ULC-S557-06-R2019
(Reaffirmed 2019)

STANDARD FOR BACK-PACK FIRE EXTINGUISHERS



Underwriters Laboratories of Canada (ULC) was established in 1920 by letters patent issued by the Canadian Government. It maintains and operates laboratories and certification services for the examination, testing and certification of appliances, equipment, materials, constructions and systems to determine their relation to life, fire and property hazards as well providing inspection services.

ULC Standards develops and publishes standards and other related publications for building construction, security and burglar protection, environmental safety, electrical equipment, fire protection equipment, gas and oil equipment, thermal insulation products, materials and systems, energy use in the built environment and electrical utility safety.

ULC Standards is a not-for-profit organization and is accredited by the Standards Council of Canada as a Standards Development Organization.

ULC Standards are prepared using the consensus principle by individuals who provide a balanced representation of interests relevant to the subject area on a national basis.

ULC is represented across Canada as well as many countries worldwide.

For further information on ULC standards, please contact:

ULC STANDARDS
171 Nepean Street, Suite 400
Ottawa, Ontario K2P 0B4
Telephone: (613) 755-2729

To purchase ULC Standards, visit: www.ulc.ca/ulcstandards

The intended primary application of this standard is stated in its scope. It is important to note that it remains the responsibility of the user of the standard to judge its suitability for the particular application.

Copies of this ULC Standard may be ordered from ULC Standards.

Standard For Back-Pack Fire Extinguishers, ULC-S557

Second Edition, Dated July 2014

Summary of Topics

This revision ULC-S557 is being issued to update the title page to reflect the reaffirmation of this Second Edition. No changes in requirements are involved.

The requirements are in accordance with Proposal on this subject dated April 18, 2019.

PLEASE NOTE THAT CERTAIN CODES MAY REFER TO A SUPERSEDED VERSION OF THIS STANDARD. IN THOSE INSTANCES, THE RELEVANT VERSIONS ARE AVAILABLE FOR PURCHASE.

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL

No Text on This Page

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL

STANDARD FOR BACK-PACK FIRE EXTINGUISHERS

ICS 13.220.10

ULC Standards
Normes ULC

First Edition . . . . . September 1996
SECOND EDITION . . . . . NOVEMBER 2006
Reaffirmed . . . . . July 2014
REAFFIRMED . . . . . SEPTEMBER 13, 2019

Copyright © 2019

ULC Standards

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

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL

No Text on This Page

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL

CONTENTS

ULC STANDARDS COMMITTEE ON PORTABLE FIRE EXTINGUISHERS 7

PREFACE 9

1 SCOPE 11
2 REFERENCE PUBLICATIONS 11
3 CONSTRUCTION 12
3.1 GENERAL 12
3.2 SHOULDER STRAPS 12
3.3 TROMBONE PUMP 13
3.4 PUMP ATTACHMENT 14
3.5 HOSE 14
3.6 HOSE CONNECTIONS 14
3.7 NOZZLES 14
3.8 FILL OPENING AND CAP 14
3.9 STRAINERS 14
3.10 CARRYING HANDLE 14
4 TYPE 1 REQUIREMENTS 15
4.1 MATERIAL 15
4.2 SEAMS 15
4.3 APRON 15
4.4 BAFFLE 15
4.5 BACKSHIELD 15
5 TYPE 2 REQUIREMENTS 15
5.1 MATERIAL 15
5.2 IMPACT 16
5.3 HARNESS 16
6 TYPE 3 REQUIREMENTS 16
6.1 MATERIAL 16
6.2 BREAKING STRENGTH 16
6.3 WATER RESISTANCE 16
6.4 COLD RESISTANCE 16
6.5 BLOCKING 16
6.6 ACCELERATED AGING 17
6.7 ULTRAVIOLET-LIGHT AND WATER 17
7 PERFORMANCE 17
7.1 DISCHARGE 17
7.2 DROP RESISTANCE 17
8 TEST METHODS 17
8.1 SHOULDER STRAP TEST 17
8.2 PUMP CYLINDER LOW TEMPERATURE IMPACT RESISTANCE TEST 17
8.3 IMPACT TEST – RIGID PLASTIC TANKS 18
8.4 COLD RESISTANCE TEST – SOFT TANKS 18
8.5 BLOCKING TEST – SOFT TANKS 18
8.6 ACCELERATED AGING TEST 18
8.7 DISCHARGE TEST 19
8.8 DROP RESISTANCE TEST 19
8.9 ULTRAVIOLET LIGHT AND WATER TEST – PLASTIC TANKS 19
9 MARKING 19
TABLES TABLES 20
FIGURES 21

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL

No Text on This Page

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL

ULC STANDARDS COMMITTEE ON PORTABLE FIRE EXTINGUISHERS

NAME	AFFILIATION	REGION	CATEGORY
D. Haithcock (Chair)	Underwriters Laboratories Inc	USA	Non-Voting
L. Bourgeois	TriTop Inc.	Quebec	General Interest
G. Faber	SCM Risk Management Services	Canada	General Interest
G. Ferris	Protection R.T. Inc.	Quebec	Producer
N. Khan	SCM-RMS Technical Services	Canada	General Interest
B. Levitt	Levitt-Safety Limited	Canada	User
N. Murray	Consumers' Association of Canada	Canada	User
A. Rees	Department of National Defence	Canada	User
G. Schultz	City of Toronto Fire Department	Ontario	Regulator
I. Shearer	Strike First Corporation	Canada	Producer
D. Tiller	Office of the Fire Marshal & Emergency Management	Canada	Regulator
G. Vestergom, Jr.	Unifoam Company Limited	Canada	Producer
B. Shugarman	UL LLC	USA	Testing & Standards
N. Weeks (Project Manager)	Underwriters Laboratories Inc.	USA	Non-Voting

This list represents the membership at the time the Committee balloted on the final text of this edition. Since that time, changes in the membership may have occurred.

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL

No Text on This Page

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL

PREFACE

This is the Second Edition of the Standard Back-Pack Fire Extinguishers, ULC-S557.

This Edition of the Standard has been formally approved by the ULC Committee on Portable Fire Extinguishers.

Only metric SI units of measurement are used in this Standard. If a value for measurement is followed by a value in other units in parentheses, the second value may be approximate. The first stated value is the requirement.

NOTE: Where the SI unit symbol "kPa" appears in this Standard, it signifies a gauge pressure.

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.

This Second Edition ULC Standard was based on the First Edition, and has been reaffirmed.

Attention is drawn to the possibility that some of the elements of this Canadian standard may be the subject of patent rights. ULC Standards shall not be held responsible for identifying any or all such patent rights.

Requests for interpretation of this Standard should be sent to ULC Standards. The requests should be worded in such a manner as to permit a “yes” or “no” answer based on the literal text of the requirement concerned.

The initiation of the review of this Standard will commence within 5 years of the date of publication, unless the Standard is identified as fitting within a stabilized category, whereby the review will commence within the appropriate time frame set out by ULC Standards.

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.

This standard is intended to be used for conformity assessment.

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL

No Text on This Page

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL

1 SCOPE

1.1 These requirements apply to the construction and performance of back-pack fire extinguishers for use in fighting forest, brush, and grass fires. Back-pack extinguishers shall be classified under the following types:

Type 1 – Rigid Metal Tank

Type 2 – Rigid Plastic Tank

Type 3 – Soft Tank

1.2 Back-pack fire extinguishers are intended for use with water, wetting agents, and Class A foams.

NOTE: Reference to each applicable Test Method for a requirement is indicated by the letters TM and the appropriate Clause or Subsection number in parentheses in the right hand margin.

2 REFERENCE PUBLICATIONS

2.1 The documents shown below are referenced in the text of this Standard. Unless otherwise stated elsewhere in this Standard such reference shall be considered to indicate the edition and/or revisions of the document available at the date on which the Committee approved this ULC Standard.

Documents Published by the American Society for Testing and Materials (ASTM)
100 Barr Harbour Drive, PO Box C700, West Conshohocken, PA 19428-2959 U.S.A.
Telephone: (610) 832-9585
www.astm.org

• ASTM A 653/A 653M-13, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot Dip Process

• ASTM D 638-10, Standard Test Method for Tensile Properties of Plastics

• ASTM D 2240-05 (R2010), Standard Test Method for Rubber Property – Durometer Hardness

• ASTM D 5034-09 (R 2013), Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)

• ASTM D 1141-98 (R 2013), Standard Practice for the Preparation of Substitute Ocean Water

• ASTM G 155-13, Standard Test Method for Water Penetration and Leakage through Masonry

---

Documents Published by the Canadian General Standards Board (CGSB)
Canadian General Standards Board, Gatineau, QC K1A 1G6 Canada
Telephone: (819) 956-0425 or 1-800-665-2472
www.pwgsc.gc.ca/cgsb

• CAN/CGSB-4.2 No. 15-03 (R 2013), Textile Test Methods Non Fibrous Materials on Textiles

• CAN/CGSB-4.2 No. 26.5-M89 (R 2013), Textile Test Methods Water Resistance High Pressure Penetration Test

UL COPYRIGHTED MATERIAL –
NOT AUTHORIZED FOR FURTHER REPRODUCTION OR
DISTRIBUTION WITHOUT PERMISSION FROM UL