Ford Motor Company

FORD LABORATORY TEST METHOD BN 156-01

ELECTRICAL RESISTANCE TEST FOR TEXTILES

Application

This procedure is used to determine the electrostatic properties of automotive seating fabrics by measuring their surface resistance. A maximum value for surface resistance is also specified. Seating fabrics complying with this requirement are unlikely to transmit sufficient electrostatic charge to cause discomfort to a vehicle user, when exiting from the vehicle.

Apparatus Required

1. An electrical resistance meter with the following characteristics:

   Measuring Range: 10^2 M Ohm to 10^6 M Ohm

   Accuracy: +/- 5 % over measuring range < 10^4 M Ohm

   +/- 10 % over measuring range > 10^4 M Ohm

   Measuring Voltage: 100 V

2. Electrode as in Figure 1. For further information see DIN 54 345, para 3.1.

   Source (Items 1 & 2) Fetronic GmbH
   Ursulaweg 91
   4018 Langenfeld
   Germany

3. A climatic cabinet capable of maintaining an atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity.

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.

Date	Action	Revisions
2001 09 24	Revised	Editorial – no technical change A. Cockman
1994 08 18		

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Procedure

1. Cut five specimens, 120 x 120 mm in size, from across the width and along the length of the sample.

   Note: Specimens should not be touched by bare hands; gloves should be worn or tweezers used.

2. Before each series of measurements, the insulation of the complete test apparatus shall be checked by measuring the surface resistance without a sample. Stray electrical charges can affect test results and must be avoided.

   Note: The base plate should be wiped with acetone to remove deposits that may conduct an electric current.

3. The base plate (1) with insulating layer (2) uppermost is placed on the cylinder (6). The test specimen is placed on the insulating layer (2) and the ring electrode (3 and 4) is placed concentrically on the test specimen (see Figure 1).

   Electrical circuit is shown in Figure 2.

4. The measuring voltage is applied and surface resistance measured after 60 +/- 2 seconds.

Evaluation

Report the average value of the five individual measurements in M Ohm. The surface resistance shall not exceed 5 x 10^4 M Ohm.

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.

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