

Legislative and Best Practice Requirements for VDU (VDT) Use

European Union

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Summary of Requirements for European Union

Aspect	Specific Directive /Regulation / Legislation Requirements	Recommendations / Guidelines*
General objectives		
<p>Council Directive 89/391/EEC</p> <p>The introduction of measures to encourage improvements in the safety and health of workers¹</p>	<p>In order to ensure an improved degree of protection, workers and/or their representatives must be informed of the risks to their safety and health and of the measures required to reduce or eliminate these risks;</p> <p>They must also be in a position to contribute, by means of balanced participation in accordance with national laws and/or practices, to seeing that the necessary protective measures are taken.</p> <p>Information, dialogue and balanced participation on safety and health at work must be developed between employers and workers and/or their representatives by means of appropriate procedures and instruments, in accordance with national laws and/or practices.</p> <p>Employers shall be obliged to keep themselves informed of the latest advances in technology and scientific findings concerning work-place design.</p>	
<p>Council Directive 93/104/EC</p> <p>Concerning certain aspects of the organization of working time²</p>	<p>In order to ensure the safety and health of workers, they must be granted minimum daily, weekly and annual periods of rest and adequate breaks;</p> <p>It is also necessary to place a maximum limit on weekly working hours;</p>	
<p>Council Directive 90/270/EEC On the minimum safety and health requirements for work with display screen equipment³</p>	<p>Compliance with the minimum requirements for ensuring a better level of safety at workstations with display screen is essential for ensuring the safety and health of workers.</p> <p>Employers shall be obliged to keep themselves informed of the latest advances in technology and scientific findings concerning workstation design so that they can make any changes necessary so as to be able to guarantee a better level of protection of worker' safety and health.</p> <p>The ergonomic aspect are of particular importance for a workstation with DSE.</p>	

*Guidelines and recommendations are included when they differ or provide more detail than the directive.

Aspect	Specific Directive /Regulation / Legislation Requirements	Recommendations / Guidelines
Employers' obligation		
General ¹	<p>The employer shall have a duty to ensure the safety and health of workers in every aspect related to the work.</p> <p>The employer shall take the measures necessary for the safety and health protection of workers, including prevention of occupational risks and provision of information and training, as well as provision of the necessary organization and means.</p> <p>The employer shall be alert to the need to adjust these measures to take account of changing circumstances and aim to improve existing situations</p> <p>The employer shall: (a) be in possession of an assessment of the risks to safety and health at work (b) decide on the protective measures to be taken (c) keep a list of occupational accidents resulting in a worker being unfit for work for more than three working days (d) draw up, for the responsible authorities and in accordance with national laws and/or practices, reports on occupational accidents suffered by workers.</p>	<p>Employers must pay attention to factors contributing to stress in the work and take action ⁴</p> <p>Employers must be alert to reporting of fatigue, pain and /or discomfort and take action ⁴</p>
Analysis of workstations ³	<p>Employers shall be obliged to perform an analysis of workstations in order to evaluate the safety and health conditions to which they give rise for their workers, particularly as regards possible risks to eyesight, physical problems and problems of mental stress.</p> <p>Employers shall take appropriate measures to remedy the risks found, on the basis of the evaluation taking account of the additional and/or combined effects of the risks so found.</p>	
Prevention ¹	<p>Avoiding risks</p> <p>Evaluating risks which cannot be avoided</p> <p>Combating the risks at source</p> <p>Adapting the work to the individual, especially as regards the design of work places, the choice of work equipment and the choice of working and production methods, with a view, in particular, to alleviating monotonous work and work at a predetermined work-rate and to reducing their effect on health</p> <p>Adapting to technical progress</p> <p>Developing a coherent overall prevention policy which covers technology, organization of work, working conditions, social relationships and the influence of factors related to the working environment</p> <p>Giving appropriate instructions to the workers</p> <p>Take into consideration the worker's capabilities as regards health and safety</p>	
Information sharing / consultation / participation ^{1, 3}	<p>The employer shall ensure that those with specific functions in protecting the safety and health of workers shall have access to carry out their functions and in accordance with national laws and/or practices, to: (a) the risk assessments and protective measures (b) occupational accident reports (c) the information yielded by protective and preventive measures, inspection agencies and bodies</p>	

	<p>responsible for safety and health.</p> <p>Employers shall consult workers and/or their representatives and allow them to take part in discussions on all questions relating to safety and health at work.</p>	
Health surveillance / monitoring		
General ¹	<p>Measures shall be introduced in accordance with national law and/or practices to ensure that workers receive health surveillance appropriate to the health and safety risks they incur at work</p> <p>Each worker, if they wish, may receive health surveillance at regular intervals.</p>	
Visual testing ³	<p>Workers shall be entitled to an appropriate eye and eyesight test carried out by a person with the necessary capabilities: a) before commencing DSE work, b) at regular intervals thereafter, c) if they experience visual difficulties which may be due to DSE work.</p> <p>Workers shall be entitled to an ophthalmological examination if the results of the test show that this is necessary.</p> <p>If the results of the tests show that it is necessary and if normal corrective appliances cannot be used workers must be provided with special corrective appliances appropriate for the work concerned.</p> <p>Measures taken may in no circumstances involve workers in additional financial cost.</p>	
Training		
General ^{1, 3}	<p>The employer shall take appropriate measures so that workers, in accordance with national laws and/or practices, are provided with all the necessary information concerning the safety and health risks, protective and preventive measures and activities for the work in general and each type of workstation and/or job.</p> <p>The employer shall ensure that each worker receives adequate safety and health training in the form of information and instructions specific to his workstation or job: a) on recruitment, b) in the event of a transfer or a change of job c) in the event of the introduction of new work equipment or a change in equipment d) in the event of the introduction of any new technology. This must be within working hours and not at the expense of the worker.</p> <p>The training shall be a) adapted to take account of new or changed risks, b) repeated periodically if necessary.</p> <p>The employer shall ensure that workers from outside establishments engaged in work in their establishment have received appropriate instructions regarding health and safety risks during their activities in their establishment.</p>	<p>Workers should be educated how to achieve full mental and muscular relaxation ⁴</p>

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Workers' obligation ¹		
Health and safety / early reporting ¹	<p>It shall be the responsibility of each worker to take care as far as possible of his own safety and health and that of other persons affected by his acts in accordance with the training and the instructions given by the employer.</p> <p>Workers must in particular, in accordance with their training and the instructions given by their employer</p> <p>a)make correct use of tools, apparatus etc</p> <p>d)immediately inform the employer of any work situation they have reasonable grounds for considering represents a serious and immediate danger to safety and health and of any shortcomings in the protection arrangements</p>	<p>Workers must pay attention to factors contributing to stress in the work and take actions to limit stress ⁴</p> <p>Workers must pay attention to signs of fatigue, pain and/ or discomfort and report them ⁴</p>
Work routine		
Working time ²	<p>Member states shall take the measures necessary to ensure that:</p> <p>every worker is entitled to a minimum daily rest period of 11 consecutive hours per 24-hour period.</p> <p>where the working day is longer than six hours, every worker is entitled to a rest break</p> <p>where the working day is longer than six hours, every worker is entitled to a rest break</p> <p>per each seven-day period, every worker is entitled to a minimum uninterrupted rest period of 24 hours</p> <p>the average working time for each seven-day period, including overtime, does not exceed 48 hours.</p>	
Daily work routine / breaks ³	<p>The employer must plan the worker's activities in such way that daily work on a display screen is periodically interrupted by breaks or changes of activity reducing the workload at the display screen.</p>	<p>Breaks must be frequent and allow for mental relaxationiv</p> <p>Take a 'microbreak' every minute⁵</p> <p>Take a break at least every hour for a total of 5 to 15 minutes to vary tasks. ⁵</p> <p>Do some physical activity every day for ½ to 1 hour. ⁵</p>

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Equipment		
Display screen / monitor ³	<p>The characters on the screen shall be well-defined and clearly formed, of adequate size and with adequate spacing between the characters and lines.</p> <p>The image on the screen should be stable, with no flickering or other forms of instability.</p> <p>The brightness and/or the contrast between the characters and the background shall be easily adjustable by the operator, and also be easily adjustable to ambient conditions.</p> <p>The screen must swivel and tilt easily and freely to suit the needs of the operator.</p> <p>It shall be possible to use a separate base for the screen or an adjustable table.</p> <p>The screen shall be free of reflective glare and reflections liable to cause discomfort to the user.</p>	<p>Place the monitor about an arms length away (60 -80 cm) ⁵</p> <p>Look directly at the monitor and slightly downwards ⁵</p> <p>No part of the display should be above eye level, viewing at 20° - 30° downwards ⁵</p>
Keyboard ³	<p>The keyboard shall be tiltable and separate from the screen so as to allow the worker to find a comfortable working position avoiding fatigue in the arms or hands.</p> <p>The space in front of the keyboard shall be sufficient to provide support for the hands and arms of the operator.</p> <p>The keyboard shall have a matt surface to avoid reflective glare.</p> <p>The arrangement of the keyboard and the characteristics of the keys shall be such as to facilitate the use of the keyboard.</p> <p>The symbols on the keys shall be adequately contrasted and legible from the working position.</p>	<p>Preferably less wide than standard ⁵</p> <p>Placed at least 12 to 15 cm away from the desk edge ⁵</p> <p>Wrist supports and other extra support surfaces are not usually necessary ⁵</p>
Work desk or work surface ³	<p>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.</p> <p>There shall be adequate space for workers to find a comfortable position.</p>	<p>Must be easy to adjust the height of the work desk to suit the body measurements of the user ⁵</p> <p>Sufficient space for resting lower arms and hands when working with the keyboard and mouse ⁵</p> <p>At least 70 -100 cm deep depending on the depth of display ⁵</p> <p>Front edge of desk surface not thicker than 3 cm ⁵</p> <p>A smooth desk without a keyboard tray or sliding shelf is preferable ⁵</p>

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Document holder ³	Shall be stable and adjustable and shall be positioned so as to minimize the need for uncomfortable head and eye movements.	
Chair ³	Shall be stable and allow the operator easy freedom of movement and a comfortable position. The seat shall be adjustable in height. The seat back shall be adjustable in both height and tilt.	Rotating, office chair with at least 5 wheels ⁵ and ‘rocking’ feature Must be easy to adjust the height and angle of backrest ⁵ Backrest should be sufficiently high to provide support for the upper back and preferably also the neck ⁵ Backrest not so wide to prevent backward movement of elbows. ⁵ If armrests are present they should be height and sideways adjustable ⁵
Footrest ³	Shall be made available to any one who wishes for one.	
Mouse /input device ³		Workers with pain should switch mouse hands ⁴ Workers with pain should make use of other input devices ⁴ Workers should avoid double clicking ⁴ There should be a selection of input devices including possibilities for non-hand alternatives ⁴ Mouse should fit hand and be able to be used in both hands so can be alternated ⁵ Input device should be placed at the same height as the keyboard with arm close to body and with forearms resting on the desk ⁵ . Shortcut keys should be used wherever possible ⁵
Telephone ³		A headset should be used when the task involves a lot of telephone work ⁵
Laptop / notebook computers	Note:89/391/EEC directive des not apply to ‘portable’ systems not in prolonged use at a workstation	Not suitable for permanent work unless an externla mouse and keybaord used ⁵

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Software ³	<p>In designing, selecting, commissioning and modifying software, and in designing tasks using display screen equipment, the employer shall take into account the following principles:</p> <p>software must be suitable for the task;</p> <p>software must be easy to use and, where appropriate, adaptable to the operator's level of knowledge or experience; no quantitative or qualitative checking facility may be used without the knowledge of the workers</p> <p>systems must provide feedback to workers on their performance;</p> <p>systems must display information in a format and at a pace which are adapted to operators;</p> <p>the principles of software ergonomics must be applied, in particular to human data processing.</p>	
Working postures		
Seated		Adjust chair so that sitting position is with hips at about 110-120° ⁵
Arm rests		Adjust them so that elbows can rest on them at 90° and close to the body ⁵
Desk surface		Adjust the desk height so that forearms can rest on the desk surface. ⁵

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Work environment		
Space ³	The workstation shall be dimensioned and designed so as to provide sufficient space for the user to change position and vary movements.	
Lighting ³	Room lighting and/or spot lighting (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.	
Reflections and glare ³	Possible disturbing glare and reflections on the screen or other equipment shall be prevented by coordinating workplace and workstation layout with the positioning and technical characteristics of the artificial light sources. 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 reflections on the screen. Windows shall be fitted with a suitable system of adjustable covering to attenuate the daylight that falls on the workstation.	
Noise ³	Noise emitted by equipment belonging to workstation(s) shall be taken into account when a workstation is being equipped, in particular so as not to distract attention or disturb speech.	
Temperature ³	Equipment belonging to workstation(s) shall not produce excess heat which could cause discomfort to workers. An adequate level of humidity shall be established and maintained.	
Radiation ³	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 workers' safety and health.	

References

- ¹ Council Directive 89/391/EEC The introduction of measures to encourage improvements in the safety and health of workers,
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31989L0391:EN:HTML>
- ² Council Directive 93/104/EC Concerning certain aspects of the organization of working time
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31993L0104:EN:HTML>
- ³ Council Directive 90/270/EEC On the minimum safety and health requirements for work with display screen equipment,
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31990L0270:EN:HTML>
- ⁴ Sandsjö, L.,Kadefors, R.,. Lundberg, U. and the PROCID group (2002) PROCID Recommendations for Healthier Computer Work
In: Caldenfors, D. Eklund, J. Kiviloog, L. (Eds), *Humans in a Complex Environment: Proceedings of the 34th Annual Congress of the Nordic Ergonomic Society*,
1-3 October 2002, Kolmården, Sweden, Volume II - 683 -688
- ⁵ National Institute of Working Life, Sweden (2001) Theme: Computer work (based on and refers to The Work Environment Authority's provisions and general recommendations (AFS), AFS 1998:5 Work with computers (Swedish language only)
<http://www.arbetslivsinstitutet.se/datorarbete/ en.asp>

Notes

1. Guidelines and recommendations are included when they differ or provide more detail than the directive.
2. The Swedish documents referenced are available in English and are likely to reflect other EU countries practices though specific questions will need to be addressed by accessing the specific countries' guidelines which are not in English.
3. The PROCID (Prevention of muscle disorders in Operation of Computer Input Devices) project included Denmark, Italy Sweden and Switzerland.