
**Recreational diving services — Safety
related minimum requirements for the
training of recreational scuba divers —**

**Part 1:
Level 1 — Supervised diver**

*Services relatifs à la plongée de loisirs — Exigences minimales liées à
la sécurité concernant la formation des plongeurs en scaphandre
autonome pratiquant la plongée de loisirs —*

Partie 1: Niveau 1 — Plongeur encadré



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Contents

Page

| | |
|--|----|
| Foreword..... | iv |
| Introduction | v |
| 1 Scope | 1 |
| 2 Normative references | 1 |
| 3 Terms and definitions..... | 2 |
| 4 Competencies of a recreational scuba diver at level 1 — “Supervised diver”..... | 3 |
| 5 Prerequisites for training | 3 |
| 5.1 General..... | 3 |
| 5.2 Minors | 3 |
| 5.3 Health requirements | 4 |
| 6 Introductory information..... | 4 |
| 7 Required theoretical knowledge | 4 |
| 7.1 Equipment | 4 |
| 7.2 Physics of diving | 4 |
| 7.3 Medical problems related to diving..... | 4 |
| 7.4 Diving environment | 5 |
| 7.5 Scuba diver separation procedures..... | 5 |
| 7.6 Use of breathing gases other than air | 5 |
| 8 Required scuba skills | 5 |
| 8.1 Confined water scuba skills | 5 |
| 8.2 Open water scuba skills | 6 |
| 9 Practical training parameters | 6 |
| 10 Assessment..... | 7 |
| 10.1 Knowledge..... | 7 |
| 10.2 Scuba skills | 8 |
| Annex A (informative) Examples for the degree of mastery required for the level 1 scuba diver examination..... | 9 |
| Annex B (informative) Example of an information sheet for medical screening | 10 |

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 24801-1 was prepared by the European Committee for Standardization (as EN 14153-1:2003) and was adopted, under a special "fast-track procedure", by Technical Committee ISO/TC 228, *Tourism and related services*, in parallel with its approval by the ISO member bodies.

ISO 24801 consists of the following parts, under the general title *Recreational diving services — Safety related minimum requirements for the training of recreational scuba divers*:

- *Part 1: Level 1 — Supervised diver*
- *Part 2: Level 2 — Autonomous diver*
- *Part 3: Level 3 — Dive leader*

Introduction

The International Standards relating to recreational diving services have been prepared by ISO/TC 228/WG 1 “Diving services”, with the aim of establishing a series of specifications for safety practices and the provision of services.

Therefore these International Standards specify:

- necessary levels of experience and competency of scuba divers and scuba instructors,
- safety practices and requirements for recreational scuba diving service providers appropriate to the different diving levels.

The requirements specified are minimal; they do not preclude the provision of additional training or the assessment by a service provider of additional competencies. These International Standards represent a tool for comparison of existing (or future) qualifications of scuba divers. In no way do they represent a course programme nor do they imply that course programs and scuba diver certifications issued by different nations or training organizations must necessarily correspond to these levels.

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Recreational diving services — Safety related minimum requirements for the training of recreational scuba divers —

Part 1: Level 1 — Supervised diver

1 Scope

This part of ISO 24801 specifies the competencies that a scuba diver has to have achieved in order for a training organization to award the scuba diver certification indicating that he has met or exceeded scuba diver level 1 — “Supervised diver” and specifies assessment of these competencies.

It also specifies conditions under which training has to be provided, in addition to the general requirements for recreational diving service provision in accordance with ISO 24803.

This part of ISO 24801 applies only to contractual training and certification in recreational scuba diving.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 24801-3:2007, *Recreational diving services — Safety related minimum requirements for the training of recreational scuba divers — Part 3: Level 3 — Dive leader*

ISO 24802-1:2007, *Recreational diving services — Safety related minimum requirements for the training of scuba instructors — Part 1: Level 1*

ISO 24802-2:2007, *Recreational diving services — Safety related minimum requirements for the training of scuba instructors — Part 2: Level 2*

ISO 24803:2007, *Recreational diving services — Requirements for recreational scuba diving service providers*

EN 250:2000, *Respiratory equipment — Open-circuit self-contained compressed air diving apparatus — Requirements, testing, marking*

EN 12628:1999, *Diving accessories — Combined buoyancy and rescue devices — Functional and safety requirements, test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 250:2000 and EN 12628:1999 and the following apply.

3.1 training organization
entity providing recreational scuba diving training systems and certification and which is responsible for the implementation and quality management of scuba diver training

NOTE Entity may include scuba diving federations and scuba diver training agencies.

3.2 certification
confirmation that a student has completed scuba diver training which fulfils all requirements in accordance with this part of ISO 24801, as issued by training organizations

3.3 scuba instructor
individual qualified in accordance with ISO 24802-1 or ISO 24802-2 respectively

3.4 dive leader
individual qualified in accordance with ISO 24801-3

3.5 breathing gas
mixture of oxygen and nitrogen with no less than 20 % oxygen

3.6 confined water
swimming pool with a depth appropriate to the activity or body of water that offers similar conditions with regard to visibility, depth, water movement and access

3.7 open water
body of water significantly larger than a swimming pool offering conditions typical of a natural body of water encountered in the region

3.8 diving equipment
equipment consisting of the following items:

- fins,
- mask,
- snorkel,
- demand regulator (also referred to as a regulator),
- alternative breathing gas system,

NOTE 1 This could range from a simple octopus system to a duplicate breathing system with a separate breathing gas supply.

- cylinder,
- cylinder-support-system,

- buoyancy compensator,
- a quick release weight system (if appropriate),
- submersible pressure gauge (breathing gas pressure monitor),
- means to measure depth and time and to safely limit exposure to inert gas,
- diving suit (if appropriate)

NOTE 2 Specific environments may require additional equipment (e.g. an underwater navigational aid, knife/cutting device).

3.9

direct supervision

supervision by a scuba instructor or a dive leader of a group of divers in a position allowing rapid intervention on behalf of the diver

4 Competencies of a recreational scuba diver at level 1 — “Supervised diver”

Scuba divers at level 1 — “Supervised diver” shall be trained such that when assessed in accordance with Clause 10 they are deemed to have sufficient knowledge, skill and experience to dive in open water under the direct supervision of a dive leader.

Scuba divers at level 1 — “Supervised diver” are qualified to dive within the following parameters:

- dive to a recommended maximum depth of 12 m,
- dive in groups of up to four level 1 scuba divers per dive leader,
- make dives which do not require in-water decompression stops,
- dive only when appropriate support is available at the surface,
- dive under conditions that are equal or better than the conditions where they were trained.

NOTE If accompanied by a scuba instructor, a scuba diver at level 1 — “Supervised diver” may gain progressive experience beyond these parameters and develop competency in managing more challenging diving conditions designed to lead to higher qualifications. Where further instruction is required this can only be provided by a suitably qualified scuba instructor. Where only further experience is required, this may be supervised by a dive leader.

5 Prerequisites for training

5.1 General

The service provider shall ensure that the client fulfils the following prerequisites to take part in the training course envisaged.

5.2 Minors

Documented parental or legal guardian consent shall be obtained when the applicant is a minor.

5.3 Health requirements

Documented evidence shall be obtained that the student has been medically screened as suitable for recreational diving by means of an appropriate questionnaire or medical examination. In any case of doubt, or at the scuba instructor's discretion, students shall be referred to proper medical resources. If the student is not examined by a physician the student shall be obliged to confirm by signature that he or she has understood written information given by the scuba instructor on diseases and physical conditions which may pose diving related risks.

Students shall be advised of the importance of appropriate regular medical examinations.

6 Introductory information

Information in accordance with ISO 24803 shall be made available to the students prior to, or during the first class meeting.

7 Required theoretical knowledge

7.1 Equipment

Students shall have an appropriate level of knowledge concerning the practical use of diving equipment items in accordance with 3.8.

7.2 Physics of diving

Students shall have an appropriate knowledge of the influence and effects of changing pressure in particular regarding:

- equalization (e.g. ears and mask),
- breathing (not holding breath and effect of pressure on air consumption),
- buoyancy and how to control it.

7.3 Medical problems related to diving

7.3.1 General

Students shall have a basic knowledge of avoiding problems resulting from those listed in 7.3.2 to 7.3.3.

7.3.2 Direct effects of pressure

7.3.2.1 Increasing pressure (descent phase)

- gas compression (e.g. ears, sinuses, masks, lungs, suits, teeth).

7.3.2.2 Decreasing pressure (ascent phase)

- gas expansion (e.g. ears, sinuses, lungs, stomach, intestines, teeth),
- decompression illness (DCI) (e.g. decompression sickness, arterial gas embolism).

7.3.3 Other hazards

- physical and mental stress,
- effects of temperature on the scuba diver,
- medication, drugs, alcohol.

7.4 Diving environment

Students shall have a basic knowledge concerning the local and general conditions of the diving environment and their possible effects on the scuba diver and the scuba diver's impact on the environment.

7.5 Scuba diver separation procedures

Students shall have knowledge concerning correct actions in the event of separation from the group or their buddy.

7.6 Use of breathing gases other than air

Where a breathing gas other than air is used during the training course, the student shall be made aware of any depth limits, oxygen exposure management issues and equipment considerations relevant to the dives planned.

8 Required scuba skills

8.1 Confined water scuba skills

Students shall be able to demonstrate capability in the following skills; each skill shall be satisfactorily practised in confined water before in open water:

- use of mask, fins and snorkel,
- diving equipment assembly and disassembly (at water's edge),
- entry and exit,
- mouthpiece clearing of snorkel and regulator,
- regulator/snorkel exchanges, swimming at the surface,
- proper descent and ascent procedures (e.g. equalizing pressure in ears and mask),
- swim underwater,
- mask-clearing, including removal and replacement,
- underwater and surface buoyancy control,
- underwater regulator recovery,
- basic instrument monitoring,
- surface operation of the quick release of the weight ballast system,
- act as receiver of an alternative breathing gas source,

- equipment care,
- basic hand signals.

8.2 Open water scuba skills

Students shall be able to perform the following skills in conditions typical of the local environment:

- use of use of mask, fins and snorkel,
- diving equipment assembly and disassembly (at water's edge),
- entry and exit,
- mouthpiece clearing — snorkel and regulator,
- regulator/snorkel exchanges, swimming at the surface,
- proper descent and ascent procedures (e.g. equalizing pressure in ears and mask),
- swim underwater,
- mask-clearing,
- underwater and surface buoyancy control,
- underwater regulator recovery,
- basic instrument monitoring,
- surface operation of the quick release of the weight ballast system,
- act as receiver of an alternative breathing gas source,
- equipment care,
- basic hand signals.

9 Practical training parameters

9.1 An open water dive shall comprise at least the following activities:

- briefing,
- preparation to dive,
- pre-dive checks,
- entry into water,
- descent procedures,
- underwater activity,
- ascent and surfacing procedures,

- exit from water,
- debriefing,
- post dive procedures,
- recording the dive.

9.2 All underwater skills in confined water shall be taught, directly supervised and evaluated by a scuba instructor, who shall be in the water during each session. The scuba instructor shall be in direct control of students throughout all sessions.

9.3 Prior to the first open water dive the student shall effectively show proof of, or demonstrate, to a scuba instructor the following skills, without the use of mask, fins, snorkel, or other swimming aids:

- distance swimming capability,
- 5 min survival swim/float.

9.4 Before participating in open water dives a student shall have demonstrated sufficient theoretical knowledge and scuba skills in confined water to be able to perform the open water dives in the prevailing conditions.

9.5 The maximum depth during training dives shall not exceed 12 m.

9.6 All open water dives shall be conducted in water that allows direct vertical access to the surface. Open water dives therefore shall not be conducted in underwater caves, inside wrecks or below ice.

9.7 During open water dives the student shall at least be equipped with diving equipment in accordance with 3.8 except that a means to measure depth and time and to safely limit exposure to inert gas is not required.

9.8 All under water skills in open water shall be taught, directly supervised and evaluated by a scuba instructor of level 2. The scuba instructor shall be in the water and in charge of each open water dive.

The safe supervision of students is solely the scuba instructor's responsibility. The scuba instructor shall limit the number of students per scuba instructor where environmental conditions are less than ideal, for example where underwater visibility is poor or there is significant water movement. The scuba instructor may also use additional aids to improve safety such as ascent lines, surface support stations or safety scuba divers. Where safety scuba divers are used they shall have an appropriate level of rescue competency of at least dive leader level.

9.9 The scuba instructor shall limit the number of students on open water dives so that either the scuba instructor or a dive leader is able to provide direct supervision.

9.10 The scuba instructor shall cancel or abort the open water dive if environmental conditions, equipment problems or a student's physical or mental condition make this necessary.

10 Assessment

10.1 Knowledge

The student shall demonstrate to a scuba instructor knowledge of scuba diving by taking and passing an oral or written examination as prescribed by a training organization. This examination shall test scuba diver level 1 theoretical knowledge in accordance with Clause 7 and knowledge of scuba skills in accordance with Clause 8 (see Annex A for an explanatory example).

10.2 Scuba skills

The student shall satisfactorily demonstrate to a scuba instructor, the scuba skills in accordance with Clause 8 (see Annex A for an explanatory example). Scuba skills in open water shall be evaluated by a level 2 scuba instructor.

Students to be certified shall complete at least two qualifying open water dives in the range between 4 m and 12 m in accordance with 9.1 under the direct supervision of a level 2 scuba instructor. The underwater duration of each of these two qualifying open water dives shall be at least 15 min.

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