Ford Motor Company

FORD LABORATORY TEST METHOD BO 160-03

DETERMINATION OF THE FOAMING PROPERTIES OF POLYURETHANE FOAM COMPONENTS

Application

This method is used to determine the foam formation of polyols and isocyanates into polyurethane foam parts in a complete form. The polyol is tested with isocyanate and the isocyanate with the polyol compound.

Apparatus Required

Standard Foam Form
Fitted with lock and key and conditioned with the following form and dimension (see Figure 1).

Laboratory Stirrer
With a mixing rotor of approximately 90 mm diameter.
Speed of rotation: approximately 1380/minute.

Temperature Controlled Water Bath
Capable of maintaining 23 °C +/- 1 °C to condition the components.

Analytical Balance

Ventilated Fume Cabinet

Plastic Pail
With a content of 5 L.

Disposable Gloves

Protection Glasses

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 04 10	Revised	Editorial – no technical change A. Cockman
1996 12 13		

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Procedure

1. Condition and coat the foam mold to specification requirements with the released agent used in production.

2. Pour the components A + B at a temperature of 23 °C +/- 1 °C into a plastic pail of known weight. (Weight according to specification requirements.)

3. Immediately after adding component B, stir the mixture for the specified time and fill the open, heated foam mold with the mixture.

   Note: Weight and mix the components under a ventilated fume cabinet. The operator must wear protection glasses and disposable gloves. The test equipment must be cleaned immediately after use with perchlorethylene.

4. Close the mold immediately after filling. Remove the molded part after 6 minutes and rise the pores within 2 minutes with a mechanical roller as used in production.

5. Then weigh the part. It must meet the weight requirements specified in the material specification, otherwise carry out a new test.

6. Test the indentation hardness after 1 h conditioning at 23 °C +/- 2 °C and 50 % +/- 5 % relative humidity (test method according to ISO 2439, Method A; test area according to Figure 1).

7. The indentation hardness must be in line with the specification requirements.

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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