



BSI Standards Publication

Fixed firefighting systems — Gas extinguishing systems

Part 6: Physical properties and system design of gas extinguishing systems for HFC 23 extinguishant

National foreword

This British Standard is the UK implementation of EN 15004-6:2020. It supersedes BS EN 15004-6:2008, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee FSH/18/6, Gaseous Extinguishing Media and Systems.

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

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

© The British Standards Institution 2020

Published by BSI Standards Limited 2020

ISBN 978 0 539 02383 1

ICS 13.220.20

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

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 October 2020.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

English Version

**Fixed firefighting systems - Gas extinguishing systems -
Part 6: Physical properties and system design of gas
extinguishing systems for HFC 23 extinguishant (ISO
14520-10:2019, modified)**

Installations fixes de lutte contre l'incendie -
Installations d'extinction à gaz - Partie 6 : Propriétés
physiques et conception des systèmes pour agent
extincteur HFC 23 (ISO 14520-10:2019, modifiée)

Ortsfeste Brandbekämpfungsanlagen - Löschanlagen
mit gasförmigen Löschmitteln - Teil 6: Physikalische
Eigenschaften und Anlagenauslegung für
Feuerlöschmittel HFC 23 (ISO 14520-10:2019,
modifiziert)

This European Standard was approved by CEN on 17 August 2020.

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, Turkey 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

Contents		Page
European foreword.....		3
1	Scope	5
2	Normative references	5
3	Terms and definitions	5
4	Characteristics and uses	5
4.1	General	5
4.2	Use of HFC 23 systems	6
5	Safety of personnel	9
6	System design	10
6.1	Fill density	10
6.2	Superpressurization	10
6.3	Extinguishant quantity.....	11
6.4	Other fill density and superpressurization levels.....	13
7	Environmental properties	14

European foreword

This document (EN 15004-6:2020) has been prepared by Technical Committee CEN/TC 191 “Fixed firefighting systems”, the secretariat of which is held by BSI.

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 April 2021, and conflicting national standards shall be withdrawn at the latest by April 2021.

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.

This document supersedes EN 15004-6:2008.

The main changes in EN 15004-6:2020 compared to EN 15004-6:2008 are the following:

- European foreword: Part 3 was removed from the list;
- Foreword of ISO 14520-10 was removed;
- Scope: Nominal pressure level 70 bar was added;
- 6.1, Fill density: 70 bar storage container was added;
- 6.2, Superpressurization option 70 bar was added;
- 6.3, Temperature/pressure graph for HFC 23 superpressurized to 70 bar at 20 °C was added;
- 6.4, Other fill density and superpressurization levels: new sub-clause added;
- Clause 7, Environmental properties: new clause added.

The text of the International Standard ISO 14520-10:2019 from Technical Committee ISO/TC 21 “Equipment for fire protection and firefighting” of the International Organization for Standardization (ISO) has been taken over as a European Standard by Technical Committee CEN/TC 191 “Fixed firefighting systems”, the secretariat of which is held by BSI, with common modifications which are indicated by a straight line in the margin of the text.

EN 15004 will consist of the following parts, under the general title *Fixed firefighting systems — Gas extinguishing systems*:

- Part 1: *Design, installation and maintenance*;
- Part 2: *Physical properties and system design of gas extinguishing systems for FK-5-1-12 extinguishant*;
- Part 4: *Physical properties and system design of gas extinguishing systems for HFC 125 extinguishant*;
- Part 5: *Physical properties and system design of gas extinguishing systems for HFC 227ea extinguishant*;
- Part 6: *Physical properties and system design of gas extinguishing systems for HFC 23 extinguishant*;

- Part 7: *Physical properties and system design of gas extinguishing systems for IG-01 extinguishant;*
- Part 8: *Physical properties and system design of gas extinguishing systems for IG-100 extinguishant;*
- Part 9: *Physical properties and system design of gas extinguishing systems for IG-55 extinguishant;*
- Part 10: *Physical properties and system design of gas extinguishing systems for IG-541.*

The International Standards ISO 14520-2 and ISO 14520-11, which dealt with CF₃I and HFC 236fa extinguishants, respectively, have not been implemented by CEN, as CF₃I is only valid for local application and HFC 236fa extinguishant is only applicable for portable fire extinguishers and local application, respectively, which is not covered by the scope.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Turkey and the United Kingdom.