Test Procedure for Determination of the Drip Performance of Hot Melt Wax

1 Introduction

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. This test procedure determines the high temperature drip resistance of hot melt waxes and other similar materials.

1.2 Applicability. Applicable to waxed frames and other wax coated chassis components.

1.3 Remarks. None.

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.

- Component Technical Specification (CTS)
- Material Specifications
- Part Drawings
- Subsystem Technical Specification (SSTS)

3 Resources

3.1 Facilities.

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 Racks capable of supporting panels in a vertical position.

3.2.2 Cardboard of suitable size to collect drips of material.

3.2.3 Thermocouple.

3.2.4 S-shaped wires 150 mm long from the top to bottom that are capable of supporting the panels in the oven.

3.3 Test Vehicle/Test Piece. Test panels of hot rolled steel 75 mm × 150 mm × 2 mm to 3 mm pickled and oiled and alkaline cleaned. Two (2) 6 mm holes are drilled in the center of the 75 mm sides of test specimen, 9 mm inboard on center so the specimen can be easily held in a vertical position (see Figure 1).

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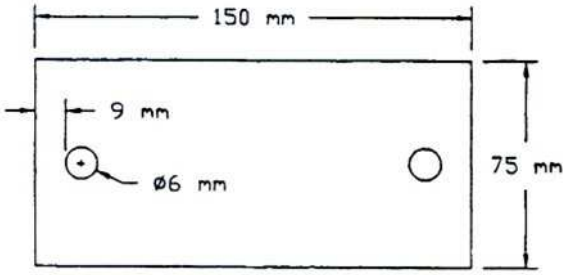
Figure 1: Panel Schematic



3.4 Test Time.

Calendar time:	1 d to 2 d
Test time:	7.5 h
Coordination time:	0.25 h

3.5 Test Required Information. Not applicable.

3.6 Personnel/Skills. Trained to run test in laboratory.

4 Procedure

4.1 Preparation.

4.1.1 The test panels are to be coated completely with 960 µm minimum and 1060 µm maximum of the test material with the test panel in a vertical position.

4.1.2 The test panel shall be placed in the inverted vertical position and hung with the 150 mm wire in a vertical position inside the air-circulating oven.

4.1.3 Place the cardboard inside the oven underneath the vertical test panels to record drips.

4.2 Conditions.

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 Low Temperature (LT) Wax.

4.3.1.1 Close the oven door and turn on the oven with set temperature of 77 °C.

4.3.1.2 Open the oven door and inspect and record for drips 1.5 h after the oven has reached temperature.

4.3.1.3 Close the oven door and turn on the oven with a set temperature of 82 °C for 1.25 h.

4.3.1.4 Open the oven door and inspect and record any drips.

4.3.1.5 Close the oven door and turn on the oven with a set temperature of 88 °C for 1.25 h.

4.3.1.6 Open the oven door and inspect and record any drips.

4.3.1.7 Close the oven door and turn on the oven with a set temperature of 93 °C for 1.25 h.

4.3.1.8 Open the oven door and inspect and record any drips.

4.3.1.9 The intent of the test is to have the test panels at test temperature for 1 h. This can be verified by the thermocouple to the test panel.

4.3.1.10 At the option of the tester, the test can be extended for 1.25 h and 6 °C incremental test temperatures.

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