



Australian Government

TLIS0001 Construct and assemble points and crossings

Release: 1

TLIS0001 Construct and assemble points and crossings

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 construct and assemble points and crossings with concrete, steel, timber or composite sleepers and bearers as part of a construction team, in accordance with rail network standards, safeworking and regulatory requirements, and workplace procedures.

It includes preparing for construction work, carrying out relevant construction work, assembling points and crossings, and completing required documentation.

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

The unit involves the application of routine operational principles and procedures when constructing points and crossings on concrete, steel and undrilled timber or composite bearers, as part of workplace activities across a variety of operational contexts within the Australian rail system.

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

Pre-requisite Unit

Not applicable.

Competency Field

S – Construction and Installation

Unit Sector

Rail sector.

Elements and Performance Criteria

ELEMENTS

PERFORMANCE CRITERIA

Elements describe the essential Performance criteria describe the performance needed to

outcomes.

demonstrate achievement of the element.

1 Prepare points and crossings

1.1 Work requirements are determined to identify scope of work and resources required

1.2 Construction design or plan is obtained and interpreted

1.3 Hazards are identified, risks are assessed and control measures are implemented

1.4 Required resources are acquired

1.5 Assembly area is prepared or identified in accordance with workplace procedures

1.6 Delivered materials are checked for compliance with design

2 Assemble points and crossings

2.1 Construction design or plan is implemented in accordance with manufacturer instructions and workplace procedures

2.2 Unsuitable points and crossings equipment replacements are sourced, as required, in accordance with workplace procedures

3 Fabricate points and crossings

3.1 Structure is fabricated according to design specification

3.2 Bearers are selected for correct length, placed on assembly area and marked up in accordance with specified design and workplace procedures

3.3 Reference rail is selected, marked up and fixed to bearers in accordance with specified design and workplace procedures

3.4 Remaining steelwork is adjusted for correct geometry and is attached to bearers in accordance with specified design and workplace procedure

4 Check for compliance

4.1 Dimensions, geometry and condition of points and crossings are checked for compliance with design

4.2 Non compliances are repaired or replaced, as required, in accordance with workplace procedures

4.3 Documentation is completed and processed in accordance with workplace 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 TLI Transport and Logistics Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces but is not equivalent to TLIS3040 Construct concrete or steel points and crossings and TLIS3041 Construct timber or composite points and crossings.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIS0001 Construct and assemble points and crossings

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least two separate occasions and include:

- applying relevant safeworking system and workplace procedures
- assembling track layouts to plans, manufacturer instructions and specifications
- completing documentation in accordance with workplace procedures
- identifying job hazards and taking required action to minimise, control or eliminate identified hazards
- interpreting and following operational instructions and prioritising work
- modifying activities depending on operational contingencies, risk situations and environments
- reading and interpreting relevant technical data, standards and drawings
- using appropriate equipment to make accurate measurements of points and crossings
- using geometric and dimension principles to ensure compliance with design
- working systematically with required attention to detail without injury to self or others, or damage to equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- appropriate hand tools, power tools and equipment required to complete activities
- clearances and tolerances
- different types of concrete, steel, timber and composite sleepers and bearers including:
 - individual characteristics
 - technical and rail network specifications
- documentation and record keeping workplace requirements
- features and principles of operation of points and crossings
- hazards that may exist when constructing points and crossings, and ways of controlling the risks involved
- measurement techniques
- point and crossing manufacturer instructions, rail industry standards and workplace

procedures

- problems that may occur when constructing points and crossings, and action that can be taken to report or resolve these problems
- rail bending techniques applied to point and crossing components
- safety data sheets (SDS)/material safety data sheets (MSDS) and/or manufacturer instructions and workplace procedures
- techniques for constructing points and crossings
- work health and safety (WHS)/occupational health and safety (OHS) and environmental procedures and regulations
- workplace procedures for constructing points and crossings.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations or, where this is not available, in simulated workplace operational situations that replicate rail corridor workplace conditions.

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.

Resources for assessment must include:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation including workplace procedures, regulations, rail industry standards, SDS/MSDS, codes of practice and operation manuals.

Links

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