



**Australian Government**

**Assessment Requirements for DEFWDV031  
Employ thermal cutting and welding tools  
(non-load bearing) in an underwater  
environment**

**Release: 1**

# Assessment Requirements for DEFWDV031 Employ thermal cutting and welding tools (non-load bearing) in an underwater environment

## Modification History

Release 1. This is the first release of this unit of competency in the DEF Defence Training Package.

## Performance Evidence

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

- applying relevant legislation, standards, and organisational policies and procedures
- completing underwater cutting and welding operations safely
- cutting 12 mm steel plates
- identifying and addressing relevant cutting/welding workplace hazards and problems
- maintaining records according to organisational policies and procedures.
- operating generator to support welding tasks in an underwater environment
- operating thermal cutting and welding tools under water
- planning for cutting and welding under water
- stabilising a generator
- undertaking underwater welding activities, including:
  - adjusting ratios of oxygen and acetylene
  - controlling pressure of oxyacetylene torch
  - controlling voltage and amperage of arc welding equipment
  - developing power gradually without surging
  - inspecting and cleaning cuts and welds
  - making cuts and welds ensuring minimal distortion to object
  - preparing surface of work object for cut or weld
  - turning on gas supplies
- underwater tools, including but not limited to:
  - electrical generator and associated leads
  - oxyacetylene gas cylinders and associated hose
  - thermal cutting tools
  - welding tools
- using a number of thermal cutting and welding tools (non-load bearing) in an underwater environment:
  - at depths between 5 metres and 20 metres

- on at least one night work task
- welding manual metal arc using electric welding equipment.

## Knowledge Evidence

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

- dive equipment
- dive physics
- dive physiology and medicine, including:
  - compression illnesses
  - decompression illnesses
  - heat and cold illnesses
- diving descent and ascent techniques
- general diving safety awareness, including:
  - diving in harbours
  - diving in tidal waters, currents and tides
  - diving on and/or near a ship's bottom
  - entrapment/foul lines
  - lost/separated
  - marine animal threats
  - pollution/weeds
  - working in confined spaces
- oceanography
- organisational policies and procedures
- relevant cutting/welding workplace hazards and problems
- relevant legislation and standards
- self-contained underwater breathing apparatus (SCUBA), surface-supplied and/or closed-circuit breathing apparatus (CCBA) operating techniques
- thermal cutting and welding principles and techniques.

## 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 where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate 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
- applicable documentation, including legislation, regulations, codes of practice, workplace procedures and operation manuals
- documentation specific to the dive operation, including dive plan and risk assessment
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry.

## Links

Companion Volume Implementation Guides are found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6bdbab1e-11ed-4bc9-9cba-9e1a55d4e4a9>