



Australian Government

CPCCSF2003 Cut and bend materials using oxy-LPG equipment

Release: 1

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Modification History

Release 1.

Supersedes and equivalent to CPCCSF2003A Cut and bend materials using oxy-LPG equipment.

The unit of competency was updated to the Standards for Training Packages 2012.

This version first released with CPC Construction, Plumbing and Services Training Package Version 4.0.

Application

This unit of competency specifies the skills and knowledge required to heat, cut and bend construction materials using oxy-LPG equipment.

It includes:

- planning and preparing for the work
- setting up and testing equipment
- cutting material
- heating and bending material
- shutting down equipment
- completing clean-up activities.

It also includes the use of oxy-LPG-acetylene equipment to cut and bend materials for steelfixing applications. It does not involve specialist welding techniques.

It applies to workers working alone or as a member of a team.

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

Pre-requisite Unit

CPCCWHS2001 Apply WHS requirements, policies and procedures in the construction industry

Unit Sector

Concreting

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe what needs to be done to demonstrate achievement of the element.
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1. Plan and prepare to cut and bend materials using oxy-LPG equipment.	1.1 Review and clarify task to cut and bend materials using oxy-LPG equipment. 1.2 Review task specifications and check to make sure they are in accordance with legislation, regulations and codes of practice. 1.3 Review work health and safety (WHS) requirements for the task in accordance with safety plans and policies. 1.4 Identify safety signage and barricade requirements. 1.5 Review environmental requirements for the task in accordance with environmental plans and legislative requirements. 1.6 Select plant, tools and equipment, check for serviceability and rectify or report any faults. 1.7 Calculate material quantity requirements. 1.8 Acquire materials for the task and locate them safely ready for use.
2. Set up and test oxy-LPG equipment.	2.1 Erect identified safety signage and barricades, and fit personal protective equipment (PPE). 2.2 Select appropriate fire extinguisher and locate it to be readily accessible prior to and during operations. 2.3 Attach regulators to oxy and acetylene bottles in accordance with manufacturers' specifications and WHS regulations. 2.4 Purge lines to manufacturers' specifications prior to lighting up. 2.5 Test equipment for leaks and either undertake corrective action or report faults. 2.6 Select appropriate pressures and cutting tips in accordance with material to be cut and manufacturers' specifications.
3. Cut material with oxy-LPG equipment.	3.1 Mark material accurately and secure or clamp ready for cutting. 3.2 Light torch in accordance with manufacturer's specifications. 3.3 Adjust setting of flame for cutting to manufacturers' specifications. 3.4 Adopt correct cutting position to set-out mark during cutting.
4. Heat and bend material using oxy-LPG equipment.	4.1 Mark material accurately and secure or clamp ready for bending. 4.2 Light torch in accordance with manufacturer's specifications. 4.3 Apply heat to specified material and minimise weakening effects of the heating process.

	4.4 Bend material to specification and cool appropriately.
5. Shut-down oxy-LPG equipment.	5.1 Switch off torch in accordance with manufacturers' specifications. 5.2 Shut off gas supply in accordance with manufacturers' specifications.
6. Clean up after cutting, heating and bending materials using oxy-LPG equipment.	6.1 Clear work area and dispose of, re-use or recycle materials in accordance with legislation, regulations, codes of practice and task requirements. 6.2 Clean, check, maintain and store plant, tools and equipment in accordance with manufacturers' specifications and workplace requirements.

Foundation Skills

This section describes the language, literacy, numeracy and employment skills essential to performance in this unit but not explicit in the performance criteria.

- oral communication skills to:
 - use questioning to identify and confirm requirements
 - discuss cause of problems
 - report work site hazards, including faults in tools, equipment and materials
 - provide feedback.

Unit Mapping Information

Supersedes and is equivalent to CPCCSF2003A Cut and bend materials using oxy-LPG equipment.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCCSF2003 Cut and bend materials using oxy-LPG equipment

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Performance Evidence

To demonstrate competency in this unit, a person must use both oxy-acetylene and LPG systems to:

- cut to specification five bars with different sizes up to and including 36 mm
- heat and bend a minimum of three bars to specification including at least one 36 mm bar.

In doing this, the person must meet the performance criteria for this unit.

Knowledge Evidence

To be competent in this unit, a person must demonstrate knowledge of:

- jurisdictional work health and safety (WHS) and environmental legislation and regulations relating to cutting, heating and bending material using oxy-LPG equipment, including:
 - job safety analyses (JSAs)
 - safe work method statements (SWMSs)
 - safety data sheets (SDSs)
 - safety manuals and instructions for plant, tools and equipment
 - signage and barricades
 - personal protective equipment (PPE)
 - environmental and work site safety plans
- requirements of Australian Standards and the National Construction Code (NCC) relating to cutting, heating and bending material using oxy-LPG equipment
- workplace requirements for all aspects of cutting, heating and bending material using oxy-LPG equipment, including interpreting work orders and reporting problems
- interpretation of plans, drawings and specifications
- processes for the calculation of material requirements from specifications
- scope of work for cutting, heating and bending material using oxy-LPG equipment, including:
 - cutting up of waste for salvage

- cutting reinforcement steel
- cutting holes in plate
- bending reinforcement steel
- types and properties of materials, including:
 - cutting consumables
 - deformed bars
 - mesh sheets of deformed bars
 - mesh sheets of plain bars
 - plain rods
- oxy acetylene and LPG heating and cutting equipment types, characteristics, uses and limitations and set-up and operating techniques, including for:
 - cylinders
 - regulators
 - gas tubing
 - cutting blowpipes
 - flint lighters
 - measuring tapes and rules
 - clamps and support stands
- types, characteristics, uses and limitations of tools, equipment and materials required for cutting, heating and bending material using oxy-LPG equipment, including:
 - safe operating procedures
 - operational, maintenance and basic diagnostic procedures
 - workplace and equipment safety requirements
- techniques for cutting, heating and bending material using oxy-LPG equipment
- quality requirements relevant to cutting, heating and bending material using oxy-LPG equipment
- processes, materials and equipment for cutting, heating and bending material using oxy-LPG equipment
- requirements for cleaning up work area and tools, materials storage and environmentally friendly waste management.

Assessment Conditions

Assessors must satisfy the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment of performance must be undertaken in the workplace or in a simulated workplace environment. Tasks are to be performed to the level of proficiency and within the time limits expected in a workplace.

Assessors are responsible for ensuring that the person demonstrating competency has access to:

- work sites and specifications for cutting, heating and bending tasks

- appropriate documents, materials, tools, equipment and PPE currently used in industry
- requirements of appropriate sections of legislation and regulations
- relevant workplace policies and procedures.

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