



Australian Government

Department of Education, Employment and Workplace Relations

TLIW3034A Apply protective coating systems to structures

Release: 1

TLIW3034A Apply protective coating systems to structures

Modification History

Not applicable.

Unit Descriptor

This unit involves the skills and knowledge required to apply protective coating systems to structures using manual or mechanical methods in accordance with organisational requirements. This includes planning, preparing the surface, applying surface coatings, and completing required documentation.

Licensing or certification requirements are not applicable to this unit. Persons achieving competence in this unit will need to fulfil any legislated OH&S and rail safety requirements, including acts and regulations from each applicable state and territory, together with any nationally approved compliance codes and/or guidelines.

Application of the Unit

Work involves applying routine operational principles and procedures to the application of protective coating systems to structures as part of workplace activities across a variety of contexts within the Australian rail system.

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

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 required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT PERFORMANCE CRITERIA

1 Plan surface coating process	1.1 Equipment, accessories and consumables are assembled and checked for applicability to the surface coating tasks 1.2 Material safety data sheets and product application and safety information are read and used to inform work practices 1.3 Particular process techniques, time and safety requirements are noted and used to inform work planning
2 Undertake surface preparation	2.1 Characteristics of uncoated surfaces and problems to be rectified are identified 2.2 Appropriate surface preparation is carried out in accordance with any identified problems and organisational standards 2.3 Surface preparation is checked for compliance with required organisational standards
3 Apply surface coating	3.1 Required surface coating materials and methods to be used are identified and appropriate tools, equipment and materials selected 3.2 Sequence of work is identified, maximising potential of the applied finish 3.3 Equipment and accessories are used in line with manufacturer and organisational specifications 3.4 Surface coating depth and coverage are checked for compliance with specifications 3.5 Surfaces are kept free of contamination 3.6 Faults and problems are identified and action is taken to rectify them in accordance with manufacturer specifications and organisational procedures
4 Complete workplace operations	4.1 Tools and equipment are cleaned prior to storage 4.2 Tools, equipment and unused materials are relocated to storage or next operational location as required 4.3 Waste materials are disposed of correctly following organisational and environmental policies and procedures 4.4 Documentation and records are completed in accordance with organisational procedures

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

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

Required knowledge:

- Regulations relating to the application of surface coating equipment
- Relevant OH&S and environmental protection procedures and guidelines
- Organisational procedures and policies for the application of surface coatings
- Methods for preventing contamination of surfaces during and after surface coating
- Problems that may occur when applying surface coatings, and action that can be taken to resolve them
- Hazards that may occur when applying surface coatings, and ways of controlling the risks involved
- Housekeeping standards and procedures required in the workplace

Required skills:

- Communicate effectively with others when applying surface coatings
- Read and interpret instructions, procedures, information and labels relating to the application of surface coatings
- Interpret and follow operational instructions and prioritise work
- Complete documentation relating to the application of surface coatings
- Work collaboratively with others when applying surface coatings
- Report and rectify within limits of own role problems, faults and malfunctions that may occur when applying surface coatings in accordance with regulatory requirements and workplace procedures
- Apply precautions and required action to minimise, control or eliminate potential hazards during work activities
- Plan own work, including predicting consequences and identifying improvements
- Identify resources required when applying surface coatings
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Maintain equipment to manufacturer specifications
- Identify, select and effectively use relevant materials and equipment when applying surface coatings
- Adapt to differences in equipment in accordance with standard operating procedures

- Select and use required personal protective equipment (PPE), conforming to industry and OH&S standards

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

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

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement
- Assessment must include exercises that demonstrate competent performance of the following in a range of situations:
 - explain commonly used protective coating systems and their advantages and disadvantages in given situations
 - correctly apply a protective coating to a new component using manual or mechanical methods
 - correctly apply a protective coating to an old component using manual or mechanical methods
 - identify problems and faults that can occur

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment, and/or
 - in an appropriate range of situations in the workplace

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.

Equipment may include:

- high pressure water blasting equipment
- abrasive blast equipment
- mechanical cleaning equipment
- wire brushes
- scaffolding
- manual application tools
- mechanical application equipment

Coatings may be:

- organic
- inorganic
- epoxy

Liaison may include:

- internal or external personnel from other work areas, such as train controllers and electricians

Hazards in the work area may include exposure to:

- chemicals and fumes
- dangerous or hazardous substances
- electrical equipment
- humidity, air temperature and radiant heat
- movement of equipment, goods and vehicles

PPE may include:

- gloves
- safety headwear and footwear
- safety glasses
- respirators
- protective clothing

Communication equipment may include:

- two-way radios
- telephones, including mobile phones
- agreed audible or hand signals

Depending on the type of organisation concerned and the local terminology used, organisational procedures may be known as:

- company procedures
- enterprise procedures
- workplace procedures
- established procedures

Information and documents may include:

- information provided by other workplace personnel
- inspection reports
- work orders
- technical instructions and material safety data sheets

Applicable procedures and codes may include:

- manufacturer or workplace equipment instructions and operation manuals
- emergency procedure manuals
- two-way radio or mobile telephone operation procedures
- conditions of service, legislation and industrial agreements, including workplace agreements and awards
- legislated rail safety requirements, including acts and regulations from each applicable state and territory, together with any nationally approved compliance codes and/or guidelines
- relevant state and territory legislation relating to:
 - environmental protection
 - OH&S
- local authority regulations and procedures

Unit Sector(s)

Not applicable.

Competency Field

W – Equipment and Systems Operations