

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Amendment No. 1
to
AS/NZS 3837:1998
Method of test for heat and smoke release rates for materials and products using an oxygen consumption calorimeter

REVISED TEXT

The 1998 edition of AS/NZS 3837 is amended as follows; the amendments should be inserted in the appropriate places.

SUMMARY: This Amendment applies to the Preface, Clauses 1.3, 1.4, 3.2, 3.4(A)(new) and 3.4.(B)(new).

Published on 29 June 2012.

Approved for publication in New Zealand on behalf of the Standards Council of New Zealand on 8 June 2012.

Preface

Add the following new paragraph:

Amendment No. 1 was raised to address significant differences observed between group number achieved by applying empirical correlations to predict the time to flashover using AS 3837 test results and measured results achieved in AS ISO 9705.

Clause 1.3

Add the following to the referenced documents:

AS ISO 9705	Fire tests—Full-scale room test for surface products
ABCB	Australian Building Codes Board
NCC	National Construction Code (Volume 1 Building Code of Australia)
FCRC 1998	Fire Performance of Wall and Ceiling Linings, Final Report, Project 2, Stage A, FCRC PR 98-02, Fire Code Reform Centre Ltd., Sydney

Clause 1.4

Delete reference to ‘AS 2481.1’ and *replace* with ‘AS 2484.1’.

Clause 3.2

1 *Add* the following new Items after Item (y):

- (z) The test report shall include the following statement:
‘The results of these fire tests may be used to directly assess fire hazard, but it should be recognized that a single test method will not provide a full assessment of fire hazard under all fire conditions.’
- (aa) Where tests are undertaken on materials or assemblies that have been identified in Clause 3.4(B) as not having validated correlations, the report shall include the following statement:
‘The results reported herein shall not be used to derive a Group Number in accordance with the NCC without undertaking validation of the performance that is predicted.’

- 2 *Add the following new paragraph at the end of the clause:*

The test report shall not include a calculation of the group number in accordance with the NCC requirements for wall and ceiling linings since an opinion is required in order to determine the validity of the empirical correlations for the particular specimen tested [see Clause 3.4(B)].

AMDT
No. 1
JUN
2012

Clause 3.4(A)(new)

Add the following new clause:

3.4(A) RELEVANCE OF TEST RESULTS FOR THE CALCULATION OF GROUP NUMBER FOR CLASSIFICATION OF WALL AND CEILING LININGS IN ACCORDANCE WITH THE NCC

The control of wall and ceiling linings is achieved in the National Construction Code (NCC) by specifying levels of performance when materials or assemblies are subjected to an AS ISO 9705 test. The FCRC states that ‘research has shown that the best tests for assessing wall and ceiling linings are large scale tests. The ISO room burn (AS ISO 9705) is the only standardized large-scale test suitable for assessing wall and ceiling linings’.

Performance is specified in terms of group number, which relates to the time to flashover with a 100 kW and then a 300 kW burner applied.

In order to minimize testing costs, the time to flashover in AS ISO 9705 is permitted by the NCC to be predicted by testing materials to this Standard AS/NZS 3837 (the cone calorimeter test), in conjunction with the method of determining a materials group number for fire hazard properties, in accordance with the NCC.

AMDT
No. 1
JUN
2012

Clause 3.4(B)(new)

Add the following new clause:

3.4(B) VALIDITY OF EMPIRICAL CORRELATION

The use of empirical correlations to determine the time to flashover in AS ISO 9705, based on AS/NZS 3837 test results, has been shown to be valid for essentially homogeneous materials that do not melt or shrink away from a flame (see FCRC).

The empirical correlations have not been validated for the following types of materials and assemblies—

- (a) all assemblies, including those with profiled facings;
- (b) materials or assemblies that contain materials that melt or shrink away from a flame;
- (c) assemblies with joints and openings; and
- (d) products with a reflective surface.

NOTE: Examples of materials for which the correlation has been shown to be valid include—

- (a) painted or unpainted paper-faced gypsum plasterboard;
 - (b) solid timber and wood products such as particleboard, and plywood; and
 - (c) rigid non-thermoplastic foams such as polyurethane.
-