

STN	Služby rekreačného potápania Požiadavky na výcvik potápačov s rebreatherom Potápanie bez dekompresie (ISO 24804: 2022)	STN EN ISO 24804 95 5011
------------	---	--

Recreational diving services - Requirements for rebreather diver training - No-decompression diving (ISO 24804:2022)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/22

Obsahuje: EN ISO 24804:2022, ISO 24804:2022

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 24804

September 2022

ICS 03.080.30; 03.200.99

English Version

**Recreational diving services - Requirements for rebreather
diver training - No-decompression diving (ISO
24804:2022)**

Services relatifs à la plongée de loisirs - Exigences
concernant la formation des plongeurs à l'utilisation
des recycleurs - Plongée sans décompression (ISO
24804:2022)

Dienstleistungen des Freizeittauchens - Anforderungen
an die Ausbildung von Kreislaufgerätetauchern -
Nullzeittauchen (ISO 24804:2022)

This European Standard was approved by CEN on 15 August 2022.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN ISO 24804:2022 (E)

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 24804:2022) has been prepared by Technical Committee ISO/TC 228 "Tourism and related services" in collaboration with Technical Committee CEN/TC 329 "Tourism services" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2023, and conflicting national standards shall be withdrawn at the latest by March 2023.

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

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 24804:2022 has been approved by CEN as EN ISO 24804:2022 without any modification.

INTERNATIONAL STANDARD

**ISO
24804**

First edition
2022-08

Recreational diving services — Requirements for rebreather diver training — No-decompression diving

*Services relatifs à la plongée de loisirs — Exigences concernant la
formation des plongeurs à l'utilisation des recycleurs — Plongée sans
décompression*



Reference number
ISO 24804:2022(E)

© ISO 2022

ISO 24804:2022(E)**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2022

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Competencies	3
5 Prerequisites for training	4
5.1 General	4
5.2 Minimum age	4
5.3 Diving experience	4
5.4 Health requirements	4
6 Introductory information	4
7 Theoretical knowledge	4
7.1 Rebreather basics	4
7.2 Function of rebreather components	5
7.3 Breathing performance using a rebreather	5
7.4 Rebreather assembly and checks	6
7.5 Gas supply duration	6
7.6 CO ₂ absorbent duration	7
7.7 Rebreather pre-water entry checks	7
7.8 Dive conduct	7
7.9 No-decompression dives	8
7.10 Identifying and reacting to potential issues	8
7.10.1 General issues	8
7.10.2 CO ₂ -related issues	9
7.10.3 Actions to be taken	9
7.11 Hypercapnia, hypoxia, hyperoxia	9
7.12 Buddy system	9
7.13 Rebreather maintenance	9
7.14 Maintaining knowledge and skills	10
8 Practical skills	10
8.1 General	10
8.2 Pre-dive procedures	10
8.3 Dive conduct	11
8.4 Emergency situations	12
8.5 Post-dive procedures	12
9 Instructors	12
10 Training equipment and training materials	12
10.1 Training equipment	12
10.2 Training materials	13
11 Practical training parameters	13
11.1 Training dives or in-water sessions	13
11.2 Instructor responsibilities	13
11.3 Rebreather dive leaders	14
11.4 Breathing gas limits	14
11.5 Closed-circuit rebreather and variants	14
11.6 Semiclosed-circuit rebreather and variants	14
12 Evaluation	14
12.1 Knowledge	14

ISO 24804:2022(E)

12.2	Skill evaluation — Closed-circuit rebreather	14
12.3	Skill evaluation — Semiclosed-circuit rebreather	15
12.4	Proof of qualification	15
Bibliography		16

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 documents 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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 329, *Tourism services*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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.

ISO 24804:2022(E)**Introduction**

Rebreathers (i.e. breathing devices that recirculate some or all of the diver's exhaled breath and replenish any consumed oxygen to maintain a breathable mixture) are becoming much more widely available and popular among divers. The market for rebreather diving has been constantly growing in recent years and is now considered to be large enough that the need for standards on minimum training requirements for training organizations is evident. Rebreathers allow divers to dive for longer and to greater depths. If rebreathers are used improperly they can be hazardous; divers have had fatal accidents due to incorrect use of these devices. It is therefore important to specify training for diving with such devices.

Training organizations offering training that conforms with this document may exceed any of the requirements in terms of the volume or complexity of training but should at least ensure the students master all the skills and knowledge defined in this document.

Recreational diving services — Requirements for rebreather diver training — No-decompression diving

1 Scope

This document specifies requirements for rebreather diver training programmes which provide the competencies required to perform dives with a rebreather to a maximum depth of 30 m that do not require mandatory decompression stops using a nitrox breathing gas.

This document specifies evaluation criteria for these competencies.

This document specifies the requirements under which training is provided, in addition to the general requirements for recreational diving service provision in accordance with ISO 24803.

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 11107, *Recreational diving services — Requirements for training programmes on enriched air nitrox (EAN) diving*

ISO 24801-2, *Recreational diving services — Requirements for the training of recreational scuba divers — Part 2: Level 2 — Autonomous diver*

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

ISO 24803, *Recreational diving services — Requirements for recreational diving providers*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN