



Australian Government

MEM08015 Apply protective coatings (advanced)

Release: 1

MEM08015 Apply protective coatings (advanced)

Modification History

Release 1. Supersedes and is equivalent to MEM08015B Apply protective coatings (advanced)

Application

This unit of competency defines the skills and knowledge required to spray pre-treatments and protective coatings when an advanced level of skill is required. It includes inspection and interpretation of the coating results using all current industry knowledge and test equipment.

Where application of basic single and two pack coatings not containing isocyanates is required unit MEM08014 Apply protective coatings (basic) should be selected.

Where the interpretation of technical drawings is required unit MEM09002 Interpret technical drawing should also be selected.

Where the selection and use of engineering measurement is required unit MEM12023 Perform engineering measurements should also be selected.

Where the selection and use of tools is required unit MEM18001 Use hand tools and unit MEM18002 Use power tools/hand held operations, should also be selected as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM08014	Apply protective coatings (basic)
MEM11011	Undertake manual handling
MEM13003	Work safely with industrial chemicals and materials
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency Field

Surface finishing

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use and maintain appropriate personal protective equipment (PPE) in accordance with manufacturers' specifications and standard operating procedures
		1.4	Identify job requirements from specifications, job sheets or work instructions
		1.5	Identify and interpret supplier information, product details, Australian and international standards, regulatory and legislative requirements relevant to the work to be undertaken
2	Prepare to undertake work	2.1	Select appropriate coating system and material to meet job specification
		2.2	Select appropriate coating process and equipment to meet job specification
		2.3	Prepare worksite for surface coating activities
3	Prepare work piece for application of protective coating	3.1	Inspect surface condition for readiness for application of protective coating according to specification
		3.2	Identify unsuitable work pieces/surfaces and fabrication defects and appropriate undertake remedial action or in accordance with SOPs
		3.3	Mask components where protective coating application is not specified
		3.4	Identify and account for conditions for overspray
4	Prepare	4.1	Apply required plant and equipment basic operations

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.	
	equipment for application of surface coating materials	4.2	Undertake routine maintenance on plant and equipment in accordance with SOPs
		4.3	Record status/reports by proforma or orally in accordance with procedures
		4.4	Assemble coating application equipment in accordance with requirements
5	Apply coatings using conventional, airless and plural component equipment	5.1	Identify coating product type, solvent, uses, mixing procedure, clean-up and safety requirements, as appropriate
		5.2	Use the correct method of determining wet film thickness in accordance with specified dry film
		5.3	Thin coating material to suit the application method and to achieve required film thickness
		5.4	Apply coating using specified application method
		5.5	Monitor coating application and curing technique according to SOPs
6	Clean and store equipment	6.1	Clean and disassemble coating application equipment and inspect for damage
		6.2	Record and report faulty equipment to appropriate personnel in accordance with SOPs
		6.3	Store coating application equipment in accordance with SOPs
7	Inspect finished surface	7.1	Assess surface finish for profile size differences and uses
		7.2	Determine coating thickness using appropriate instruments and compare results with job specifications
		7.3	Inspect total surface for conformance to specification in accordance with SOPs

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

		7.4	Record and report inspection results in accordance with SOPs
8	Calculate, estimate and cost application of protective coating	8.1	Assess surface area of work piece, materials, labour and equipment
		8.2	Determine cost of materials, labour, handling and equipment
		8.3	Record and report results as an estimate for the application of a protective coating system

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

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, accessibility of the item, and local industry and regional contexts) are included.

Protective coatings include one (1) or more of the following:

- conventional
- two pack
- plural component

Test equipment includes one (1) or more of the following:

- Holiday and Pin Hole testing
- wet and dry film thickness gauges
- temperature
- relative humidity and dew point
- hardness
- gloss
- adhesion
- cure testing
- soluble salts

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, accessibility of the item, and local industry and regional contexts) are included.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MEM08015B Apply protective coatings (advanced)

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM08015 Apply protective coatings (advanced)

Modification History

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- identifying and interpreting specifications, supplier information, product details, Australian and international standards, regulatory, legislative requirements and other applicable reference documents in applying protective coatings
- determining the correct coating method and application techniques for job
- preparing the surface to be coated, masking off, as required
- setting up, maintaining and using personal protective equipment (PPE) suitable for the coating work to be undertaken
- selecting, setting up and using coating application equipment and material
- adjusting coating material to provide the required finished surface coat, monitoring during application and testing that it meets specifications
- inspecting coated surface for required finish and recording test results
- cleaning, maintaining and storing coating equipment in accordance with procedures
- calculating the costs of coating work accurately.

Knowledge Evidence

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

- safe work practices and procedures and use of personal protective equipment (PPE)
- specifications applying to protective coating work and the appropriate coating system and material required to meet job specification
- features of the various types of coating materials, including drying and curing requirements
- selection procedures for coating material and the appropriate coating process and equipment required for surface coating to meet job specification
- application features of the various types of coating materials and methods
- selection procedures for coating process and equipment, including conventional, airless and plural component
- awareness of other site factors that could be affected by the coating work

- how to recognise deviation from specified surface finish/condition and standard workplace procedures for identifying unsuitable work items
- method of locating areas to be protected from coating process and masked
- areas subject to overspray and requiring protection
- operation of protective coating plant and equipment using SOPs
- procedures for routine maintenance of plant and equipment
- requirements for completion and processing maintenance reports
- protective coating inspection procedure to identify unsuitable work pieces in consideration of job specifications
- procedures for determining wet film thickness of a coating from the specified dry film thickness using calculations and a specified formulation
- procedures for thinning coating materials for use in applying the specified film thickness coating to a substrate
- procedures to apply protective coatings to comply with an established standard
- procedures for controlling coating application and curing techniques
- SOP for disassembly, cleaning and checking of protective coating equipment
- procedures for storage and protection of equipment
- procedures and other relevant standards for assessing the profile of the surface finish
- features and use of dry film thickness testing instruments
- procedures for surface inspection, including the extent and detail of inspection, as required, and requirements for completion and processing of inspection reports
- standard methods and procedures for determining surface area of various shapes of materials
- recording and reporting procedures for defective equipment components
- calculating, recording and reporting costs procedures.

Assessment Conditions

- Assessors must:
 - have vocational competency in applying protective coatings (advanced) at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications

- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Links

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