



Australian Government

MEM48025 Select surface treatment methods for metallic components or products

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSATCM514A Select surface treatment methods for metallic components or products.

Application

This unit of competency defines the skills and knowledge required to select common surface treatment processes for metals and alloys for specific applications and applies to metallurgical activities in manufacturing and engineering environments.

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

Pre-requisite Unit

Nil

Competency Field

Metallurgy

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
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 appropriate personal protective equipment (PPE) in accordance with SOPs 1.4 Identify job requirements from specifications
2. Select surface treatment methods for specific applications	2.1 Determine the surface preparation and treatment requirement for the specific application based on treatment properties, process routes, advantages and disadvantages 2.2 Select the surface treatment method based on the requirement and consideration of principal properties

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	2.3 Confirm selection according to standard operating procedures
3. Verify selected surface treatment methods as fit for purpose	3.1 Identify appropriate tests for the required properties 3.2 Arrange testing of coatings with internal or external parties based on testing requirements 3.3 Analyse test results and confirm or modify material choices based on test outcomes

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

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.

Specifications include one or more of the following:	- drawings - job sheets - work instructions.
Surface preparation methods include one or more of the following:	- descaling - mechanical finishing - solvent cleaning - alkaline cleaning - measurement of surface cleanliness.
Surface treatment requirements include:	- engineering - corrosion resistance - conductivity - aesthetics - determination by a metallurgist on their own or in conjunction with other experts and clients.
Appropriate tests include	undertaken by a technician within the organisation

one or more of the following:	• undertaken by external organisations • simple tests.
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Unit Mapping Information

Release 1. Supersedes and is equivalent to MSATCM514A Select surface treatment methods for metallic components or products.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>