



UL 19

STANDARD FOR SAFETY

Lined Fire Hose and Hose Assemblies

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UL Standard for Safety for Lined Fire Hose and Hose Assemblies, UL 19

Thirteenth Edition, Dated October 25, 2013

SUMMARY OF TOPICS

This new edition of ANSI/UL 19 includes the following:

- 1. Revision to scope to update NFPA standard title*
- 2. Revision regarding length of hose*
- 3. Revision to correct typographical error and to add 200 psi service test pressure rating for single jacketed hose in the 2-1/2 to 6 inch size*
- 4. Revision to Kink Test to remove hose assemblies*
- 5. Revision to Repeated Bending Test*
- 6. Revision to Abrasion Test with respect to sample length*
- 7. Revision to Heat Resistance Test with respect to tolerance*
- 8. Revision to Fold Resistance Test with respect to tolerance*
- 9. Revision to Wet Hose Test clarifying when to conduct Hydrostatic Strength Test*
- 10. Revision to Low Temperature Test with respect to tolerance*
- 11. Revision to Friction Loss Test clarifying test method*
- 12. Revision to Accelerated Aging Test of Threads with respect to tolerance*
- 13. Revision to Accelerated Aging Test of Linings and Covers with respect to tolerance*
- 14. Revision to Ozone-Exposure Test of Linings and Covers with respect to outside reference*
- 15. Revision to Water Immersion Test of Linings with respect to tolerance*
- 16. Revision to Pull Test with respect to minimum required pull force*
- 17. Revision to Accelerated Aging Test of Hose Assembly with respect to tolerance*
- 18. Revision to Accelerated Aging Test of Gaskets with respect to tolerance*

The revised requirements are substantially in accordance with Proposal(s) on this subject dated June 21, 2013.

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The requirements in this Standard are now in effect, except for those paragraphs, sections, tables, figures, and/or other elements of the Standard having future effective dates as indicated in the note following the affected item. The prior text for requirements that have been revised and that have a future effective date are located after the Standard, and are preceded by a "SUPERSEDED REQUIREMENTS" notice.

OCTOBER 25, 2013

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Thirteenth Edition

October 25, 2013

This ANSI/UL Standard for Safety consists of the Thirteenth Edition.

The most recent designation of ANSI/UL 19 as an American National Standard (ANSI) occurred on October 24, 2013. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page, or effective date information.

The Department of Defense (DoD) has adopted UL 19 on April 5, 1999. The publication of revised pages or a new edition of this Standard will not invalidate the DoD adoption.

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 <http://csds.ul.com>.

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INTRODUCTION

1 Scope

1.1 These requirements cover single- and multiple-jacketed lined fire hose with or without couplings attached, in the trade sizes of 1-1/2, 1-3/4, 2, 2-1/2, 3, 3-1/2, 4, 5, and 6 inch (38, 45, 51, 65, 76, 89, 102, 127, and 152 mm nominal ID). Single-jacketed hose is intended for service test pressures of 150, 200, or 250 psig (1035, 1380, or 1725 kPa). Multiple-jacketed hose or covered hose judged equivalent to multiple-jacketed hose is intended for service test pressures of 200, 300, or 400 psig (1380, 2070, or 2760 kPa).

1.2 These products are intended for municipal and industrial fire protection purposes. Single-jacketed hose is for use at fire hydrants, standpipes, and similar places. They are not intended for hard usage nor where the hose will be subjected to chafing on rough or sharp surfaces. Multiple-jacketed hose or covered hose judged equivalent to multiple-jacketed hose are for use on pumpers and in places where service conditions require the additional protection against wear afforded by the extra woven jacket or cover.

1.3 The products covered by these requirements are intended to be periodically inspected and maintained while in service, as outlined in the Standard for the Care, Use, Inspection, Service Testing and Replacement of Fire Hose, Couplings, Nozzles, and Fire Hose Appliances, NFPA 1962.

2 General

2.1 Units of measurement

2.1.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

2.2 Undated references

2.2.1 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.

3 Glossary

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

3.2 EXPANSION RING – A ring that expands against the hose lining, forcing the hose tightly against the coupling.

3.3 FILLER THREADS – The threads or yarns of the jacket or reinforcement that are helically wound throughout the length of the hose at approximately right angles to the warp threads.

3.4 HOSE ASSEMBLY – Hose furnished with couplings attached to each end.

3.5 MULTIPLE-JACKETED HOSE – Hose having two or more woven jackets or a covered hose that complies with all of the performance tests in this standard for multiple-jacketed hose. See 5.3.

3.6 PROOF PRESSURE – A specified pressure applied to new hose to indicate its acceptability at intended maximum normal highest operating pressures.

3.7 SERVICE TEST PRESSURE – The pressure to which the hose is periodically tested to determine that it can remain in service. The service test pressure is at least 10 percent greater than the maximum normal highest operating pressure.

3.8 WARP THREADS – The threads or yarns of the jacket or reinforcement that run lengthwise to the hose.

CONSTRUCTION

4 Internal Diameter

4.1 Hose shall have an internal diameter of not less than the trade size of the hose.

4.2 A tapered plug gauge having a taper of 3/8 inch per foot (31.2 mm/m) marked to indicate variations of 1/64 inch (0.4 mm) in diameter, is to be used to measure the internal diameter. If the lining of the hose has a lap joint, the tapered plug gauge is to be provided with a slot to accommodate the lap joint.

4.3 To determine the internal diameter, the end of the hose is to be cut square and the tapered plug gauge inserted in the hose sample until a close fit is obtained without forcing. The diameter of the gauge at the end of the sample, to the nearest 1/64 inch (0.4 mm), is to be recorded as the internal diameter of the hose.

5 Jacket and Inner Reinforcements

5.1 A jacket shall be evenly and firmly woven, and free from visible defects, thread knots, lumps, and irregularities of twist provided that they would not impair its intended use. The threads shall be continuous, and any knots in the filler threads shall be tucked under the warp threads.

5.2 A jacket shall be seamless and shall have the fillers woven around the hose throughout its length and the warps interwoven with the fillers. A jacket may be made with a cover over the woven jacket.

5.3 Hose having a woven jacket or hose having an inner reinforcement and a protective cover may be considered equivalent to multiple-jacketed hose if it complies with the applicable performance requirements specified in this standard.