



Australian Government

DEFWDV014 Perform concreting in an underwater environment

Release: 1

DEFWDV014 Perform concreting 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 concrete simple forms and excavations in an underwater environment.

It includes preparing for underwater concreting, constructing simple formwork, and positioning reinforcement rods and fixed anchorages. It also includes pouring and screeding the concrete to the required finish, recovering formwork and waste, and deservicing and storing tools.

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 other people 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 for underwater concreting | 1.1 Identify and analyse work task and worksite data to determine the specific requirements for the concrete

1.2 Develop work plan consistent with dive plan

1.3 Select, inspect and prepare equipment

1.4 Secure concreting equipment safely to/from dive site

1.5 Assess access obstructions and other underwater hazards to determine risks and to manage risk control measures in accordance with dive plan |
| 2 Concrete underwater site | 2.1 Determine safety of work area at worksite

2.2 Prepare site in accordance with work plan

2.3 Assemble formwork to meet task requirements

2.4 Position reinforcing bars, rods, stirrups and mesh, bar chairs and spacers as required

2.5 Mix cement and deliver to site in accordance with work plan and concrete strength specifications

2.6 Take measures to confirm location and safety of divers prior to commencing pour, in accordance with operational procedures

2.7 Spread and screed concrete in accordance with work plan

2.8 Undertake tasks to finish surface, ensuring it is protected during curing |
| 3 Complete underwater concreting | 3.1 Minimise environmental impact arising from concreting and recover waste materials on completion of task

3.2 De-service and store all equipment, in accordance with operational 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 may be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces but is not equivalent to DEFWDV014B Perform concreting 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 DEFWDV014 Perform concreting in an underwater environment

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:

- applying relevant legislation, standards and organisational policies and procedures
- applying underwater risk control measures and work plan requirements
- calculating cement mix ratios according to strength specifications
- completing underwater concrete work including:
 - assembling formwork and stripping agent
 - clearing and levelling site to prepare for pouring
 - ensuring a consistent pour when delivering cement
 - operating cement tools and equipment
 - protecting concrete during curing
- conducting at least one of the following underwater concreting tasks:
 - reinforcing pier legs
 - placing footings
 - laying a slab or ramp.
- developing underwater concreting work plan
- planning underwater concreting work
- using floats and brooms to finish surface.

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:

- concrete setting and strength specifications
- 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
- relevant legislation, standards, and organisational policies and procedures
- relevant risk mitigation organisational procedures including workplace hazard mitigation.

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.

As a minimum, assessment must satisfy applicable regulatory requirements, which include requirements in 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 other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- dive location
- ocean with a range of oceanic, diurnal and nocturnal environments
- applicable 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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