INTERNATIONAL STANDARD

ISO 11601

Third edition 2017-07

Fire fighting — Wheeled fire extinguishers — Performance and construction

Lutte contre l'incendie — Extincteurs sur roues — Performances et construction



ISO 11601:2017(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, 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 Ch. de Blandonnet 8 • CP 401 CH-1214 Vernier, Geneva, Switzerland Tel. +41 22 749 01 11 Fax +41 22 749 09 47 copyright@iso.org www.iso.org

Co	Contents					
For	eword		v			
1	Scop	oe	1			
2	Nori	native references	1			
3	Terms and definitions					
4		es of wheeled fire extinguishers				
=						
5	EX (1) 5.1	nguishing media, propellants and fill densities Extinguishing media				
	5.1	5.1.1 Carbon dioxide				
		5.1.2 Clean agents				
		5.1.3 Powder				
	= 0	5.1.4 Foam concentrates				
	5.2 Propellants					
	5.3 5.4	Fill densityFilling tolerance				
	5.5	Charges				
		5.5.1 Nominal charge				
		5.5.2 Gross weight	5			
6	Performance					
	6.1	Operating temperatures				
	6.2	Effective discharge time and bulk range of discharge				
		6.2.1 Effective discharge time				
	6.3	6.2.2 Bulk range Resistance to temperature changes				
	0.5	6.3.1 Requirements				
		6.3.2 Test procedure				
	6.4	Retention of charge	7			
		6.4.1 Checking				
	6.5	Intermittent discharge test				
	6.6	Resistance to corrosion6.6.1 External corrosion test				
		6.6.2 Internal corrosion test for water and foam extinguishers				
	6.7	Durability test				
	6.8	Electrical conductivity of extinguisher discharge	9			
		6.8.1 Requirement	9			
		6.8.2 Procedure used to test for electrical conductivity				
7		performance tests				
	7.1	Suitability for the various classes of fire				
	7.2 7.3	Class A fire tests				
	7.3 7.4	Class D fire tests				
0						
8	8.1	Struction requirements General requirements	10 10			
	8.2	High-pressure cylinders				
	8.3	Low-pressure cylinders				
		8.3.1 General	11			
	8.4	Steel cylinders				
		8.4.1 Welded low-carbon steel				
	8.5	8.4.2 Stainless steel cylinders				
	8.6	Minimum wall thickness				
	8.7	Caps, valves and closures				
	8.8	Safety and anti-overfill devices				

ISO 11601:2017(E)

Bibli	ograph	<i>y</i>	38		
Anne	ex D (no	rmative) Clean agent HFC-236fa — Extinguishing agent physical properties	35		
Anne	x C (no	mative) Clean agent HFC-227ea — Extinguishing agent physical properties	32		
Anne	x B (no	rmative) Clean agent HCFC Blend B — Extinguishing agent physical properties	29		
Anne	x A (no	mative) Clean agent FK-5-1-12 — Extinguishing agent physical properties	26		
10	10.1 10.2	User manual Service manual	24		
10		als			
	9.6 9.7	Inspection instructions			
	9.5 9.6	Use-code symbols Recharging instructions			
	9.4	Warning markings			
	9.3	Operating instructions			
	9.2	Marking			
	9.1	Colour			
9	Colour and marking				
		8.19.2 Compression set			
		8.19.1 Tensile strength, elongation, maximum set and hardness			
	8.19	Gasket and O-rings			
	C 1 =	8.18.3 Hose retaining unit			
		8.18.2 Mobility	20		
		8.18.1 Carriage	20		
	8.18	Carriage assembly			
	8.17	Siphon tubes and filters for water-based extinguishers			
		8.16.9 Pressure gauge plastics components			
		8.16.8 Pressure gauge leakage test			
		8.16.7 Pressure gauge water resistance test			
		8.16.6 Pressure gauge relief test			
		8.16.5 Pressure gauge impulse test			
		8.16.3 Pressure gauge burst strength test			
		8.16.2 Pressure gauge calibration test			
		8.16.1 General			
	8.16	Pressure gauges for low-pressure extinguishers			
	8.15	Safety locking devices			
	8.14	Method of operation			
	8.13	Horn for carbon dioxide extinguisher	16		
	8.12	Control valve			
	8.11	Discharge assembly			
		8.10.5 Exposure to extinguishing agent test			
		8.10.4 Normally non-pressurized components			
		8.10.3 Ultraviolet light exposure			
		8.10.2 Requirements for normally pressurized components			
	0.10	8.10.1 General requirements			
	8.10	Requirements for plastic components			
		8.9.1 Low-pressure cylinders 8.9.2 Leakage tests			
	8.9	Manufacturing tests			
		8.8.2 Anti-overfill devices			
		8.8.1 Safety devices			

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 on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 21, *Equipment for fire protection and fire fighting*, Subcommittee SC 2, *Manually transportable fire extinguishers*.

This third edition cancels and replaces the second edition (ISO 11601:2008), which has been technically revised.

The main changes compared to the previous editions are as follows:

- new requirements for four clean agents have been added;
- marking requirements for water-based extinguishers found suitable for use on polar solvents has been added.

Fire fighting — Wheeled fire extinguishers — Performance and construction

1 Scope

This document specifies the principal requirements intended to ensure the safety, reliability and performance of wheeled fire extinguishers.

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 37, Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties

ISO 5923, Equipment for fire protection and fire fighting — Fire extinguishing media — Carbon dioxide

ISO 7165:2017, Fire fighting — Portable fire extinguishers — Performance and construction

ISO 7202, Fire protection — Fire extinguishing media — Powder

ISO 7203-1, Fire extinguishing media — Foam concentrates — Part 1: Specification for low-expansion foam concentrates for top application to water-immiscible liquids

ISO 7203-2, Fire extinguishing media — Foam concentrates — Part 2: Specification for medium- and high-expansion foam concentrates for top application to water-immiscible liquids

3 Terms and definitions

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

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

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

3.1

batch

group of the same products made on the same production line using the same lot of materials during one production shift

3.2

body

metal shell of an extinguisher designed to contain the extinguishing media including any skirt

3.3

bulk range

range of the extinguisher when 50 % of its media has been expelled

3.4

burst pressure

 P_h

pressure at which the extinguisher cylinder ruptures