

AS 2815.2:2021



STANDARDS  
Australia



# Training and certification of occupational divers

## Part 2: Surface supplied diver to 30 m



AS 2815.2:2021

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- Australasian Institute for Maritime Archaeology
- Australian Council of Trade Unions (ACTU)
- Australian Diver Accreditation Scheme
- Australian Marine Sciences Association
- Australian Medical Association
- Better Regulation Division (Fair Trading, SafeWork NSW, TestSafe)
- Department of Defence (Australian Government)
- Flinders University
- Maritime Union of Australia
- National Association of Occupational Diver Training Establishments
- NSW Police Force
- Victoria Police
- Zoo and Aquarium Association

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# Training and certification of occupational divers

## Part 2: Surface supplied diver to 30 m

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## Preface

This Standard was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee SF-017, Occupational Diving, to supersede AS/NZS 2815.2:2013, *Training and certification of occupational divers, Part 2: Surface supplied diving to 30 m*.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this document as an Australian Standard rather than an Australian/New Zealand Standard.

The inclusion of roles and responsibilities in AS 2815.2:2021, was approved by the Standards Development and Accreditation Committee on 6 August 2020, as a one-off exemption to the directives of Standardization Guide SG-006, Section 35.

The objective of this document is to provide regulatory authorities, training providers and trainees with the content of a training course for imparting minimum levels of competency to trainee occupational surface supplied breathing apparatus (SSBA) divers, and assessment procedures.

The task training set out in the units of this document will provide the trainee with a general appreciation of the techniques and problems involved in carrying out the specified underwater work. For the diver to be considered a competent underwater worker, it will generally be necessary for further specialist training to be undertaken.

The document is Part 2 of a series of Standards relevant to the training and certification of underwater divers, where the requirements of regulatory authorities and industry demand a prescribed degree of training and competence to ensure an adequate degree of safety, performance and economy.

This document is particularly relevant to the training of personnel who will be engaged in underwater SSBA operations as described in the AS/NZS 2299 series on occupational diving operations.

The major changes for this edition are to allow the order of training to be more flexible, so that surface supplied diver training may be undertaken prior to or in conjunction with occupational SCUBA diver training (refer to AS 2815.1). This means that this document no longer requires occupational SCUBA diver training as one of the necessary trainee application criteria. It includes non-SCUBA-specific competencies from within AS 2815.1, *Training and certification of occupational divers, Part 1: Occupational SCUBA diver*, to allow critical theory, safety and basic work task units to be undertaken during the initial SSBA diver training, with additional dives and in-water dive time which may be undertaken on either SCUBA or SSBA.

This document also provides guidance allowing for certified divers to undertake a top up to full SSBA diver from restricted SSBA diver certification. It allows EAN or dry suit training as standalone units in addition to previously undertaken SSBA diver training.

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# Australian Standard®

## Training and certification of occupational divers

### Part 2: Surface supplied diver to 30 m

#### Section 1 Scope and general

##### 1.1 Scope

This document specifies the training activities and competencies required for the training and certification of divers to work safely and competently as members of an occupational diving team —

- (a) using surface supplied breathing apparatus (SSBA) to depths of 30 m;
- (b) breathing air as the breathing gas;
- (c) undertaking no decompression dives to 30 m (see Notes);
- (d) using a dry suit; and
- (e) breathing enriched air nitrox (EAN) as the breathing gas.

Training and certification to this document is generally the minimum required by a diver to undertake diving in onshore locations and construction activities, e.g. repair of jetties, dams on sites where no surface compression chambers are required by AS/NZS 2299 to be present on site.

Requirements and guidance for providers of surface supplied diver training are given in [Section 4](#).

NOTE 1 Many occupational diving operations will require additional underwater work skills to those listed in this document. It should be noted that there may be specific regulatory requirements relating to occupational divers intending to work in the construction industry.

NOTE 2 Restricted occupational diver certification is for persons whose diving duties do not require training in all of the specialized underwater tasks (see [Section 2](#)). Divers with restricted certificates may only undertake diving operations that involve limited use of plant, tools and equipment. Persons holding restricted occupational diver certificates to this document may upgrade their diving qualifications by completion of all remaining modules in this document for full certification, except for the EAN or dry suit modules which remain optional.

NOTE 3 Training and certification of occupational SCUBA divers is dealt with in AS 2815.1. Attention is drawn to the requirements of AS/NZS 2299.1 and of regulatory authorities, which may limit the depths and times of diving with no compression chamber facilities on site.

NOTE 4 Persons who wish to be trained sufficiently to dive using recompression facilities and to depths greater than 30 m need to be trained to AS 2815.3. Graduates from training courses to this document, i.e. AS 2815.2, who wish to upgrade their diving qualifications, may be eligible to do so by completing approved selected modules at an approved diver training establishment.

##### 1.2 Application

###### 1.2.1 General

This document comprises requirements and guidance for use by the trainee diver, supervisor, person conducting a business or undertaking (PCBU), training establishment or certification agency. Specifically, it is intended to —

- (a) prescribe to a trainee the level of competency that a qualified diver is expected to achieve;
- (b) provide minimum requirements for a school or training establishment in the development of a course of training;

- (c) be used by certification agencies to assess training provided to trainee divers;
- (d) be used to assess and certify diver training establishments delivering the training; and
- (e) provide a basis for a supervisor or PCBU to evaluate the current competence of divers.

This document applies to the training of occupational divers who may work in a range of industries, including but not limited to —

- (i) construction;
- (ii) aquaculture;
- (iii) underwater engineering;
- (iv) emergency services;
- (v) police and defence operations;
- (vi) underwater film production;
- (vii) wild catch;
- (viii) natural resource management;
- (ix) scientific research;
- (x) archaeology; and
- (xi) aquarium.

### 1.2.2 Certification

Persons requiring certification to this document shall meet all elements of competency and performance criteria specified in this document for the particular level of certification (restricted or full) being sought.

NOTE Refer also to AS/NZS 2299.1 for requirements for certification bodies.

A diver trained in accordance with this document may receive certification through —

- (a) the relevant regulatory authority; or
- (b) an occupational diver training certification body that operates under a written agreement or memorandum of understanding from the relevant regulator; or
- (c) a diver training certification body operating under the Australian Qualifications Framework (AQF) that is:
  - (i) an Australian registered training organization (RTO) or equivalent, operating under the Australian Skills Quality Authority (AQSA); or
  - (ii) a higher education provider registered with the Tertiary Education Quality and Standards Agency (TEQSA).

### 1.2.3 Qualification

A diver trained in accordance with this document may receive qualification certification documentation through either —

- (a) an occupational diver training establishment that is an Australian registered training organization (RTO), delivering accredited diver training under the Australian Qualifications

Framework (AQF) in accordance with this document and the Standards for Registered Training Organizations (2015) or its successor; or

- (b) an occupational diver training establishment that is an Australian higher education provider or university registered under the Tertiary Education Quality and Standards Agency (TEQSA), delivering accredited diver training under the Australian Qualifications Framework (AQF) in accordance with this document and the Higher Education Standards Framework (Threshold Standards) 2015 or its successor.

Diver training establishments providing training in accordance with this document should have arrangements for audit of their course structure, curriculum, teaching personnel and equipment by an independent party with occupational diver training competency. Establishments should also have arrangements for seeking and evaluating feedback from student experience.

### 1.3 Normative references

The following are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 2815.1, *Training and certification of occupational divers, Part 1: Occupational SCUBA diver*

AS/NZS 2299.1, *Occupational diving operations, Part 1: Standard operational practice*

AS/NZS 2815.5, *Training and certification of occupational divers, Part 5: Dive supervisor*

### 1.4 Terms and definitions

For the purpose of this document, the following terms and definitions apply.

#### 1.4.1 certification

card or license recognized or issued by a regulator, government body or certification body that verifies training in accordance with defined competency standards, with a renewal requirement that demonstrates current competency

#### 1.4.2 dive supervisor

person certified to supervise occupational diving operations and responsible for the safe conduct of the diving operation

Note 1 to entry: Requirements for the training and certification of dive supervisors are set out in AS/NZS 2815.5.

#### 1.4.3 dressed-in

in a fit state of readiness for diving

#### 1.4.4 element of competency

discretely identifiable action or knowledge that can be demonstrated or assessed. Elements are basic building blocks of the unit of competency ([1.4.23](#)), specifying the critical outcomes to be achieved in demonstrating competence

#### 1.4.5 enriched air nitrox EAN

breathable mixture of nitrogen and oxygen with more than 21 % oxygen content, which may contain trace gases at levels no higher than breathable air

Note 1 to entry: This is also referred to as EANx, NITROX and Nitrox.

**1.4.6****occupational SCUBA diver**

individual who has satisfactorily completed the occupational SCUBA diver training course, has been deemed competent in units 1 through 11 and has fulfilled the specified diving requirements

Note 1 to entry: Requirements for the training course are set out in AS 2815.1.

**1.4.7****occupational SSBA diver to 30 m**

individual who has satisfactorily completed the occupational SSBA diver training course, has been deemed competent in units 1 through 7 and has fulfilled the specific diving requirements

**1.4.8****occupational SSBA diving instructor**

individual certified by a recognized certifying organization to teach the applicable SSBA diving course and authorize and recommend the issue of the same level of certification

Note 1 to entry: See [Clause 4.3](#) for instructor requirements.

Note 2 to entry: The terms “instructor” and “trainer” are synonymous.

**1.4.9****open water**

any large body of water that is subject to currents, swell or waves and which can safely be used for instruction of diving

**1.4.10****person conducting a business or undertaking****PCBU**

entity responsible for ensuring the health and safety of workers and others, including visitors and volunteers

Note 1 to entry: “person” may be an organization or an individual and includes sole traders, partnerships and any corporation.

Note 2 to entry: A business or undertaking includes commercial, not for profit, private and public-sector organizations. Volunteer associations are not included in this definition.

Note 3 to entry: Examples of PCBUs are a tertiary institution, a transport company and a State or Territory government department.

Note 4 to entry: A person conducting a business or undertaking will have a range of work health and safety (WHS) legal duties. Please refer to the relevant State or Territory WHS regulator.

**1.4.11****performance criteria**

specify the level of performance required to demonstrate achievement of the element of competency

**1.4.12****qualification**

nationally recognized qualification within the Australian Qualifications Framework

**1.4.13****qualification certification documentation**

testamur or statement of attainment certifying attainment of all or part of a nationally recognized qualification

**1.4.14****regulatory authority**

Minister of the Crown, a government department or other public authority having power to issue regulations, orders or other instructions having the force of law

**1.4.15****restricted SCUBA diver**

individual who has satisfactorily completed the restricted SCUBA diver training course and has been deemed competent in units 1 through 11 and the specified diving requirements

Note 1 to entry: Requirements for the training course are set out in AS 2815.1.

**1.4.16****restricted SSBA diver to 30 m**

individual who has satisfactorily completed the restricted SSBA diver to 30 m training course and has been deemed competent in units 1 through 7

**1.4.17****self-contained underwater breathing apparatus****SCUBA**

diver's breathing gas supply completely independent from surface. SCUBA refers to open-circuit SCUBA where exhaled air is expelled to the environment and is not recycled

**1.4.18****shall**

indicates that a statement is mandatory

**1.4.19****should**

indicates a recommendation

**1.4.20****surface supplied breathing apparatus****SSBA**

breathing apparatus supplied with breathing gas from the surface using a diver's umbilical

**1.4.21****Standards**

relevant Australian or Australian/New Zealand Standards

**1.4.22****trainee****student**

individual who is subject to the training and assessment described within this Standard

**1.4.23****unit of competency**

defines the skills and knowledge to operate effectively and how they need to be applied to perform effectively in a workplace context

**1.4.24****worker**

person who carries out work in any capacity for a person conducting a business or undertaking ([1.4.10](#))

Note 1 to entry: Includes employees, contractors, sub-contractors, employees of a contractor or sub-contractor, work experience students and volunteers.

**1.5 Purpose**

The purpose of this document is to outline the organizational and syllabus requirements for the following:

- (a) To train underwater workers to operate safely and competently using surface supplied breathing apparatus (SSBA) in accordance with AS/NZS 2299.1 to depths of up to 30 m.

- (b) To provide a basic knowledge of the underwater skills required by industry and the application of those basic skills to undertake a range of underwater tasks safely and efficiently.

The following important aspects should also be given consideration:

- (i) *Competence* — The range of diving tasks covered by this document is limited. Accordingly, divers who wish to undertake tasks outside the scope of this document should be trained and accredited in accordance with other applicable parts of the AS 2815 series.

NOTE Some regulatory authorities may require that persons carrying out diving work be in possession of an appropriate certificate of competency.

- (ii) *Safety and health* — The safety and health of the diver and the development of safe working practices needs to be integrated into all aspects of the training course.
- (iii) *Team training* — The training, particularly in practical diving and underwater work, should be directed towards developing individual competence and helping the trainee to think and act as a member of a team.
- (iv) *Record keeping* — Record keeping is required for both the diver (i.e. in a logbook) as well as the training establishment (refer to AS/NZS 2299.1).

## 1.6 Trainee application criteria

The trainee shall be in possession of a valid certificate of medical fitness to dive issued, after examination, by a doctor trained and experienced in underwater medicine in accordance with the requirements in AS/NZS 2299.1. The trainee application shall include a certificate of medical fitness to dive in accordance with AS/NZS 2291.1.

NOTE 1 Trainees should be advised to seek a medical review if their health has changed significantly after the medical certificate was issued.

Certificates of medical fitness issued outside of Australia and New Zealand may meet the criteria prescribed within AS/NZS 2299.1.

Prior to the commencement of training, the trainee shall be:

- (a) A minimum of 18 years of age.
- (b) A competent swimmer, demonstrated by the trainee —
  - (i) completing a surface swim of 200 m (minimum) while neutrally buoyant within eight minutes; and
  - (ii) treading water for 10 min while fully clothed (i.e. wearing a long-sleeved shirt and long pants).
- (c) Able to —
  - (i) add, subtract, multiply and divide whole numbers, decimals and common fractions; and
  - (ii) calculate percentages.
- (d) Able to understand written and verbal communications and be able to communicate easily with other persons in the English language, or in the language selected for instruction and certification.

In the case of divers gaining certifications to both AS 2815.1 and AS 2815.2 in a combined course, it is acceptable to deliver the AS 2815.2 program prior to AS 2815.1. However, certification to AS 2815.2 cannot be issued through a standalone training program, unless the trainee already holds a certification to AS 2815.1.

Prior to commencement of practical components of the occupational diver training course, the trainee shall have satisfactorily demonstrated basic safe diving practices in a controlled environment such as a swimming pool, including setting up of a basic equipment, the application of an alternate air supply, mask or helmet clearing and buoyancy control.

If certification to AS 2815.1 as an occupational SCUBA diver is not held, the basic diving work tasks and introductory teamwork dives may be undertaken on either SCUBA or SSBA. Sufficient time should be allocated to SCUBA skills to safely operate bail-out systems prior to undertaking SSBA diving. Dives undertaken on SCUBA may count towards the occupational SCUBA course in a combined SSBA/occupational SCUBA course.

Prior to commencement of practical components of the training course, the trainee shall have satisfactorily completed first aid training including cardiopulmonary resuscitation and oxygen administration and hold current certification for this from a training organization registered under the relevant training authority.

**NOTE 2** The above requirements are met by most general first aid courses leading to certification, incorporating or supplemented by an oxygen administration course.

**NOTE 3** Relevant training authorities may include organizations such as the Australian Skills Quality Authority (ASQA), the Tertiary Education Quality and Standards Agency (TEQSA), or New Zealand Qualifications Authority (NZQA).