



Australian Government

TLIW0036 Apply electric welding process to rail

Release: 1

TLIW0036 Apply electric welding process to rail

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to weld rails, crossings and switches using an electric welding process in accordance with rail industry standards, safeworking and regulatory requirements, and workplace procedures.

It includes using non-destructive testing to locate defects; preparing rails, crossings or switches for welding; gouging or grinding; setting up welding equipment; performing welding operations; checking weld conformance; and completing required documentation. These processes are used to repair rail surface defects and restore rail profile to plain rail, crossings and switches.

People achieving competence in this unit will need to fulfil applicable state/territory legislated rail safety requirements and to comply with rail industry standards, codes of practice and/or guidelines.

Work is performed under some supervision, generally in a team environment. It involves the application of routine operational principles and procedures when welding rail using an electric welding process, as part of workplace activities across a variety of operational contexts within the Australian rail system.

Operators of mechanised equipment must have undertaken training and, where appropriate, hold the relevant licence, permit or certificate and be recognised as competent for the class of machinery being used.

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

Pre-requisite Unit

Not applicable.

Competency Field

W – Equipment and Systems Operations

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential outcomes.

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

1 Prepare rails, crossings or switches for welding

- 1.1 Weld repair area is identified and assessed in accordance with standards and procedures
- 1.2 Welding equipment and consumables are prepared and checked for serviceability
- 1.3 Hazards are identified, risks are assessed and control measures are implemented
- 1.4 Weld repair area is prepared for welding in accordance with workplace standards and procedures
- 1.5 Track components are assembled or aligned to specification as required

2 Use non-destructive testing

- 2.1 Appropriate non-destructive testing method is selected in accordance with workplace requirements
- 2.2 Non-destructive testing method is used to identify and locate defects in accordance with rail industry standards and organisational procedures

3 Assemble and set up welding equipment

- 3.1 Welding equipment is set up and adjusted to meet welding process requirements
- 3.2 Accessories and consumables are selected for use

4 Assemble and set up gouging and grinding equipment

- 4.1 Gouging and grinding equipment is assembled and set up
- 4.2 Equipment settings are adjusted to meet process requirements
- 4.3 Accessories and consumables are selected for use

5 Remove defects

- 5.1 Appropriate method to be used to remove defect is identified in accordance with organisational standards and procedures
- 5.2 Defect is removed using identified method in accordance with organisational standards and procedures

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| 6 Perform welding operation | 6.1 Weld metal is applied to repair area to meet specifications in accordance with standards and procedures |
| | 6.2 Welded area is cleaned in preparation for grinding |
| | 6.3 Welded area is ground in accordance with organisational standards and procedures |
| 7 Check weld conformance | 7.1 Finished ground weld area is visually inspected for surface finish and defects |
| | 7.2 Finished ground weld area is checked for conformance to rail, crossing or switch profile acceptance standards |
| 8 Complete post-operative checks and documentation | 8.1 Equipment is checked for serviceability |
| | 8.2 Defective equipment is replaced and reported for servicing or repair in accordance with organisational policies and procedures |
| | 8.3 Documentation on work undertaken is completed and processed in accordance with organisational requirements |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIW0036A Apply electric welding process to rail.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

