



Australian Government

Department of Education, Employment and Workplace Relations

TLIS2031A Install railway sleepers

Release: 1

TLIS2031A Install railway sleepers

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to install railway sleepers manually or mechanically in accordance with safeworking and regulatory requirements and workplace procedures. It includes preparing for work, restoring track gauge, installing or replacing sleepers, and completing documentation. Licensing or certification requirements may be applicable to this unit.

Application of the Unit

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Persons achieving competence in this unit will need to fulfil the applicable legislated rail safety requirements including acts and regulations from each state and territory together with any nationally approved compliance codes and/or guidelines.

Work is performed under some supervision, generally within a team environment. It involves the application of routine operational principles and procedures to install railway sleepers 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.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills 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 Prepare for work	1.1 Worksite is identified 1.2 Installation, replacement or repair method is selected to meet work requirements in accordance with worksite standards and procedures 1.3 Plant, equipment and materials are prepared for work
2 Restore track gauge	2.1 Where necessary track gauge is restored using appropriate methods in accordance with worksite standards and procedures
3 Install or replace sleeper	3.1 Where necessary, unserviceable sleepers are extracted using manual or mechanical methods in accordance with worksite procedures 3.2 New sleeper is installed using manual or mechanical methods in accordance with worksite procedures 3.3 Sleeper plates are installed on relevant sleeper types in accordance with worksite procedures 3.4 Sleeper is suitably packed or supported by appropriate methods in accordance with worksite procedures 3.5 Work is completed to meet track geometry requirements in accordance with worksite procedures 3.6 Work is checked for compliance to acceptance standards for spacing, skew and geometry
4 Complete documentation	4.1 All documentation is completed in line with workplace policies and 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:

- Relevant safety, OH&S and environmental procedures and regulations
- Workplace procedures for the installation of railway sleepers
- Problems that may occur during the installation of railway sleepers, and action that can be taken to report or resolve the problems
- Hazards that may exist when installing railway sleepers, and ways of controlling the risks involved
- Types of tools and equipment that may be used when installing railway sleepers, and their applications

REQUIRED KNOWLEDGE AND SKILLS

- Contents of relevant workplace technical manuals and instructions
- Sleeper condition and placement acceptance standards
- Defects that can occur in sleepers, tools and equipment, and related action that should be taken
- Relevant recording and documentation procedures

Required skills:

- Communicate effectively with others when installing railway sleepers
- Interpret and follow operational instructions and follow scheduled work processes when installing railway sleepers
- Complete documentation related to the installation of railway sleepers
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when installing railway sleepers
- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when installing railway sleepers in accordance with regulatory requirements and workplace procedures
- 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 equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Install railway sleepers in accordance with workplace requirements
- Restore track gauge in accordance with workplace requirements
- Select and use required personal protective equipment
- Select and use relevant equipment and tools

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

- 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

EVIDENCE GUIDE

unit

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 which demonstrate competent performance of the following in a range of situations:
 - completing appropriate preparations for work
 - restoring track gauge correctly
 - inserting or replacing a number of sleepers including all types occurring in candidate's workplace
 - completing documentation correctly

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

- Assessment of this unit must be undertaken by a registered training organisation
- 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 at the registered training organisation, 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.

- Operations are conducted:
- by day or night
 - in all weather conditions
- Work may be conducted in:
- restricted spaces
 - exposed conditions
 - controlled or open environments
- Work may involve:
- exposure to chemicals, and dangerous or hazardous substances
 - movements of equipment, goods and vehicles
- Installation and replacement methods may include:
- laying new track
 - partial replacement in existing track
 - full replacement in existing track
 - changeover from one sleeper type to another in existing track
 - partial changeover from one sleeper type to another in existing track
- Repair methods may include:
- boring new holes in timber sleepers
 - replacing sleeper plates
 - replacing insulating material
 - replacing broken or damaged sleepers
- Sleeper includes:
- sleepers
 - turnout bearers
- Sleeper types may include:
- timber
 - steel
 - concrete
 - any other approved types
- Equipment may include:
- mechanical handling/lifting equipment
 - bars, sleeper tongs, shovels, picks
 - jacks
 - sleeper borers
 - multi spindle borers
 - dog screw setters
 - tie crane
 - sleeper removers/inserters
 - scarifiers
 - sleeper spacing machines
- Sleeper spacings may vary according to:
- track configuration
 - joint type

RANGE STATEMENT

- Insulation pads may:
 - sleeper types
 - traffic tasks
 - be required
- Removal and insertion may be:
 - mechanical
 - manual
- Liaison may include:
 - internal or external personnel from other work areas (e.g. train controllers, other work teams)
- Communications systems may include:
 - two-way radios
 - radio headsets
 - telephones/mobile phones
 - agreed audible or hand signals
- Information may be provided:
 - electronically
 - in writing, via forms/documents/plans
 - orally, via face-to-face communications
 - via trackside signals
- Depending on work context, safety and personal protective equipment may include:
 - high visibility clothing
 - hearing protection
 - gloves
 - sunscreen
 - sunglasses
 - safety glasses
 - dust mask
 - insect repellent
 - safety headwear
 - safety footwear
 - portable radios/mobile phone
 - hand lamps
 - flags
 - safety devices
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
 - company procedures
 - enterprise procedures
 - organisational procedures
 - established procedures
- Information/documents may include:
 - operational instructions, policies and workplace procedures
 - relevant logs or record books
 - work orders
 - technical instructions
 - manufacturers or workplace equipment instructions and

RANGE STATEMENT

- Applicable procedures and codes may include:
- operation manuals
 - emergency procedure manuals
 - two-way radio/mobile phone operation procedures
 - QA plans, data and document control
 - 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 Australian Standards and related requirements, including AS 4292
 - relevant state/territory OH&S legislation
 - relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field S - Construction and Installation