

## Overview

This standard identifies the competences you need to install stairlifts, in accordance with approved procedures. This will require you to survey the site for the proposed installation, and to make any necessary arrangements to have the required installation tools, and any specified components and site services available, so that the installation can be carried out safely and efficiently. You will be required to install a variety of stairlifts, including straight, curved and hinged, operated by AC or DC power supplies.

This standard does not involve assembly type activities, such as fitting bearings and/or gears into a gearbox, or the installation of items of equipment that are simple, self-contained items requiring minimal installation. It does, however, include the connection of sub-assemblies (where these have been broken down for transportation purposes). Connection to a power supply is also a necessary part of the installation process.

You will be required to select the appropriate tools and equipment to use, based on the operations to be performed and the components to be worked on during the installation. You will be expected to use appropriate tools and techniques to position, level and align the equipment, and to make all necessary connections to the required electrical power supply. The installation activities will include making all necessary checks and adjustments to ensure that components are correctly positioned and aligned, have appropriate tension or working clearances, are tightened to the correct torque, and that they function as per the specification.

Your responsibilities will require you to comply with organisational policy and procedures for the installation activities undertaken, and to report any problems with the activities, tools or equipment used, that you cannot personally resolve, or are outside your permitted authority, to the relevant people. You must ensure that all tools, equipment and materials used in the installation activities are removed from the work area on completion of the work, and that all necessary job/task documentation is completed accurately and legibly. You will be expected to work to instructions, alone or in conjunction with others, taking personal responsibility for your own actions, and for the quality and accuracy of the work that you carry out.

The installation activity may be carried out as a team effort, but you must demonstrate a significant personal contribution to the installation activities, in order to satisfy the requirements of the standard, and you must demonstrate competence in all the areas required by the standard.

Your underpinning knowledge will be sufficient to provide a sound basis for your work, and will enable you to adopt an informed approach to applying procedures for stairlift installation. You will have an understanding of the equipment being installed, its installation requirements, the correct function of the equipment and associated problems, in adequate depth to provide a sound basis for carrying out the installation process safely and effectively. You will also understand the installation methods and procedures used, and their applications, in sufficient depth to be able to carry out the installation and ensure that the installed equipment functions to specification.

You will understand the safety precautions required when carrying out the installation activities, especially those for ensuring the safe isolation of services. You will be required to demonstrate safe working practices throughout, and will understand your responsibility for taking the necessary safeguards to protect yourself and others in the workplace.

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## Performance criteria

### *You must be able to:*

- P1 work safely at all times, complying with health and safety and other relevant regulations, directives and guidelines
- P2 follow all relevant drawings and specifications for the installation being carried out
  
- P3 use the correct tools and equipment for the installation operations and check that they are in a safe and usable condition
- P4 install, position and secure the equipment and components in accordance with the specification
- P5 ensure that all necessary connections to the equipment are complete
- P6 deal with problems within your control and report those that cannot be solved
- P7 check that the installation is complete and that all components are free from damage
- P8 complete and store all relevant documentation in accordance with organisational requirements

## Knowledge and understanding

### *You need to know and understand:*

- K1 how to work safely at all times, complying with health and safety and other relevant regulations, directives and guidelines
- K2 the importance of wearing the appropriate personal protective equipment (PPE), and of keeping the work area clean and tidy
- K3 how to obtain and interpret information from job instructions and other documentation used in the installation activities
- K4 the stairlift equipment to be installed, its function and operating procedures
- K5 methods of marking out the site for positioning the equipment, and the tools and equipment used for this
- K6 the various mechanical fasteners that will be used, and their method of installation
  
- K7 the different stairlift power supplies and associated control systems
- K8 procedures for ensuring that you have the correct tools, equipment, and fasteners for the installation activities
- K9 the types of tools and instruments used to position, secure and align the equipment
- K10 the techniques used to position, align, level, adjust and secure the stairlift equipment
- K11 methods of lifting, handling and supporting the stairlift equipment during the installation activities
- K12 methods of connecting mechanical devices
- K13 methods and techniques used to connect stairlift equipment to power supplies
- K14 why electrical bonding is critical, and why it must be both mechanically and electrically secure
- K15 the procedure for the safe disposal of waste materials
- K16 the measuring equipment used to check and adjust the installed equipment
- K17 how to conduct any necessary checks to ensure the equipment integrity, functionality, accuracy and quality of the installation
- K18 the tools and equipment used in the installation activities, and their calibration/care and control procedures
- K19 the issues that can occur with the installation operations, and how these can be overcome
- K20 the documentation to be completed for the installation activities, and who to pass

them to

K21 the extent of your own responsibility and to whom you should report if you have problems that you cannot resolve

### Scope/range related to performance criteria

1. Carry out all of the following before installing the stairlift equipment:
  - 1.1. check that the site is accessible and is free from obstructions or hazards
  - 1.2. check that installation documentation is complete and current (such as, drawings, instructions, manufacturer's data, settings and other documentation)
  - 1.3. confirm that the appropriate electrical supply is available
  - 1.4. check that the required installation consumables are available
  - 1.5. check that safety and environmental conditions have been met
  - 1.6. confirm that the site has been suitably prepared for the installation to take place
  - 1.7. check that consignment contents are correct to the customer specification/order, and are free from damage
  - 1.8. outline the installation process with the customer
  - 1.9. undertake the installation to cause minimal disruption to the customer
  
2. Carry out all of the following activities during the installation:
  - 2.1. adhere to procedures or systems in place for risk assessment, personal protective equipment and other relevant safety regulations and procedures to realise a safe system of work
  - 2.2. ensure the safe isolation of services during installation (such as mechanical, electricity)
  - 2.3. provide safe access and working arrangements for the installation area
  - 2.4. dispose of waste items in a safe and environmentally acceptable manner
  - 2.5. leave the work area in a safe condition and free from foreign object debris
  - 2.6. prepare components and assemblies for installation
  
3. Install all of the following AC or DC powered stairlifts:
  - 3.1. straight
  - 3.2. curved
  - 3.3. hinged
  
4. Apply installation methods and techniques, to include five of the following:
  - 4.1. marking out of locating and securing positions
  - 4.2. positioning equipment
  - 4.3. aligning equipment
  - 4.4. levelling equipment
  - 4.5. shimming and packing

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- 4.6. fixing by using adhesives and sealants
- 4.7. securing by using mechanical fixings
- 4.8. securing by using masonry fixings
- 4.9. applying screw fastener locking devices
  
5. Install all of the following stairlift components/sub-assemblies
  - 5.1. rails (such as fixings for wood, metal or concrete staircase)
  - 5.2. carriage assembly
  - 5.3. chair assembly
  - 5.4. rail furniture (such as charging ramps, stopping/slowing ramps)
  - 5.5. stairlift controls (such as hard wired, radio controlled, infrared)
  - 5.6. electrical wiring, cables and enclosures
  
6. Use two of the following during the installation activities:
  - 6.1. straight edges
  - 6.2. mechanical measuring instruments/devices
  - 6.3. electrical measuring devices
  - 6.4. plumb lines and taut wires
  - 6.5. levels
  - 6.6. tapes/rules
  
7. Make both of the following connections to the installed equipment:
  - 7.1. mechanical connections
  - 7.2. electrical connections
  
8. Carry out checks and adjustments, to include:
  - 8.1. testing to ensure that the equipment operates to the installation specification

plus, six more from the following:

  - 8.2. checking level and alignment
  - 8.3. electrical continuity
  - 8.4. electrical insulation resistance
  - 8.5. mains voltage and polarity
  - 8.6. battery voltage and condition
  - 8.7. continuity of protective conductors
  - 8.8. stall current and running current overloads
  - 8.9. making visual checks for completeness and freedom from damage

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- 8.10. making sensory checks (sight, sound, smell, touch)
- 8.11. ensuring that moving parts are clear of obstruction, and are guarded
- 8.12. ensuring that locking devices are fitted to fasteners (as appropriate)
  
- 9. Deal with two of the following conditions during the installation process:
  - 9.1. installations with no faults
  - 9.2. partial equipment malfunction
  - 9.3. complete malfunction of equipment
  
- 10. Produce installations which comply with all of the following, as appropriate to the equipment being installed:
  - 10.1. equipment manufacturer's installation specification
  - 10.2. customer requirements
  - 10.3. organisational standards and procedures
  - 10.4. BS, ISO and/or BSEN standards
  
- 11. Complete two of the following installation records, and pass it to the appropriate person:
  - 11.1. user guide
  - 11.2. installation work sheet
  - 11.3. organisational specific documentation
  - 11.4. electronic reports

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