STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Amendment No. 1
to
AS/NZS 60695.11.10:2001
FIRE HAZARD TESTING –

Part 11.10: Test flames – 50 W horizontal and vertical flame test methods

REVISED TEXT

The 2001 edition of AS/NZS 60695.11.10 is amended as follows; the amendments should be inserted in the appropriate places.

SUMMARY: This amendment applies to Preface, Clauses 7, 8 and 9, Figure 6, Annex B and Bibliography.

Published on 31 May 2004

Approved for publication in Australia on behalf of the Council of Standards Australia on 18 March 2004

Approved for publication in New Zealand by the Standards Council of New Zealand on 26 March 2004

All parts of this Amendment form part of the standard from the date of publication.

Preface

Replace the fourth paragraph by the following:

This Standard is identical to and is reproduced from IEC 60695-11-10:1999, *Fire hazard testing* - Part 11-10: *Test flames - 50 W horizontal and vertical flame test methods* including its amendment 1 (2003-06).

7 Test specimens

Replace the text of the existing Clause 7 by the following:

7.1 End product testing

Test specimens shall be cut from a representative sample of the moulded material taken from an end product. Where this is not possible, the test specimen shall be produced using the same fabrication process as would be normally used to mould a part of a product; and where this is not possible, the appropriate ISO method shall be used, e.g. casting and injection moulding in accordance with ISO 294, compression moulding in accordance with ISO 293 or ISO 295, or transfer moulding to the necessary shape.

If it is not possible to prepare test specimens by any of the methods outlined above, a type test shall be performed using the needle flame test in accordance with IEC 60695-2-2.

After any cutting operation, care shall be taken to remove all dust and any particles from the surface; cut edges shall be fine sanded to a smooth finish.

Accessed by MONASH UNIVERSITY LIBRARY on 22 Jun 2015 (Document currency not guaranteed when printed)

Documents
Document Sharing Hub

Full document details: AS NZS 60695.11.10-2001 amd1-2004

7.2 Material testing

The results of tests carried out on test specimens of different colour, thickness, density, molecular mass, anisotropic direction and type, or with different additives or fillers/reinforcements can vary.

Test specimens with extremes of density, melt flows and filler/reinforcement content may be provided and considered representative of the range if the test results yield the same flame test classification. If the test results do not yield the same flame test classification for all test specimens representing the range, evaluation shall be limited to the materials with the extremes of density, melt flows and filler/reinforcement contents tested. In addition, test specimens with intermediate density, melt flows, and filler/reinforcement content shall be tested to determine the representative range for each flame classification.

Uncoloured test specimens and test specimens with the highest level of organic and inorganic pigment loading by weight are considered representative of the colour range, if the test results yield the same flame test classification. When certain pigments are known to affect flammability characteristics, the test specimens containing those pigments shall also be tested. Test specimens which shall be tested are those that:

a) contain no colouring,

b) contain the highest level of organic pigments,

c) contain the highest level of inorganic pigments,

d) contain pigments which are known to adversely affect flammability characteristics.

7.3 Bar test specimens

Bar test specimens shall measure 125 mm ± 5 mm long by 13,0 mm ± 0,5 mm wide, and shall be provided in the minimum and maximum thickness normally supplied. The thickness shall not exceed 13,0 mm. Edges shall be smooth, and the radius on the corners shall not exceed 1,3 mm. Other thicknesses may be used by agreement between the interested parties and, if so, shall be noted in the test report (see Figure 4).

A minimum of 6 bar test specimens for Method A and 20 test specimens for Method B shall be prepared.

8.4 Classification

Add, in subclause 8.4, "HB," in front of "HB40" to read:

The materials shall be classified HB, HB40 or HB75 (HB = horizontal burning) in accordance with the criteria given below.

8.4.1

Renumber the existing subclauses 8.4.1 and 8.4.2 as 8.4.2 and 8.4.3, respectively.

Insert the following new subclause 8.4.1:

8.4.1 A material classified HB shall conform to one of the following criteria:

a) it shall not visibly burn with a flame after the ignition source is removed;

b) if the test specimens continue to burn with a flame after removal of the ignition source, the flame front shall not pass the 100 mm mark;

Accessed by MONASH UNIVERSITY LIBRARY on 22 Jun 2015 (Document currency not guaranteed when printed)

Documents
Document Sharing Hub

Full document details: AS NZS 60695.11.10-2001 amd1-2004

c) if the flame front passes the 100 mm mark, it shall not have a linear burning rate exceeding 40 mm/min for a thickness of 3,0 mm to 13,0 mm or a burning rate not exceeding 75 mm/min for a thickness of less than 3,0 mm;

d) if the linear burning rate does not exceed 40 mm/min for tests with 3,0 mm ± 0,2 mm thickness, it shall automatically be accepted down to a 1,5 mm minimum thickness.

Renumber the existing subclause 9 as 8.5.

Replace the Clause 10 by the following:

9 Test method B – Vertical burning test

9.1 Conditioning

Unless otherwise required by the relevant specification, the requirements listed below shall apply.

9.1.1 Sets of five bar test specimens shall be conditioned for a minimum of 48 h at 23 °C ± 2 °C and 50 % ± 5 % relative humidity. Once removed from the conditioning chamber (see 6.7), the test specimens shall be tested within 1 h (see ISO 291).

9.1.2 Sets of five bar test specimens shall be aged in the air-circulating oven (see 6.11) for 168 h ± 2 h at 70 °C ± 2 °C and then cooled in the desiccator chamber (see 6.10) for at least 4 h. Once removed from the desiccator chamber, the test specimens shall be tested within 30 min.

9.1.3 As an alternative to the conditioning described in 9.1.2, industrial laminates may be conditioned for 24 h at 125 °C ± 2 °C.

9.1.4 All test specimens shall be tested in a laboratory atmosphere of 15 °C to 35 °C and 45 % to 75 % relative humidity.

9.2 Procedure

9.2.1 Clamp the test specimen using the upper 6 mm of its length, with the longitudinal axis vertical so that the lower end of the test specimen is 300 mm ± 10 mm above a horizontal layer of cotton (see 6.12), of approximately 50 mm × 50 mm × 6 mm uncompressed thickness and a maximum mass of 0,08 g (see figure 3).

9.2.2 With the central axis of the burner tube vertical, place the burner remote from the test specimen and set the burner (see 6.2) to produce a standardized 50 W nominal test flame, conforming with IEC 60695-11-4, flames A, B or C. Wait for a minimum of 5 min to allow the burner conditions to reach equilibrium. In case of dispute, test flame A shall be used as the reference test flame.

9.2.3 The position of the test specimen, the operator and the burner shall be as indicated in Figure 6.

9.2.4 Maintaining the central axis of the burner tube in the vertical position, apply the flame centrally to the middle point of the bottom edge of the test specimen, so that the top of the burner is 10 mm ± 1 mm below that point, and maintain it at that distance for 10 s ± 0,5 s, moving the burner in the vertical plane, as necessary, in response to any changes in the length or position of the test specimen.

NOTE For specimens which move under the influence of the burner flame, the use of a small indicator rod attached to the burner (see figure 5), as described in IEC 60695-11-4, has been found to be satisfactory in maintaining the 10 mm distance between the top of the burner and the major portion of the test specimen.

Accessed by MONASH UNIVERSITY LIBRARY on 22 Jun 2015 (Document currency not guaranteed when printed)

Documents
Document Sharing Hub