

UL 723

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Test for Surface Burning Characteristics of Building Materials





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UL Standard for Safety
for
Test for Surface Burning Characteristics of Building Materials, UL 723

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Test for Surface Burning Characteristics of Building Materials

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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.

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FOREWORD

A. This Standard contains a description of the basic test method(s) for evaluating products covered by Underwriters Laboratories Inc. (UL) under its Follow-Up Service for this category within the limitations given below and in the Scope section of this Standard. This test method(s) is based upon sound engineering principles, research, records of tests and field experience, and an appreciation of the problems of manufacture, installation, and use derived from consultation with and information obtained from manufacturers, users, inspection authorities, and others having specialized experience. It is subject to revision as further experience and investigation may show is necessary or desirable.

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E. Many tests required by the Standards of UL are inherently hazardous and adequate safeguards for personnel and property shall be employed in conducting such tests.

INTRODUCTION

1 Scope

1.1 This method of test for surface burning characteristics of building materials is applicable to any type of building material that, by its own structural quality or the manner in which it is applied, is capable of supporting itself in position or may be supported in the test furnace to a thickness comparable to its recommended use.

1.2 The purpose of the test is to determine the comparative burning characteristics of the material under test by evaluating the spread of flame over its surface and the density of the smoke developed when exposed to a test fire, and thus to establish a basis on which surface burning characteristics of different materials may be compared, without specific considerations of all the end-use parameters that might affect the surface burning characteristics.

1.3 This method of test is intended to register performance during the period of exposure, and not to determine suitability for use after the test exposure. Reference may be made to the requirements for fire tests of building construction and materials, UL 263, for procedures for determining the performance, under fire exposure conditions, of building constructions and materials when incorporated into a test structure and subjected to a standard exposing fire of controlled extent and severity.

2 General

2.1 If a value for measurement is followed by a value in other units in parentheses, the second value may be only approximate. The first stated value is the requirement.

2.2 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.

PERFORMANCE

3 Fire Test Chamber

3.1 The fire test chamber, Figures 3.1 and 3.2, is to consist of a horizontal duct having an inside width of $17\text{-}3/4 \pm 1/4$ inches (451 ± 6.3 mm) measured at the ledge location along the side walls and $17\text{-}5/8 \pm 3/8$ inches (448 ± 9.5 mm) at all other points; (2) a depth of $12 \pm 1/2$ inches (305 ± 12.7 mm) measured from the bottom of the test chamber to the ledge of the inner walls on which the sample is supported [including the $1/8$ inch (3.2 mm) thickness of woven fiberglass^a gasketing tape], and a length of 25 feet (7.6 m). The sides and base of the duct are to be lined with insulating masonry as illustrated in Figure 3.2, consisting of A. P. Green, G-26^b, refractory fire brick. One side of the chamber is to be provided with double observation windows^c with the inside pane flush mounted (see Figure 3.2). The exposed area of an inside pane is to be $2\text{-}3/4 \pm 1/4$ by 11.5 plus 1 minus 2 inches (69.9 ± 6.4 by 279 plus 25 minus 50 mm). The centerline of the exposed area of the inside glass is to be in the upper half of the furnace wall, with the upper edge not less than 2-1/2 inches (63 mm) below the furnace ledge. Each window is to be located such that not less than 12 inches (305 mm) of the specimen width can be observed. Multiple windows are to be located along the tunnel so that the entire length of the test sample may be observed from outside the fire test chamber. The windows are to be pressure tight (see 5.2 and 5.3).

^aMcMaster-Carr No. 8817K35 1-1/2 by 1/8 inch woven fiberglass tape or equivalent has been found to be acceptable for this purpose.

^bThe operation and calibration of this equipment is based on the use of A.P. Green Refractories.