



Australian Government

DEFWDV010 Employ power tools in an underwater environment

Release: 1

DEFWDV010 Employ power tools in an underwater environment

Modification History

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

Application

This unit specifies the skills and knowledge required to use power tools in an underwater environment.

It includes operating a compressor, selecting appropriate tools for work task, inspecting them for serviceability and deservicing and storing tools. It also includes recovering waste arising from work task.

This unit relates, in part, to existing standards in the Australian Diver Accreditation Scheme (ADAS).

This unit applies to persons working as Defence Divers but is applicable to all individuals who work in this field.

The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to.

Persons undertaking this unit work independently and perform specific tasks in a range of contexts that could be unpredictable.

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

Pre-requisite Unit

Not applicable

Competency Field

Work Diving

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

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

1 Prepare to use power tools under water

1.1 Determine specific requirements for power tools in accordance with work task, worksite and work object requirements

1.2 Develop a work plan consistent with dive plan

1.3 Select and inspect power tools, protective equipment and compressor to meet task requirements

1.4 Secure power tools, compressor, and associated leads and hoses for transport to/from dive site

1.5 Assess access obstructions and other hazards, and manage risks as required

2 Operate power tools under water

2.1 Secure power tools on self during dive for ease of accessibility, and lack of interference with mobility and dive equipment

2.2 Determine safe route for leads and hoses for dive activity

2.3 Determine work safe area and location and confirm safety of divers prior to commencing work task/s

2.4 Operate power tools underwater ensuring management of their associated hazards

2.5 Conduct operator maintenance at worksite on power tools, leads and hoses, as required

2.6 Disconnect power tools temporarily and render safe to evaluate work task in accordance with operational procedures

3 Operate compressor

3.1 Perform pre-start checks and connect hoses and leads in accordance with manufacturer instructions

3.2 Develop pressure gradually without surging and stabilise compressor to establish required output

3.3 Conduct routine operational checks, and diagnose and address any warning signs

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|----------|---------------------------------------|--|
| | 3.4 | Shut down compressor or conduct an emergency shut down procedure in accordance with dive plan |
| 4 | Conclude power tool operations | |
| | 4.1 | Minimise environmental impact arising from use of power tools and recover waste products in accordance with operational procedures |
| | 4.2 | Undertake activity to de-service equipment and compressor after use |
| | 4.3 | Complete equipment log book/s, as required |

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 may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces but is not equivalent to DEFVDV010B Employ power tools in an underwater environment.

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for DEFWDV010 Employ power tools in an underwater environment

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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:

- applying relevant industry standards, and organisational policies and procedures
- operating any four of the following power tools:
 - power wrench, including changing sockets on site, tightening and loosening nuts
 - drill, including drilling a hole in a steel plate and changing bits on site
 - disc cutter, including cutting steel or concrete and changing disc on site
 - jack hammer, including breaking concrete
 - chainsaw, including cutting wooden beams 230 mm x 100 mm
 - angle grinder, including cleaning and smoothing a fillet, chamfering a 12 mm plate and changing disc on site
 - scrubber, including cleaning 2 m² of horizontal and vertical surface
- operating a pneumatic or hydraulic compressor must include one or more of the following:
 - connecting hoses and leads
 - connecting to power supply
 - adjusting output power
 - switching compressor on/off.

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:

- dive equipment
- dive physics
- dive physiology and medicine including:
 - heat and cold illnesses
 - compression illnesses
 - decompression 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
- lost/separated
- entrapment/foul lines
- marine animal threats
- pollution/weeds
- working in confined spaces
- oceanography
- power tool equipment, compressor, hoses and leads for the power tools operated:
 - causes and remedies for surging
 - control of output
 - effects of temperature and compression ratio pressure/temperature relationships and effects on condensation (e.g. moisture and/or gas)
 - methods of resolving problems
 - principles of operation
 - physics of operation
- relevant industry standards, and organisational policies and procedures
- relevant workplace hazards
- use of compressor
- use of power tools.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

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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 other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- ocean with a range of oceanic, diurnal and nocturnal environments
- relevant documentation including organisational procedures, regulations, codes of practice

and operation manuals.

When practicable, assessment should relate to the diver's vocational focus.

Links

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