

INTERNATIONAL TRUCK AND ENGINE CORPORATION		
CEMS (CORPORATE ENGINEERING MATERIAL SPECIFICATION)		NUMBER: CEMS DT-11
TITLE: Heat Stability of Thermoplastic Trim Materials		CURRENT ISSUE DATE: October 2001
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1.0 SCOPE

This method measures the thermal stability of thermoplastics by measuring the sag of the test panels exposed to elevated temperatures.

2.0 APPARATUS

2.1 Oven (capable of 60°C(140°F) to 130° C(260°F)

2.2 Calipers or other measuring device.

2.3 Fixture for holding a test panel horizontally or a part in “Truck Position” that would provide an accessible reference point or points for measuring the sag from the center of a panel or from various points along a part.

3.0 MATERIAL

3.1 3” x 9” test panel or interior part

3.2 Permanent ink marker

4.0 PROCEDURE

4.1 Place the panel or part in an appropriate fixture

4.2 Mark the center of the test panel or points of measurement along a part with a permanent marker.

4.3 Measure and record the distance from a reference point(s) on the fixture to either the center of a test panel or from points marked along an interior part (reference points must be directly above or below the point(s) of measurement).

4.4 Record the measurement or measurements as the initial distance.

4.5 Place the panel or part, attached to its respective fixture, inside an oven preset to the specified temperature for one hour.

4.6 Remove the fixtured panel or part and let cool to room temperature.

4.7 Measure and record the distances from the reference point(s) on a fixture to the center of the panel or points of measurement along a part as the final distance.

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4.8 Determine the sag of the panel or part by determining the difference between the initial distance and the final distance.

4.9 Record the sag of the panel or sag at various points of a part.

4.10 Repeat the above steps at various oven temperatures (10 to 20°F increments), with a new panel or part as required, to provide a graph curve representing the short-term temperature deflection.

5.0 REPORT

5.1 Report the measured deflection value(s) and include the graph or curve.

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