

BS EN 16081:2011+A1:2013



BSI Standards Publication

Hyperbaric chambers — Specific requirements for fire extinguishing systems — Performance, installation and testing

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National foreword

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The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee CH/100/-/1, Multi-occupancy hyperbaric chambers for use as medical devices.

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

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English Version

Hyperbaric chambers - Specific requirements for fire extinguishing systems - Performance, installation and testing

Chambres hyperbares - Exigences spécifiques relatives
aux systèmes de lutte contre l'incendie - Performances,
installation et essais

Druckkammern - Spezifische Anforderungen an
Feuerlöschsysteme - Leistung, Montage und Prüfung

This European Standard was approved by CEN on 8 July 2011 and includes Amendment 1 approved by CEN on 13 August 2013.

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Foreword

This document (EN 16081:2011+A1:2013) has been prepared by Technical Committee CEN/TC 359 “Project Committee - Hyperbaric chambers”, 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of an identical text or by endorsement, at the latest by March 2014, and conflicting national standards shall be withdrawn at the latest by March 2014.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 16081:2011.

This document includes Amendment 1, approved by CEN on 2013-08-13.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**.

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.

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1 Scope

This European Standard is applicable to the performance and safety requirements of fire extinguishing systems and their associated test methods for multi-place chambers designed for pressures in excess of ambient atmospheric pressure and employed in medical installations for therapeutic purposes, in the following referred to as chambers.

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.

EN 14931:2006, *Pressure vessels for human occupancy (PVHO) — Multi-place pressure chamber systems for hyperbaric therapy — Performance, safety requirements and testing*

3 Terms and definitions

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

- 3.1**
fire extinguishing system
system for active deployment of extinguishing medium inside the chamber in order to extinguish fire
- 3.2**
extinguishing medium
liquid or gas used to extinguish fire
- 3.3**
nozzle
mechanical device used to ensure dispersion of extinguishing medium inside the chamber with certain characteristics

4 Specific hazards regarding fire risks

A fire, as a physical phenomenon, is significantly influenced by the ambient pressure, the partial pressure of oxygen and the confined space of the hyperbaric chamber.

The rate of combustion will be directly related to ambient pressure and the oxygen level. In a hyperbaric environment with increased oxygen partial pressure, even materials thought to be non-combustible will burn fiercely. Owing to the confined space in the chamber, a fire would cause a sudden increase of temperature and high concentration of toxic gases and smoke. If such a fire occurs, it shall be dealt with quickly and all personnel and patients shall be evacuated from the chamber. People suffering from breathing difficulties and burns shall be cared for (see Annex B).

5 Performance and requirements

- 5.1** Fire extinguishing systems in hyperbaric chambers shall produce a specified extinguishing performance as stated in Clause 6.
- 5.2** Fire extinguishing systems shall suit the chamber's maximum operational pressure. They shall fully protect all chamber compartments for human occupancy.