

## **Recreational Diving Services — Safety related minimum requirements for the training of scuba instructors — Part 2: Level 2**

### **Foreword**

This document has been prepared by CEN /TC 329, "Tourism Services".

This document is currently submitted to the CEN Enquiry.

## Introduction

The European Standards relating to recreational diving services, have been prepared by CEN/TC 329/WG 3 "Recreational Diving Services", with the aim of establishing safe practices in the provision of services.

Therefore these standards define:

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

In any case, they cannot substitute for nor impose upon legal requirements, the alteration of which is outside the competence of the CEN/CENELEC members.

The European Standard prEN 329.03.02 consists of the following parts:

- prEN 329.03.02-1, *Recreational Diving Services - Safety related minimum requirements for the training of scuba instructors - Part 1: Level 1*
- prEN 329.03.02-2, *Recreational Diving Services - Safety related minimum requirements for the training of scuba instructors - Part 2: Level 2.*

The above mentioned European Standards represent a tool for comparison of existing (or future) qualifications of scuba instructors. In no way do they represent a course programme nor do they imply that course programs and scuba instructor certifications issued by different nations or organisations must necessarily correspond to these levels.

## 1 Scope

This European Standard specifies minimum qualification requirements for recreational scuba diving instructors at level 2.

This European Standard applies only to contractual training and certification in recreational scuba diving.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

prEN 14153-1, *Recreational Diving Services - Safety related minimum requirements for the training of recreational scuba divers - Part 1: Level 1*

prEN 14153-2, *Recreational Diving Services - Safety related minimum requirements for the training of recreational scuba divers - Part 2: Level 2*

prEN 14153-3, *Recreational Diving Services - Safety related minimum requirements for the training of recreational scuba divers - Part 3: Level 3*

prEN 329.03.02-1, *Recreational Diving Services - Safety related minimum requirements for the training of scuba instructors - Part 1: Level 1*

### 3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply:

#### 3.1

##### **training organisation**

entity providing recreational scuba diving training systems and certification

#### 3.2

##### **confined water**

swimming pool with a depth appropriate to the activity or body of water that offers similar conditions

#### 3.3

##### **open water**

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

### 4 Competencies of a scuba instructor at level 2

A level 2 scuba instructor shall be qualified

- to plan, organise and conduct dives and lead other recreational scuba divers of all levels in open water, including rescue activities,
- to teach and assess recreational scuba divers of level 1 according to prEN 14153-1, of level 2 according to prEN 14153-2 and of level 3 according to prEN 14153-3,
- to supervise level 1 scuba instructors according to prEN 329.03.02-1,
- to plan, organise and conduct scuba diver training courses,
- with suitable additional training or experience to plan, organise and conduct appropriate speciality or diving operational activities.

If diving and environmental conditions are significantly different from those previously experienced, a level 2 scuba instructor requires, in order to meet the above mentioned competencies, an appropriate orientation with regard to local diving and environmental conditions.

### 5 Prerequisites and practical experience

Scuba instructor candidates shall be at least scuba diver level 3 – “Dive Leader” with practical experience gained after level 3 certification according to prEN 14153-3.

### 6 Scuba instructor candidate information

The following information shall be made available to scuba instructor candidates prior to enrolling on the course:

- prerequisites according to 5,
- limitations of eventual qualification,
- scope of course,
- course procedures,
- costs, insurance and contractual issues according to national regulations,

- equipment requirements,
- certification requirements according to 12,
- diving related legislation and legal requirements,
- local environmental considerations.

Scuba instructor candidates shall be informed that records will be kept of their personal data and these records may be passed on to a training organisation.

## **7 Theoretical knowledge**

Scuba instructor candidates shall have extensive theoretical knowledge associated with the scuba skills according to prEN 14153-1 to 3 and the capabilities concerning lecture presentations referenced under 10.

Additionally scuba instructor candidates shall have appropriate knowledge of the following issues:

- medical and psychological contraindications for scuba diving,
- training standards for scuba diver levels 1 to 3 according to prEN 14153-1, prEN 14153-2, prEN 14153-3 and level 1 scuba instructor according to prEN 329.03.02-1,
- the duty of care of a scuba instructor,
- safety regulations affecting scuba diving service provision (e.g. schools, centres, clubs, organisations),
- methods of safely filling diving cylinders including relevant local regulations concerning cylinder working pressures and testing requirements,
- relationships and communication with relevant public authorities (e.g. police, customs, rescue organisations, fire-brigade),
- administration within a diving centre / club / organisation with regard to diving and training activities,
- teaching principles and methodology,
- selection of dive sites using appropriate navigational aids (e.g. maps, navigational charts, tide tables).

## **8 Personal scuba skills**

Scuba instructor candidates shall be able to perform all of the personal scuba skills from level 1 to level 3 scuba diver according to prEN 14153-1, prEN 14153-2 and prEN 14153-3 to demonstration quality.

## **9 Lecture Presentations**

Scuba instructor candidates shall be able to conduct lesson preparation, planning and delivery of lecture teaching presentations of topics from prEN 14153-1 to 3, clause 7.

## **10 Teaching and supervision of scuba skills**

Scuba instructor candidates shall be able to conduct in-water lessons for scuba divers level 1 to level 3 from the topics outlined in prEN 14153-1 to 3, in appropriate conditions. Assessment shall include activities demonstrating skills at confined and open water levels. The open water level skills shall be performed at an open water site representative of local conditions.

Lesson elements to be assessed shall include

- preparation,
- planning,
- briefing and debriefing,
- group control and supervision,
- skill demonstration,
- problem recognition and solving,
- student evaluation.

## **11 Emergency procedures**

### **11.1 Diver Rescue**

Scuba instructor candidates shall complete training in diver rescue skills.

Rescue skills shall include:

- recognition of emergency situations (e.g. loss of breathing gas supply, lack of response),
- controlled casualty recovery from depth,
- effective emergency surface actions,
- casualty recovery from the water,
- emergency situation management including co-ordination with emergency services in accordance with local emergency procedures.

### **11.2 First Aid**

Scuba instructor candidates shall have completed a course/courses in First-Aid and Cardio Pulmonary Resuscitation and have a valid qualification or certificate.

### **11.3 Oxygen Administration**

Scuba instructor candidates shall complete training in emergency administration of oxygen. This training shall include theoretical instruction of the medical principles involved and practical tuition on the use of an emergency oxygen unit.

## **12 Certification requirements**

### **12.1 Scuba instructor-trainer**

Scuba instructor-trainers shall be scuba instructors of senior standing and higher qualification than a level 2 scuba instructor and shall have received specific training in the education and development of scuba instructors. Scuba instructor-trainers shall have an extensive knowledge of pedagogy and relevant educational systems and shall be qualified and sanctioned by a training organisation or competent public authority as being able to teach and evaluate scuba instructors. Scuba instructor-trainers may take the role of trainers or examiners of scuba instructor candidates according to the procedures defined by such training organisations or competent public authorities.

The process of training and certification of scuba instructor candidates shall involve at least 1 scuba instructor-trainer and 1 level 2 scuba instructor of senior standing.

## **12.2 Health requirements**

Scuba instructor candidates shall be medically screened as suitable for diving according to procedures laid down by a competent medical authority. If such procedures are not specified scuba instructor candidates shall provide evidence of a diver medical examination not older than one year unless the medical doctor who has carried out the examination specifies longer validity.

## **12.3 Minimum age**

The minimum age for receiving the certification as level 2 scuba instructor is 18.

## **12.4 Minimum practical experience**

Scuba instructor candidates shall have met all requirements for a level 1 scuba instructor according to prEN 329.03.02-1 and a level 2 scuba instructor according to this European Standard prior to certification.

Scuba instructor candidates shall have gained teaching experience by assisting in a structured series of training sessions (both classroom and in confined and open water) which will expose them to a comprehensive range of duties and problems they will be expected to encounter once qualified.

Situations they will be exposed to should include simulated in-water emergencies, group dynamics and behavioural problems and typical learning difficulties.

Scuba instructor candidates shall have gained sufficient diving experience to demonstrate competency in all of the abilities prescribed by this standard.

## **12.5 Theoretical knowledge**

Scuba instructor candidates shall satisfactorily demonstrate to a scuba instructor-trainer knowledge of scuba diving training by taking and passing an examination. This examination shall test theoretical knowledge according to 7 and knowledge of skills according to 8, 9, 10 and 11.

## **12.6 Teaching techniques**

Scuba instructor candidates shall satisfactorily demonstrate to a scuba instructor-trainer their ability to prepare and present theoretical and practical presentations that are technically correct, of an appropriate content and are delivered in an effective manner suited to the students' needs.

An example for the assessment of teaching techniques is given in annex A.

## **12.7 Teaching and supervision of scuba skills**

Scuba instructor candidates shall satisfactorily demonstrate to a scuba instructor-trainer their ability to perform, teach and evaluate scuba skills according to prEN 14153-1 to 3.

This assessment shall include both confined water and open water activities and scuba instructor candidates shall not be given information prior to the assessment on the precise exercise to be used.

An example for the evaluation of teaching techniques is given in annex A.

## **12.8 Supervision and guidance of diving activities**

Scuba instructor candidates shall demonstrate to a scuba instructor-trainer skills in group control and supervision of students' diving activities including responsible judgement on relevant site criteria such as weather, depth, visibility, water movement and level of supervision required.

## **12.9 Emergency procedures**

Scuba instructor candidates shall demonstrate to a scuba instructor-trainer diver rescue skills according to 11 by completing at least one simulated open water rescue.

**Annex A**  
(informative)  
**Teaching and Evaluation Competencies when Teaching a Level 3 Scuba Diver Course**

Theory lesson	Scuba Instructor candidate evaluation areas	Criteria testing
Equipment: Regulators	<ol style="list-style-type: none"> <li>1) Candidate introduced themselves and the topic and explained the importance/value of subject</li> <li>2) Candidate defined learning objectives (what students should know by end of lesson)</li> <li>3) Candidate outlined content of lesson and how students should participate</li> <li>4) Lesson content (as per prEN 14153-3, annex A) - the candidate should:               <ol style="list-style-type: none"> <li>a) Describe what is meant by open circuit scuba, semi-closed circuit scuba and closed circuit scuba</li> <li>b) Explain how an open circuit regulator works</li> <li>c) Describe common regulator design types and the advantages/disadvantages of each</li> <li>d) Describe what is meant by fail-safe with respect to regulators, and the advantages of it</li> <li>e) Explain the purpose of a regulator environmental seal and state when it should be used</li> <li>f) Describe the differences between balanced and unbalanced regulators</li> <li>g) Identify when a regulator requires servicing/inspection and assess basic functionality</li> </ol> </li> <li>5) Information was presented in a logical sequence</li> <li>6) Candidate showed the relationship of information to other knowledge students already possess</li> <li>7) Candidate summarised information as key points, reinforced the value of the information and explained when it would be applied by students</li> <li>8) Candidate used appropriate training aids to explain the subject including sample regulator systems</li> <li>9) Candidate presented the information in a clear manner and involved students by asking questions</li> <li>10) Candidate adapted their teaching method according to students' input and needs</li> <li>11) Candidate tested students' understanding of the information</li> </ol>	Observation of simulated or actual lessons by an scuba instructor-trainer
<p><b>NOTE</b> The above given example can be applied to any theory presentation with the exception of point 4 which will vary according to the content of the lesson.</p>		

Practical lesson	Scuba Instructor candidate evaluation areas	Criteria testing
Dive planning and preparation	<ol style="list-style-type: none"> <li>1) Candidate introduced themselves and the topic and explained the importance/value of subject</li> <li>2) Candidate defined learning objectives (what students should be able to do by end of lesson)</li> <li>3) Candidate explained how the practical session will be conducted and describe the students' roles in the lesson</li> <li>4) Candidate described how communications will be made during the session</li> <li>5) Candidate described relevant emergency procedures</li> <li>6) Candidate demonstrated as appropriate how to:               <ol style="list-style-type: none"> <li>a) Conduct environmental and diver assessments, and take other appropriate supervisory steps based on the assessments.</li> <li>b) Prepare an emergency plan appropriate for the diving location and dive team competencies and experience.</li> <li>c) Conduct an appropriate pre-dive briefing for a dive site for assigned dive team.</li> <li>d) Respond to or prevent diver problems appropriately.</li> <li>e) Select and prepare descent/ascent aids.</li> </ol> </li> <li>7) Candidate observed students demonstrate items 6 a – e</li> <li>8) Candidate responded to student problems appropriately and corrected students as necessary</li> <li>9) Candidate ensured that students were properly supervised and monitored during the session</li> <li>10) Candidate presented a debrief following the session which included feedback to students as to their performance compared to the learning objectives, an analysis of problems that occurred and solutions to such problems and reinforced the value and application of the topic</li> </ol>	Observation of simulated or actual lessons by a scuba instructor-trainer
<p>NOTE The above given example can be applied to any practical presentation with the exception of point 6 which will vary according to the content of the presentation.</p>		

## Example of Scuba Instructor Level 2 Knowledge

**Topic:** Diving Physics

**Subtopic:** Light, Heat and Sound in Water

The scuba instructor candidate shall be able to answer the following questions. The scuba instructor candidate shall also have a comprehensive understanding of why each of these phenomena occur and the diving related consequences:

- 1) Why does water dissipate body heat faster than air does, and at what rate does it do so?
- 2) What effect does water's ability to dissipate heat have on a diver?
- 3) What does light do when it passes from air into water, or vice-versa, and how does this affect a diver?
- 4) What is refraction?
- 5) Why does sound travel faster in water than in air, and how much faster in water?
- 6) How does the speed of sound in water affect hearing?
- 7) What effect does water turbidity have on visibility?
- 8) How will open water visibility affect student control considerations?
- 9) What training aids may be used to demonstrate the above phenomena?

## Example for level 1 scuba instructor supervision

When supervising a level 1 scuba instructor during a water training session, the level 2 scuba instructor should observe the level 1 scuba instructor and ensure that the following aspects of the session are conducted properly.

Any errors that may affect safety must be corrected immediately, and a debriefing session for the level 1 scuba instructor should in any case be conducted in order to provide constructive criticism.

The level 1 scuba instructor might be asked to:

Organise the pre-dive set-up of students' equipment for confined water and open water training.

Coordinate student movement and control during confined water and open water training dives.

Supervise students not receiving the immediate attention of the scuba instructor during confined water training.

Account for buddy teams entering and leaving the water by checking them in and out of the water.

Assist a student overcome a learning difficulty in confined water.

Assist in the preparation of an open water training site.

Conduct environmental and diver assessments for supervising divers not in training and include recommendations based on the assessment in a pre dive briefing, and take other appropriate steps based on the assessments.

Conduct an appropriate pre dive briefing for a dive site.