

Overview

This standard identifies the competences needed to spray vehicle body surfaces, in accordance with approved procedures. You will be required to select and prepare materials, and to spray vehicle body components, using appropriate equipment and techniques. You will also be expected to carry out the spraying process using a variety of methods and techniques, and to check that it has been completed to the level of accuracy and quality required by the specifications.

Your responsibilities will require you to comply with organisational policy and procedures for the spraying and finishing of vehicle body surfaces, and to report any problems with these activities to the relevant authority. You will be expected to work with a minimum of supervision, taking full responsibility for your own actions and for the quality and accuracy of the work that you produce.

Your underpinning knowledge will provide a good understanding of your work, and will provide an informed approach to applying procedures appropriate to the body spraying process. You will understand the spraying methods and techniques used, and their application. You will also know about the ancillary equipment, and the properties and workability of materials and consumables, 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 spraying activities. 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, assembly drawings and any other specifications
3. ensure the material surfaces to be treated are suitably prepared for the finishing operations to be carried out
4. check that the finishing equipment and treatment solutions are set up and maintained at satisfactory operating conditions and levels
5. carry out the spraying process in accordance with operating procedures and the component specification requirements
6. ensure that the sprayed work piece achieves the required characteristics and meets the finishing specification
7. deal promptly and effectively with problems within your control and report those that cannot be solved
8. dispose of waste and excess materials in line with agreed organisational procedures
9. ensure that work records are completed, stored securely and available to others as per organisational requirements
10. leave the work area in a safe condition on completion of the activities, as per organisational and legal requirements

Knowledge and understanding

You need to know and understand:

1. the specific safety precautions to be taken whilst carrying out the activities (including any specific legislation, regulations or codes of practice relating to the activities, equipment or materials)
2. the health and safety requirements of the work area and activities and the responsibility these requirements place on you
3. the personal protective equipment and clothing (PPE) to be worn during the activities
4. the hazards associated with the activities (fumes, paint spray, chemical reactions, compressed air, solvents) and how to minimise them and reduce any risks
5. the specific health and safety precautions to be followed for the lifting and handling components and associated holding devices during the spraying process
6. the procedures for obtaining the various types of drawing, job instructions and specifications that are used during the spraying process, and how to interpret them correctly
7. how to prepare paint materials to meet the required specification such as paint mix, viscosity and colour match
8. the methods and techniques used for spraying at different angles and orientations
9. the specific health and safety precautions to be followed for the storage and use of spraying materials, and their effect on the environment and others working in the area
10. how to prepare spraying materials to ensure they meet specification
11. the appropriate clean room techniques and procedures to be adopted, to ensure contaminant-free components, prior to spraying
12. factors affecting the coating of paints on components and the techniques to overcome them (overspray, underspray, aeration)
13. the various methods of holding and clamping components to be sprayed, and their effects on the spraying technique
14. the methods and equipment used to transport, handle and lift the components into position, and how to check that the equipment is within its current certification dates

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15. the correct and safe procedure for cleaning and storing the spraying equipment
16. the problems associated with spraying equipment and the application of routine maintenance
17. the defects incurred during the spraying process and how to resolve them
18. the quality control procedures to be followed during the spraying operations
19. how to check that the tools and equipment to be used are correctly calibrated and are in a safe, tested and serviceable condition
20. the importance of ensuring that all tools are used correctly and within their permitted operating range
21. the correct and safe procedure to be adopted for the disposal of all waste materials
22. how to deal with problems during spraying operations the extent of your own responsibility and to whom you should report if you have problems that you cannot resolve
23. how to access, use and maintain information to comply with organisational requirements and legislation

Scope/range related to performance criteria

1.

Carry out all of the following activities during the finishing process:

- 1.1 obtain and use the appropriate documentation (such as job instructions, material data sheets, quality control documentation)
- 1.2 adhere to procedures or systems in place for risk assessment, hazardous substances, personal protective equipment and other relevant safety regulations and procedures to realise a safe system of work
- 1.3 check that all cables, extension leads or air supply hoses are in a safe, tested and serviceable condition
- 1.4 check that all tools and equipment to be used are within current calibration/certification dates
- 1.5 ensure that body panels and components to be sprayed have been correctly prepared
- 1.6 maintain the spraying equipment in a safe and usable condition at all times
- 1.7 use safe and approved spraying techniques at all times
- 1.8 return all tools and equipment to the correct location on completion of the spraying activities
- 1.9 leave the work area in a safe and appropriate condition on completion of the activities

2.

Carry out the spraying of the vehicle body and components, to include one of the following:

- 2.1 hand spraying
- 2.2 automated spraying
- 2.3 electrostatic-charge spray

3.

Use a variety of methods and techniques to spray materials onto the vehicle body, to include four of the following:

- 3.1 vertical spray path
- 3.2 horizontal spray path
- 3.3 masked areas
- 3.4 automated control spray
- 3.5 internal contours

4.

Use a variety of methods for securing components ready for spraying, including two of the following:

- 4.1 jig/body trucks
- 4.2 jigs
- 4.3 racks/carriers
- 4.4 conveyor racks

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5.

Carry out spraying using a variety of materials, including three of the following:

- 5.1 primers
- 5.2 underseals
- 5.3 undercoats
- 5.4 coloured finishes
- 5.5 lacquers

6.

Produce sprayed components which comply with all of the following quality and accuracy standards:

- 6.1 components are free from excess paint runs
- 6.2 components are free from aeration
- 6.3 components are free from underspray/opacity faults
- 6.4 surface has no contaminants
- 6.5 all quality control checks have been achieved

7.

Carry out routine cleaning prior to storage/colour change of spraying equipment, to include two of the following:

- 7.1 filters
- 7.2 spray lines/pipes
- 7.3 nozzles
- 7.4 spray guns
- 7.5 pots

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