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**COUNCIL DIRECTIVE
of 30 November 1989**

**concerning the minimum safety and health requirements for the use of work equipment by workers
at work (second individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC)**
(89/655/EEC)

(OJ L 393, 30.12.1989, p. 13)

Amended by:

		Official Journal		
		No	page	date
► <u>M1</u>	Council Directive 95/63/EC of 5 December 1995	L 335	28	30.12.1995
► <u>M2</u>	Directive 2001/45/EC of the European Parliament and of the Council of 27 June 2001	L 195	46	19.7.2001
► <u>M3</u>	Directive 2007/30/EC of the European Parliament and of the Council of 20 June 2007	L 165	21	27.6.2007

Corrected by:

► **C1** Corrigendum, OJ L 59, 6.3.1991, p. 23 (89/655/EEC)



COUNCIL DIRECTIVE

of 30 November 1989

concerning the minimum safety and health requirements for the use of work equipment by workers at work (second individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC)

(89/655/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 118a thereof,

Having regard to the proposal from the Commission ⁽¹⁾, submitted after consulting the Advisory Committee on Safety, Hygiene and Health Protection at Work,

In cooperation with the European Parliament ⁽²⁾,

Having regard to the opinion of the Economic and Social Committee ⁽³⁾,

Whereas Article 118a of the Treaty provides that the Council shall adopt, by means of directives, minimum requirements for encouraging improvements, especially in the working environment, to guarantee a better level of protection of the safety and health of workers;

Whereas, pursuant to the said Article, such directives must avoid imposing administrative, financial and legal constraints in a way which would hold back the creation and development of small and medium-sized undertakings;

Whereas the communication from the Commission on its programme concerning safety, hygiene and health at work ⁽⁴⁾ provides for the adoption of a directive on the use of work equipment at work;

Whereas, in its resolution of 21 December 1987 on safety, hygiene and health at work ⁽⁵⁾, the Council took note of the Commission's intention of submitting to the Council in the near future minimum requirements concerning the organization of safety and health at work;

Whereas compliance with the minimum requirements designed to guarantee a better standard of safety and health in the use of work equipment is essential to ensure the safety and health of workers;

Whereas this Directive is an individual directive within the meaning of Article 16 (1) of Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work ⁽⁶⁾; whereas, therefore, the provisions of the said Directive are fully applicable to the scope of the use of work equipment by workers at work without prejudice to more ►C1 stringent ◀ and/or specific provisions contained in this Directive;

Whereas this Directive constitutes a practical aspect of the realization of the social dimension of the internal market;

Whereas, pursuant to Directive 83/189/EEC ⁽⁷⁾, Member States are required to notify the Commission of any draft technical regulations relating to machines, equipment and installations;

⁽¹⁾ OJ No C 114, 30.4.1988, p. 3,
OJ No C 106, 26.4.1989, p. 13 and
OJ No C 287, 15.11.1989, p. 12.

⁽²⁾ OJ No C 326, 19.12.1988, p. 132 and
OJ No C 256, 9.10.1989, p. 65.

⁽³⁾ OJ No C 318, 12.12.1988, p. 26.

⁽⁴⁾ OJ No C 28, 3.2.1988, p. 3.

⁽⁵⁾ OJ No C 28, 3.2.1988, p. 1.

⁽⁶⁾ OJ No L 183, 29.6.1989, p. 1.

⁽⁷⁾ OJ No L 109, 26.4.1983, p. 8.

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Whereas, pursuant to Decision 74/325/EEC ⁽¹⁾, as last amended by the 1985 Act of Accession, the Advisory Committee on Safety, Hygiene and Health Protection at Work is consulted by the Commission on the drafting of proposals in this field,

HAS ADOPTED THIS DIRECTIVE:

SECTION I

GENERAL PROVISIONS*Article 1***Subject**

1. This Directive, which is the second individual directive within the meaning of Article 16 (1) of Directive 89/391/EEC, lays down minimum safety and health requirements for the use of work equipment by workers at work, as defined in Article 2.
2. The provisions of Directive 89/391/EEC are fully applicable to the whole scope referred to in paragraph 1, without prejudice to more ►**C1** stringent ◀ and/or specific provisions contained in this Directive.

*Article 2***Definitions**

For the purposes of this Directive, the following terms shall have the following meanings:

- (a) 'work equipment': any machine, apparatus, tool or installation used at work;
- (b) 'use of work equipment': any activity involving work equipment such as starting or stopping the equipment, its use, transport, repair, modification, maintenance and servicing, including, in particular, cleaning;
- (c) 'danger zone': any zone within and/or around work equipment in which an exposed worker is subject to a risk to his health or safety;
- (d) 'exposed worker': any worker wholly or partially in a danger zone;
- (e) 'operator': the worker or workers given the task of using work equipment.

SECTION II

EMPLOYERS' OBLIGATIONS*Article 3***General obligations**

1. The employer shall take the measures necessary to ensure that the work equipment made available to workers in the undertaking and/or establishment is suitable for the work to be carried out or properly adapted for that purpose and may be used by workers without impairment to their safety or health.

In selecting the work equipment which he proposes to use, the employer shall pay attention to the specific working conditions and characteristics and to the hazards which exist in the undertaking and/or establishment, in particular at the workplace, for the safety and health of the workers,

⁽¹⁾ OJ No L 185, 9.7.1974, p. 15.

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and/or any additional hazards posed by the use of work equipment in question.

2. Where it is not possible fully so to ensure that work equipment can be used by workers without risk to their safety or health, the employer shall take appropriate measures to minimize the risks.

*Article 4***Rules concerning work equipment**

1. Without prejudice to Article 3, the employer must obtain and/or use:

- (a) work equipment which, if provided to workers in the undertaking and/or establishment for the first time after 31 December 1992, complies with:
 - (i) the provisions of any relevant Community directive which is applicable;
 - (ii) the minimum requirements laid down ►**M1** in Annex I ◀, to the extent that no other Community directive is applicable or is so only partially;
- (b) work equipment which, if already provided to workers in the undertaking and/or establishment by 31 December 1992, complies with the minimum requirements laid down ►**M1** in Annex I ◀ no later than four years after that date;

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c) without prejudice to point (a) (i), and notwithstanding point (a) (ii) and point (b), specific work equipment subject to the requirements of point 3 of Annex I, which, if already provided to workers in the undertaking and/or establishment by 5 December 1998, complies with the minimum requirements laid down in Annex I, no later than four years after that date.

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2. The employer shall take the measures necessary to ensure that, throughout its working life, work equipment is kept, by means of adequate maintenance, at a level such that it complies with the provisions of paragraph 1 (a) or (b) as applicable.

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3. Member States shall, after consultation with both sides of industry, and with due allowance for national legislation and/or practice, establish procedures whereby a level of safety may be attained corresponding to the objectives indicated by the provisions of Annex II.

*Article 4a***Inspection of work equipment**

1. The employer shall ensure that where the safety of work equipment depends on the installation conditions, it shall be subject to an initial inspection (after installation and before first being put into service) and an inspection after assembly at a new site or in a new location by competent persons within the meaning of national laws and/or practices, to ensure that the work equipment has been installed correctly and is operating properly.

2. The employer shall ensure that work equipment exposed to conditions causing deterioration which is liable to result in dangerous situations is subject to:

— periodic inspections and, where appropriate, testing by competent persons within the meaning of national laws and/or practices,

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— special inspections by competent persons within the meaning of national laws and/or practices each time that exceptional circumstances which are liable to jeopardize the safety of the work equipment have occurred, such as modification work, accidents, natural phenomena or prolonged periods of inactivity,

to ensure that health and safety conditions are maintained and that the deterioration can be detected and remedied in good time.

3. The results of inspections must be recorded and kept at the disposal of the authorities concerned. They must be kept for a suitable period of time.

When work equipment is used outside the undertaking it must be accompanied by physical evidence that the last inspection has been carried out.

4. Member States shall determine the conditions under which such inspections are made.

▼ B*Article 5***Work equipment involving specific risks**

When the use of work equipment is likely to involve a specific risk to the safety or health of workers, the employer shall take the measures necessary to ensure that:

- the use of work equipment is restricted to those persons given the task of using it;
- in the case of repairs, modifications, maintenance or servicing, the workers concerned are specifically designated to carry out such work.

▼ M1*Article 5a***Ergonomics and occupational health**

The working posture and position of workers while using work equipment and ergonomic principles must be taken fully into account by the employer when applying minimum health and safety requirements.

▼ B*Article 6***Informing workers**

1. Without prejudice to Article 10 of Directive 89/391/EEC, the employer shall take the measures necessary to ensure that workers have at their disposal adequate information and, where appropriate, written instructions on the work equipment used at work.

2. The information and the written instructions must contain at least adequate safety and health information concerning:

- the conditions of use of work equipment,
- foreseeable abnormal situations,
- the conclusions to be drawn from experience, where appropriate, in using work equipment.

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Workers must be made aware of dangers relevant to them, work equipment present in the work area or site, and any changes affecting

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them, in as much as they affect work equipment situated in their immediate work area or site, even if they do not use such equipment directly.

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3. The information and the written instructions must be comprehensible to the workers concerned.

*Article 7***Training of workers**

Without prejudice to Article 12 of Directive 89/391/EEC, the employer shall take the measures necessary to ensure that:

- workers given the task of using work equipment receive adequate training, including training on any risks which such use may entail,
- workers referred to in the second indent of Article 5 receive adequate specific training.

*Article 8***Consultation of workers and workers' participation**

Consultation and participation of workers and/or of their representatives shall take place in accordance with Article 11 of Directive 89/391/EEC on the matters covered by this Directive, including the Annexes thereto.

SECTION III

MISCELLANEOUS PROVISIONS*Article 9***Amendment ►M1 of the Annexes ◄**

1. Addition to ►M1 Annex I ◄ of the supplementary minimum requirements applicable to specific work equipment referred to in point 3 thereof shall be adopted by the Council in accordance with the procedure laid down in Article 118a of the Treaty.

2. Strictly technical adaptations of ►M1 the Annexes ◄ as a result of:

- the adoption of directives on technical harmonization and standardization of work equipment, and/or
- technical progress, changes in international regulations or specifications or knowledge in the field of work equipment

shall be adopted, in accordance with the procedure laid down in Article 17 of Directive 89/391/EEC.

*Article 10***Final provisions**

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 31 December 1992. They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the texts of the provisions of national law which they have already adopted or adopt in the field governed by this Directive.

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Article 11

This Directive is addressed to the Member States.

▼B*ANNEX ► M1 I ◀***MINIMUM REQUIREMENTS REFERRED TO IN ARTICLE 4 (1) (a) (ii) and (b)****1. General comment**

The obligations laid down in this Annex apply having regard to the provisions of the Directive and where the corresponding risk exists for the work equipment in question.

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The following minimum requirements, in as much as they apply to work equipment in use, do not necessarily call for the same measures as the essential requirements concerning new work equipment.

▼B**2. General minimum requirements applicable to work equipment****2.1. Work equipment control devices which affect safety must be clearly visible and identifiable and appropriately marked where necessary.**

Except where necessary for certain control devices, control devices must be located outside danger zones and in such a way that their operation cannot cause additional hazard. They must not give rise to any hazard as a result of any unintentional operation.

If necessary, from the main control position, the operator must be able to ensure that no person is present in the danger zones. If this is impossible, a safe system such as an audible and/or visible warning signal must be given automatically whenever the machinery is about to start. An exposed worker must have the time and/or the means quickly to avoid hazards caused by the starting and/or stopping of the work equipment.

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Control systems must be safe and must be chosen making due allowance for the failures, faults and constraints to be expected in the planned circumstances of use.

▼B**2.2. It must be possible to start work equipment only by deliberate action on a control provided for the purpose.**

The same shall apply:

- to restart it after a stoppage for whatever reason,
- for the control of a significant change in the operating conditions (e.g. speed, pressure, etc.),

unless such a restart or change does not subject exposed workers to any hazard.

This requirement does not apply to restarting or a change in operating conditions as a result of the normal operating cycle of an automatic device.

2.3. All work equipment must be fitted with a control to stop it completely and safely.

Each work station must be 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. The equipment's stop control must have priority over the start controls. When the work equipment or the dangerous parts of it have stopped, the energy supply of the actuators concerned must be switched off.

2.4. Where appropriate, and depending on the hazards the equipment presents and its normal stopping time, work equipment must be fitted with an emergency stop device.**2.5. Work equipment presenting risk due to falling objects or projections must be fitted with appropriate safety devices corresponding to the risk.**

Work equipment presenting hazards due to emissions of gas, vapour, liquid or dust must be fitted with appropriate containment and/or extraction devices near the sources of the hazard.

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- 2.6. Work equipment and parts of such equipment must, where necessary for the safety and health of workers, be stabilized by clamping or some other means.
- 2.7. Where there is a risk of rupture or disintegration of parts of the work equipment, likely to pose significant danger to the safety and health of workers, appropriate protection measures must be taken.
- 2.8. Where there is a risk of mechanical contact with moving parts of work equipment which could lead to accidents, those parts must be provided with guards or devices to prevent access to danger zones or to halt movements of dangerous parts before the danger zones are reached.

The guards and protection devices must:

- be of robust construction,
 - not give rise to any additional hazard,
 - not be easily removed or rendered inoperative,
 - be situated at sufficient distance from the danger zone,
 - not restrict more than necessary the view of the operating cycle of the equipment,
 - allow operations necessary to fit or replace parts and for maintenance work, restricting access only to the area where the work is to be carried out and, if possible, without removal of the guard or protection device.
- 2.9. Areas and points for working on, or maintenance of, work equipment must be suitably lit in line with the operation to be carried out.
 - 2.10. Work equipment parts at high or very low temperature must, where appropriate, be protected to avoid the risk of workers coming into contact or coming too close.
 - 2.11. Warning devices on work equipment must be unambiguous and easily perceived and understood.
 - 2.12. Work equipment may be used only for operations and under conditions for which it is appropriate.
 - 2.13. It must be possible to carry out maintenance operations when the equipment is shut down. If this is not possible, it must be possible to take appropriate protection measures for the carrying out of such operations or for such operations to be carried out outside the danger zones.

If any machine has a maintenance log, it must be kept up to date.
 - 2.14. All work equipment must be fitted with clearly identifiable means to isolate it from all its energy sources.

Reconnection must be presumed to pose no risk to the workers concerned.
 - 2.15. Work equipment must bear the warnings and markings essential to ensure the safety of workers.
 - 2.16. Workers must have safe means of access to, and be able to remain safely in, all the areas necessary for production, adjustment and maintenance operations.
 - 2.17. All work equipment must be appropriate for protecting workers 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.
 - 2.18. All work equipment must be appropriate for preventing the risk of explosion of the work equipment or of substances produced, used or stored in the work equipment.
 - 2.19. All work equipment must be appropriate for protecting exposed workers against the risk of direct or indirect contact with electricity.

▼ **M1****3. Additional minimum requirements applicable to specific types of work equipment**3.1. *Minimum requirements for mobile work equipment, whether or not self-propelled*

3.1.1. Work equipment with ride-on workers must be fitted out in such a way as to reduce the risks for workers during the journey.

Those risks must include the risks of contact with or trapping by wheels or tracks.

3.1.2. Where an inadvertent seizure of the drive unit between an item of mobile work equipment and its accessories and/or anything towed might create a specific risk, such work equipment must be equipped or adapted to prevent blockages of the drive units.

Where such a seizure cannot be avoided, every possible measure must be taken to avoid any adverse effects on workers.

3.1.3. 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 must be available for fixing them.

3.1.4. Mobile work equipment with ride-on workers must be designed to restrict, under actual conditions of use, the risks arising from work equipment rollover:

— either by a protection structure to ensure that the equipment does not tilt by more than a quarter turn, or

— a structure giving sufficient clearance around the ride-on workers if the tilting movement can continue beyond a quarter turn, or

— by some other device of equivalent effect.

These protection structures may be an integral part of the work equipment.

These protection structures are not required when the work equipment is stabilized during operation or where the design makes roll over impossible.

Where there is a risk of a ride-on worker being crushed between parts of the work equipment and the ground, should the equipment roll over, a restraining system for the ride-on workers must be installed.

3.1.5. Fork-lift trucks carrying one or more workers must be adapted or equipped to limit the risk of the fork-lift truck overturning, e.g.:

— by the installation of an enclosure for the driver, or

— by a structure preventing the fork-lift truck from overturning, or

— by a structure ensuring that, if the fork-lift truck overturns, sufficient clearance remains between the ground and certain parts of the fork-lift truck for the workers carried, or

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

3.1.6. Self-propelled work equipment which may, in motion, engender risks for persons must fulfil the following conditions:

(a) the equipment must have facilities for preventing unauthorized start-up;

(b) it must have appropriate facilities for minimizing the consequences of a collision where there is more than one item of track-mounted work equipment in motion at the same time;

(c) there must be a device for braking and stopping equipment. Where safety constraints so require, emergency facilities operated by readily accessible controls or automatic systems must be available for braking and stopping equipment in the event of failure of the main facility;

(d) where the driver's direct field of vision is inadequate to ensure safety, adequate auxiliary devices must be installed to improve visibility;

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- (e) work equipment designed for use at night or in dark places must be equipped with lighting appropriate to the work to be carried out and must ensure sufficient safety for workers;
- (f) work equipment which constitutes a fire hazard, either on its own or in respect of whatever it is towing and/or carrying and which is liable to endanger workers, must be equipped with appropriate fire-fighting appliances where such appliances are not available sufficiently nearby at the place of use;
- (g) remote-controlled work equipment must stop automatically once it leaves the control range;
- (h) remote-controlled work equipment which may in normal conditions engender a crushing or impact hazard must have facilities to guard against this risk, unless other appropriate devices are present to control the impact risk.

3.2. *Minimum requirements for work equipment for lifting loads*

- 3.2.1. When work equipment for lifting loads is installed permanently, its strength and stability during use must be assured, having regard, in particular, to the loads to be lifted and the stress induced at the mounting or fixing point of the structures.
- 3.2.2. Machinery for lifting loads must be clearly marked to indicate its nominal load, and where appropriate a load plate giving the nominal load for each configuration of the machinery.

Accessories for lifting must be marked in such a way that it is possible to identify the characteristics essential for safe use.

Work equipment which is not designed for lifting persons but which might be so used in error must be appropriately and clearly marked to this effect.

- 3.2.3. Permanently installed work equipment must be installed in such a way as to reduce the risk of the load:
 - (a) striking workers;
 - (b) drifting dangerously or falling freely;
 - (c) being released unintentionally.
- 3.2.4. Work equipment for lifting or moving workers must be such as to:
 - (a) prevent the risk of the car falling, where one exists, by suitable devices;
 - (b) prevent the risk of the user himself falling from the car, where one exists;
 - (c) prevent the risk of the user being crushed, trapped or struck, in particular through inadvertent contact with objects;
 - (d) ensure that persons trapped in the car in the event of an incident are not exposed to danger and can be freed.

If, for reasons inherent in the site and height differences, the risks referred to in point (a) cannot be avoided by any safety measures, an enhanced safety coefficient suspension rope must be installed and checked every working day.

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ANNEX II

**PROVISIONS CONCERNING THE USE OF WORK EQUIPMENT
REFERRED TO IN ARTICLE 4 (3)****0. General comment**

The obligations laid down in this Annex apply having regard to the provisions of this Directive and where the corresponding risk exists for the work equipment in question.

1. General provisions for all work equipment

- 1.1. Work equipment must be installed, located and used in such a way as to reduce risks to users of the work equipment and for other workers, for example by ensuring that there is sufficient space between the moving parts of work equipment and fixed or moving parts in its environment and that all forms of energy and substances used or produced can be supplied and/or removed in a safe manner.
- 1.2. Work equipment must be erected or dismantled under safe conditions, in particular observing any instructions which may have been furnished by the manufacturer.
- 1.3. Work equipment which may be struck by lightning while being used must be protected by devices or appropriate means against the effects of lightning.

2. Provisions concerning the use of mobile equipment, whether or not self-propelled

- 2.1. Self-propelled work equipment shall be driven only by workers who have been appropriately trained in the safe driving of such equipment.
- 2.2. If work equipment is moving around in a work area, appropriate traffic rules must be drawn up and followed.
- 2.3. Organizational measures must be taken to prevent workers on foot coming within the area of operation of self-propelled work equipment.

If work can be done properly only if workers on foot are present, appropriate measures must be taken to prevent them from being injured by the equipment.
- 2.4. The transport of workers on mechanically driven mobile work equipment is authorized only where safe facilities are provided to this effect. If work must be carried out during the journey, speeds must be adjusted as necessary.
- 2.5. Mobile work equipment with a combustion engine may not be used in working areas unless sufficient quantities of air presenting no health or safety risk to workers can be guaranteed.

3. Provisions concerning the use of work equipment for lifting loads**3.1. General considerations**

- 3.1.1. Work equipment which is mobile or can be dismantled and which is designed for lifting loads must be 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.
- 3.1.2. Persons may be lifted only by means of work equipment and accessories provided for this purpose.

Without prejudice to Article 5 of Directive 89/391/EEC, exceptionally, work equipment which is not specifically designed for the purpose of lifting persons may be used to this effect, provided appropriate action has been taken to ensure safety in accordance with national legislation and/or practice laying down appropriate supervision.

While workers are on work equipment designed for lifting loads the control position must be manned at all times. Persons being lifted must

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have reliable means of communication. In the event of danger, there must be reliable means of evacuating them.

- 3.1.3. Unless required for the effective operation of the work, measures must be taken to ensure that workers are not present under suspended loads.

Loads may not be moved above unprotected workplaces usually occupied by workers.

Where that is the case, if work cannot be carried out properly any other way, appropriate procedures must be laid down and applied.

- 3.1.4. Lifting accessories must be selected as a function of the loads to be handled, gripping points, attachment tackle and the atmospheric conditions having regard to the mode and configuration of slinging. Lifting accessory tackle must be clearly marked so that users are aware of its characteristics where such tackle is not dismantled after use.
- 3.1.5. Lifting accessories must be stored in a way that ensures that they will not be damaged or degraded.

3.2. *Work equipment for lifting non-guided loads*

- 3.2.1. 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 must be taken to avoid collision between loads and/or the work equipment parts themselves.
- 3.2.2. When using mobile work equipment for lifting non-guided loads, measures must be taken to prevent the equipment from tilting, overturning or, if necessary, moving or slipping. Checks must be made to ensure that these measures are executed properly.
- 3.2.3. 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, a competent person must be in communication with the operator to guide him and organizational measures must be taken to prevent collisions of the load which could endanger workers.
- 3.2.4. Work must be organized in such a way that when a worker is attaching or detaching a load by hand, it can be done safely, in particular through the worker retaining direct or indirect control of the work equipment.
- 3.2.5. All lifting operations must be properly planned, appropriately supervised and carried out to protect the safety of workers.

In particular, if a load has to be lifted by two or more pieces of work equipment for lifting non-guided loads simultaneously, a procedure must be established and applied to ensure good coordination on the part of the operators.

- 3.2.6. 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 must be taken to avoid exposing workers to any resultant risks.

Suspended loads must not be left without surveillance unless access to the danger zone is prevented and the load has been safely suspended and is safely held.

- 3.2.7. Open-air use of work equipment designed for lifting non-guided loads must be halted when meteorological conditions deteriorate to the point of jeopardizing the safe use of the equipment and exposing workers to risks. Adequate protection measures, in particular, to avoid work equipment turning over must be taken to avoid any risks to workers.

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4. **Provisions concerning the use of work equipment provided for temporary work at a height.**

4.1. *General provisions*

- 4.1.1. If, pursuant to Article 6 of Directive 89/391/EEC and Article 3 of this Directive, temporary work at a height cannot be carried out safely and under appropriate ergonomic conditions from a suitable surface, the work equipment most suitable to ensure and maintain safe working conditions

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must be selected. Collective protection measures must be given priority over personal protection measures. The dimensions of the work equipment must be appropriate to the nature of the work to be performed and to the foreseeable stresses and allow passage without danger.

The most appropriate means of access to temporary workplaces at a height must be selected according to the frequency of passage, the height to be negotiated and the duration of use. The choice made must permit evacuation in the event of imminent danger. Passage in either direction between a means of access and platforms, decks or gangways must not give rise to any additional risks of falling.

4.1.2. Ladders may be used as work stations for work at a height only under circumstances in which, given point 4.1.1, the use of other, safer work equipment is not justified because of the low level of risk and either the short duration of use or existing features on site that the employer cannot alter.

4.1.3. Rope access and positioning techniques may be used only under circumstances where the risk assessment indicates that the work can be performed safely and where the use of other, safer work equipment is not justified.

Taking the risk assessment into account and depending in particular on the duration of the job and the ergonomic constraints, provision must be made for a seat with appropriate accessories.

4.1.4. Depending on the type of work equipment selected on the basis of the foregoing, the appropriate measures for minimising the risks to workers inherent in this type of equipment must be determined. If necessary, provision must be made for the installation of safeguards to prevent falls. These must be of suitable configuration and sufficient strength to prevent or arrest falls from a height and, as far as possible, to preclude injury to workers. Collective safeguards to prevent falls may be interrupted only at points of ladder or stairway access.

4.1.5. When the performance of a particular task requires a collective safeguard to prevent falls to be temporarily removed, effective compensatory safety measures must be taken. The task may not be performed until such measures have been taken. Once the particular task has been finished, either definitively or temporarily, the collective safeguards to prevent falls must be reinstalled.

4.1.6. Temporary work at a height may be carried out only when the weather conditions do not jeopardise the safety and health of workers.

4.2. *Specific provisions regarding the use of ladders.*

4.2.1. Ladders must be so positioned as to ensure their stability during use. Portable ladders must rest on a stable, strong, suitably-sized, immobile footing so that the rungs remain horizontal. Suspended ladders must be attached in a secure manner and, with the exception of rope ladders, so that they cannot be displaced and so that swinging is prevented.

4.2.2. The feet of portable ladders must be prevented from slipping during use by securing the stiles at or near their upper or lower ends, by any anti-slip device or by any other arrangement of equivalent effectiveness. Ladders used for access must be long enough to protrude sufficiently beyond the access platform, unless other measures have been taken to ensure a firm handhold. Interlocking ladders and extension ladders must be used so that the different sections are prevented from moving relative to one another. Mobile ladders must be prevented from moving before they are stepped on.

4.2.3. Ladders must be used in such a way that a secure handhold and secure support are available to workers at all times. In particular, if a load has to be carried by hand on a ladder, it must not preclude the maintenance of a safe handhold.

4.3. *Specific provisions regarding the use of scaffolding*

4.3.1. When a note of the calculations for the scaffolding selected is not available or the note does not cover the structural arrangements contemplated, strength and stability calculations must be carried out unless the

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scaffolding is assembled in conformity with a generally recognised standard configuration.

- 4.3.2. Depending on the complexity of the scaffolding chosen, an assembly, use and dismantling plan must be drawn up by a competent person. This may be in the form of a standard plan, supplemented by items relating to specific details of the scaffolding in question.
- 4.3.3. The bearing components of scaffolding must be prevented from slipping, whether by attachment to the bearing surface, provision of an anti-slip device or any other means of equivalent effectiveness, and the load-bearing surface must have a sufficient capacity. It must be ensured that the scaffolding is stable. Wheeled scaffolding must be prevented by appropriate devices from moving accidentally during work at a height.
- 4.3.4. The dimensions, form and layout of scaffolding decks must be appropriate to the nature of the work to be performed and suitable for the loads to be carried and permit work and passage in safety. Scaffolding decks must be assembled in such a way that their components cannot move in normal use. There must be no dangerous gap between the deck components and the vertical collective safeguards to prevent falls.
- 4.3.5. When parts of a scaffolding are not ready for use, for example during assembly, dismantling or alteration, they must be marked with general warning signs in accordance with the national provisions transposing Directive 92/58/EEC and be suitably delimited by physical means preventing access to the danger zone.
- 4.3.6. Scaffolding may be assembled, dismantled or significantly altered only under the supervision of a competent person and by workers who must have received appropriate and specific training in the operations envisaged, addressing specific risks in accordance with Article 7, and more particularly in:
- (a) understanding of the plan for the assembly, dismantling or alteration of the scaffolding concerned;
 - (b) safety during the assembly, dismantling or alteration of the scaffolding concerned;
 - (c) measures to prevent the risk of persons or objects falling;
 - (d) safety measures in the event of changing weather conditions which could adversely affect the safety of the scaffolding concerned;
 - (e) permissible loads;
 - (f) any other risks which the abovementioned assembly, dismantling or alteration operations may entail.

The person supervising and the workers concerned must have available the assembly and dismantling plan referred to in 4.3.2., including any instructions it may contain.

4.4. *Specific provisions regarding the use of rope access and positioning techniques*

The use of rope access and positioning techniques must comply with the following conditions:

- (a) the system must comprise at least two separately anchored ropes, one as a means of access, descent and support (work rope) and the other as backup (security rope);
- (b) workers must be provided with and use an appropriate harness and be connected by it to the security rope;
- (c) the work rope must be equipped with safe means of ascent and descent and have a self-locking system to prevent the user falling should he lose control of his movements. The security rope must be equipped with a mobile fall prevention system which follows the movements of the worker;
- (d) the tools and other accessories to be used by a worker must be secured to the worker's harness or seat or by some other appropriate means;
- (e) the work must be properly planned and supervised, so that a worker can be rescued immediately in an emergency;

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- (f) in accordance with Article 7, the workers concerned must receive adequate training specific to the operations envisaged, in particular rescue procedures.

In exceptional circumstances where, in view of the assessment of risks, the use of a second rope would make the work more dangerous, the use of a single rope may be permitted, provided that appropriate measures have been taken to ensure safety in accordance with national legislation and/or practice.