Update on Fire Testing for Tension Structure Fabrics in Australia,

(and Overseas developments)

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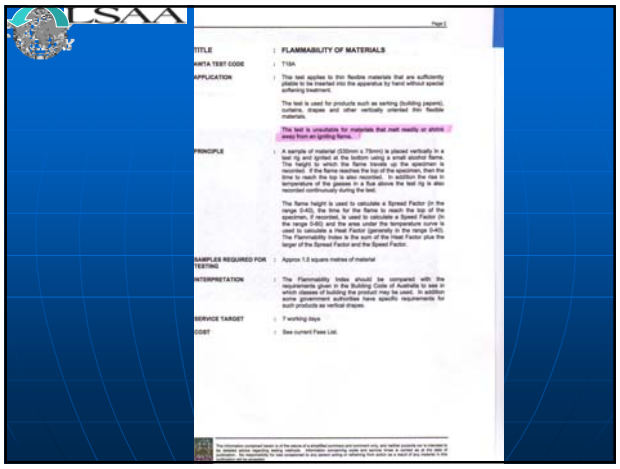


TITLE : FLAMMABILITY OF MATERIALS

AWTA TEST CODE : T18A

APPLICATION : This test applies to thin flexible materials that are sufficiently pliable to be inserted into the apparatus by hand without special softening treatment.

The test is used for products such as awning (building papers), curtains, drapes and other vertically oriented thin flexible materials.

The test is unsuitable for materials that melt readily or shrink away from an igniting flame.

PRINCIPLE : A sample of material (530mm x 75mm) is placed vertically in a test rig and ignited at the bottom using a small alcohol flame. The height to which the flame travels up the specimen is recorded. If the flame reaches the top of the specimen, then the time to reach the top is also recorded. In addition the rise in temperature of the gasses in a flue above the test rig is also recorded continuously during the test.

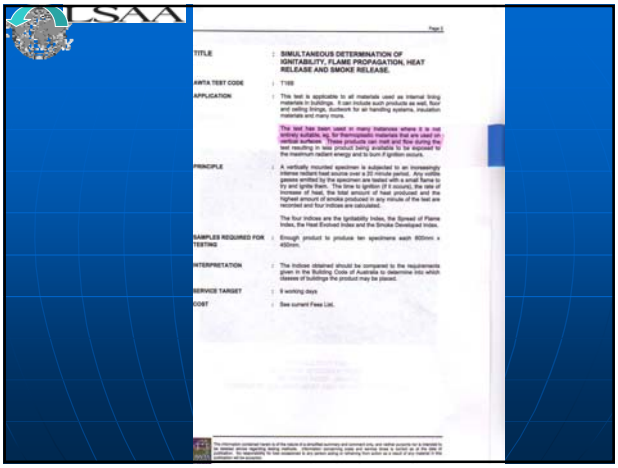
The flame height is used to calculate a Spread Factor (in the range 0-40), the time for the flame to reach the top of the specimen, if recorded, is used to calculate a Speed Factor (in the range 0-60) and the area under the temperature curve is used to calculate a Heat Factor (generally in the range 0-40). The Flammability Index is the sum of the Heat Factor plus the larger of the Spread Factor and the Speed Factor.

SAMPLES REQUIRED FOR TESTING : Approx 1.5 square metres of material

INTERPRETATION : The Flammability Index should be compared with the requirements given in the Building Code of Australia to see in which classes of building the product may be used. In addition some government authorities have specific requirements for such products as vertical drapes.

SERVICE TARGET : 7 working days

COST : See current Fees List.



TITLE : SIMULTANEOUS DETERMINATION OF IGNITABILITY, FLAME PROPAGATION, HEAT RELEASE AND SMOKE RELEASE.

AWTA TEST CODE : T189

APPLICATION : This test is applicable to all materials used as internal lining materials in buildings. It can include such products as wall, floor and ceiling linings, ductwork for air handling systems, insulation materials and many more.

The test has been used in many instances where it is not entirely suitable, eg. for thermoplastic materials that are used on vertical surfaces. These products can melt and flow during the test resulting in less product being available to be exposed to the maximum radiant energy and to burn if ignition occurs.

PRINCIPLE : A vertically mounted specimen is subjected to an increasingly intense radiant heat source over a 30 minute period. Any volatile gasses emitted by the specimen are tested with a small flame to try and ignite them. The time to ignition (if it occurs), the rate of increase of heat, the total amount of heat produced and the highest amount of smoke produced in any minute of the test are recorded and four indices are calculated.

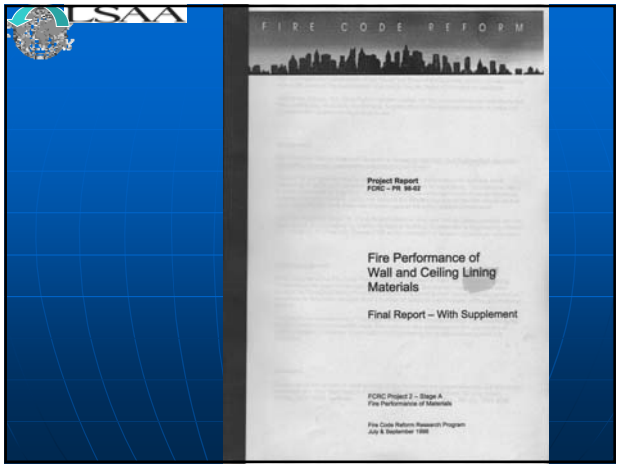
The four indices are the Ignitability Index, the Spread of Flame Index, the Heat Evolved Index and the Smoke Developed Index.

SAMPLES REQUIRED FOR TESTING : Enough product to produce ten specimens each 600mm x 450mm.

INTERPRETATION : The indices obtained should be compared to the requirements given in the Building Code of Australia to determine into which classes of buildings the product may be placed.

SERVICE TARGET : 5 working days

COST : See current Fees List.



FIRE CODE REFORM

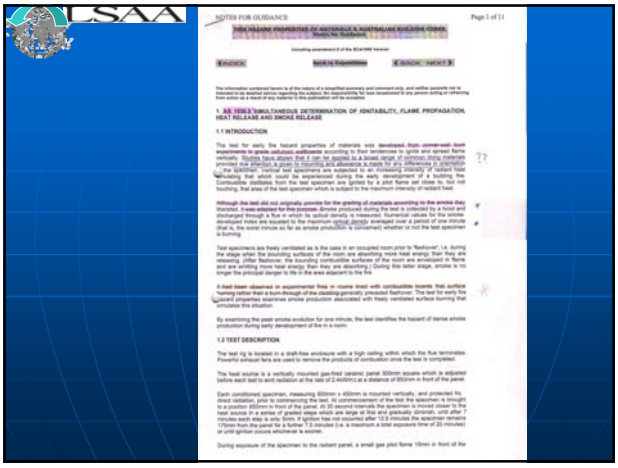
Project Report
FCRC – PR 98-02

Fire Performance of Wall and Ceiling Lining Materials

Final Report – With Supplement

FCRC Project 2 – Stage A
Fire Performance of Materials

Fire Code Reform Research Program
July & September 1998



NOTES FOR GUIDANCE

1 AS 1530.3 SIMULTANEOUS DETERMINATION OF IGNITABILITY, FLAME PROPAGATION, HEAT RELEASE AND SMOKE RELEASE

1.1 INTRODUCTION

1.2 TEST DESCRIPTION

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