BS EN 12021:2014

Incorporating corrigenda October 2014 and November 2014

BSI Standards Publication

Respiratory equipment — Compressed gases for breathing apparatus

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National foreword

This British Standard is the UK implementation of EN 12021:2014. It supersedes BS EN 12021:1999, which is withdrawn. It partially supersedes BS 8478:2011, as the test methods in clause 5 specified in BS 8478:2011 have been retained.

This European standard specifies that 'compressed gas for breathing shall not contain contaminants at a concentration which can cause toxic or harmful effects' and that 'all contaminants shall be kept to as low a level as possible'. In the opinion of the UK committee, contaminants that are not listed in this standard may also be present for various reasons; including leakage of ambient contaminants into the face mask. In some cases the effects of these contaminants could be additive or even considerably greater than the sum of their individual effects. In addition, an individual's susceptibility to similar chemicals can vary significantly.

In regards to the UK implementation of this standard, for compressed breathing air, the concentration level of the contaminants should be as low as possible. For those contaminants that are not listed in this standard, the level should not be greater than one tenth of the relevant time (8 h) weighted average Workplace Exposure Limit (WEL). The UK National WEL for substances hazardous to health are published by the Health and Safety Executive and can be found in the publication, Workplace Exposure limits (EH40).

To ensure consistency in the application of this standard and in the analysis of the gases and any contaminants, a National Annex is included which includes the test methods previously specified in BS 8478.

The UK participation in its preparation was entrusted by Technical Committee PH/4, Respiratory protection, to Subcommittee PH/4/7, Underwater breathing apparatus.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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Amendments/corrigenda issued since publication

Date	Text affected
31 October 2014	Correction to supersession details in national foreword
30 November 2014	Correction to paragraph 3 of the national foreword

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12021

April 2014

ICS 13.340.30

Supersedes EN 12021:1998

English Version

Respiratory equipment - Compressed gases for breathing apparatus

Appareils de protection respiratoire - Gaz comprimés pour appareil de protection respiratoire

Atemgeräte - Druckgase für Atemschutzgeräte

This European Standard was approved by CEN on 6 February 2014.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 12021:2014) has been prepared by Technical Committee CEN/TC 79 “Respiratory protective devices”, 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 October 2014, and conflicting national standards shall be withdrawn at the latest by October 2014.

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

This document supersedes EN 12021:1998.

Annex B provides details of significant technical changes between this European Standard and the previous edition.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies requirements for the quality of compressed gas supplied for mixing or use in respiratory protective devices and hyper- and hypobaric operations. Account is taken of the use of compressed gases for normal atmospheric pressure as well as for hyper- and hypobaric pressures.

This European Standard does not apply to compressed gases used for medical purposes or for aerospace applications.

2 Normative references

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

EN 132:1998, *Respiratory protective devices - Definitions of terms and pictograms*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 132:1998 and the following apply.

3.1
hydrocarbon
organic compound consisting of hydrogen and carbon

3.2
oil
mixture of hydrocarbons and other organic compounds composed of six or more carbon atoms (C6+)

3.3
trimix
gas comprising a specified mixture of oxygen, helium and nitrogen, capable of supporting human life under appropriate diving or hyperbaric conditions

Note 1 to entry: This includes manufactured gas mixtures made up from combinations of pure oxygen, pure helium and pure nitrogen, with or without compressed air.

3.4
heliox
gas comprising a specified mixture of oxygen and helium, capable of supporting human life under appropriate diving or hyperbaric conditions

3.5
oxygen and nitrogen gas mixture
gas comprising a specified mixture of oxygen and nitrogen, capable of supporting human life under appropriate diving or hyperbaric conditions

Note 1 to entry: Oxygen and nitrogen gas mixtures are also known as “nitrox”.

Note 2 to entry: This definition does not cover gas mixtures produced using oxygen compatible air or nitrogen depleted air.