
British Standard

Testing coated fabrics

Part 14. Method 16. Methods for determination of colour fastness to wet and dry rubbing and determination of resistance to printwear

Essais des supports textiles revêtus

Partie 14. Méthode 16. Méthodes de détermination de la solidité des teintures au frottement à sec ou humide et détermination de la résistance à l'usure par impression

Prüfung beschichteter Gewebe

Teil 14. Verfahren 16. Bestimmung der Naß- und Trockenreibfestigkeit und Bestimmung der Reibfestigkeit von bedruckten beschichteten Geweben

IMPORTANT NOTE. It is recommended that this Part be read in conjunction with the information in Part 0 'Foreword and general introduction'.

Foreword

The methods of test described in this Part of BS 3424 are for determining the colour fastness of coated fabrics to wet and dry rubbing and for determining the resistance to wear of print superimposed on the surface of the coating polymer.

In each case the apparatus is similar to that described in section X12 of BS 1006 : 1978 and method 310B* of BS 2782 : 1970. The differences between the apparatus, materials and methods described in this Part of BS 3424 and in BS 1006 and BS 2782 are as follows.

In section X12 of BS 1006 : 1978, the frequency of operation of the apparatus is 1 Hz (i.e. 2 strokes per second; one outward and one return stroke) whereas the methods in this Part of BS 3424 and in method 310B of BS 2782 : 1970 employ a frequency of 0.25 Hz (i.e. 0.5 strokes per second).

In section X12 of BS 1006 : 1978 and in method 310B of BS 2782 : 1970, the downward force operating on the abrading finger is 9 N whereas the methods in this Part of BS 3424 employ a downward force on the abrading finger of 9.8 N in the case of colour fastness testing and 14.71 N in the case of printwear testing. The number of strokes to end point in section X12 of BS 1006 : 1978 is 20 whereas the number of strokes to end point in this Part of BS 3424 is 40 in the case of colour fastness testing and 1000 in the case of printwear testing.

The number of strokes to end point using method 310B of BS 2782 : 1970 is indeterminate.

In addition, the surface area of the base of the brass peg described in method 310B of BS 2782 : 1970 is considerably less than the 16 mm diameter specified in this Part of BS 3424 and in section X12 of BS 1006 : 1978.

These differences in apparatus and end point are considered necessary due to the need to operate the apparatus at a speed, namely 0.25 Hz and in such a manner, i.e. at 9.8 N downward force over a larger cross section of area, as will tend to reduce or eliminate frictional heating of thermoplastic coating polymers, thus avoiding the introduction of uncontrolled testing parameters likely to influence the test results.

The abradant described in this Part of BS 3424 is one which has been chosen, following interlaboratory trials, as providing test results compatible with, and only slightly more severe than the abradant described in method 310B of BS 2782 : 1970 and BS 5790 : Parts 1 and 2, providing a double thickness of abradant cloth is mounted over the peg. In addition, the abradant described in this Part of BS 3424 has the advantage of being commercially available in the long term and complies with section X12 of BS 1006 : 1978 and ISO 105 : 1978, published by the International Organization for Standardization (ISO). The abradant described in method 310B of BS 2782 : 1970 and BS 5790 is no longer available commercially.

*BS 2782, method 310B is currently under review and it is expected that the revision of this method of BS 2782, will, when completed, be renumbered as Method 826A.

This Part supersedes method 16 of BS 3424 : 1973.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

1 Scope

This Part of BS 3424 describes a method for determining the colour fastness of coated fabrics to wet and dry rubbing and a method for determining the resistance to printwear of coated fabrics having a line print superimposed over the coating polymer.

NOTE. The titles of the publications referred to in this standard are listed on the inside back page.

2 Method 16A. Determination of colour fastness to rubbing

2.1 Apparatus

NOTE. For information on the availability of the test arrangement (2.1.1) and abrasant (2.1.2), apply to Enquiry Section (London), British Standards Institution, enclosing a stamped addressed envelope for reply.

2.1.1 Test arrangement (see figure 1), consisting of a platform carrying a smooth rigid plate (e.g. a piece of plate glass), B, and clamps, C and D, to hold the specimen securely in position over the rigid plate. A peg (see figure 2), A, having a circular base of 16 mm diameter is fixed to an arm which shall be pivoted at a distance of approximately 230 mm from the centre of the peg. The peg shall be fashioned from a material that is hard and unyielding and does not contaminate the abrasant, particularly when the abrasant is wet. Weight pieces can be

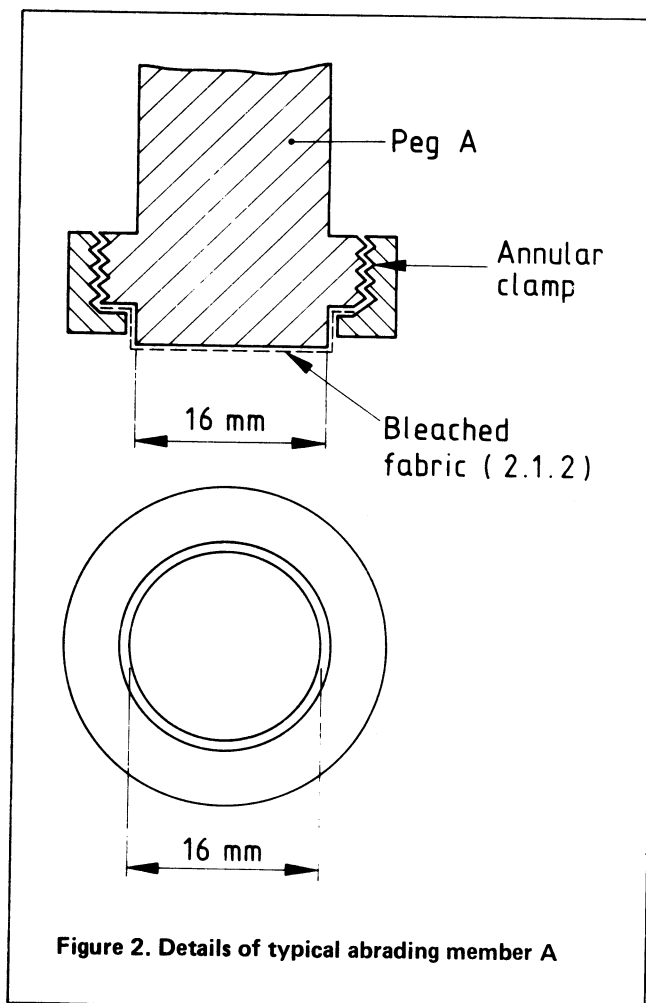


Figure 2. Details of typical abrading member A

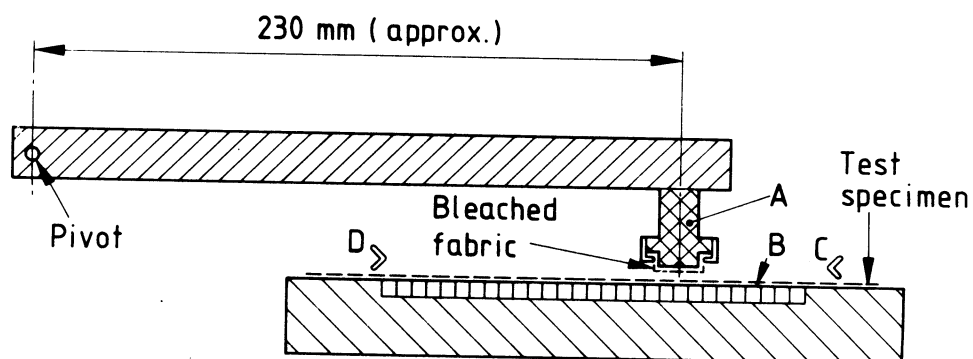


Figure 1. Test arrangement for determining fastness of colour to rubbing and printwear