



Australian Government

TLIW0006 Heat and cut materials using oxy-LPG equipment for the rail industry

Release: 1

TLIW0006 Heat and cut materials using oxy-LPG equipment for the rail industry

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 heat and cut materials for the rail industry using oxy-LPG equipment.

It includes planning and preparing for work, setting up and testing the equipment, heating and cutting materials, shutting down equipment and completing clean-up activities.

People achieving competence in this unit will need to fulfil applicable state/territory legislated work health and safety (WHS)/occupational health and safety (OHS) requirements and rail safety requirements, and to comply with relevant codes of practice and/or guidelines.

Work involves heating and cutting steel and includes cutting up waste for salvage; cutting steel, rails and bolts; and cutting holes in plate (with the exception of structural steel members). Heating activities include steel and bolts (excluding structural steel members).

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

Rail sector.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

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| 1 Plan and prepare for work | <ul style="list-style-type: none">1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, confirmed and applied to the scope of work to be performed1.2 Safety and WHS/OHS requirements are followed in accordance with safety plans and organisational policies1.3 Signage and barricade requirements are identified and implemented as required1.4 Plant, tools and equipment consistent with the requirements of the job are selected, checked for serviceability, and faults are rectified or reported prior to commencement and tagged out of service1.5 Tools appropriate to the work application are identified, obtained, prepared, safely handled and transported to worksite location1.6 Materials appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use1.7 Environmental requirements are identified and work is carried out in accordance with environmental plans, and statutory and legislative authority obligations |
| 2 Set up and test equipment | <ul style="list-style-type: none">2.1 Appropriate type of fire extinguisher is selected and located to be readily accessible prior to and during operations2.2 Regulators are attached to oxy-LPG bottles in accordance with manufacturer specifications and WHS/OHS regulations2.3 Lines are purged to manufacturer recommendations prior to lighting up2.4 Equipment is tested for leaks and corrective action is undertaken or faults are reported2.5 Correct pressures and cutting tips are selected in accordance with material to be heated or cut and manufacturer specifications |
| 3 Heat and cut material | <ul style="list-style-type: none">3.1 Material is accurately marked and secured or clamped ready for cutting |

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| | 3.2 | Torch is lit correctly and safely in accordance with manufacturer specifications |
| | 3.3 | Setting of flame is adjusted for cutting in accordance with manufacturer recommendations |
| | 3.4 | Heat is applied to specified material and weakening effects of the heating process are minimised |
| | 3.5 | Correct cutting position is adopted during cutting to set out mark |
| | 3.6 | Material is correctly cooled |
| 4 | Shut down equipment and clean up | |
| | 4.1 | Torch is switched off in accordance with manufacturer specifications |
| | 4.2 | Gas supply is shut off in accordance with manufacturer specifications |
| | 4.3 | Work area is cleared and materials disposed of, reused or recycled in accordance with legislation, regulations, codes of practice and job specification |
| | 4.4 | Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturer recommendations and organisational policies and procedures |
| 5 | Complete documentation | |
| | 5.1 | Required documentation procedures and processes are confirmed |
| | 5.2 | Documentation is filled in legibly and proofread |
| | 5.3 | Documentation is 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 and is equivalent to TLIW3035 Heat and cut materials using oxy-LPG equipment for the rail industry.

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 TLIW0006 Heat and cut materials using oxy-LPG equipment for the rail industry

Modification History

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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 one occasion and include:

- adapting to differences in equipment in accordance with operating procedures
- applying relevant safeworking system and workplace procedures
- complying with organisational policies and procedures, including quality requirements
- complying with site safety plan and work health and safety (WHS)/occupational health and safety (OHS) legislation, regulations and codes of practice applicable to workplace operations
- identifying job hazards and taking required action to minimise, control or eliminate identified hazards
- identifying, selecting and effectively using relevant materials and equipment in accordance with safety data sheets (SDS)/material safety data sheets (MSDS) and/or manufacturer instructions and workplace procedures
- interpreting and following operational instructions and prioritise work
- locating, interpreting and applying relevant information, standards and specifications
- maintaining equipment to manufacturer specifications
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring work activities in terms of planned schedule
- planning own work, including predicting consequences and identifying improvements
- reading and interpreting relevant instructions, procedures, information and documentation
- reporting and rectifying problems, faults and malfunctions that may occur in accordance with workplace procedures
- using oxy-LPG equipment to heat and cut materials to manufacturer specification and workplace procedures
- using tools, plant and equipment safely and effectively
- working systematically with required attention to detail without injury to self or others, or damage to goods or 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:

- characteristics from SDS/MSDS and workplace procedures
- correct storage of materials and environmentally friendly waste management
- hazards that may occur and ways of controlling the risks involved
- job safety analysis (JSA) and safe work method statements (SWMS)
- LPG heating and cutting equipment types, characteristics, uses and limitations
- oxy-LPG heating and cutting equipment set-up and operating techniques
- problems that may occur and action that can be taken to resolve these problems
- rail stresses
- regulations relating to heating and cutting materials for the rail industry using oxy-LPG equipment
- relevant rail danger zones
- relevant WHS/OHS and environmental protection procedures and guidelines.

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 access to:

- 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 network standards, SDS/MSDS, codes of practice and operation manuals.

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