Australian Standard™

AS 4878.7

Methods of test for coated fabrics

Method 7: Determination of tear resistance

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee TX-005, Coated Fabrics as an Australian Standard.

The Standard is identical with and has been reproduced from ISO 4674:1977, *Fabrics coated with rubber or plastics—Determination of tear resistance*.

The objective of this Standard is to provide manufacturers and testing bodies with suitable methods for determination of tear resistance or rubber- or plastics-coated fabrics.

As this Standard is reproduced from an International Standard, the following applies:

(a) In the source text, 'this International Standard' should read 'this Australian Standard'.

(b) A full point should be substituted for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian Standards, as follows:

Reference to International Standard		*Australian Standard*
ISO		AS
2231	Rubber- or plastics-coated fabrics—Standard atmospheres for conditioning and testing	—

Standards Australia

NOTES

AUSTRALIAN STANDARD

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies three methods for the determination of the tear resistance of fabrics coated with rubber or plastics.

The methods are applicable to coated fabrics in which the constituents of the backing fabric perpendicular to the direction of tearing are broken; they are not applicable to fabrics with cellular backing or a meshed cloth backing in which the tear pattern is complex, and are only of limited value for coated fabrics employing knitted-base fabrics. The methods A1, A2 and B do not give the same results.

2 REFERENCE

ISO 2231, *Fabrics coated with rubber or plastics — Standard atmospheres for conditioning and testing.*

3 PRINCIPLE

In methods A1 and A2, force is applied to extend steadily a cut in the test piece. In method B, a sudden force is applied to the test piece with a cut in it.

4 SAMPLING

The samples shall be cut in such a way as to be as representative as possible of the whole piece being examined. The test pieces shall be selected in such a way that their edges are situated at a minimum distance of 0,10 m from the longitudinal edge; they shall not be selected less than 1 m from the ends of the piece.

For the test for tearing in the transverse direction (i.e. tearing longitudinal threads), the test pieces shall be selected so that their width is parallel to the longitudinal edge of the coated fabric.

For the test for tearing in the longitudinal direction (i.e. tearing transverse threads), the test pieces shall be selected so that their width is perpendicular to the longitudinal edge of the coated fabric.

5 NUMBER OF TEST PIECES

For each series of tests, ten test pieces shall be selected, five in the longitudinal direction and five in the transverse direction of the sample piece.

The same thread of cloth in the direction to be tested shall not appear in more than one test piece.

6 TIME-LAPSE BETWEEN MANUFACTURE AND TESTING

For all test purposes, the minimum time between manufacture and testing shall be 16 h.

For non-product tests, the maximum time between manufacture and testing shall be 4 weeks and for evaluations intended to be comparable, the tests, as far as possible, should be carried out after the same time-interval.

For product tests, whenever possible, the time between manufacture and testing should not exceed 3 months. In other cases, tests shall be made within 2 months of the date of receipt of the product by the customer.

7 CONDITIONING OF TEST PIECES AND TEST CONDITIONS

The test pieces shall be conditioned in atmosphere "A" of ISO 2231.

NOTE – Atmosphere "A" is defined by two of its characteristics, and three sets of conditions are permitted :

temperature 20 ± 2 °C and relative humidity 65 ± 5 %;

temperature 23 ± 2 °C and relative humidity 50 ± 5 %;

for tropical countries only :

temperature 27 ± 2 °C and relative humidity 65 ± 5 %.

If it is required to determine the properties of wet material, the test pieces shall be immersed in distilled water containing 1 % (*V/V*) ethanol for 24 h at one of the standard laboratory temperatures. The test pieces shall be cut prior to this immersion. Immediately after removal of the test pieces from the water, they shall be blotted between two sheets of absorbent paper and tested at once.

8 TEST METHODS

8.1 Method A — Constant rate of tear

8.1.1 *Apparatus for methods A1 and A2*

The test machine shall be power-driven and shall be equipped with a suitable dynamometer; it shall be capable of maintaining, during the test, a substantially constant rate of traverse within the range 1,7 ± 0,17 mm/s or 5,0 ± 0,2 mm/s and of recording the force autographically.