



Determination of Deformation of Molded Roof Lining

1 Scope

Note: Nothing in this standard supercedes applicable laws and regulations.

Note: In the event of conflict between the English and domestic language, the English language shall take precedence.

1.1 Purpose. The purpose of this test is to determine the deformation of the molded roof lining resulting from the vacuum which arises at maximum vehicle speed.

1.2 Foreword. When driving a passenger car, particularly when drop windows and/or the sunroof are open, a vacuum builds up in the passenger compartment which causes the molded roof lining to be drawn away from the roof panel. The extent to which the molded roof lining sags varies depending upon its stiffness.

1.3 Applicability. This test applies to molded linings for roofs both with and without a Sunroof (SR).

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

None

2.2 GM Standards/Specifications.

None

2.3 Additional References.

None

3 Resources

3.1 Facilities. Since the deformation of the molded roof lining is determined during a test drive at a constant maximum speed, the test shall be performed on the circular track of a GM testing ground.

3.1.1 Calibration. The test facilities and equipment shall be in good working order and shall have a valid calibration label.

3.1.2 Alternatives. Alternative test facilities and equipment may also be used. However, all measuring variables as specified in this standard shall be determined correctly with respect to their physical definition.

3.2 Equipment.

3.2.1 Measuring probe, length 60 mm minimum with zero mark.

3.2.2 Steel ruler or caliper gage.

3.2.3 Foam block, approximately 5 mm × 5 mm × 2 mm (L × W × H), which can be pushed onto the measuring probe.

3.3 Test Vehicle/Test Piece.

3.3.1 Test Vehicle. The vehicle selected for testing shall be the model with the fastest final speed (most powerful engine) of its series.

Note: If the model series includes notchback, hatchback and station wagon types, the fastest version of each type shall be selected.

3.3.2 Molded Roof Lining.

3.3.2.1 If a roof damper shall be installed, it shall comply with the release or planned release. The same applies to damper fastening elements.

3.3.2.2 The molded roof lining and its fitting shall comply with the release or planned release.

3.3.2.3. Pillar trim, beading, roof frame covers and parts which are installed in the molded roof lining shall be fitted in accordance with the release.

3.3.2.4 If parts are unavailable (e.g., in the case of prototypes), then these shall be simulated by means of adhesive tape.

3.4 Test Time. Not applicable.

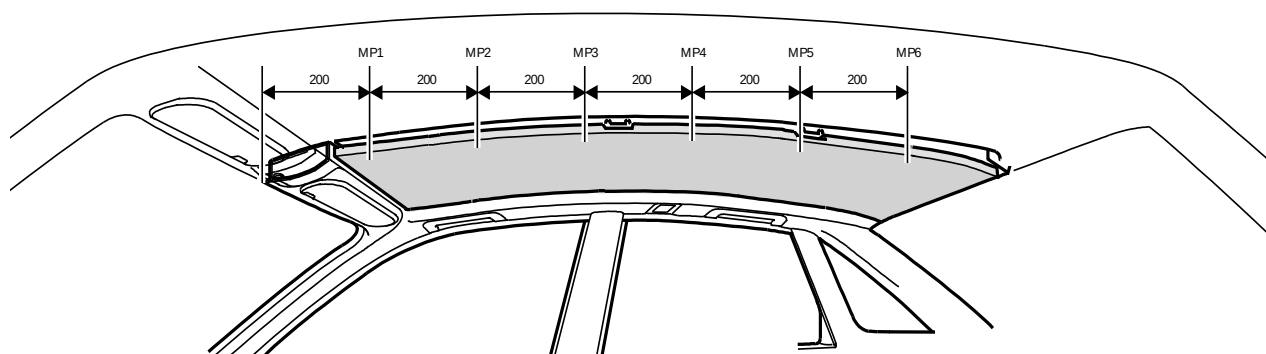
3.5 Test Required Information. Not applicable.

3.6 Personnel/Skills. Not applicable.

4 Procedure

4.1 Preparation. The Measuring Points (MP) shall be marked on the molded roof lining as shown in Figure 1.

Figure 1: Illustration of Measuring Points



4.2 Conditions. The test shall be performed by means of a test drive at maximum speed.

Note: The drop windows, tailgate and sunroof (if applicable) shall be positioned as shown in Table 1.

Table 1: Position of Windows etc., For Vehicles With or Without a Sunroof (SR)

Positions	Without SR	With SR
Drop Window, Front	Wide Open	Closed
Drop Window	Wide Open	Closed
Tailgate	Closed	Closed
Heating/Ventilation	Closed	Closed
Speed	V_{maximum}	V_{maximum}
Sunroof	-	Ventilating Position

4.2.1 Environmental Conditions. Not applicable.

4.2.2 Test Conditions. Deviations from the requirements of this standard shall have been agreed upon. Such requirements shall be specified on component drawings, test certificates, reports, etc.

4.3 Instructions.

4.3.1 Reference Measurement. A reference measurement shall be taken with the vehicle at a standstill. For this purpose, the center of the foam block shall be stuck onto the measuring probe. The probe shall then be held perpendicular to the molded roof lining and pushed through it until it touches the roof panel or roof