

Overview

This standard identifies the competences you need to apply marine coatings to various substrates, using brushes or rollers, in accordance with approved procedures. You will be required to obtain all necessary information in order to carry out the coating operations. You will be required to check that all surfaces to be coated have been prepared, in accordance with the process specification and that any necessary exclusion, containment, masking, protection and ventilation requirements are implemented. You will be expected to select the appropriate brushes and/or rollers and to ensure that they are fit for purpose. You will be expected to apply a variety of coatings in a number of shipyard and shipboard environments.

Your responsibilities will require you to comply with organisational policy and procedures for the brush or roller coating activities undertaken and to report any problems with these activities that you cannot personally resolve, or are outside your permitted authority, to the relevant people. 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.

Your underpinning knowledge will be sufficient to provide a sound basis for your work and will provide an informed approach to applying liquid marine coatings by brush or roller. You will have an understanding of the coating procedures and techniques used and their application. You will know about the substrates, their preparation requirements, coating materials and their preparation requirements, in sufficient depth to provide a sound basis for carrying out the activities and for ensuring that the coated surfaces are to the required standards.

You will understand the safety precautions required when carrying out the brushing or rolling operations. You will be required to demonstrate safe working practices throughout and will understand the responsibility you owe to yourself and to 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. ensure the material surfaces to be treated are suitably prepared for the finishing operations to be carried out
3. check that the finishing equipment and coatings are set up and maintained at satisfactory operating conditions and levels
4. carry out the application process in accordance with operating procedures and the component specification
5. ensure that the treated workpiece achieves the required characteristics and meets the finishing specification
6. deal promptly and effectively with problems within your control and report those that cannot be solved
7. dispose of waste and excess materials in line with agreed organisational procedures
8. shut down the finishing equipment to a safe condition, and reinstate the work area on completion of the processing activities

Knowledge and understanding

You need to know and understand:

1. the safe working practices and procedures to be observed when working with marine coatings (such as general workshop and site safety; appropriate personal protective equipment (PPE); protecting other workers from the effects of the work, safety in enclosed/confined spaces, working at height, use of mobile elevated work platforms (MEWPs), atmospheric controls)
2. statutory requirements, risk assessment procedures and relevant requirements of HASAWA, COSHH, (such as the Management of Health and Safety at Work Regulations, the Provision and use of Work Equipment Regulations; the Confined Space Regulations; the Special Waste Regulations; the Pollution Prevention and Control Regulations; the Water Resources Act)
3. the hazards associated with the storage of, the preparation of, and the disposal of marine coating products (including the information to be found in manufacturers' data sheets and in Chemical Hazard Information and Packaging for Supply (CHIPS) data sheets)
4. the requirements for working in confined spaces, and the importance of emergency procedures and safe systems of work (including safe evacuation, closing down compartments, permits to work, 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)
5. how particular procedures and materials can result in a compartment or space (such as an accommodation space or tented enclosure) becoming a confined space
6. the importance of having regular medical examinations when using solvent based materials
7. the personal protective equipment (PPE) to be worn during the coating activity
8. the characteristics of, and the applications for, marine coatings products (including the use of manufacturers' data sheets, requirements for the application of particular coating systems, and contractual specifications)
9. the need to ensure that the substrates have been prepared correctly for the coatings to be applied
10. the importance of maintaining appropriate environmental conditions for the application and curing of the marine coating products
11. the time intervals that are required between coats and why these must be

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adhered to

12. the procedures for the safe handling and use of coating materials and solvents

13.

the use of paint thinners to adjust the viscosity of the product being applied

14.

selection of the application equipment, to suit the materials and the finish required
(to include brushes, rollers, paint pads, suitable containers)

15. the techniques required to avoid defects arising from application errors or
problems for the application of marine coating products to a variety of surfaces

16. why tool/equipment control is critical and what to do if a tool or piece of
equipment is unaccounted for on completion of the activities

17. the correct use of stripe coating

18. the requirements for working afloat, on outer bottoms and at heights

19. the procedure to contain and to clear away spillages and the safe and
appropriate disposal of waste materials

20. the identification of faults in application and their causes and correction

21. simple non-destructive testing procedures to ensure that adhesion and other
required performance qualities are achieved

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

Scope/range related to performance criteria

1.

Ensure that the appropriate measures are implemented before commencing application of the coatings, to include carrying out all of the following:

- 1.1 use appropriate health and safety documentation, including CHIPS data and risk assessments
- 1.2 wear appropriate personal protective equipment (PPE) at all times during the coating operations
- 1.3 ensure that appropriate exclusion zones and containment facilities are set up
- 1.4 confirm that appropriate emergency arrangements are in place for any confined space or hazardous work (where applicable)
- 1.5 ensure that brushes, rollers and other tools are correctly prepared for the paint application operations
- 1.6 carry out masking up and provide weather protection for the areas to be coated
- 1.7 provide a suitable means for curing the coating (such as heating, air supply to assist curing)
- 1.8 leave the work area in a safe and clean condition on completion of the activities

2.

Apply coatings, by brush or roller, to marine structures incorporating six of the following features:

- 2.1 corners (such as outside corners, edges, 'obscured' corners)
- 2.2 vertical flat surfaces
- 2.3 inclined surfaces
- 2.4 curved surfaces
- 2.5 slender components
- 2.6 horizontal flat surfaces
- 2.7 overhead surfaces
- 2.8 round parts

3.

Apply coatings, by brush or roller, in six of the following situations:

- 3.1 confined spaces (such as tanks, voids, double bottoms)
- 3.2 internal spaces
- 3.3 at height
- 3.4 weatherwork
- 3.5 outer bottoms
- 3.6 weather decks
- 3.7 machinery

4.

Apply stripe coatings to all of the following:

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- 4.1 corners/outside corners
- 4.2 'obscured' corners and edges
- 4.3 edges
- 4.4 welds

5.

Apply marine coatings in both of the following environments:

- 5.1 ashore
- 5.2 afloat

6.

Apply coatings to all of the following substrates

- 6.1 uncoated ferrous material
- 6.2 previously coated ferrous material
- 6.3 uncoated non-ferrous material
- 6.4 previously coated non-ferrous material

Plus two from the following:

- 5. uncoated composite material
- 6. previously coated composite material
- 7. uncoated compliant polymers
- 8. previously coated compliant polymers
- 9. uncoated wood
- 10. previously coated wood
- 11. other coated materials
- 12. other uncoated materials

1.

Apply four of the following marine coatings:

- 1.1 holding primer (touch up)
- 1.2 water based acrylics
- 1.3 solvent based epoxies
- 1.4 water based epoxies
- 1.5 alkyds/silicone alkyds
- 1.6 bituminous paints
- 1.7 two component polyurethane paints
- 1.8 vinyl tar paints
- 1.9 zinc ethyl silicate paints
- 1.10 tar epoxy paints
- 1.11 mastics
- 1.12 non-skid deck paints
- 1.13 anti-fouling coatings (touch up)
- 1.14 chlorinated rubber paints
- 1.15 other specific coating

2.

Apply coatings manually, using the appropriate techniques to achieve all of the

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following:

- 2.1 correct film thickness
- 2.2 smooth surface free from runs or drips
- 2.3 uniform and complete coverage of the surface to be coated

3.

Check coating thickness using one of the following methods:

- 3.1 wet film thickness gauge (combs)
- 3.2 magnetic/electronic dry film thickness gauge (cured coating)

4.

Apply coatings to components, in accordance with one of the following standards:

- 4.1 BS, EN or ISO standards and procedures
- 4.2 customer (contractual) standards and requirements
- 4.3 company standards and procedures
- 4.4 paint/covering manufacturer's recommendations
- 4.5 recognised compliance agency/body's standards

5.

Reinstate the work area on completion of the manual coating activities, to include carrying out all of the following:

- 5.1 cleaning all brushes, rollers and containers, and returning all tools and excess materials
- 5.2 removing protection and exclusion arrangements (if no longer required)
- 5.3 contributing to the completion of all relevant documentation (such as condition/pre-treatment of substrates, coating material preparation, equipment settings, confirmation of standard of finish)

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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