



Australian Government

Department of Education, Employment and Workplace Relations

PMAOPS755A Provide surface coatings application advice

Revision Number: 1

PMAOPS755A Provide surface coatings application advice

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This competency covers the understanding of application techniques so that advice can be given to coatings customers on the various application methods and what system is most suited to their needs. This competency would typically be required by a person with a technical background needing to acquire knowledge and skills in the surface coatings manufacture and applications area.
------------------------	---

Application of the Unit

Application of the unit	This competency applies to paint technologists, technical service personnel, research and development personnel requiring information on the correct application methods for various coatings. It includes: • application techniques • rheology of the coating • formulation considerations • surface preparation • customer requirements • OHS • identification of paint defects
--------------------------------	--

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
--------------------	--	--

Employability Skills Information

Employability skills	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.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Match coating to substrate.	1.1. Identify substrate to be used. 1.2. Determine requirements of final coated surface. 1.3. Recommend appropriate coating system.
2. Recommend preparation and application techniques.	2.1. Recommend substrate preparation. 2.2. Select appropriate coating application equipment 2.3. Determine required rheology of coating 2.4. Specify required coating tests 2.5. Specify coating application
3. Analyse problems with surface coatings.	3.1. Identify non-conformances in coated product 3.2. Distinguish between preparation, application and paint problems 3.3. Recommend correct preparation and application to prevent problems.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This describes the essential skills and knowledge and their level, required for this unit.

Required skills

This competency includes the following skills:

- analysis
- selection
- discrimination
- maths

Required knowledge

Competence in this unit includes the following knowledge:

- Material Safety Data Sheet
- OHS requirements
- calculate VOC levels
- different types of application equipment - brush, roller, paint pad, various spray applications, electrostatic, dip, hot melt, flow coating, powder coating,
- reasons for prevention of corrosion
- methods used to prepare common substrates for application of a coating
- knowledge of atmospheric conditions ie temperature, humidity and dew point
- identify substrate coating surface defects
- methods than can be used to prevent paint defects in both wet and dry film defects
- explain the different types of test procedures and test equipment
- impact of the final coating if substrate preparation not adequate
- identification of appropriate substrates and their uses
- reasons for the selection of coatings on the customer substrate
- identify the reasons for different types of application equipment
- problems that may arise if incorrect equipment is recommended
- the reasons for compliance coatings
- issues surrounding volatile organic compounds(VOC)
- problems that may arise if incorrect coating is recommended
- effects of shear in surface coatings
- characteristics of shear rates and their importance in coating application
- the effect of rheology on surface coatings
- adequate tests and equipment to identify correct rheological properties
- differing types of paint defects - dry paint films/wet films
- the correct preparation
- the potential effects of climate and other environmental influences on both the coating and substrate

REQUIRED SKILLS AND KNOWLEDGE

- decorative requirements such as colour, gloss and texture
- the customer requirements
- specific service conditions such as impact, abrasion and general wear and tear and their affect on the final coating.

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Assessment of this unit should include demonstrated competence on actual plant and equipment in a work environment. The unit will be assessed in as holistic a manner as is practical and may be integrated with the assessment of other relevant units of competency. Assessment will occur over a range of situations which will include disruptions to normal, smooth operation.

Simulation may be required to allow for assessment of parts of this unit. Simulation should be based on the actual plant and will include walk-throughs of the relevant competency components. Simulations may also include the use of case studies/scenarios and role plays.

This unit of competency requires a significant body of knowledge which will be assessed through questioning and the use of what-if scenarios both on the plant (during demonstration of normal operations and walk-throughs of abnormal operations) and off the plant.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Consistent performance should be demonstrated. In particular look to see that:

- paint defects can be identified and corrected
- correct selection of the coating to the required substrate
- implement correct equipment for the required application
- maintain a safe working environment
- assess problem situations and initiate effective corrective action
- the many types of application methods

Context of and specific resources for assessment

Assessment will require access to an operating plant over an extended period of time, or a suitable method of gathering evidence of operating ability over a range of situations. A bank of scenarios/case studies/what-ifs will be required as will a bank of

EVIDENCE GUIDE	
	questions which will be used to probe the reasoning behind the observable actions.
Method of assessment	In all plants it may be appropriate to assess this unit concurrently with other relevant units.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the oracy, language and literacy capacity of the assessee and the work being performed.

Range Statement

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 italicized wording, if used in the Performance Criteria, is detailed below. Add any 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.

Codes of practice/ standards	Where reference is made to industry codes of practice, and/or Australian/international standards, the latest version must be used. Particular standards of relevance include: • AS 2311 "Painting of Buildings" • AS1580 "Paints & related materials-test methods" • AS 2310 "Glossary of Paint and Painting Terms" • AS 3978 "Non destructive testing-visual inspection of metal products and components" • AS 3894 Site testing of protective coatings"
Context	This competency applies to technical staff to provide the correct advice to customers for the application of surface coatings to required substrates.
Health, safety and environment (HSE)	All operations to which this unit applies are subject to stringent health, safety and environment requirements, which may be imposed through State or Federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between Performance Criteria and HSE requirements, the HSE requirements take precedence.

Unit Sector(s)

Unit sector	Operational/technical
--------------------	-----------------------

Competency field

Competency field	
-------------------------	--

Co-requisite units

Co-requisite units		
--------------------	--	--