

Applying aircraft paint finishes by hand

Overview

This standard identifies the competences you need to apply aircraft paint finishes by hand, in accordance with approved procedures. It covers both fixed wing and rotary winged aircraft. You will be required to use appropriate job instructions, specifications, tools and equipment to paint parts of the aircraft by hand. You will be expected to use the specified or appropriate process and techniques to degrease, prime and colour the various parts, using brushes and rollers as applicable to the task.

Your responsibilities will require you to comply with organisational policy and procedures for the painting activities undertaken and to report any problems with the painting, components or equipment that you cannot personally resolve, or that 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.

Your underpinning knowledge will provide a good understanding of your work and will provide an informed approach to applying hand painting techniques and procedures. You will understand the painting procedures used, and their application, and will know about the hand painting techniques, paints and equipment used, in adequate 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 painting operations. You will be required to demonstrate safe working practices throughout and will understand the responsibility you owe to yourself and others in the workplace.

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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 that material surfaces to be treated are suitably prepared for the finishing operations to be carried out
3. check that the finishing equipment and treatment solutions are set up and maintained at satisfactory operating conditions and levels
4. apply paint finishes in accordance with operating procedures and the component specification requirements
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 on completion of the processing activities
9. complete the relevant documentation, in accordance with organisational requirements
10. leave the work area and components in a safe and appropriate condition, free from foreign object debris on completion of the activities

Knowledge and understanding

You need to know and understand:

1. the specific safety precautions to be taken whilst carrying out the application of paint finishes (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 in which you are carrying out the finishing activity and the responsibility these requirements place on you
3. the hazards associated with painting aircraft components and with the materials and equipment used and how to minimise them and reduce any risks
4. the personal protective equipment and clothing (PPE) to be worn during the finishing activity
5. the various types of drawing and specifications that are used during the finishing activity
6. the surface treatment methods and techniques to be undertaken prior to the finishing
7. the preparation methods and techniques for mixing paints and varnishes
8. the procedures for the transportation and storage of finishing materials
9. the equipment care and control procedures (such as fume extraction systems)
10. cleaning and maintenance procedures for brushes and rollers
11. the surface treatments available and their characteristics and use (such as degreasers, solvents and soap washes, colours, alacrom, epoxy, polyurethane, acrylic, walkway, varnish, urethane)
12. the procedures for dealing with waste materials
13. recognition of defects (such as bubbles, foreign object damage, contamination and surface defects)
14. the tools and equipment used in the activities and their preparation, care and control procedures
15. 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
16. the problems that can occur with the finishing operations and how these can be overcome
17. the recording documentation to be completed for the finishing activities undertaken and where appropriate, the importance of marking and identifying specific pieces of work in relation to the documentation
18. the extent of your own responsibility and to whom you should report if you have

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problems that you cannot resolve

Scope/range related to performance criteria

1.

Carry out all of the following during the finishing process:

- 1.1 obtain and use the appropriate documentation (such as job instructions, aircraft standards and specifications material data sheets, planning and quality control documentation)
- 1.2 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
- 1.3 provide and maintain a safe working environment for the finishing activities
- 1.4 obtain the correct tools and equipment for the activity and check that they are in a safe, tested and usable condition and within current calibration date
- 1.5 prepare the tools and equipment in readiness for the painting operations
- 1.6 use appropriate techniques and procedures to produce the required finish on the aircraft components
- 1.7 clean all tools and equipment on completion of the painting activities
- 1.8 return all tools and equipment to the correct location on completion of the activities

2.

Apply finishes to two of the following aircraft components:

- 2.1 details
- 2.2 sub-assemblies
- 2.3 major assemblies
- 2.4 blades and shafts (helicopters only)

3.

Apply finishes to parent materials, to include three of the following:

- 3.1 bare metal (ferrous)
- 3.2 bare metal (non-ferrous)
- 3.3 non-metallic
- 3.4 painted
- 3.5 primed
- 3.6 other specific material

4.

Prepare for the finishing operations by carrying out six of the following activities:

- 4.1 degreasing and cleaning
- 4.2 masking
- 4.3 mixing of colour
- 4.4 flattening down
- 4.5 re-activating treatments
- 4.6 surface pre-treatments
- 4.7 mixing primers
- 4.8 sealing

5.

Apply four types of finishing material from the following, using brushes or rollers:

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- 5.1 alacrom
- 5.2 polyurethane
- 5.3 walkway
- 5.4 temporary protective coatings
- 5.5 acrylic
- 5.6 epoxy
- 5.7 varnish
- 5.8 urethane
- 5.9 other specific finishes

6.

Apply finishes using appropriate techniques to achieve all of the following:

- 6.1 required tolerances
- 6.2 gloss levels
- 6.3 colour match

7.

Use three of the following consumables:

- 7.1 masking medium and tape
- 7.2 rubbing paper
- 7.3 abrasive pads
- 7.4 cleaning materials
- 7.5 other specific consumable

8.

Apply finishes in compliance with one of the following standards:

- 8.1 Civil Aviation Authority (CAA)/European Aviation Safety Agency (EASA)
- 8.2 Ministry of Defence (MoD)
- 8.3 Military Aviation Authority (MAA)
- 8.4 customer standards and requirements
- 8.5 Aerospace Quality Management Standards (AS)
- 8.6 Federal Aviation Authority (FAA)
- 8.7 company standards and procedures
- 8.8 BS, ISO or BSEN standards and procedures
- 8.9 manufacturers standards and procedures

9.

Complete the relevant paperwork, to include one from the following and pass it to the appropriate people:

- 9.1 build records
- 9.2 log cards
- 9.3 job cards
- 9.4 aircraft log
- 9.5 other specific recording method

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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