



Australian Government

MEA417 Apply specialty coatings to aircraft

Release: 2

MEA417 Apply specialty coatings to aircraft

Modification History

Release 2. Equivalent to MEA417 Apply specialty coatings to aircraft with amended prerequisite codes.

Application

This unit of competency requires application of skills and knowledge relating to the preparation and application of a range of specialty coatings to fixed and rotary wing aircraft and aircraft components using application methods applicable to the specific coating material during the performance of scheduled or unscheduled maintenance. Work may be performed individually or as part of a team.

No licensing requirements apply to this unit at the time of publication, but compliance with legislation and regulations for the handling and disposal of hazardous materials is included in the unit.

The unit is used in workplaces that operate under the airworthiness regulatory systems of the Australian Defence Force (ADF) and the Civil Aviation Safety Authority (CASA).

Pre-requisite Unit

MEA107	Interpret and use aviation maintenance industry manuals and specifications
MEA154	Apply work health and safety practices in aviation maintenance
MEA155	Plan and organise aviation maintenance work activities
MEA156	Apply quality standards during aviation maintenance activities
MEA157	Complete aviation maintenance industry documentation
MEA158	Perform basic hand skills, standard trade practices and fundamentals in aviation maintenance

Competency Field

Aviation maintenance

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
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	Work health and safety (WHS) requirements are identified and complied with and personal protective equipment (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 while observing all relevant WHS requirements, including the use of material safety data sheets (MSDS) and items of PPE
		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 while observing all relevant WHS requirements, including the use of MSDS and items of PPE
	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

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Procedures and

- Industry standard procedures specified by manufacturers,

requirements include:	regulatory authorities or the enterprise
Specialty coatings 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
WHS requirements are identified from relevant:	• Commonwealth/state/territory WHS legislation, regulations and codes • Procedures manuals • Safety manuals • Work instructions • Maintenance organisation manuals • MSDS • Defence regulations and instructions • Standing instructions
Materials and equipment 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 include:	• Sags • Runs • Delamination • Imperfections • Dry spray • Contamination • Over-spray • Egress
Legislative, regulatory and enterprise procedures	• Commonwealth/state/territory environmental legislation, regulations and codes for the storage and disposal of

include:

- hazardous and toxic materials
- MSDS
- Maintenance organisation manuals
- Procedures manuals
- Work instructions
- Relevant Defence regulations and instructions
- Standing instructions

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=ce216c9c-04d5-4b3b-9bcf-4e81d0950371>

Assessment Requirements for MEA417 Apply specialty coatings to aircraft

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Performance Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria under the specified conditions of assessment, and must include:

- applying WHS 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 maintenance of equipment and tools.

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.

This is to be demonstrated through application of various types of specialty coating as listed in the Range of Conditions across a range of aircraft applications.

Knowledge Evidence

Evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- relevant enterprise procedures and maintenance publications
- WHS 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.

Assessment Conditions

- 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.
- The work plan should take account of applicable safety and quality requirements in accordance with the industry and regulatory standards.
- The following conditions of assessment represent the requirements of the Regulators (ADF and CASA) and maintenance stakeholders and must be rigorously observed.
- A person cannot be assessed as competent until it can be demonstrated to the satisfaction of the workplace assessor that the relevant elements and performance criteria 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 (for details refer to the Companion Volume Assessment Guidelines).
- Assessors must satisfy the requirements of the National Vocational Education and Training Regulator (Australian Skills Quality Authority, or its successors).

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