



Australian Government

Department of Education, Employment and Workplace Relations

MEA417A Apply specialty coatings to aircraft

Revision Number: 2

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Modification History

Minor formatting and editorial changes made. Prerequisite unit version code updated.

Unit Descriptor

This unit covers the competencies required to apply a range of specialty coatings to aircraft. No licensing requirements apply to this unit at the time of publication, but compliance with legislation and regulations governing handling and disposal of hazardous materials is included in the unit. This unit is used in workplaces that operate under the airworthiness regulatory systems of the ADF and CASA.

Application of the Unit

This unit requires application of skills and knowledge relating to the preparation and application of a range of specialty coatings to aircraft using application methods applicable to the specific coating material.

Applications include fixed and rotary wing aircraft and aircraft.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

MEA101B	Interpret occupational health and safety practices in aviation maintenance
MEA103B	Plan and organise aviation maintenance work activity
MEA105C	Apply quality standards applicable to aviation maintenance processes
MEA107B	Interpret and use aviation maintenance industry manuals and specifications
MEA108B	Complete aviation maintenance industry documentation
MEA109B	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

1. Determine specialty coating requirements
 - 1.1. **Specialty coating** requirements are identified from maintenance documentation and enterprise procedures
 - 1.2. Enterprise procedures and maintenance publications are used to identify materials and tools to be used for specialty coating application
 - 1.3. Aircraft or component identification is matched with relevant maintenance documentation
2. Prepare surface for coating application
 - 2.1. **OHS requirements** are identified and complied with and PPE is checked for correct fit and function
 - 2.2. **Materials and equipment** required for specialty coating application are assembled
 - 2.3. Surfaces are cleaned and degreased in accordance with enterprise procedures
 - 2.4. Final finishing of surfaces is performed in accordance with enterprise procedures and/or process specifications
 - 2.5. Reject parts and surfaces are identified, recorded and reported in accordance with standard enterprise procedures
 - 2.6. Masking is applied to relevant areas
3. Prepare and apply coating
 - 3.1. The required coating is prepared in accordance with manufacturer's specifications and directions
 - 3.2. Coating mix is inspected in accordance with enterprise procedures and/or process specifications
 - 3.3. Coating is applied to the required surfaces in accordance with enterprise procedures and/or process specifications
 - 3.4. Coating is inspected for coating thickness and quality compliance with enterprise procedures and/or process specifications
 - 3.5. **Defects in the coating** are identified and rectified, as required
 - 3.6. Masking materials are removed and final cleaning of surfaces is performed
 - 3.7. Documentation is completed in accordance with standard enterprise procedures.
4. Clean up work area and maintain equipment
 - 4.1. Waste material is removed and disposed of or stored in accordance with **legislative, regulatory and enterprise procedures**
 - 4.2. Equipment is cleaned in accordance with enterprise procedures or manufacturer's instructions
 - 4.3. Equipment is checked for serviceability and unserviceable items are dealt with in accordance with enterprise procedures
 - 4.4. Tools are cleaned and maintained in accordance with

enterprise procedures
4.5. Work area is cleaned and inspected for serviceable condition

Required Skills and Knowledge

Required skills

Look for evidence that confirms skills in:

- applying OHS procedures relating to specialty coating application, including the selection and correct use of PPE
- using procedures, process specification and manufacturer's data to identify coating preparation and application requirements
- selecting and applying masking materials
- selecting and using correct specialty coating
- using MSDS
- selecting and using applicable coating application methods
- cleaning and preparing surfaces for coating application
- correctly disposing of waste materials
- cleaning and maintaining equipment and tools

Required knowledge

Look for evidence that confirms knowledge of:

- relevant enterprise procedures and maintenance publications
- OHS procedures relating to the application of specialty aerospace coatings, including PPE
- relevant data from manufacturers of specialty coatings
- how to obtain MSDS
- criticality of areas of aircraft structure with regard to coating application
- cleaning processes and chemicals used to prepare surfaces for coating application
- coating application methods
- masking materials
- environmental legislation and regulations relating to the storage, use and disposal of hazardous materials

Evidence Guide

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	A person who demonstrates competency in this unit must be able to correctly apply a range of aerospace specialty coatings to aircraft surfaces in accordance with specified procedures and drawings while using the correct PPE and observing all relevant safety precautions and environmental protection processes.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	The underlying skills inherent in this unit should be transferable across a range of specialty coating application tasks associated with aircraft. It is essential that cleanliness requirements and safety precautions, including the correct use of PPE, and application of environmental protection procedures are fully observed, understood and complied with. Ability to interpret drawing and specification requirements and application procedures and apply them in practice is critical. Evidence of transferability of skills and knowledge related to the application of a range of specialty coatings is essential. This is to be demonstrated through application of various types of specialty coatings as listed in the Range Statement across a range of aircraft applications. The work plan should take account of applicable safety and quality requirements in accordance with the industry and regulatory standards. A person cannot be assessed as competent until it can be demonstrated to the satisfaction of the workplace assessor that the relevant elements of the unit of competency are being achieved under routine supervision on a minimum of two (2) types of specialty coating on at least three (3) application tasks. This shall be established via the records in the Log of Industrial Experience and Achievement or, where appropriate, an equivalent Industry Evidence Guide.
Context of and specific resources for assessment	Competency should be assessed in the workplace or simulated workplace using materials, tools and equipment specified in the maintenance manuals and applicable procedures. It is also expected that general and special purpose tools and ground support equipment would be used where appropriate.

Method of assessment	
Guidance information for assessment	

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Application	Application of this unit may relate to: • scheduled or unscheduled maintenance • individual or team-related activities
Procedures and requirements	Refer to industry standard procedures specified by manufacturers, regulatory authorities or the enterprise
Specialty coatings	Specialty coatings may include: • specialised inner layer coatings • engine coatings • leading edge coatings • radome coatings • waterborne heatproof paints • walkway compounds • fuel tank coatings • heatproof coatings • electrical conductive coatings
OHS requirements	OHS requirements are identified from relevant: • state/territory/Commonwealth OHS legislation, regulations and codes • procedures manual • safety manual • work instructions • maintenance organisation manual • MSDS • Defence regulations and instructions • standing instructions
Materials and equipment	Materials and equipment may include: • chemicals • cleaning materials • specialty coating material • various spray guns • brush • roller

	• trowel • PPE • baking oven • heat lamps • electrical test equipment • wet film thickness gauges
Defects in the coating	Defects in the coating may include: • sags • runs • delamination • imperfections • dry spray • contamination • over-spray • egress
Legislative, regulatory and enterprise procedures	Legislative, regulatory and enterprise procedures may include: • state/territory/Commonwealth environmental legislation, regulations and codes for the storage and disposal of hazardous and toxic materials • MSDS • maintenance organisation manual • procedures manual • work instructions • relevant Defence regulations and instructions • standing instructions

Unit Sector(s)

Aviation maintenance

Competency field

Co-requisite units

Not applicable