Ford Motor Company

FORD LABORATORY TEST METHOD BN 106-01

DETERMINATION OF WEIGHT PER UNIT AREA AND DENSITY OF TRIM MATERIALS

Application

This method is used to determine the weight per unit area (g/m^2) of textiles and artificial leathers, and the density (kg/m^3) of padding materials.

Apparatus Required

Analytical Balance
Accuracy +/- 0.1 mg

Specimen Cutter
Size 100 +/- 0.1 mm x 100 +/- 0.1 mm
or circular to give 100 cm^2

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

A. Determination of Weight per Unit Area

1. Cut three specimens using the Specimen Cutter. Specimens must be taken from areas approximately 50 mm from both edges and along the center line of the roll of material offered for test.

2. Weigh the specimens separately and record the individual weights.

Date	Action	Revisions
2001 09 11	Revised	Editorial – no technical change A. Cockman
1995 09 29		

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Evaluation

Calculate the weight per unit area as follows:

$$\text{Weight per unit area } (g/m^2) = \frac{\text{Weight}}{\text{Area}}$$

Record in the test report the lowest of the three specimens measured.

Each individual weight must meet the minimum requirement stated in the relevant Material Specification. If one particular specimen does not meet the minimum requirement then two more samples must be cut from the same width position at 300 mm intervals along the roll. The average value of all three specimens at this width position is then stated in the test report. This average must meet the minimum requirement stated in the relevant Material Specification.

B. Net Density

Using specimens previously weighed under Method A:

1. Determine thickness of material as described in FLTM BN 114-01 using platen weight as prescribed by the relevant Engineering Specification.

Evaluation

Calculate the density as follows:

$$\text{Density } (kg/m^3) = \frac{W}{V}$$

Where W = weight of specimen in kg
V = volume of specimen in cubic meters

The average value of the three specimens should be stated in the test report.

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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