load from—

(*a*) any vehicle,

(*b*) any mobile machine,

(*c*) any trailer, or

(*d*) any semi-trailer,

causing a risk of personal injury to a person at work.

Pressure vessels

2. The explosion, collapse or bursting of any closed vessel, including a boiler or boiler tube, in which the internal pressure was above or below atmospheric pressure.

Explosion or fire

3. (1) An unintentional explosion occurring in any plant or place of work.

(2) A fire occurring in any plant or place of work which resulted in the stoppage of that plant or suspension of normal work in that place of work for more than 24 hours.

Escape of flammable substances

4. The sudden uncontrolled release of one tonne or more of highly flammable liquid, liquified flammable gas, flammable gas or flammable liquid above its boiling point from any system, plant or pipeline.

Collapse of scaffolding

5. The collapse or partial collapse of any scaffold more than 5 metres high, including, where the scaffold is slung or suspended a collapse or part collapse of the suspension arrangements (including an outrigger) which causes a working platform or cradle to fall more than 5 metres.

Collapse of building or structure

6. Any unintended collapse or partial collapse of—

(*a*) any building or structure under construction, reconstruction, alteration or demolition, or of any falsework, involving a fall of more than 5 tonnes of material, or

(*b*) any building being used as a place of work, not being a building under construction, reconstruction, alteration or demolition.

Escape of a substance

7. The uncontrolled or accidental release or the escape of any substance, which, having regard to the nature of the substance and the extent and location of the release or escape might have been liable to cause personal injury to any person.

Explosives

8. Any unintentional ignition or explosion of explosives.

Freight containers

9. (1) The failure of any container or of any load-bearing part thereof while it is being raised, lowered or suspended.

(2) In this paragraph—

"container" means an article of transport equipment which is—

(*a*) of a permanent character and accordingly strong enough for repeated use,

(*b*) designed to facilitate the transport of goods by one or more modes of transport without intermediate reloading,

(*c*) designed to be secured or readily handled or both, having corner fittings for these purposes, and

(*d*) of a size such that the area enclosed by the outer bottom corners is either

(i) if the container is fitted with top corner fittings, at least 7 square metres, or

(ii) in any case at least 14 square metres

and includes a container when carried on a chassis but does not include a vehicle or packaging or any article of transport equipment designed solely for use in air

transport, or a swap body except when it is carried by or on board a sea-going ship and is not mounted on a road vehicle or rail wagon.

"corner fittings" means an arrangement of apertures and faces at either the top or the bottom or both at the top and the bottom of the container for the purposes of handling, stacking and securing or any of those purposes.

Pipelines

10. In relation to a pipeline, the bursting, explosion or collapse of a pipeline or any part thereof.

Breathing apparatus

11. Any incident where breathing apparatus while being used to enable the wearer to breathe independently of the surrounding environment malfunctions in such a way as to be likely either to deprive the wearer of oxygen or, in the case of use in a contaminated atmosphere, to expose the wearer to the contaminant to the extent in either case of posing a danger to his health, but excluding such apparatus while it is being used in a mine or is being maintained or tested.

Overhead electric lines

12. Any incident in which plant or equipment, including any other overhead line, either comes into contact with an overhead electric line in which the voltage exceeds 200 volts or causes an electrical discharge from such an electric line or cable by coming into close proximity to it, unless in either case the incident was intentional, arising from or in connection with work activities, or any incident involving a live conductor accidentally falling due to breakage or otherwise.

Locomotives

13. Any accidental collision between a locomotive or a train and any other vehicle at a factory or at dock premises.

Bursting of vessel, etc.

14. The bursting of a revolving vessel, wheel, grindstone, or grinding wheel moved by mechanical power.

Wind Turbines

15. (1) The collapse or partial collapse of a wind turbine tower.

(2) The failure of one or more blades attached to a wind turbine, resulting in that blade or blades, or part of that blade or blades, becoming separated from the wind turbine.

(3) In this paragraph—

"wind turbine" means equipment, with a minimum hub height of 20 metres, that converts the kinetic energy of wind into another form of energy, which is then used for electricity generation;

"wind turbine blade" means the elements of a wind turbine used to extract the kinetic energy of wind and convert this to rotational energy of a shaft;

"wind turbine tower" means that part of a wind turbine that supports the nacelle, rotor and blades.**]**

GIVEN under my hand

14th June 2007

TONY KILLEEN

Minister of State at the Department of Enterprise, Trade and Employment

———————————————————

EXPLANATORY NOTE

(*This note is not part of the Instrument and does not purport to be a legal interpretation.)*

1. These Regulations, inter alia, revoke and replace—

(a) those provisions of the Safety, Health and Welfare at Work (General Application) Regulations 1993 (S.I. No. 44 of 1993) (other than Part X and the Twelfth Schedule relating to the notification of accidents and dangerous occurrences, which remain in place) that were not already revoked under the Safety, Health and Welfare at Work (General Application)(Amendment)(Revocation) Regulations 2005 (S.I. No. 392 of 2005) following their incorporation in the Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005), and

(b) the Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2001 (S.I. No. 188 of 2001).

2. The Regulations also revoke and replace an additional 20 full sets and 4 part provisions of—

(a) Factories (Report of Examination of Hoists and Lifts) Regulations 1956 (S.I. No. 182 of 1956),

(b) Factories Act 1955 (Hoists and Lifts) (Exemption) Order 1957 (S.I. No. 80 of 1957),

(c) Factories Act 1955 (Lifts) (Exemption) Order 1960 (S.I. No. 129 of 1960),

(d) Regulations 22 to 35 and 37 and 38 and the Schedule to the Docks (Safety, Health and Welfare Regulations 1960 (S.I. No. 279 of 1960),

(e) Factories Act, 1955 (Hoistways) (Exemption) Order 1962 (S.I. No. 211 of 1962),

(f) Quarries (Electricity) Regulations 1972 (S.I. No. 50 of 1972),

(g) Mines (Electricity) Regulations 1972 (S.I. No. 51 of 1972),

(h) Quarries (General) Regulations 1974 (S.I. No. 146 of 1974) to the extent of in Regulation 3, the definitions of "lifting appliance" and "safe working load", Regulations 40 and 41, in the First Schedule "FORM No. 3" and "FORM No. 5" and the Second Schedule,

(i) Shipbuilding and Ship-Repairing (Safety, Health and Welfare) Regulations 1975 (S.I. No. 322 of 1975) to the extent of in Regulation 3(1), the definitions of "lifting equipment" and "lifting gear" and Regulations 32 to 48,

(j) Factories Act 1955 (Hoistways) (Exemption) Order 1976 (S.I. No. 236 of 1976),

(k) Factories Act 1955 (Hoists) (Exemption) Order 1977 (S.I. No. 13 of 1977),

(l) Mines (Electricity) (Amendment) Regulations 1979 (S.I. No. 125 of 1979),

(m) Quarries (Electricity) (Amendment) Regulations 1979 (S.I. No. 126 of 1979),

(n) Safety in Industry Acts 1955 and 1980 (Hoists and Hoistways) (Exemption) Order 1985 (S.I. No. 100 of 1985),

(o) Safety, Health and Welfare at Work (Signs) Regulations 1995 (S.I. No. 132 of 1995),

(p) Safety, Health and Welfare at Work (Miscellaneous Welfare Provisions) Regulations 1995 (S.I. No. 358 of 1995),

(q) Safety, Health and Welfare at Work (Children and Young Persons) Regulations 1998 (S.I. No. 504 of 1998),

(r) Safety, Health and Welfare at Work (Night Work and Shift Work) Regulations 2000 (S.I. No. 11 of 2000),

(s) Safety, Health and Welfare at Work (Pregnant Employees etc.) Regulations 2000 (S.I. No. 218 of 2000),

(t) Regulations 80 to 123 of the Safety, Health and Welfare at Work (Construction) Regulations 2001 (S.I. No. 481 of 2001),

(u) Safety, Health and Welfare at Work (Explosive Atmospheres) Regulations 2003 (S.I. No. 258 of 2003),

(v) Safety, Health and Welfare at Work (Work at Height) Regulations 2006 (S.I. No. 318 of 2006),

(w) Safety, Health and Welfare at Work (Control of Vibration at Work) Regulations 2006 (S.I. No. 370 of 2006), and

(x) Safety, Health and Welfare at Work (Control of Noise at Work) Regulations 2006 (S.I. No. 371 of 2006), except Regulation 11(3) of those Regulations.

Regulation 11(3) of the Safety, Health and Welfare at Work (Control of Noise at Work) Regulations 2006 (S.I. No. 371 of 2006) is revoked on 14 February, 2008.

The above revocations are supplemented by the Safety, Health and Welfare at Work Act 2005 (Repeals)(Commencement) Order 2007 (S.I. No. 300 of 2007) which, in accordance with sections 1(2) and 4(2) of the Safety, Health and Welfare at Work Act 2005 (No. 10 of 2005) activates the repeal of sections 33 to 35 and 115 and 116 of the Factories Act 1955 (No. 10 of 1955) and sections 28 and 29 of the Safety in Industry Act 1980 (No. 9 of 1980).

In replacing the above statutory provisions, these Regulations are presented in a more self-contained easily accessible and user-friendly format, for example, through the restructuring of the layout of the Regulations and through reducing the overall number of Schedules by the incorporation of provisions formerly set out in Schedules in the main text of the current Regulations. However, the overall thrust and the vast majority of the substantive requirements and prohibitions of the Regulations being replaced are maintained in these Regulations.

3. The Regulations retranspose the following 14 EU Directives relating to occupational safety, health and welfare:

(a) Council Directive 89/654/EEC of 30 November 1989 concerning the minimum safety and health requirements for the workplace [Chapter 1 of Part 2 refers];

(b) Council Directive 89/655/EEC of 30 November 1989 concerning the minimum safety and health requirements for the use of work equipment by workers at work, as amended by Council Directive 95/63/EC of 5 December 1995, amending Directive 89/655/EEC [Chapter 2 of Part 2 and Schedule 1 refer];

(c) Council Directive 89/656/EEC of 30 November 1989 on the minimum health and safety requirements for use by workers of personal protective equipment [Chapter 3 of Part 2 and Schedule 2 refer];

(d) Council Directive 90/269/EEC of 29 May 1990 on the minimum health and safety requirements for the manual handling of loads where there is a risk particularly of back injury to workers [Chapter 4 of Part 2 and Schedule 3 refer];

(e) Council Directive 90/270/EEC of 29 May 1990 on the minimum safety and health requirements for work with display screen equipment [Chapter 5 of Part 2 and Schedule 4 refer];

(f) Directive 2001/45/EC of the European Parliament and of the Council of 27 June 2001 amending Council Directive 89/655/EEC relating to the use of work equipment when carrying out work at a height [Part 4 and Schedule 5 refer];

(g) Directive 2003/10/EC of the European Parliament and of the Council of 6 February 2003 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (noise) [Chapter 1 of Part 5 refers];

(h) Directive 2002/44/EC of the European Parliament and of the Council of 25 June 2002 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (vibration) [Chapter 2 of Part 5 and Schedule 6 refer];

(i) the health and safety aspects of Council Directive 94/33/EC of 22 June 1994 on the protection of young people at work [Chapter 1 of Part 6 and Schedule 7 refer];

(j) the occupational safety and health provisions of Council Directive 92/85/EEC of 19 October 1992 on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding [Chapter 2 of Part 6 and Schedule 8 refer];

(k) in respect of night workers and shift workers, the safety and health protection provisions of Article 9 of Council Directive 93/104/EC of 23 November 1993 concerning certain aspects of the organisation of working time [Chapter 3 of Part 6 refers];

(l) Council Directive 92/58/EEC of 24 June 1992 on the minimum requirements for the provision of safety and/or health signs at work [Chapter 1 of Part 7 and Schedule 9 refer];

(m) Directive 1999/92/EC of the European Parliament and of the Council of 16 December 1999 on minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres [Part 8 and Schedule 10 refer].

4. These Regulations also modernise legal requirements concerning the safe use of electricity in the workplace [Part 3 refers] and the provision of first-aid facilities at work [Chapter 2 of Part 7 refers].

5. Part 1 of the Regulations covers standard Interpretation and General provisions comprising citation and commencement, interpretation and revocations and savings.

6. Part 2 of the Regulations relates to the Workplace and the use of Work Equipment at work.

Chapter 1 of Part 2 of the Regulations sets out requirements relating to places of work as regards various matters including structural stability, ventilation, temperature, lighting, floors, walls ceilings and roofs, windows and sky lights, doors and gates, emergency routes and exits fire detection and fire fighting, movement of pedestrians and vehicles danger areas, loading bays and ramps, room dimensions and air space, general welfare requirements, sanitary and washing facilities.

For the purposes of Chapter 1 of Part 2 of the Regulations "place of work" means a place of work intended to house work stations, excluding (a) means of transport used outside the undertaking or a place of work inside a means of transport, (b) construction sites, (c) extractive industries, (d) fishing boats and (e) fields, woods and land forming part of an agricultural or forestry undertaking but situated away from the undertaking's buildings.

Chapter 2 of Part 2 and Schedule 1 to the Regulations set out requirements relating to the use of Work Equipment at work as regards various matters including employers' duties regarding the use of work equipment by their employees, information and instruction, inspection of work equipment maintenance control devices, guards and protection devices, connection to energy sources, contact with wheels or tracks of mobile work equipment, drive systems of mobile work equipment combustion engines of mobile work equipment, fork-lift trucks, safety of self-propelled work equipment, traffic rules for mobile work equipment, work equipment for lifting loads, cranes, work equipment for lifting goods or persons, hoists and lifts, lifting accessories, signalling and operation of lifting equipment, periodic examination and testing of lifting equipment, reports by competent persons, records and registers of lifting equipment, safe working loads for excavators, telehandlers and loaders, requirements for scotch and guy derrick cranes and construction, testing, examination and safe working load of lifting accessories. In addition to retransposing Council Directive 89/655/EEC and Council Directive 95/63/EC, Chapter 2 of Part 2 of the Regulations also modernises and replaces various provisions of the "relevant statutory provisions" relating to the use of work equipment at work by standardising requirements and removing anomalies or inconsistencies relating to the use of the same work equipment at different places of work.

Chapter 3 of Part 2 and Schedule 2 to the Regulations set out requirements relating to the provision and use of Personal Protective Equipment (PPE) as regards various matters including the provision and use of PPE, assessment of PPE, conditions of use and compatibility of PPE, personal use of PPE, maintenance and replacement of PPE and information, training and instruction.

Chapter 4 of Part 2 and Schedule 3 to the Regulations set out requirements relating to the Manual Handling of Loads as regards the duties of employers to take appropriate organisational measures or means to avoid the need for the manual handling of loads or, where the need for the manual handling of loads cannot be avoided, to take appropriate measures or use appropriate means to reduce the risk to employees involved in the manual handling of loads.

Chapter 5 of Part 2 and Schedule 4 to the Regulations set out requirements relating to the provision and use of Display Screen Equipment (DSE) as regards the duties of employers concerning the analysis of the workstation, planning of work, minimum requirements for DSE, information and training and provision of eye tests and corrective appliances.

7. Part 3 of the Regulations relating to Electricity sets out a range of requirements including suitability of electrical equipment and installations, adverse or hazardous environments, identification and marking, protection against electric shock, portable equipment, connections and cables, overcurrent protection, auxiliary equipment and battery supply, switching and isolation for work on equipment made dead, precautions for work on electrical equipment, working space, access and lighting competent persons, testing and inspection, earth leakage protection for higher voltage, switch rooms, fencing of outdoor equipment and overhead lines and underground cables.

8. Part 4 and Schedule 5 to the Regulations relating to Work at Height set out a range of requirements as regards various matters including organisation, planning and risk assessment of work at height checking of places of work at height, weather conditions, avoidance of risks from work at height protection of places of work at height, selection of work equipment for work at height, condition of surfaces for supporting structures, stability of supporting structure, guard-rails, toe-boards, barriers etc., stability of working platforms, safety on working platforms, loading of working platform and supporting structures, additional requirements for scaffolding, collective safeguards for arresting falls, personal fall protection systems, work positioning systems, rope access or positioning technique, fall arrest systems, work restraint systems, ladders, fragile surfaces, falling objects danger areas and inspection of work equipment.

9. Part 5 of the Regulations relates to exposure to Physical Agents at work.

Chapter 1 of Part 5 of the Regulations sets out requirements relating to the Control of Noise at Work including exposure limit values and exposure action values, determination and assessment of risks above a lower exposure action value, provisions aimed at avoiding or reducing exposure application of upper exposure action values, prevention of exposure above noise level of 85dB(A) application of exposure limit value, personal protection, employee information, training and consultation, health surveillance, records and effects and exemptions.

Chapter 2 of Part 5 and Schedule 6 to the Regulations set out requirements relating to the Control of Vibration at Work including exposure limit values and action values, determination and assessment of risks, provisions aimed at avoiding or reducing exposure, application of exposure action values application of exposure limit value, employee information and training, health surveillance, records and effects and exemptions.

10. Part 6 of the Regulations relates to Sensitive Risk Groups.

Chapter 1 of Part 6 and Schedule 7 to the Regulations set out requirements relating to the Protection of Children and Young Persons including risk assessment, circumstances prohibiting employment of a child or young person and health surveillance. The purpose of these provisions is to retranspose the health and safety aspects of Council Directive 94/33/EC on the protection of young people at work. The other requirements of this Directive have been implemented by the Protection of Young Persons (Employment) Act 1996.

Chapter 2 of Part 6 and Schedule 8 to the Regulations set out requirements relating to the Protection of Pregnant, Post Natal and Breastfeeding Employees including risk assessment, protective or preventive measures, night work and information. The purpose of these provisions is to transpose the occupational safety and health provisions of Council Directive 92/85/EEC of 19th October 1992 on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding.

Chapter 3 of Part 6 of the Regulations sets out requirements relating to Night Work and Shift Work including general duties of employers with respect to night workers and shift workers, night work risk assessment and health assessment and transfer to day work. The purpose of these provisions is to give effect, in respect of night workers and shift workers, to the safety and health protection provisions of Article 9 of Directive 93/104/EC of 23 November, 1993 concerning certain aspects of the organisation of working time. Inter alia, they require employers, who employ night workers, to carry out, for the purposes of the maximum hours of night working permitted under sections 16(2)(*a*) and 16(2)(*b*) of the Organisation of Working Time Act 1997 (No. 20 of 1997) (i.e. the Act by which the main provisions of the Directive have been implemented in Ireland), an assessment of the safety and health risks attaching to the work of night workers whom they employ with a view to determining whether that work involves special hazards or a heavy physical or mental strain. They

also require employers, whose night workers become ill or exhibit symptoms of ill-health as a result of performing night work, to reassign such workers to day work suited to them whenever possible.

11. Part 7 of the Regulations relates to Safety Signs and First Aid.

Chapter 1 of Part 7 and Schedule 9 to the Regulations set out requirements relating to the provision of Safety Signs at Places of Work including provision of safety signs, information and instruction for employees, prohibition of unauthorised information on signs, signboards, illuminated signs acoustic signs and hand signals. These provisions apply to all places of work and they relate to signs referring to a specific object, activity or situation which provide information or instructions about safety and health at work.

Chapter 2 of Part 7 of the Regulations sets out requirements relating to First-aid at places of work including provision of first-aid equipment, occupational first-aiders and first-aid rooms.

12. Part 8 and Schedule 10 to the Regulations relate to Explosive Atmospheres at Places of Work and set out various requirements including in relation to assessment of explosion risk, classification of places where explosive atmospheres may occur, prevention against explosion, safety of plant equipment and protective systems, training, instructions, permits to work, protection of employees from explosion and coordination at workplaces. These provisions of the Regulations transpose Directive 1999/92/EC of the European Parliament and of the Council of 16 December 1999 on minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres. Directive 1999/92/EC defines "explosive atmosphere" as "a mixture with air, under atmospheric conditions, of flammable substances in the form of gases, vapours mists or dusts in which, after ignition has occurred, combustion spreads to the entire unburned mixture".

Employers are required to classify places at the workplace where explosive atmospheres may occur into hazardous or non-hazardous places. They must classify those places classified as hazardous into zones and apply the specified preventive measures. These measures include the selection of equipment and protective systems according to the categories set out in Part 8 and Schedule 10 to the Regulations. Such equipment and protective systems are defined in Directive 94/9/EC (which was transposed in Ireland through the European Communities (Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres) Regulations 1999 (S.I. No. 83 of 1999)) as follows:

(a) 'Equipment' means machines, apparatus, fixed or mobile devices, control components and instrumentation thereof and detection or prevention systems which, separately or jointly, are intended for the generation, transfer, storage, measurement, control and conversion of energy for the processing of material and which are capable of causing an explosion through their own potential sources of ignition.

(b) 'Protective systems' means design units which are intended to halt incipient explosions immediately and/or to limit the effective range of explosion flames and explosion pressures. Protective systems may be integrated into equipment or separately placed on the market for use as autonomous systems.

13. Subject to the particular periods referred to in Regulations 9, 122 and 134, these Safety, Health and Welfare at Work (General Application) Regulations 2007 come into operation on 1 November 2007.

Annotations

Amendments:

F113 Inserted (1.11.2016) by *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 3) Regulations 2016* (S.I. No. 370 of 2016), reg. 6(d), in effect as per reg. 2.

S.I. No. 299 *of* 2007

SAFETY, HEALTH AND WELFARE AT WORK (GENERAL APPLICATION) REGULATIONS 2007

REVISED

Updated to 24 May 2023

About this Revised Statutory Instrument

This Revised Statutory Instrument presents the text of the instrument as it has been amended, and preserves the format in which it was made.

Related legislation

***Safety, Health and Welfare at Work (General Application) Regulations 2007 to 2023*:** this statutory instrument is one of a group of statutory instruments included in this collective citation, to be construed together as one (*Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2023* (S.I. No. 255 of 2023), reg. 1(2). The instruments in this group are:

- *Safety, Health and Welfare at Work (General Application) Regulations 2007* (S.I. No. 299 of 2007)
- *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2007* (S.I. No. 732 of 2007)
- *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2010* (S.I. No. 176 of 2010)
- *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012)
- *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016)
- *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016)
- *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 3) Regulations 2016* (S.I. No. 370 of 2016)
- *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020)
- *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2021* (S.I. No. 610 of 2021)
- *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2021* (S.I. No. 619 of 2021)
- *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2023* (S.I. No. 255 of 2023)

Annotations

This Revised Statutory Instrument is annotated and includes textual and non-textual amendments and previous affecting provisions.

An explanation of how to read annotations is available at www.lawreform.ie/annotations.

Material not updated in this revision

Where other legislation is amended by this statutory instrument, those amendments may have been superseded by other amendments in other legislation, or the amended legislation may have been repealed or revoked. This information is not represented in this revision but will be reflected in a revision of the amended legislation if one is available.

Where legislation or a fragment of legislation is referred to in annotations, changes to this legislation or fragment may not be reflected in this revision but will be reflected in a revision of the legislation referred to if one is available.

A list of legislative changes to any Act, and to statutory instruments from 1972, may be found linked from the page of the Act or statutory instrument at www.irishstatutebook.ie.

Acts which affect or previously affected this revision

None.

All Acts up to and including *Social Welfare (Child Benefit) Act 2023* (13/2023), enacted 25 May 2023, were considered in the preparation of this revision.

Statutory instruments which affect or previously affected this revision

- *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2023* (S.I. No. 255 of 2023)
- *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2021* (S.I. No. 619 of 2021)
- *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2021* (S.I. No. 610 of 2021)
- *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2020* (S.I. No. 2 of 2020)
- *Safety, Health and Welfare at Work (Mines) Regulations 2018* (S.I. No. 133 of 2018)
- *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 3) Regulations 2016* (S.I. No. 370 of 2016)
- *Safety, Health and Welfare at Work (General Application) (Amendment) (No. 2) Regulations 2016* (S.I. No. 70 of 2016)
- *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2016* (S.I. No. 36 of 2016)
- *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2012* (S.I. No. 445 of 2012)
- *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2010* (S.I. No. 176 of 2010)
- *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2007* (S.I. No. 732 of 2007)

All statutory instruments up to and including *Safety, Health and Welfare at Work (General Application) (Amendment) Regulations 2023* (S.I. No. 255 of 2023), made 24 May 2023, were considered in the preparation of this revision.