

MAR RESISTANCE DETERMINATION FOR AUTOMOTIVE COATINGS**Application**

This procedure is used to determine the mar resistance of automotive coatings.

Equipment Required**Manual or Mechanically Driven Mar Tester**

The Mar Tester has a cylindrical acrylic, brass, or wooden finger, 16 mm in diameter, which has a flat, smooth end and slightly rounded edges to prevent abrading. The cylindrical finger shall exert a force of 9 N on the test surface and have a stroke of approximately 100 mm. The Mar Tester may be either manually or mechanically driven.

Source:	Atlas Electric Devices Co. 4114 N. Ravenswood Avenue Chicago, IL 60613 U.S.A.	Wentworth Instruments Ltd. North Green, Datchet Slough, SL3 9JH England
	Firma Walter Thoma 7888 Rheinfelden/Baden Wehrstrabe 6, Germany	

Polishing Paper

281Q 3M "WETORDRY PRODUCTION POLISHING PAPER" (2-micron grade)

Source: Microfinishing Systems
Industrial Abrasives Division/3M
251-2A 3M Center
St. Paul, MN 55144

Felt Cloth

14-9956-000 Felt, Green, 50 mm x 50 mm

Source: Atlas Electric Devices Co.
4114 N. Ravenswood Avenue
Chicago, IL 60613

Date	Action	Revisions
2001 03 20	Revised	Editorial – no technical change A. Cockman
1996 10 02		

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Glossmeter

Micro-Gloss 20 degree Glossmeter, Model GB4532 (or equivalent)

Source: Byk Gardiner
2435 Linden Lane
Silver Spring, MD 20910 U.S.A.

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.

Panel Preparation

Panels are prepared according to the requirements of the topcoat material specification being tested unless otherwise directed. For uniformity, black is the preferred color for test purposes, but if a different color is used, any comparisons should be made using that color.

Procedure

Part A

- . Cut a 50 mm x 50 mm square of 3M Polishing Paper and place it over a similar size square of felt with the abrasive side of the polishing paper facing outward.
- . Mount the two squares over the finger of the mar tester, keeping the felt between the finger and the polishing paper.
- . Use a ring clamp to secure the two squares on the finger.

Part B

- . Measure the 20 degree gloss of the coated surface to be tested.
- . Subject the test surface to ten (10) double strokes (or as required by the material specification) of the mar tester. The test surface must be secured and can not move during test. If a manually driven mar tester is used, the speed shall approximate that of a mechanically driven mar tester (10 double strokes per 15 seconds).
- . Measure the 20 degree gloss of the abraded area in a direction parallel to the rubbing stroke of the mar tester, and record the lowest reading.