

Overview

This standard covers a broad range of basic competences that you need, to apply specified surface finishes by the application of coatings or coverings. It will prepare you for entry into the engineering or manufacturing sectors, creating a progression between education and employment, or it will provide a basis for the development of additional skills and occupational competences in the working environment.

You will be expected to prepare for the finishing activities by obtaining all necessary information, documentation, materials, tools and equipment, and to plan how you intend to carry out the required finishing activities.

You will be required to select the appropriate equipment to use, based on the finishing materials to be applied and the surface area to be covered. You will be expected to use the specified or appropriate techniques to prepare the surfaces in readiness for the application of the coatings or coverings. The finishing activities will include the application of sealers and primers, paints, varnish, stain, wax or polish, sheet roll, block or tile materials, using hand tools, brushes, rollers, pads, cloths, or spray equipment, as applicable to the task.

Your responsibilities will require you to comply with health and safety requirements and organisational policy and procedures for the preparation and finishing activities undertaken. You will need to take account of any potential difficulties or problems that may arise with the activities, materials and equipment, and to seek appropriate help and advice in determining and implementing a suitable solution. You will work under a high level of supervision, whilst taking responsibility for your own actions and for the quality and accuracy of the work that you carry out.

Your underpinning knowledge will provide an understanding of your work, and will enable you to apply appropriate preparation and hand finishing techniques and procedures safely. You will understand the preparation and finishing techniques used, and their application, and will know about the equipment, materials and consumables, to the required depth to provide a sound basis for carrying out the activities to the required specification.

You will understand the safety precautions required when carrying out the finishing operations, and when using the associated tools and equipment. 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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Finishing surfaces by applying coatings or coverings

Specific Standard Requirements

In order to prove your ability to combine different surface preparation and finishing activities, at least one of the finishing activities must be of a significant nature, and must cover **five** of the activities listed in scope 2.

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Performance criteria

- You must be able to:*
- P1 work safely at all times, complying with health and safety legislation, regulations and other relevant guidelines
 - P2 plan the surface finishing activities before you start them
 - P3 prepare the work surfaces in readiness to receive the appropriate coating or covering
 - P4 prepare the required coating or covering materials for use
 - P5 apply the coatings or coverings to the surfaces, using appropriate techniques and procedures
 - P6 check that the finished surface achieves the required characteristics and meets the finishing specification
 - P7 deal promptly and effectively with problems within your control, and seek help and guidance from the relevant people if you have problems that you cannot resolve
 - P8 dispose of waste material safely and correctly, in line with organisational procedures
 - P9 leave the work area in a safe condition on completion of the finishing activities

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Knowledge and understanding

You need to know and understand:

- K1 the specific health and safety precautions which must be taken when preparing surfaces and applying surface coatings and coverings (such as wearing protective clothing and protective equipment, using fume and dust extraction equipment)
- K2 the hazards associated with preparing surfaces and applying surface coatings and coverings (such as using chemicals for cleaning activities, dust and fume inhalation, use of power tools and abrasive discs; including the hazard information to be found in manufacturers' data sheets), and how they can be minimised
- K3 the personal protective equipment (PPE) to be used; how to obtain it and check that it is in a safe and usable condition (such as eye protection, overalls, face masks, breathing equipment)
- K4 the requirements for working in confined spaces, and safe systems of work (including required air quantities (RAQs) and local exhaust ventilation (LEV) to maintain safe conditions; the provision of adequate and safe lighting and avoidance of sources of ignition)
- K5 the importance of ensuring that fume extraction equipment is operating effectively, and that good housekeeping and fire prevention procedures are observed
- K6 the importance of following job instructions and defined surface finishing procedures
- K7 the surface preparation methods and techniques to be undertaken, prior to applying the coatings or coverings (such as carrying out repairs to the surface or making good any damaged or defective surfaces; stripping off old materials; using solvents to remove dirt and grease; masking surfaces to prevent overspill/spray)
- K8 the specific coatings or coverings to be used, and the types of surfaces for which they are best suited (such as liquid coatings, coverings in sheet, roll or tile form)
- K9 how to determine quantities of finishing materials required and, where applicable, mixing materials to achieve the required colour, viscosity or adhesive strength
- K10 the preparation methods and techniques for mixing paints, varnishes, lacquers, stains and polishes
- K11 the various methods of applying the required finishes (such as using brushes, rollers, paint pads, cloths, adhesive spreaders and spray equipment)
- K12 the safe operation of spray equipment, and the effects of air pressure variance on the spray quality
- K13 the time intervals that are required between coats, and why these must be adhered to
- K14 the use of lamps and heaters to aid the drying of the coatings or coverings

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- K15 cleaning and maintenance procedures for the tools and equipment that are used (such as brushes, rollers, adhesive spreading tools and spray equipment)
- K16 the procedures for dealing with used consumables and surplus coatings or coverings safely and correctly
- K17 how to check and assess the finished work (such as for appearance, colour, coating thickness, coverage and adhesion)
- K18 recognition of defects (such as bubbles, contamination, runs and other surface defects)
- K19 the problems that can occur with the finishing operations, and how these can be overcome
- K20 when to act on your own initiative and when to seek help and advice from others
- K21 the importance of leaving the work area and equipment in a safe and clean condition on completion of the finishing activities (such as returning tools and equipment to the designated location, cleaning the work, area and removing and disposing of waste)

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Additional Information

Scope/range related to performance criteria

- You must be able to:*
1. Carry out **all** of the following during the surface finishing activities:
 - 1.1 adhere to procedures or systems in place for risk assessment, COSHH, personal protective equipment (PPE) and other relevant safety regulations
 - 1.2 follow job instructions and finishing specifications and procedures
 - 1.3 check that the tools and finishing equipment that you need (such as brushes, rollers spray equipment, hoses, hand tools) are in a safe and usable condition
 - 1.4 where appropriate, ensure that dust extraction and air filtering equipment is functioning correctly
 - 1.5 provide a suitable means for curing the coating (such as heating, or air supply to assist curing)

 2. Prepare the surface to be finished, to include carrying out **six** of the following:
 - 2.1 stripping old finishes
 - 2.2 flattening down
 - 2.3 filling
 - 2.4 pre-surface treatments
 - 2.5 cleaning/degreasing
 - 2.6 masking up
 - 2.7 sealing
 - 2.8 re-activating treatments
 - 2.9 mechanical surface preparation

 3. Prepare the coating or covering materials for application, to include carrying out **all** of the following:
 - 3.1 obtaining the correct types and quantities of materials
 - 3.2 ensuring that the correct mixing ratios are adhered to
 - 3.3 checking that the prepared coating material is of the correct viscosity/consistency
 - 3.4 ensuring that the prepared material has been left for the required induction period (if applicable)
 - 3.5 ensuring that the prepared material is at the temperature recommended for application

Plus **one** of the following:

 - 3.6 mixing base materials (such as primers, sealers)
 - 3.7 preparing adhesives

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- 3.8 mixing finishing materials (such as final colour, stain, polish)
- 3.9 preparing cleaning materials (such as degreasing)

- 4. Apply coatings or coverings to **two** of the following materials:
 - 4.1 wood based
 - 4.2 composite (such as glass fibre, Kevlar)
 - 4.3 ceramic
 - 4.4 ferrous material
 - 4.5 pre-painted surfaces
 - 4.6 plaster/brick/concrete
 - 4.7 non-ferrous material

- 5. Apply liquid coatings such as primer/undercoat and finishing coats, using **four** of the following finishing materials:
 - 5.1 sanding sealer
 - 5.2 petroleum based
 - 5.3 French polish
 - 5.4 water based paints
 - 5.5 polyurethane varnish
 - 5.6 temporary protective coatings
 - 5.7 oil/alkyd based paints
 - 5.8 lacquer
 - 5.9 mastics
 - 5.10 synthetic paints
 - 5.11 stain
 - 5.12 bituminous or rubber paints
 - 5.13 two component polyurethane paint
 - 5.14 wax
 - 5.15 other special finishes (specify)

or apply coverings which are decorative, insulative or protective, to include three of the following:

 - 5.16 paper based
 - 5.17 composite
 - 5.18 wood
 - 5.19 polymer based
 - 5.20 metallic
 - 5.21 ceramic

- 6. Apply finishes to a range of surfaces, to include **four** of the following:
 - 6.1 flat
 - 6.2 overhead
 - 6.3 horizontal
 - 6.4 curved or cylindrical
 - 6.5 vertical
 - 6.6 corners (such as outside corners, edges, 'obscured' corners)

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7. Check that the completed surface finishes or coverings comply with **all** of the following:
 - 7.1 the final finish or covering is in line with the specification or job requirements
 - 7.2 the final finish achieves acceptable colour match and, where applicable, gloss levels
 - 7.3 the finished surface is free from defects (such as runs, drips, bubbles, unevenness)
 - 7.4 the finished surface meets customer/company requirements

8. Tidy up the work area on completion of the coating or covering activities, to include carrying out **all** of the following:
 - 8.1 disposing of excess or unused materials, in accordance with approved procedures
 - 8.2 cleaning containers to be reused
 - 8.3 disposing of non-reusable containers, in accordance with approved procedures
 - 8.4 cleaning and returning all tools and excess materials to their designated location
 - 8.5 disposing of waste materials and used solvents, in accordance with approved procedures

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