



Australian Government

**TLIW0044 Weld rail on tram/light rail
systems using submerged ARC welding
process**

Release: 1

TLIW0044 Weld rail on tram/light rail systems using submerged ARC welding process

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 rail on tram/light rail systems using a submerged arc welding process.

It covers preparing materials, selecting and setting up welding equipment, carrying out submerged arc welding, inspecting for and correcting defects, and maintaining weld records.

Welds would mainly involve building up or pad welding on longer lengths of rail on tram/light rail systems. It covers welding both the rail head and the check rail.

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 describe the essential outcomes.

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

- | | |
|------------------------------|---|
| 1 Prepare for welding | 1.1 Weld requirements are identified from specifications and/or technical drawings |
| | 1.2 Rail surface is correctly prepared using tools and techniques appropriate to the material and process |

- 1.3 Materials are assembled/aligned to specifications as required
 - 1.4 Track is measured prior to commencement of welding
 - 1.5 Welding machine settings and consumables are identified from job requirements, welding procedures, specifications and/or technical drawings
 - 1.6 Hazards are identified, risks are assessed and control measures are implemented
- 2 Assemble and set up equipment**
- 2.1 Welding equipment is assembled and set up safely and correctly in accordance with operating procedures
 - 2.2 Defective equipment is tagged and replaced in accordance with organisational and manufacturer specifications
- 3 Weld rail using submerged arc process**
- 3.1 Pad, butt and fillet welds are deposited correctly in flat and fillet welds in horizontal position in accordance with specifications
 - 3.2 Joints are cleaned to specifications using techniques and tools appropriate to the defect, material and process
- 4 Inspect welds and correct faults**
- 4.1 Weld joints are visually inspected against specifications
 - 4.2 Track is measured to ensure welded track is within accepted tolerances
 - 4.3 Weld defects are identified and remedial action is taken, where required
 - 4.4 Defects are removed with minimum loss of sound metal using techniques and tools appropriate to the defect, material and process
- 5 Maintain weld records**
- 5.1 Weld records are filled in legibly and proofread
 - 5.2 Weld records are processed in accordance with organisational procedures

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 TLIW0044A Weld rail on tram/light rail systems using submerged arc welding process.

Links

Companion Volume implementation guides are found in VETNet -

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