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Recreational diving services — Requirements for artificial open water sites

*Services relatifs à la plongée de loisirs — Exigences relatives aux sites
artificiels de type espace aquatique ouvert*

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 228, *Tourism and related services*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

While there is a clear understanding of what a confined water training site should be like in the recreational diving industry, there is a great variety of open water sites available around the world. Open water traditionally includes the sea, lakes, rivers and artificial sites made by humans such as quarries. The conditions that divers encounter in these sites will vary: sometimes there can be waves and currents, but in others there are none; sometimes the visibility can be poor, but in many parts of the world it is often excellent.

In recent years, several very large bodies of water have been created, sometimes with the express purpose of providing a site for diving. Some of these are more modest but are still significantly larger than a swimming pool.

There are also a few of these extremely large sites around the world that are sufficiently large and include enough environmental variables that they are close to the definition of open water; in other words, divers trained in them can be exposed to an experience that strongly resembles what they would encounter in a natural open water dive site.

It is expected that more of these sites will be constructed, and there are requests from diving professionals to consider this concept and see if there should be recognition of the more complex environments for the conduct of some forms of open water training. Recognizing some of the more sophisticated sites would provide a welcome boost to the diving industry in certain parts of the world, especially where there is limited availability to natural open water diving suitable for training. In many cases, these sites have warm water, and as a result, divers are typically spending significantly more time underwater as part of their training than they otherwise would.

The objective of this document is to define such sites. By defining such requirements, this document will prevent instructors from making judgements of their own that can be inappropriate.

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Recreational diving services — Requirements for artificial open water sites

1 Scope

This document specifies minimum requirements for artificial structures, such as aquariums or sites that have been built specifically for the use of recreational divers, to be considered as open water diving sites suitable for the conduct of recreational scuba diving training programmes.

This document is applicable to all recreational diving training programmes in accordance with the standards prepared by ISO/TC 228.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 24801-2, *Recreational diving services — Requirements for the training of recreational scuba divers — Part 2: Level 2 — Autonomous diver*

ISO 24801-3:2014, *Recreational diving services — Requirements for the training of recreational scuba divers — Part 3: Level 3 — Dive leader*

ISO 24802-1:2014, *Recreational diving services — Requirements for the training of scuba instructors — Part 1: Level 1*

ISO 24802-2:2014, *Recreational diving services — Requirements for the training of scuba instructors — Part 2: Level 2*

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1 open water

body of water significantly larger than a swimming pool, offering conditions typical of a natural body of water

[SOURCE: ISO 24801-2:2014, 3.6]

4 Structural requirements

4.1 Volume

The site shall contain a minimum volume of water of 10 000 000 l. This volume shall represent the area that can be dived only. Water volume inaccessible to divers (e.g. filtration plant) shall be excluded.

4.2 Surface area and depth

The site shall include:

- an area of least 10 m depth;
- a surface area of at least 300 m²;
- a surface area of at least 100 m² with a depth over 8 m suitable for training.

4.3 Topography

The sites shall have at least three distinct depth levels, each having at least 10 % of the bottom area of the site. A continuously shelving bottom design can meet this requirement.

4.4 Additional environmental factors

The site shall have at least three of the following characteristics:

- the site contains a selection of aquatic life typical of a natural open water site;
- at least 33 % of the surface water area is exposed to the outdoor elements;
- the site includes an area of least 15 m² having a depth of at least 30 m;
- the site includes zones where divers are exposed to currents of at least 0,25 m/s;
- the site includes surface zones where divers are exposed to waves or swell of at least 0,3 m in height;
- the water temperature is below 15 °C;
- the bottom composition is representative of a natural site (e.g. sand, silt, benthic life);
- a design that has a varied and complex series of structures on the bottom that resemble structures found in natural dive sites (e.g. rocks, wrecks, coral heads, arches).

5 Training programmes

Training providers shall ensure that the following skills/evaluations be conducted in a natural open water site, and not in an artificial site as specified in this document:

- any advanced skills from diver training programmes beyond level 2 training in accordance with ISO 24801-2 that involve navigation or searching skills;
- the evaluation of level 3 scuba divers in accordance with ISO 24801-3:2014, Clause 11;
- the evaluation of assistant instructors in accordance with ISO 24802-1:2014, Clause 13;
- the evaluation of scuba instructors in accordance with ISO 24802-2:2014, Clause 13.

6 Student acknowledgement

Training providers shall ensure that the student is required to sign a document acknowledging their agreement that additional training is necessary before diving in open water dive sites having different environmental conditions or when using significantly different equipment.