

Australian Standard
METHODS OF TEST FOR TEXTILE FLOOR COVERINGS

AS 2111.18
DETERMINATION OF FIRE PROPAGATION
PROPERTIES—FIRE PROPAGATION OF THE USE-
SURFACE USING A SMALL IGNITION SOURCE

FOREWORD

This standard, prepared by the Association's Committee for Burning Behaviour of Textiles and Textile Products, has been developed to determine the fire propagation properties of the use-surface of textile floor coverings when ignited by a small ignition source.

The method recognizes the development of the methenamine tablet test for textile floor coverings in

ISO/TC 38/SC 19 (DP 6925).

In the method a methenamine tablet, placed at the centre of a test specimen of the floor covering is ignited and the farthest distance the fire travels from the ignition point is measured. The method uses test specimens conditioned at 20°C and 65 percent relative humidity, which are considered to be relevant to Australian climatic conditions

METHOD

1 SCOPE. This standard sets out a procedure for determining the fire propagation of the use-surface of all types of textile floor coverings in a horizontal orientation when exposed to a small ignition source without impressed radiant heat.

2 REFERENCES. This standard makes reference to the following Australian standards:

- | | |
|---------|----------------------------------------------------------------------------------------------|
| AS 2001 | Methods of Test for Textiles
2001.1—Method for Conditioning
Textile Materials for Test |
| AS 2119 | Method for Sampling and Cutting
Specimens of Textile Floor Cover-
ings for Testing |

3 PRINCIPLE. A methenamine tablet is placed centrally on the use-surface of a conditioned test specimen of textile floor covering and is ignited. The distance of the effects of ignition from the location of the tablet is measured.

4 APPLICATION OF TEST TO ASSESSMENT OF FIRE HAZARD. This standard test method describes the burning behaviour of textile floor coverings under the conditions specified herein. No single test can give a full assessment of fire hazard under all conditions of fire that may apply. This standard therefore is not intended to provide information on the fire behaviour of textile floor coverings in respect to situations involving other ignition conditions, such as the influence of impressed radiant heat loads. To assist in this function, the committee responsible for the preparation of this standard is also giving consideration to fire propagation under impressed radiant heat conditions.

5 REAGENT.

Methenamine tablets—tablets of hexamethylene-tetramine. The tablets shall be compressed into

the form of a flat disc of diameter 6 mm having a mass of 150 mg.

NOTE: The tablets must be stored in a desiccator to prevent moisture absorption which causes cracking and splitting when ignited unless individually sealed in packages. The tablets should be handled with tweezers to avoid contamination and prevent irritation of the skin.

6 APPARATUS. The following apparatus is required:

- (a) A test chamber consisting of an open-top and open-bottom box made of approximately 6 mm thick compressed mineral fibreboard with inside dimensions of 300 mm × 300 mm × 300 mm.

The product of k , ρ and c of the compressed mineral fibreboard shall be not greater than 600 at 60°C,

where

k = thermal conductivity, in watts per metre kelvin (W/m.K)

ρ = density, in kilograms per cubic metre (kg/m³)

c = specific heat capacity, in joules per kilogram kelvin (J/kg.K)

The box shall be located on a non-combustible base located on a horizontal plane in such a manner that air gaps are excluded. The sides of the box shall be fastened together with screws or brackets and a mirror 300 mm × 425 mm mounted at 45 degrees above the box to permit observation of the test specimens. The front panel may slide and be counterweighted for easy access and convenience. The test chamber is illustrated in Fig. 1.

- (b) A test location such as a draught-free laboratory fume chamber of at least 1 m³ or a hood and flue located so as to entrain the products of combustion discharged from the test specimen under

