UL 10C

STANDARD FOR SAFETY

Positive Pressure Fire Tests of Door Assemblies

UL Standard for Safety for Positive Pressure Fire Tests of Door Assemblies, UL 10C

Third Edition, Dated June 9, 2016

Summary of Topics

This revision of ANSI/UL 10C dated March 25, 2026 includes the following changes in requirements:

– Wrought-steel or wrought-iron pipe metric conversion; 5.1.

– Door clearances metric conversion; 9.3.

Text that has been changed in any manner or impacted by ULSE's electronic publishing system is marked with a vertical line in the margin.

The revised requirements are substantially in accordance with Proposal(s) on this subject dated January 30, 2026.

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ANSI/UL 10C-2026

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UL 10C

Standard for Positive Pressure Fire Tests of Door Assemblies

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

First Edition – February, 1998
Second Edition – January, 2009

Third Edition

June 9, 2016

This ANSI/UL Standard for Safety consists of the Third Edition including revisions through March 25, 2026.

The most recent designation of ANSI/UL 10C as an American National Standard (ANSI) occurred on March 25, 2026. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

Comments or proposals for revisions on any part of the Standard may be submitted to ULSE at any time. Proposals should be submitted via a Proposal Request in the Collaborative Standards Development System (CSDS) at https://csds.ul.com.

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INTRODUCTION

1 Scope

1.1 These methods of fire tests are applicable to swinging door assemblies, including door frames with lights and panels, of various materials and types of construction for use in wall openings to retard the passage of fire. The method does not provide an evaluation of a swinging door assembly when that assembly is part of a larger assembly (e.g. sliding fire door assembly), or when it is intended to be used as an elevator entrance.

1.2 Tests made in conformity with these test methods are intended to register performance during the test exposure; but such tests shall not be construed as determining suitability for use after exposure to fire.

1.3 It is the intent that tests made in conformity with these test methods allow for the development of data to enable regulatory bodies to determine the suitability of door assemblies for use in locations where fire resistance of a specified duration is required.

1.4 These methods are intended to evaluate the ability of a door assembly to remain in an opening during a predetermined test exposure.

1.5 The tests expose a specimen to a standard fire exposure controlled to achieve specified temperatures throughout a specified time period, followed by the application of a specified standard fire hose stream. The exposure, however, is not representative of all fire conditions, which vary with changes in the amount, nature, and distribution of fire loading, ventilation, compartment size and configuration, and heat sink characteristics of the compartment. It does, however, provide a relative measure of fire performance of door assemblies under these specified fire exposure conditions.

1.6 Any variation from the construction or conditions that are tested is capable of substantially changing the performance characteristics of the assembly.

1.7 The methods do not provide the following:

a) Full information as to performance of all door assemblies in walls constructed of materials other than those tested.

b) Evaluation of the degree by which the door assembly contributes to the risk of fire by generation of smoke, toxic gases, or other products of combustion.

c) A temperature limit on the unexposed side of the door assembly.

d) A limit on the number of openings allowed in glazed areas or of the number and size of lateral openings between the door and frame.

e) Measurement of the degree of control or limitation of the passage of smoke or products of combustion through the door assembly. Note: See limitations for the passage of smoke detailed in the Standard for the Installation of Smoke Door Assemblies and Other Opening Protectives, NFPA 105

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.

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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.

CONTROL OF FIRE TESTS

3 Furnace Construction

3.1 Furnace size

3.1.1 The furnace shall be able to accommodate the full-sized sample. Small-scale size furnaces are capable of being used for testing small but full-sized samples or representative features of full-sized samples. The furnace face shall be greater in area than the exposed face of the sample by at least 20 percent. The additional area between the sample and the furnace shall be filled by wall or partition construction.

3.1.2 The furnace shall have a chamber depth, i.e. the distance between the exposed face of the specimen and the face of the furnace lining immediately opposite the specimen, of not less than 23 in (584 mm) and not more than 51 in (1296 mm).

3.2 Furnace construction materials

3.2.1 The furnace shall be constructed of materials which have a greater resistance to heat flow through the other three sides than through the sample.

3.3 Furnace burners

3.3.1 The furnace shall be heated with burners that are fired using either natural gas or liquefied petroleum gases.

3.3.2 The heat output of the burners shall be controllable and shall expose the specimen to a uniform heating as specified in 4.1.1.

3.3.3 The burners shall function so that the fuel gas is introduced into the furnace where the gas mixes with air present in the furnace and then burns; or, as an alternate, the fuel gas is mixed with air prior to its ignition in the furnace.

4 Time-Temperature Curve

4.1 General

4.1.1 The fire exposure of door assemblies shall be controlled to conform to the applicable portion of the standard time-temperature curve shown in Appendix A. The points on the curve that determine its character are:

1000°F (538°C) at 5 minutes

1300°F (704°C) at 10 minutes

1462°F (795°C) at 20 minutes

1550°F (843°C) at 30 minutes

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