

DETERMINATION OF WEIGHT OF COMPONENTS IN
POLYETHYLENE-BACKED CARPET**Application**

This procedure is used to determine the weight of the various components of polyethylene-backed automotive carpeting materials used as floor coverings, luggage liners, trim panels and other applications. This extraction procedure will remove polyethylene, wax and other materials which are soluble in toluene or xylene.

Apparatus Required**Beakers**

One - 2000 mL
Two - 1000 mL

Watch Glass

Appropriate size to cover 2000 mL beaker.

Hot Plate

Flameless hot plate - capable of maintaining the solvent at a moderate boil.

Drying Ovens

Mechanical Convection - capable of being maintained at 38 +/- 2 °C and 102 +/- 2 °C.

Screen

U. S. No. 50 mesh sieve

Desiccator**Analytical Balance**

Accurate to +/- 0.0001 g.

Cutting Die

152.4 x 152.4 mm

Date	Action	Revisions
2001 01 30	Revised	Editorial – no technical change A. Cockman
2000 04 14		Editorial – no technical change A. Cockman
1994 09 13		

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Materials Required

Filter Paper

Whatman No. 42 or equivalent

Absorbent Paper Towel

Xylene or Toluene

Technical grade. CAUTION: Low flash point. Refer to Fire Control Bulletin No. 18.

Desiccant

Drierte or equivalent.

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. Die cut three test specimens across the width of the carpet. Each sample should be cut at least 250 mm from the edge of the roll.
2. Clean and dry the beakers and place in an oven for 15 minutes at 102 °C.
3. Remove the beakers from the oven and place in a desiccator. Allow to cool to 23 +/- 2 °C.
4. Weigh each beaker to the nearest milligram (1000 mL beaker = W_1 and W_1^* ; 2000 mL beaker = W_2).
5. Place a test specimen in the 2000 mL beaker and record weight (W_3).

$$W_3 - W_2 = \text{Weight of test specimen } (W_4)$$

6. Add approximately 600 mL of xylene or toluene to the 2000 mL beaker containing the sample, and cover with a watch glass.
7. Place the beaker on a hot plate and adjust the hot plate to maintain moderate boiling of the solvent.
8. Boil for 10 minutes, then rotate the sample and boil for at least another 10 minutes until all of the polyethylene visually appears to be in solution.