



Australian Government

PMAOPS755 Provide surface coatings application advice

Release: 1

PMAOPS755 Provide surface coatings application advice

Modification History

Release 1. Supersedes and is equivalent to PMAOPS755A Provide surface coatings application advice

Application

This unit of competency covers the skills and knowledge required to provide advice on surface coatings application to customers. A surface coating is any liquid (e.g. solvent or emulsion-based) material applied to a solid surface for decorative and/or protective reasons

This unit of competency applies to paint technologists, technical service personnel, research and development personnel, or those in similar roles who are required to apply in-depth physiochemical knowledge of surface coatings and their application in order to determine appropriate coatings, recommend preparation and application methods, and identify and solve problems.

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

Pre-requisite Unit

Nil

Competency Field

Operations

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.

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

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	2.1	Recommend substrate preparation

preparation and application techniques	2.2	Select appropriate coating application equipment
	2.3	Determine required rheology of coating
	2.4	Specify required coating tests and interpret test results
	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

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.

Regulatory framework	The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following: • <i>AS/NZS 2311:2009 Guide to the painting of buildings</i> • <i>AS 1580 (Set) Paints and related materials – Methods of test</i> • <i>AS/NZS 2310:2002 Glossary of paint and painting terms</i> • <i>AS 3978-2003 Non-destructive testing – Visual inspection of metal products and components</i> • <i>AS 3894 (Set) Site testing of protective coatings</i> • legislative requirements, including work health and safety (WHS) • industry codes of practice and guidelines • environmental regulations and guidelines • Australian and other standards
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- licence and certification requirements

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory 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.

Hazards Hazards include one or more of the following:

- equipment failures
- flammability and explosivity
- hazardous products and materials
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875>

Assessment Requirements for PMAOPS755 Provide surface coatings application advice

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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, and include the ability to:

- recommend an appropriate coating system
- recommend preparation and application techniques
- analyse surface coating problems, analyse for cause of problem and recommend a coating, and method of preparation and application.

Knowledge Evidence

Evidence must be provided that demonstrates knowledge of:

- types and application of application methods and application equipment (e.g. brush, roller, paint pad, various spray applications, electrostatic, dip, hot melt, flow coating and powder coating)
- impact of atmospheric conditions (i.e. temperature, humidity and dew point)
- effects of shear in surface coatings, characteristics of shear rates and their importance in coating application
- the potential effects of climate and other environmental influences on both the coating and substrate
- specific service conditions, such as impact, abrasion and general wear and tear and their effect on the final coating
- preparation methods for common substrates
- methods that can be used to prevent paint defects in both wet and dry film defects
- different types of test procedures and test equipment
- impact of the final coating if substrate preparation not adequate
- problems that may arise if incorrect equipment is recommended
- the reasons for compliance coatings
- problems that may arise if incorrect coating is recommended
- 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)
- decorative requirements, such as colour, gloss and texture
- organisation procedures
- duty of care obligations

- hierarchy of control
- hazards that may arise in the job/work environment, and:
 - their possible causes
 - potential consequences
 - appropriate risk controls.

Assessment Conditions

- The unit should be assessed holistically and the judgement of competence based on a holistic assessment of the evidence.
- The collection of performance evidence:
 - should occur over a range of situations which include typical disruptions to normal, smooth operations
 - will typically include a supervisor/third-party report focusing on consistent performance and problem recognition and solving. A supervisor/third-party report must be prepared by someone who has a direct, relevant, current relationship with the person being assessed and who is in a position to form a judgement on workplace performance relevant to the unit of competency
 - must include the use of appropriate tools, equipment and safety gear requiring demonstration of preparation, operation, completion and responding to problems
 - may use industry-based simulation for all or part of the unit particularly where safety, lack of opportunity or significant cost is an issue.
- Assessment should 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 reflecting 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.
- Assessment in a simulated environment should use evidence collected from one or more of:
 - walk-throughs
 - pilot plant operation
 - demonstration of skills
 - industry-based case studies/scenarios
 - 'what ifs'.
- Knowledge evidence may be collected concurrently with performance evidence (provided a record is kept) or through an independent process, such as workbooks, written assessments or interviews (provided a record is kept).
- 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.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications associated with this unit.

- The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.
- Foundation skills are integral to competent performance of the unit and should not be assessed separately.
- Assessors must satisfy the assessor competency requirements that are in place at the time of the assessment as set by the VET regulator.
- In addition, the assessor or anyone acting in subject matter expert role in assessment must demonstrate both technical competency and currency. If the assessor cannot demonstrate technical competency and currency they must assess with a subject matter expert who does meet these requirements.
- Technical competence can be demonstrated through one or more of:
 - relevant VET or other qualification/Statement of Attainment
 - appropriate workplace experience undertaking the type of work being assessed under routine and non-routine conditions
 - appropriate workplace experience supervising/evaluating the type of work being assessed under routine and non-routine conditions
- Currency can be demonstrated through one or more of:
 - being currently employed undertaking the type of work being assessed
 - being employed by the organisation undertaking the type of work being assessed and having maintained currency in accordance with that organisation's policies and procedures
 - having consulted/had contact with an organisation undertaking the type of work being assessed within the last twelve months, the consultation/contact being related to assessment
 - conducting on-the-job training/assessments of the type of work being assessed
 - being an active member of a relevant professional body and participating in activities relevant to the assessment of this type of work

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