RESISTANCE TO PILLING

Application

This method is used to assess the resistance of textile fabrics to pilling. Pilling is the formation of bunches or balls of tangled fibers on the surface of the fabric.

Apparatus Required

Brush and Sponge Pilling Tester - Model no. CS-53

Note: This apparatus provides means for holding a test specimen while it is uniformly brushed with a board incorporating rows of bristles and then with another board which incorporates dry cellulose sponges.

Velcro tape Hook 70 is another abrasive material to test the resistance of textile fabrics to piling/fraying.

Brush and Sponge Maintenance

Source: Standard Scientific Supply Company
601 W. Market Street
Bethlehem, PA 18018-5208 USA
Phone: (610) 868-2500
Fax: (610) 868-4925

During day to day operation of the tester the brushes and sponges must be examined by the procedure detailed in the Manufacturer's installation instructions. Brush and sponge surfaces must be kept as flat and clean as possible at all times. Occasionally it will be necessary to replace sponges that have been sawed to the minimum sponge thickness of 12 mm.

Velcro Tape Hook 70

Source: Velcro Inc.
www.velcro.com

The equipment should be standardized using a test fabric specified by the responsible Materials Engineering activity.

A. Replacing Sponges

1. Remove the softener from new sponges by soaking them in hot running tap water and squeezing out the excess water. Repeat this five times and then allow the sponges to dry thoroughly.

Date	Action	Revisions
2004 11 23	Revised	Rev Apparatus Required para, Brush & Sponge para; added 5 to Procedure para; and pictures added to page 3 M. Dumitrescu
2001 09 11	Revised	Editorial – no technical change A. Cockman
1996 10 30		

Printed copies are uncontrolled
Copyright © 2004, Ford Global Technologies, LLC
Licensee=/, User=,
Not for Resale,

Copyright Ford Motor Company
Provided by IHS Markit under license with FORD
No reproduction or networking permitted without license from IHS
Full document details: FORD FLTM BN 108-03 2004
AVA Documents
Document Sharing Hub

2. Saw one side flat and fasten this flat side to the sponge board with rubber cement. Place the sponges on the sponge board so that the center of each sponge rotates about an imaginary line drawn between the two positioning pins over which the specimen holders are placed.

3. Resurface the sponge as detailed by the Manufacturer of the pilling equipment.

B. **Replacing Brushes**

After prolonged use the shape of the surface presented by the bristle rows of the brush may change. The bristles may form a narrow peak in the center of the row, allowing the sample to ride on this peak, which reduces the effectiveness of the brush. This can be detected by a downward trend of the pilling propensity of the standard fabric, as well as visually. Install new brushes when this occurs as detailed in the Manufacturer's instructions.

Before new brushes are used they must be sanded to smooth out any irregular bristle tips.

1. Mount flint paper (mesh No. 320 paper) on each specimen holder (for sanding the brushes) just as though it were to be pill tested.

2. Place the brush board in position.

3. Place each specimen holder in position so that the sandpaper makes firm contact with the brush surface.

4. Operate the tester for at least 24 hours to smooth the bristle tips.

Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5% relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Procedure

1. Cut a 250 mm x 250 mm size test specimen from the sample fabric with the cut parallel to the weft or warp yarns.

2. To avoid formation of folds or wrinkles and/or the slipping of the specimen during the test, it shall be held in the specimen holder under adequate tension.

3. Abrade the test specimen for 10 minutes with the brush board.

4. Abrade the test specimen for a further 10 minutes with the board incorporating dry sponges.

5. Abrade the test specimen for 5 seconds (5 cycles) with Velcro tape Hook 70 applied over the sponge as it is shown on the attached pictures.

Documents
Document Sharing Hub

Copyright Ford Motor Company
Provided by IHS Markit under license with FORD
No reproduction or networking permitted without license from IHS
Printed copies are uncontrolled
Full document details: FORD FLTM BN 108-03 2004
Copyright © 2004, Ford Global Technologies, LLC
Licensee=/, User=,
Not for Resale,