

CAN/ULC-S664:2017

**STANDARD FOR CONTAINMENT SUMPS, SUMP FITTINGS,
AND ACCESSORIES FOR FLAMMABLE AND COMBUSTIBLE
LIQUIDS**

Prepared and Published by:



ULC Standards
Normes ULC

Approved by:



Standards Council of Canada
Conseil canadien des normes

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.

Underwriters Laboratories of Canada is accredited by the Standards Council of Canada as a Certification Organization, a Testing Organization, and an Inspection Body under the National Standards System of Canada.

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.

National Standards of Canada developed by ULC Standards conform to the criteria and procedures established by the Standards Council of Canada. Such 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 services, please contact:

Customer Service: 1-866-937-3852

National Standard of Canada

A National Standard of Canada is a standard developed by an SCC-accredited Standards Development Organization (SDO), and approved by the Standards Council of Canada (SCC), in accordance with SCC's: *Requirements and Guidance-Accreditation for Standards Development Organizations*, and *Requirements and Guidance-Approval of National Standards of Canada Designation*. More information on National Standard requirements can be found at www.scc.ca.

An SCC-approved standard reflects the consensus of a number of experts whose collective interests provide, to the greatest practicable extent, a balance of representation of affected stakeholders. National Standards of Canada are intended to make a significant and timely contribution to the Canadian interest.

SCC is a Crown corporation within the portfolio of Industry Canada. With the goal of enhancing Canada's economic competitiveness and social well-being, SCC leads and facilitates the development and use of national and international standards. SCC also coordinates Canadian participation in standards development, and identifies strategies to advance Canadian standardization efforts. Accreditation services are provided by SCC to various customers, including product certifiers, testing laboratories, and standards development organizations. A list of SCC programs and accredited bodies is publicly available at www.scc.ca.

Users should always obtain the latest edition of a National Standard of Canada from the standards development organization responsible for its publication, as these documents are subject to periodic review.

CORPORATE HEADQUARTERS

Underwriters Laboratories of Canada
7 Underwriters Road
Toronto, Ontario M1R 3A9
Telephone: (416) 757-3611
Fax: (416) 757-9540

REGIONAL OFFICES

PACIFIC OFFICE

13775 Commerce Parkway, Suite 130
Richmond, British Columbia V6V 2V4
Telephone: (604) 214-9555
Fax: (604) 214-9550

EASTERN OFFICE

6505, Rte Transcanadienne, Suite 330
St-Laurent, Québec H4T 1S3
Telephone: (514) 363-5941
Fax: (514) 363-7014

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 this particular application.

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

CETTE NORME NATIONALE DU CANADA EST DISPONIBLE EN VERSIONS FRANÇAISE ET ANGLAISE

**STANDARD FOR CONTAINMENT SUMPS, SUMP FITTINGS, AND
ACCESSORIES FOR FLAMMABLE AND COMBUSTIBLE LIQUIDS**

ICS 23.040.60

Prepared and Published by:



Approved by:



FIRST EDITION.....JULY 2017

Copyright © 2017

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.

TABLE OF CONTENTS

ULC STANDARDS COMMITTEE ON FUELING ACCESSORIES FOR FLAMMABLE AND COMBUSTIBLE LIQUIDSI
ULC STANDARDS TASK GROUP ON CONTAINMENT SUMPS, SUMP FITTINGS, AND ACCESSORIES FOR FLAMMABLE AND COMBUSTIBLE LIQUIDSII
PREFACEIII
1 SCOPE	1
2 REFERENCE PUBLICATIONS	2
3 GLOSSARY	5
4 CONSTRUCTION	7
4.1 GENERAL	7
4.2 SUMPS	7
4.3 FITTINGS	8
4.4 SUMP ACCESSORIES	9
4.5 CORROSION	10
5 PERFORMANCE	10
5.1 GENERAL	10
5.2 MATERIAL PROPERTY TESTS	12
5.2.1 General	12
5.2.2 Elastomers	12
5.2.3 Thermoplastics	12
5.2.4 Thermosets	13
5.2.5 Coated or plated metals	13
5.2.6 Composites	13
5.3 PHYSICAL ABUSE TESTS	13
5.3.1 General	13
5.3.2 Drop test	14
5.3.3 Impact test	15
5.4 FITTING ASSEMBLY, INSTALLATION AND USE TESTS	15
5.4.1 General	15
5.4.2 Torque tests	16
5.4.3 Bending tests	16
5.4.4 Push pull test	17
5.5 ACCESSORY ASSEMBLY, INSTALLATION AND USE TESTS	17
5.5.1 General	17
5.5.2 Frame and bracket strength tests	18
5.5.3 Cover and lid strength tests	19
5.5.4 Chase pipe strength tests	19
5.6 LEAKAGE TESTS	19
5.6.1 General	19
5.6.2 Sump leakage	20
5.6.3 Fitting leakage	20

5.6.4	Cover and lid leakage	20
5.6.5	Chase leakage	21
5.7	INTERSTITIAL COMMUNICATION TEST	21
5.8	SHORT TERM COMPATIBILITY TESTS	21
5.8.1	General	21
5.8.2	UV exposure test	22
5.8.3	Metallic Stress Crack Test	22
5.8.4	Nonmetallic Stress Crack Test	22
5.8.5	Extreme Low Temperature Impact Test	23
5.9	LONG TERM COMPATIBILITY TEST	23
6	MANUFACTURING AND PRODUCTION TESTS	25
6.1	GENERAL	25
6.2	DIMENSIONAL MEASUREMENTS	25
6.3	LEAKAGE TEST	25
7	MARKINGS	25
8	INSTALLATION INSTRUCTIONS	27
TABLES		30
FIGURES		35
APPENDIX A (NORMATIVE) – TEST FUEL FORMULATIONS		36
APPENDIX B (INFORMATIVE) – LIST OF STANDARDS ON FUELS		38