



**Australian Government**

# **SISOSCB009 SCUBA dive to depths between 18 and 40 metres**

**Release: 1**

# SISOSCB009 SCUBA dive to depths between 18 and 40 metres

## Modification History

Not applicable.

## Application

This unit describes the performance outcomes, skills and knowledge required to plan and complete deep recreational SCUBA dives to a maximum depth of 40 metres using equipment, diving and risk management techniques specific to deep diving.

It applies to dive leaders, usually known as divemasters, or instructors and to assistant instructors who use these skills when leading participants during SCUBA diving activities. Leadership skills are provided in complementary units.

This unit applies to any type of organisation that delivers SCUBA diving activities and dive instruction including commercial, not-for-profit and government organisations.

In order to procure air, equipment, and other services to engage in recreational open water diving without supervision, divers must hold certification (C-Card) issued by an industry authorised organisation. That industry certification may or may not be issued concurrently with an Australian Qualification Framework (AQF) qualification or Statement of Attainment identifying achievement of competency in this unit. C-Card certification would be required to gain employment as a divemaster or instructor.

Those delivering training and assessment to support this unit should consult the relevant industry bodies to determine any partnership arrangements for courses, trainers and assessors that can lead to joint AQF and industry regulated C-Card certification.

## Pre-requisite Unit

SISOSCB001 SCUBA dive in open water to a maximum depth of 18 metres

## Competency Field

SCUBA Diving

## Unit Sector

Outdoor Recreation

## 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. Plan for deep recreational dives.
  - 1.1. Determine specific and realistic objectives for deep recreational dives, accounting for time limits at depth.
  - 1.2. Determine site, depth and duration of dives suited to own and buddy abilities.
  - 1.3. Identify specific site hazards and medical problems associated with diving at depths beyond 18 metres and assess risks.
  - 1.4. Prepare dive plans for single and repetitive deep dives according to industry technical and safety criteria.
  - 1.5. Calculate no-decompression limits.
  - 1.6. Use dive computer or dive tables, as required, to plan requirements.
2. Complete deep dives.
  - 2.1. Select and assemble dive equipment suitable for use at depths beyond 18 metres.
  - 2.2. Execute controlled descents and ascents holding a reference line as a tactile guide.
  - 2.3. Execute controlled free descents and ascents using a reference point as a visual only guide.
  - 2.4. Adjust buoyancy to account for diminishing cylinder weight.
  - 2.5. Utilise deep diving breathing techniques to conserve air, and regularly monitor air supply and pressure gauges.
  - 2.6. Maintain close physical and visual contact with buddy throughout all diving activities and share data from gauges or computer.
  - 2.7. Use depth gauge and timing device or dive computer to measure and control ascent rate.
  - 2.8. Complete appropriate safety stops during ascents according to industry technical and safety criteria.

## Foundation Skills

*Foundation skills essential to performance in this unit, but not explicit in the performance criteria are listed here, along with a brief context statement.*

| SKILLS                        | DESCRIPTION                                                                                                                                                |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Oral communication skills to: | <ul style="list-style-type: none"> <li>• use clear and unambiguous verbal and non-verbal communications to make intent known with diving buddy.</li> </ul> |
| Numeracy skills to:           | <ul style="list-style-type: none"> <li>• interpret and calculate numerical data involving pressures, percentages and depths.</li> </ul>                    |

- Teamwork skills to:
- work in harmony with a buddy diver to complete safe dives.
- Planning and organising skills to:
- manage own timing to complete activities within planned timeframes.

## Unit Mapping Information

No equivalent unit.

## Links

Companion Volume Implementation Guides -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1ca50016-24d2-4161-a044-d3faa200268b>

# Assessment Requirements for SISOSCB009 SCUBA dive to depths between 18 and 40 metres

## Modification History

Not applicable.

## Performance Evidence

.Evidence of the ability to complete tasks outlined in elements and performance criteria of this unit in the context of the job role, and:

- plan and complete four open water dives each for different parameters over 18 metres and up to 40 metres depth
- during each dive, use effective deep diving techniques to control:
  - ascent and descent
  - buoyancy
  - underwater swimming
  - breathing for air conservation
  - buddy contact, cooperation and communication
- across the four dives execute:
  - one descent and ascent using a reference line as a tactile guide
  - one free descent and ascent using a reference point as a visual only guide.

## Knowledge Evidence

Demonstrated knowledge required to complete the tasks outlined in elements and performance criteria of this unit:

- definition of recreational deep dives and recommended diving limits within maximum definitions
- specific objectives that typically relate to deep dives and reasons for setting limited objectives in line with reduced time available underwater
- environmental hazards associated with diving beyond 18 meters and techniques used to safely negotiate these:
  - cold water
  - low light levels and visibility
- specific medical problems related to diving at depths beyond 18 metres, the causes, prevention, symptoms, first aid and treatment:
  - nitrogen narcosis
  - decompression sickness
  - increased levels of stress and panic due to environmental conditions
- how to use dive computers for deep diving to:
  - determine no-decompression limits for single and repetitive dives

- properly plan and execute a dive
- manage ascents
- features, function and operation of dive computers, and advantages of dive computers over dive tables when planning and completing deep dives
- identifying features, functions and operation of equipment used for deep diving:
  - purpose made regulators
  - purpose made submersible pressure gauges
  - alternative air sources
  - heavy grade exposure suits, booties and gloves
  - lines from support stations fitted with back up air supply
  - extra weight ballast systems
  - dive lights
- descent and ascent techniques:
  - holding a reference line as a tactile guide
  - slowing and stopping using a reference line while hands are occupied
  - using a reference point as a visual only guide for free descents and ascents – walls and sloping bottoms
  - head up descents and why these are important
- special considerations and techniques whilst deep diving for:
  - maintaining buddy contact
  - adjusting and maintaining buoyancy
  - breathing
- optimum ascent rates and times for safety stops during ascent and how to calculate these for different depths.

## Assessment Conditions

Skills must be demonstrated in an open water site during daylight hours. Dives can be completed from either boats or from the shore.

During assessment:

- direct vertical access to the surface must be possible; aquatic plants are not considered an overhead obstruction
- no more than three dives can be completed in any one day
- dives must include at least 15 minutes at a depth between 18 and 40 metres
- the following resources must be available to replicate industry conditions of operation:
  - first aid equipment
  - oxygen equipment
  - communication equipment for emergency response
  - diver flags of a type and size that meet local maritime regulator requirements
  - flag and surface float with weighted line for safety stops and back up air supply attached (support station).

Assessment must ensure use of:

- a diving buddy with whom the candidate can dive
- fins
- masks
- snorkels
- cylinders and valves
- buoyancy control devices with low pressure inflators
- regulators with submersible pressure gauges
- alternative air source
- weight ballast systems
- exposure suits suitable for conditions
- timing devices
- depth gauges
- dive computers
- lines for descents and ascents.

Assessors must satisfy the Standards for Registered Training Organisations requirements for assessors, and:

- be an individual who is currently certified and sanctioned by an industry authorised organisation to teach and assess deep diving skills.

## Links

Companion Volume Implementation Guides -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=1ca50016-24d2-4161-a044-d3faa200268b>