

## Overview

This standard identifies the competences you need to install composite mouldings and assemblies in accordance with approved procedures. You will be required to use appropriate drawings, specifications and documentation to install composite mouldings and assemblies. You will be required to select the appropriate materials, tools and equipment to and use the correct techniques to complete the installation. You will also be expected to create or follow all necessary datums that are required to locate the components and assemblies correctly during the installation activities. You will complete a range of installations for composite mouldings and assemblies, using a range of techniques and processes.

Your responsibilities will require you to comply with organisational policy and procedures for the installation activities undertaken, and to report any problems with the assembly activities, equipment or components that you cannot personally resolve, or are outside your permitted authority, to the relevant people. You will be expected to work with a minimum of supervision, taking personal responsibility for your own actions and for the quality and accuracy of the work that you carry out. The installation activities will include making all necessary checks and adjustments to ensure that composite components and assemblies are correctly positioned and aligned and, where appropriate, that they function correctly.

Your underpinning knowledge will provide a good understanding of your work, and will provide an informed approach to applying installation techniques and procedures to composite mouldings. You will understand the installation requirements, techniques, fastening methods and their application, in adequate depth to provide a sound basis for carrying out the activities, correcting faults, and ensuring the finished installation is to the required specification.

You will understand the safety precautions required when carrying out the installation activities with composite mouldings, especially when working in confined spaces, and when using the associated materials, tools and equipment. You will be required to demonstrate safe working practices throughout, and will understand the responsibility you owe to yourself and others in the workplace.

## Performance criteria

*You must be able to:*

1. work safely at all times, complying with health and safety and other relevant regulations, directives and guidelines
2. follow the relevant instructions, installation drawings and any other specifications
3. ensure that the specified components are available and that they are in a usable condition
4. use the correct tools and equipment for the installation operations and check that they are in a safe and usable condition
5. use the appropriate methods and techniques to install, position and secure the components and mouldings in their correct positions
6. check the completed installation to ensure that all operations have been completed and the installed mouldings meet the required features and specification
7. complete relevant documentation
8. deal promptly and effectively with problems within your control and report those that cannot be solved
9. leave the work area in a safe and appropriate condition on completion of the activities

## Installing composite mouldings

## Knowledge and understanding

*You need to know and understand:*

1. the health and safety precautions to be taken and procedures used when working with composite materials, consumables, tools and equipment in the specific work area
2. the hazards associated with carrying out installation activities, and with the composite materials, consumables, tools and equipment used, and how to minimise these and reduce any risks
3. the protective equipment (PPE) that is needed for personal protection and, where required, the protection of others
4. the application of COSHH regulations in relation to the storage, use and disposal of composite materials and consumables
5. the specific environmental conditions that must be observed when producing composite mouldings (such as temperature, humidity, fume/dust extraction systems and equipment)
6. the safe working practices that are required when working in confined spaces (such as ventilation, use of flammable materials) and emergency procedures that may need to be followed
7. how to extract and use information from engineering drawings and related specifications (to include symbols and conventions to appropriate BS, ISO or BSEN standards) in relation to work undertaken
8. how to interpret drawings, imperial and metric systems of measurement, workpiece reference points and system of tolerancing
9. the quality procedures used in the workplace to ensure production control (in relation to currency, issue, meeting specification) and the completion of such documents
10. conventions and terminology used for installations activities (such as metric and imperial threads, rivet specifications, bonded joint types, clearances, types of fittings)
11. the types of component fettling/trimming/cutting methods and preparation methods available
12. the visual identification of cured composite materials and how to recognise the sub-assemblies and components and interpret labelling systems used
13. the need to check that all services are available and associated hoses and cables are in a safe and undamaged condition
14. how to prepare the installation area and sub-assemblies and use

- datums to level, set out and mark out assemblies prior to the installation
15. installation operations and their sequence
  16. the methods and equipment to be used for lifting, handling, supporting and manoeuvring the sub-assemblies into their correct positions during throughout the installation activities
  17. the techniques used to position, align, adjust and secure the components to the required surfaces without causing damage to the components or surrounding areas
  18. the various types of fixing devices that are used to secure the structures to the required surfaces (such as screws, cavity fixing devices, adhesives, nuts and bolts, rivets and blind fasteners)
  19. the importance of using the correct fasteners for the particular installation
  20. the use of sealants and adhesives, and the precautions to be taken when using them
  21. how to conduct any necessary checks to ensure the integrity, functionality, accuracy and quality of the installation
  22. how to recognise installation defects (such as misalignment, ineffective fasteners and damage or contamination)
  23. the problems that can occur with the installation operations, and how these can be overcome
  24. tools and equipment used in assembly activities, and their care, preparation and control procedures
  25. the extent of your own responsibility and to whom you should report if you have problems that you cannot resolve

## Installing composite mouldings

**Scope/range related  
to performance  
criteria**

1. Carry out all of the following during the installation activities:
  1. obtain and use the appropriate documentation (such as job instructions, drawings, material data sheets, specifications, planning and quality control documentation)
  2. adhere to procedures or systems in place for risk assessment, COSHH, personal protective equipment and other relevant safety regulations and procedures to realise a safe system of work
  3. obtain and check that all tools and equipment to be used are correct for the operation to be carried out and are in a safe and usable condition
  4. ensure where applicable, that service supplies required are available
  5. ensure there is sufficient room to complete the installation
  6. follow additional safe working practices when working in confined spaces, where applicable
  7. provide and maintain a safe working environment for the composite installation activities
  8. follow safe practice/approved composite installation techniques at all times
  9. return all tools and equipment to the correct location on completion of the installation activities
  10. segregate and dispose of waste materials using the correct procedure
  11. leave the work area in a safe and appropriate condition on completion of the activities
  
2. Carry out all of the following activities when preparing for the installation activity:
  1. check that composite mouldings/assemblies are correct and complete
  2. check for any defects in the composite mouldings/assemblies
  3. check that additional components are correct and complete
  4. select correct equipment for the activity
  5. check that equipment is suitable for use
  6. check availability of ancillary materials required
  7. identify and protect mouldings and components in the work area
  8. determine datum points for the installation and composite

mouldings/assemblies

3. Complete two of the following types of installation activity:
  1. trial installations
  2. one-off installations
  3. batch installations
  4. production line installations
  5. confined installations
  6. off-site installations
  
4. Use a range of measuring equipment and methods during the installation, to include three of the following:
  1. moulded datums
  2. tapes and rules
  3. laser trackers
  4. spirit levels
  5. laser levels
  6. alignment jigs/fixtures
  7. other (to be specified)
  
5. Use a range of tools and equipment during the installation, to include three of the following:
  1. hand tools
  2. power tools
  3. clamps/cramps
  4. lifting and handling equipment
  5. temporary fixing/supporting equipment
  6. other (to be specified)
  
6. Complete installations that require using four of the following features:
  1. loose fit tolerances
  2. close fit tolerances
  3. non-permanent fixing
  4. permanent fixing
  5. shape location
  6. joggle joins
  7. return joins
  8. overlap joins
  9. strap joins

10. other specific feature
7. Install mouldings using four of the following joining methods:
  1. pinning
  2. screws
  3. nuts and bolts
  4. rivets
  5. threaded inserts
  6. cavity fixing devices
  7. anchor nuts
  8. quick-release fasteners
  9. special purpose fasteners
  10. blind fasteners
  11. trimming/fettling
  12. adhesive bonding
  13. thermo welding
  14. laminating
  15. other (to be specified)
8. Produce a range of assemblies which comply with one of the following standards:
  1. BS, ISO or BSEN standards and procedures
  2. customer standards and requirements
  3. company standards and procedures
  4. recognised compliance agency/body standards
9. Complete the relevant documentation, to include one of the following:
  1. production documentation
  2. quality control documentation
  3. job cards

## Behaviours

You will be able to apply the appropriate behaviours required in the workplace to meet the job profile and overall company objectives, such as:

- strong work ethic
- positive attitude
- team player
- dependability
- responsibility
- honesty
- integrity
- motivation
- commitment



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