

UL 1479

ISBN 0-7629-0867-X

Fire Tests of Through-Penetration Firestops

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UL Standard for Safety for Fire Tests of Through-Penetration Firestops, UL 1479

Third Edition, Dated May 23, 2003

Revisions: This Standard contains revisions through and including April 6, 2007.

Summary of Topics

The revisions dated April 6, 2007, were issued to correct an editorial error in the Fire Exposure Test, Section 5. Table 5.1 has been reinserted since it was incorrectly deleted as part of the September 20, 2006 revision pages.

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Text that has been changed in any manner is marked with a vertical line in the margin. Changes in requirements are marked with a vertical line in the margin and are followed by an effective date note indicating the date of publication or the date on which the changed requirement becomes effective.

The revisions dated April 6, 2007 include a reprinted title page (page1) for this Standard.

The following table lists the future effective dates with the corresponding reference.

Future Effective Date	References
September 20, 2007	4.1.2.1

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This Standard consists of pages dated as shown in the following checklist:

Page	Date
1	April 6, 2007
2-3	September 20, 2006
4-8B	March 10, 2006
9-10B	September 20, 2006
11-16	May 23, 2003
17-18	April 6, 2007
19	May 23, 2003
20-20B	March 10, 2006
21	May 23, 2003
22-23	May 8, 2006
24-24B	March 10, 2006
25-26	May 23, 2003
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A1-A2	March 10, 2006
CRG1-CRG2	March 10, 2006
CRG3-CRG4	May 23, 2003

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MAY 23, 2003
(Title Page Reprinted: April 6, 2007)



ANSI/UL 1479-2006

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UL 1479

Standard for Fire Tests of Through-Penetration Firestops

Prior to the first edition, the requirements for the products covered by this standard were included in the Standard for Fire Tests of Building Construction and Materials, UL 263, and in the Standard for Fire Tests of Door Assemblies, UL 10B.

First Edition – January, 1983
Second Edition – June, 1994

Third Edition

May 23, 2003

The most recent designation of ANSI/UL 1479-2006 as an American National Standard (ANSI) occurred on September 18, 2006. The ANSI approval for this standard does not include the Cover Page, Transmittal Pages, Title Page, or the CRG.

This ANSI/UL Standard for Safety, which consists of the Third Edition with revisions through April 6, 2007, is under continuous maintenance, whereby each revision is ANSI approved upon publication.

An effective date included as a note immediately following certain requirements is one established by Underwriters Laboratories Inc. and is not part of the ANSI Standard.

Revisions of this Standard will be made by issuing revised or additional pages bearing their date of issue. A UL Standard is current only if it incorporates the most recently adopted revisions, all of which are itemized on the transmittal notice that accompanies the latest set of revised requirements. 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>.

ISBN 0-7629-0867-X

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INTRODUCTION

1 Scope

1.1 These requirements cover through-penetration firestops of various materials and construction that are intended for use in openings in fire resistive wall or floor-ceiling assemblies, or both.

1.2 The method of testing through-penetration firestops as specified by these requirements consists of exposure of test samples to a fire of standard time and temperature and to an application of a hose stream. Ratings are then established on the basis of:

- a) The length of time the firestop resists fire before the first development of through openings or flaming on the unexposed surface,
- b) Acceptable limitation of thermal transmission, and
- c) Acceptable performance under the application of the hose stream.

1.2 revised and separated into 1.2.1 – 1.2.4 March 10, 2006

1.2.1 The method of testing also includes optional air leakage tests to determine the rate of air leakage through through-penetration firestop systems resulting from a specified air pressure difference applied across the surface of the systems.

1.2 revised and separated into 1.2.1 – 1.2.4 March 10, 2006

1.2.2 The method of testing also includes optional water leakage tests to determine the ability of through-penetration firestop systems to resist the passage of water under a three foot pressure head. This method does not evaluate the ability of uncured firestop systems to resist such exposure.

1.2 revised and separated into 1.2.1 – 1.2.4 March 10, 2006

1.2.3 Two ratings are established for each through-penetration firestop system: an F rating based upon flame occurrence on the unexposed side of the test sample and acceptable hose stream performance; and a T rating based on temperature rise and flame occurrence on the unexposed side of the test sample and acceptable hose stream performance.

1.2 revised and separated into 1.2.1 – 1.2.4 March 10, 2006

1.2.4 An L rating may also be established for a through-penetration firestop system. The L rating is based on the amount of air leakage through the test sample.

1.2 revised and separated into 1.2.1 – 1.2.4 March 10, 2006

1.2.5 An W rating may also be established for a through-penetration firestop system. The W rating is based on the water resistance of the test sample.

1.2.5 added March 10, 2006

1.3 The method of testing through-penetration firestop systems containing piping systems for vented (drain, waste or vent) systems and closed (process or supply) systems is differentiated by the capping or non-capping of the piping systems on the unexposed side of the test assembly as described in 4.1.2.

1.4 Tests conducted in accordance with these requirements are intended to demonstrate the performance of through-penetration firestops during exposure to fire, but are not intended to determine acceptability of firestops for use after exposure to fire. These requirements do not cover the ampacity of conductors encased in through-penetration firestop materials.

1.5 The results obtained from the air leakage tests are expressed in cubic feet per minute (cubic meter per second) per square foot (square meter) of opening. The results are intended to develop data to assist authorities having jurisdiction, and others, in determining the acceptability of through-penetration firestops with reference to the control of air movement through the assembly.

1.6 These requirements do not cover devices that penetrate fire resistive floors and walls but terminate on the opposite side, as, for example, an outlet box and fitting.

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 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 AIR-FLOW METERING SYSTEM – A device used to measure the air flow.

3.3 AIR LEAKAGE (Q) – The volume of air flowing, per unit of time, through the openings around the test sample under a test pressure difference, expressed as cubic feet per minute (m^3/s). This air leakage volume is to be reported standardized to an ambient air temperature of 75°F (24°C).

3.4 AIR LEAKAGE TEST CHAMBER – A sealed chamber or box with an opening, a removable mounting panel, or one open side in which or against which the test sample is installed and sealed.

3.5 AIR SYSTEM – A controllable blower, compressed air supply, exhaust system, or reversible blower designed to provide an essentially constant required air flow at the specified fixed test pressure difference for the period required to obtain readings of air leakage.

3.6 AMBIENT TEMPERATURE EXPOSURE – The temperature at the exposed face of the test sample is to be 75 ±20°F (24 ±11°C).

3.7 ELEVATED TEMPERATURE EXPOSURE – The temperature at the exposed face of the test sample is to be 400 ±10°F (204 ±5°C).

3.8 EXTRANEIOUS LEAKAGE (Q_L) – The difference between the metered air flow (Q_m) and the air leakage (Q).

3.9 METERED AIR FLOW (Q_m) – The volume of air flowing per unit of time through the air flow metering system, expressed as cubic feet per minute (m^3/s).

3.10 RATE OF AIR LEAKAGE – The total air leakage per sample, expressed as cubic feet per minute (m^3/s) per square foot (square meter) of opening.

3.11 REPLACEMENT AIR – The volume of air, at ambient temperature, added to the test chamber, to replace the air leakage (Q) volume of air in either the ambient or elevated temperature exposure tests.

3.12 TEST ASSEMBLY – The wall or floor into which the test sample is mounted or installed.

3.13 TEST PRESSURE DIFFERENCE – The specified difference in static air pressure across the fixed test sample, expressed as inch of water column (Pa).

3.14 TEST SAMPLE – The through-penetration firestop being tested.