NATIONAL
STANDARD
OF CANADA

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(Reaffirmed 2016)

STANDARD FOR INTERNAL LUG QUICK-CONNECT COUPLINGS FOR FIRE HOSE

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Normes ULC

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Standards Council of Canada
Conseil canadien des normes

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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.

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NATIONAL STANDARD OF CANADA

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Amendment Notice

ULC STANDARDS

STANDARD FOR INTERNAL LUG QUICK-CONNECT COUPLINGS FOR FIRE HOSE	CAN/ULC-S543-09
AMENDMENT 1	JULY 2010

The following amendments are being incorporated into CAN/ULC-S543-09:

1. Revised Subsection 3.8.

NOTICE

PLEASE NOTE THAT THIS STANDARD INCLUDES AMENDMENT(S). THE CURRENT EDITION OF THIS STANDARD IS NOT VALID UNLESS USED TOGETHER WITH THE AMENDMENT(S).

IT IS POSSIBLE, HOWEVER, THAT CERTAIN CODES WILL REFER TO THE SUPERSEDED EDITION OF THIS STANDARD, WITHOUT THE AMENDMENT(S). IN THOSE INSTANCES, THE COMPILATION OF THIS DOCUMENT ALLOWS FOR REFERENCE TO BE MADE TO THE STANDARD PRIOR TO THE INCLUSION OF THE AMENDMENT(S).

3.8 10-Day Moist Ammonia Air Stress Cracking Test

3.8.1 After being subjected to the conditions described in 3.8.2 - 3.8.4, hose couplings or adaptors containing more than 15% zinc shall show no evidence of cracking when examined using 25X magnification.

Exception: Cracking is not prohibited when the cracking does not impact the ability of the product to comply with the requirements of this standard.

3.8.2 Each test sample is to be subjected to the physical stresses normally imposed on or within a part as the result of assembly with other components. Such stresses are to be applied to the sample prior to and maintained during the test.

3.8.3 Three samples are to be degreased and then continuously exposed in a set position for 10 d to a moist ammonia-air mixture maintained in a glass chamber approximately 300 by 300 by 300 mm (12 by 12 by 12 in) having a glass cover.

3.8.4 Approximately 600 mL (0.15 gal) of aqueous ammonia having a specific gravity of 0.94 is to be maintained at the bottom of the glass chamber below the samples. The samples are to be positioned 38 mm (1-1/2 in) above the aqueous ammonia solution and supported by an inert tray. The moist ammonia-air mixture in the chamber is to be maintained at atmospheric pressure and at a temperature of 34 ± 2°C (93 ± 4°F).

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ULC STANDARDS COMMITTEE ON FIRE PROTECTION EQUIPMENT AND SYSTEMS

NAME	AFFILIATION	REGION	CATEGORY
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J. Di Filippo	Kidde Canada Inc.	Canada	Producer
M. Gravel	Department of National Defence	Canada	Regulator
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M. Ramlochan (Project Manager)	ULC Standards	Canada	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.

REFERENCE PUBLICATIONS

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 B 30-04, Standard Specification for Copper Alloys in Ingot Form
- ASTM B 117-03, Standard Practice for Operating Salt Spray (Fog) Apparatus
- ASTM B 154-01, Standard Test Method for Mercurous Nitrate Test for Copper and Copper Alloys
- ASTM B 584-04, Standard Specification for Copper Alloy Sand Castings for General Applications
- ASTM D 395-03, Standard Test Methods for Rubber Property – Compression Set
- ASTM D 412-98a (2002)e1, Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers – Tension
- ASTM D 572-04, Standard Test Method for Rubber-Deterioration by Heat and Oxygen
- ASTM D 3183-02, Standard Practice for Rubber – Preparation of Pieces for Test Purposes from Products

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- ULC-S513-1978, Standard for Threaded Couplings for 1½- and 2½ -Inch Fire Hose

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STANDARD FOR INTERNAL LUG QUICK-CONNECT COUPLINGS FOR FIRE HOSE

PREFACE

This is the Second Edition of the Standard for Internal Lug Quick-Connect Couplings for Fire Hose

This Edition of the Standard has been formally approved by the ULC Standards Committee on Fire Protection Equipment and Systems

This Standard has been developed in compliance with the requirements of SCC for accreditation of a Standards Development Organization.

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.

Appendix A, identified as informative, is for informational 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.

This Second Edition National Standard of Canada is based on the First Edition, and now 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 review and action to revise or reaffirm this Standard will not exceed 5 years from 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.

This Standard is intended to be used for conformity assessment.

1. SCOPE

1.1 This Standard contains requirements for non-threaded, quick-connect couplings of the internal lug design for use in fire protection service. (See Appendix A.)

1.2 The couplings are intended for use with fire hose in the following standard sizes: 38 mm, 65 mm, 100 mm, 125 mm and 150 mm.

1.3 This Standard also contains requirements for the non-threaded, quick-connect portion of adaptor fittings intended for use in modifying threaded fittings to accommodate couplings of the internal lug design. The remaining requirements for these adaptor fittings shall be in accordance with the applicable sections of the Standard for Threaded Couplings for 1-1/2- and 2-1/2-Inch Fire Hose, ULC-S513.

NOTE: It is also intended that this Standard will contain, in a future edition, requirements for adaptors intended for use in modifying couplings of the external lug design to accommodate the attachment of couplings of the internal lug design.

2. REQUIREMENTS

2.1 GENERAL

2.1.1 The form and dimensions of 38, 65and 150 mm coupling mating faces and operating parts employed in the connection of couplings shall be of the standard design as illustrated by Figures 1, 2, and 4. 100 mm and 125 mm couplings shall meet the requirements specified in Section 4.

2.1.2 Couplings shall be made and finished in a workmanlike manner throughout. All edges shall be chamfered and free from burrs. The tailpiece lip shall have a rounded inner or outer edge to prevent damage to the hose.

2.1.3 An indent or embossed marking shall be provided on each coupling to indicate when the coupling is in the fully locked position.

2.1.4 The 150 mm quick-connect coupling shall be provided with locks as specified in Section 4.2.

2.2 MATERIAL PROPERTIES - COUPLING BODY

2.2.1 The material from which the coupling body is manufactured shall have strength and other characteristics sufficient to withstand the performance tests detailed herein.