



FORD LABORATORY TEST METHOD

EU-BN 55-1

TEST FOR OIL AND WATER REPELLENCE PROPERTIES OF SEATING FABRICS

Application

This procedure is used to measure the resistance of the surface of a seating fabric to wetting by oils of different surface tensions, and by distilled water.

Apparatus and Materials Required

Automatic Pipettes

Spray Test Apparatus (see Figure 2)

Note: Spray test apparatus, fabricated in steel and meeting the requirements of this test method available from:

Source: J H Heal & Co. Ltd.
Richmond Works
Lake View
Woodside
Halifax
Yorks

Chart (as per AATCC Method 22-1967)

Source: American Assoc. of Textile Chemists and Colourists
P.O. Box 12215
Research Triangle Park
N.C. 27709 U.S.A.

Materials Required

Eight Standard Hydrocarbons (according to Table 1)

Source: BDH Chemicals Ltd.
Poole
Dorset

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.



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Procedure

Method A - Assessment of Oil Repellency Characteristics

1. Cut a test specimen approximately 200 x 200 mm and condition it for a minimum of 24 hours at 20 +/- 2 C and 50 +/- 5 % relative humidity.
2. Place the test specimen on a smooth horizontal surface.
3. Beginning with the lowest numbered test liquid (AATCC Oil Repellency Rating 1), carefully place a small drop (approx 5 mm in dia and 0.05 mL in volume) with the dropping bottle pipette on the specimen in two different locations. Observe the drops for 30 seconds from approx 45 deg angle.
4. If no penetration or wetting of the fabric at the liquid/fabric interface, and no wicking around the drop occurs, place a drop of the next higher numbered test liquid on the fabric and again observe for 30 seconds.
5. Continue this procedure until one of the test liquids shows wetting of the fabric, under or around the drop deposited, within 30 seconds.

Note: Many fabrics will show complete resistance to wetting by a given test liquid, followed by immediate penetration by the next higher numbered test liquid. In this instance the end point, and the oil repellency rating are obvious.

However, some fabrics will show progressive wetting under several liquids as evidenced by a particular darkening of the fabric at the liquid/fabric interface.

For such fabrics the point of failure is considered to be the test liquid which exhibits complete darkening of the interface within 30 seconds.

In case of dark shades, wetting can be detected by loss of 'sparkle' within the drop deposited.

Evaluation

The oil repellency rating is the highest numbered test liquid which will not wet the fabric within the test period of 30 seconds.

Method B - Assessment of Water Repellent Characteristics

1. Cut a specimen from the fabric under test 205 x 205 mm in size.
2. Mount the specimen securely, finished side up, in the embroidery hoops of the apparatus for spray test, with sufficient tension to ensure a uniformly smooth surface.

Automotive Safety and Engineering Standards Office

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