



UL 626

STANDARD FOR SAFETY

Water Fire Extinguishers

UL Standard for Safety for Water Fire Extinguishers, UL 626

Eighth Edition, Dated February 28, 2005

Summary of Topics

This revision to ANSI/UL 626 dated May 14, 2021 includes a Nameplate Abrasion Test Update; [57.2](#) and [57.3](#).

Text that has been changed in any manner or impacted by UL's electronic publishing system is marked with a vertical line in the margin.

The revised requirements are substantially in accordance with Proposal(s) on this subject dated August 21, 2020 and November 20, 2020.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form by any means, electronic, mechanical photocopying, recording, or otherwise without prior permission of UL.

UL provides this Standard "as is" without warranty of any kind, either expressed or implied, including but not limited to, the implied warranties of merchantability or fitness for any purpose.

In no event will UL be liable for any special, incidental, consequential, indirect or similar damages, including loss of profits, lost savings, loss of data, or any other damages arising out of the use of or the inability to use this Standard, even if UL or an authorized UL representative has been advised of the possibility of such damage. In no event shall UL's liability for any damage ever exceed the price paid for this Standard, regardless of the form of the claim.

Users of the electronic versions of UL's Standards for Safety agree to defend, indemnify, and hold UL harmless from and against any loss, expense, liability, damage, claim, or judgment (including reasonable attorney's fees) resulting from any error or deviation introduced while purchaser is storing an electronic Standard on the purchaser's computer system.

No Text on This Page

I  **ULC Standards**
Normes ULC **ULC Standards**
CAN/ULC-S507-05-REV1
Fourth Edition



Underwriters Laboratories Inc.
ANSI/UL 626
Eighth Edition

Water Fire Extinguishers

February 28, 2005

(Title Page Reprinted: May 14, 2021)

I



ANSI/UL 626-2021

I



Documents

Document Sharing Hub

Commitment for Amendments

This Standard is issued jointly by Underwriters Laboratories Inc. (UL) and ULC Standards. Amendments to this Standard will be made only after processing according to the Standards writing procedures by UL and ULC Standards.

UL and ULC Standards are separate and independent entities and each is solely responsible for its operations and business activities. The UL trade names and trademarks depicted in this document are the sole property of Underwriters Laboratories Inc. The ULC trade names and trademarks depicted in this document are the sole property of ULC Standards.

ISSN 0317-526X Copyright © 2021 ULC Standards

All rights reserved.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior permission of the publisher.

Comments or proposals for revisions on any part of the Standard may be submitted at any time. Proposals should be submitted via a Proposal Request in the On-Line Collaborative Standards Development System (CSDS) at <https://csds.ul.com/canada>.

Copyright © 2021 Underwriters Laboratories Inc.

UL's Standards for Safety are copyrighted by UL. Neither a printed nor electronic copy of a Standard should be altered in any way. All of UL's Standards and all copyrights, ownerships, and rights regarding those Standards shall remain the sole and exclusive property of UL.

This ANSI/UL Standard for Safety consists of the Eighth edition including revisions through May 14, 2021.

The most recent designation of ANSI/UL 626 as an American National Standard (ANSI) occurred on May 14, 2021. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface.

Comments or proposals for revisions on any part of the Standard may be submitted to UL at any time. Proposals should be submitted via a Proposal Request in UL's On-Line Collaborative Standards Development System (CSDS) at <https://csds.ul.com>.

To purchase UL Standards, visit UL's Standards Sales Site at <http://www.shopulstandards.com/HowToOrder.aspx> or call toll-free 1-888-853-3503.

CONTENTS

Preface	7
---------------	---

INTRODUCTION

1 Scope	9
2 Units of Measurement	9
3 Reference Publications	9
4 Components	9
5 Glossary	10

CONSTRUCTION

6 General	10
7 Cylinders	11
8 Joints	12
9 Caps, Valves, Closures, and Pressure Relief	12
10 Gaskets and “O” Rings	13
11 Pressure Gauges and Indicators	13
12 Tamper Indicators and Locking Devices	14
13 Hose	14
14 Couplings	15
15 Nozzles and Discharge Valves	15
16 Siphon Tubes	15
17 Handles and Mounting Devices	15
18 Hose Retainers – Wheeled Extinguishers	16
19 Running Gear – Wheeled Extinguishers	16
20 Expellant Gases	16
21 Strainers	16
22 Antioverfill Tubes	16
23 Extinguishing Agent	16

PERFORMANCE

24 Fire Tests	17
25 Tamper Indicator and Locking Device Tests	17
26 Handle and Mounting Device Test	17
27 Discharge Duration Test	18
28 Rate of Flow Test	18
29 Discharge Range Test	18
30 Intermittent Discharge Test	19
31 Operating Temperature Limits Test	19
32 Temperature Cycling Test	19
33 30-Day Elevated Temperature Test	19
34 High Temperature Exposure Test	20
35 Hydrostatic Pressure Test	20
35.1 Cylinders	20
35.2 Discharge valves, caps, closures	21
35.3 Hose assemblies	21
35.4 Test method	21
36 Vibration Test	21
36.1 General	21
36.2 Mounting of test sample	22
36.3 Test orientation	22

36.4	Variable frequency test.....	22
36.5	Endurance test.....	22
37	Roadability and Rough Usage Tests.....	22
37.1	Roadability.....	22
37.2	Rough usage.....	23
37.3	Rough usage – operation.....	23
38	Siphon Pull Test – Polymeric Materials.....	24
39	Aging Tests – Polymeric Materials.....	24
39.1	General.....	24
39.2	Exposure to extinguishing agent test.....	25
39.3	Light and water test.....	25
40	Elastomeric Parts Test.....	26
41	Salt Spray Corrosion Test.....	26
42	10-Day Moist Ammonia Air Stress Cracking Test.....	27
43	Agent Exposure Test.....	28
43.1	Disposable (nonrechargeable) fire extinguishers.....	28
43.2	Rechargeable (refillable) fire extinguishers.....	28
44	Servicing Tests.....	28
45	One-Year Time Leakage Test.....	29
46	Calibration Test – Gauges and Indicators.....	29
47	Burst Strength Test – Gauges and Indicators.....	29
48	Water Resistance Test – Gauges and Indicators.....	29
49	Leakage Test – Gauges and Indicators.....	30
50	Cycling Test – Pressure Indicators.....	30
51	Vibration Test – Pressure Gauges and Indicators.....	30
52	Overpressure Test – Gauges.....	30
53	Impulse Test – Gauges.....	30
54	Pressure Gauge Relief Test.....	31
55	Nameplate Exposure Tests.....	31
56	Nameplate Adhesion Test.....	31
57	Nameplate Abrasion Test.....	32
58	<i>Carbide Precipitation Test deleted.</i>	32
59	Antioverfill Tube Test.....	32

PACKAGING

60	General.....	32
----	--------------	----

MANUFACTURING AND PRODUCTION TESTS

61	General.....	33
62	Hydrostatic Pressure Test.....	33
62.1	Cylinders.....	33
62.2	Hoses and couplings.....	33
63	Two-Year Leakage Test.....	33

MARKING

64	General.....	34
65	Operating Instructions.....	35
66	Use Code Symbols.....	35
67	Recharging Instructions.....	36
68	Identification of Contents.....	36
69	Inspection Instructions.....	37

RECORD TAGS AND MANUALS

70 Record Tag 37

71 Manuals 37

TABLES

FIGURES

ANNEX A

ANNEX B

No Text on This Page

Preface

This is the common UL and ULC Standard for Water Fire Extinguishers. It is the Fourth edition of CAN/ULC-S507, and the Eighth edition of ANSI/UL 626.

This common Standard was prepared by Underwriters Laboratories Inc., ULC Standards, and the UL/ULC Extinguisher Technical Harmonization Committee. The efforts and support of the Harmonization Technical Committee are gratefully acknowledged.

This Standard was formally approved by the ULC Committee on Portable Fire Extinguishers.

The Annexes in this Standard are for information purposes only.

In Canada, there are two official languages, English and French. All safety warnings must be in French and English. Attention is drawn to the possibility that some Canadian authorities may require additional markings and/or installation instructions to be in both official languages.

Note: Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.

Level of harmonization

This standard used an ISO format, but is not based on, nor shall it be considered equivalent to, an ISO standard. This standard is published as an identical standard.

An identical standard is a standard that is the same in technical content except for conflicts in Codes and Governmental Regulations. Presentation shall be word for word except for editorial changes.

Interpretations

The interpretation by the SDO of an identical or equivalent standard shall be based on the literal text to determine compliance with the standard in accordance with the procedural rules of the SDO. If more than one interpretation of the literal text has been identified, a revision shall be proposed as soon as possible to each of the SDOs to more accurately reflect the intent.

No Text on This Page

INTRODUCTION

1 Scope

1.1 These requirements cover the construction and performance, exclusive of performance during fire tests, of water fire extinguishers. Water fire extinguishers are intended to be utilized in accordance with the Standard for Portable Fire Extinguishers, NFPA 10, and the National Fire Code of Canada.

1.2 These requirements cover stored-pressure, water fire extinguishers that use a single chamber for both the extinguishing agent and the expellant gas.

1.3 The extinguishers covered by these requirements may be charged with plain water, an antifreeze or a loaded-stream solution. See Extinguishing Agent, Clause [23](#).

1.4 The requirements for performance during fire testing of stored-pressure water fire extinguishers are specified in the Binational Standard for Rating and Fire Testing of Fire Extinguishers, ANSI/UL 711 CAN/ULC-S508.

1.5 As used in these requirements, the term "extinguisher" refers to all extinguishers or any part thereof covered by these requirements, unless specifically noted otherwise.

2 Units of Measurement

2.1 The metric unit shall be designated as the official unit for purposes of this standard. Where values of measurement are specified in both SI and English units, either unit is used. In cases of dispute, the metric unit shall be used.

3 Reference Publications

3.1 See Annex [A](#) for a list of publications referenced in this standard. Any undated reference to a code or standard appearing in the requirements of this standard shall be interpreted as referring to the latest edition of that code or standard. When the latest edition of a standard is not applicable, the appropriate edition is indicated accordingly in Annex [A](#).

4 Components

4.1 Except as indicated in [4.2](#) a component of a product covered by this standard shall comply with the requirements for that component. A component shall comply with both the Underwriters Laboratories Inc. and the Underwriters' Laboratories of Canada standards for the component.

4.2 A component is not required to comply with a specific requirement that:

- a) Involves a feature or characteristic not required in the application of the component in the product covered by this standard, or
- b) Is superseded by a requirement in this standard.

4.3 A component shall be used in accordance with its rating established for the intended conditions of use.

4.4 Specific components are incomplete in construction features or restricted in performance capabilities. Such components are intended for use only under limited conditions, such as certain temperatures not exceeding specified limits, and shall be used only under those specific conditions.

5 Glossary

5.1 For the purpose of this standard, the following definitions apply.

5.2 **ANTIFREEZE CHARGE** – A water based extinguishing medium that uses an alkali metal salt as a freezing point depressant.

5.3 **DISPOSABLE (NONRECHARGEABLE) FIRE EXTINGUISHER** – A fire extinguisher not capable of nor intended to undergo complete maintenance including internal inspection of cylinder, replacement of parts and seals and hydrostatic testing.

5.4 **EFFECTIVE DISCHARGE** – The time of discharge of extinguishing agent from the extinguisher until gas point.

5.5 **EXPellant GAS** – A compressed or pressurized gas used to propel the liquid extinguishing agent from a single cylinder.

5.6 **GALVANIC COMPATIBILITY** – Fire extinguisher cylinder and component parts which are not susceptible to 10-day stress corrosion cracking or corrosion from combination of dissimilar materials.

5.7 **GAS POINT** – The point in time when the discharge changes from a liquid to a gas and liquid combination.

5.8 **LOADED STREAM CHARGE** – A water based extinguishing medium that uses an alkali metal salt as a freezing point depressant.

5.9 **PORTABLE FIRE EXTINGUISHER** – A fire extinguisher carried or on wheels and operated by hand.

5.10 **PRESSURE GAUGE** – A gauge that shows the pressure in the cylinder and the operating range of the extinguisher based upon the operating temperature-pressure relationship in appropriate pressure units.

5.11 **PRESSURE INDICATOR** – An indicator that shows that the extinguisher is pressurized with its rated expellant gas pressure.

5.12 **RECHARGEABLE (REFILLABLE) FIRE EXTINGUISHER** – A fire extinguisher capable of undergoing complete maintenance including internal inspection of cylinder, replacement of parts and seals and hydrostatic testing.

5.13 **STORED PRESSURE TYPE FIRE EXTINGUISHER** – A fire extinguisher in which both the extinguishing agent and expellant gas are in a single cylinder.

CONSTRUCTION

6 General

6.1 The construction of an extinguisher shall be such that the method of operation is obvious after observing the operating instructions.

6.2 The construction of an extinguisher shall be such that after discharge of the agent is initiated, the operator of the extinguisher is not required to take further manual actions to maintain the maximum possible flow of agent, other than holding the operating device in the fully opened position. The extinguisher shall be usable by one operator, without assistance from a second individual.

6.3 A disposable extinguisher shall not be rechargeable.

6.4 An extinguisher shall stand in the upright position without support.

6.5 A material for an extinguisher part, the deterioration of which causes the extinguisher to become inoperable or results in the risk of injury to persons, shall not be susceptible to stress corrosion.

6.6 A polymeric or other nonmetallic part, other than an "O" ring or gasket, shall be evaluated on the basis of:

- a) Mechanical strength, including resistance to impact, see Handle and Mounting Device Test, Clause [26](#); Hydrostatic Pressure Test, Clause [35](#); Vibration Test, Clause [36](#); Roadability and Rough Usage Tests, Clause [37](#); Burst Strength Test – Gauges and Indicators, Clause [47](#); Nameplate Exposure Tests, Clause [55](#);
- b) Moisture absorption; see Salt Spray Corrosion Test, Clause [41](#); One-Year Time Leakage Test, Clause [45](#), Nameplate Exposure Tests, Clause [55](#);
- c) Flammability, see [6.9](#);
- d) Resistance to deterioration due to aging, see Aging Tests – Polymeric Materials, Clause [39](#); One-Year Time Leakage Test, Clause [45](#); Nameplate Exposure Tests, Clause [55](#);
- e) Exposure to light and water, see [39.3.1](#) and Nameplate Exposure Tests, Clause [55](#); and
- f) Exposure to the extinguishing agent, see [39.2](#).

6.7 With reference to flammability, polymeric materials shall be classified as HB, V-0, V-1, V-2, 5VA, or 5VB, when tested in accordance with the Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances, UL 94. Other nonmetallic materials shall have equivalent characteristics.

6.8 An extinguisher shall operate as intended from the minimum storage temperature to 49°C (120°F), inclusive. Currently recognized minimum storage temperatures are 4°C (40°F) and minus 40°C (minus 40°F). See Operating Temperature Limits Test, Clause [31](#).

6.9 The edges and surfaces of a valve, cap, closure, hose, cylinder, handle, mounting device, and similar items, shall not be sufficiently sharp to constitute a risk of injury to persons in intended maintenance and use.

6.10 Whenever reference measurements are necessary to determine that a part as described in [6.9](#) is not sufficiently sharp to constitute a risk of injury to persons, the method described in the Standard for Test for Sharpness of Edges on Equipment, UL 1439, is to be employed.

6.11 A hand portable extinguisher shall have a gross weight not exceeding 27 kg (60 lb).

6.12 A pressurizing adaptor for a rechargeable stored pressure type extinguisher shall have threads or other mechanical means for securement to the valve assembly.

7 Cylinders

7.1 The requirements in this clause do not apply to a rechargeable cylinder marked as complying with U. S. Department of Transportation (DOT), or Canada Transportation of Dangerous Goods Regulations (TDGR), or ASME specifications, unless otherwise specifically indicated.