

DETERMINATION OF WRINKLE FORMING TENDENCY OF TRIM COVERING MATERIALS

Application

This test procedure is used to determine the extent of wrinkle formation (expressed as depth of sag) of trim covering materials e.g. HF-weldable sidewall coverings and headlining materials under differing environmental conditions.

Test Equipment Required

1. A stabilized wood frame on which the material is stapled (see drawing).
2. A low weight Sag-Depth Measuring Gauge equipped with spherical shaped measuring foot (3 mm dia) and a 0.4 N preload for measuring the depth of the sag with +/- 0.1 mm accuracy rating (see drawing).
3. An environmental exposure chamber capable of maintaining 38 +/- 2 °C and 5 +/- 1 °C temperature at a relative humidity of 98 +/- 2 %. The inner shelf dimensions must be a minimum of 500 x 500 mm.
4. Laboratory convection oven capable of maintaining a temperature of 80 +/-2 °C and with inner shelf dimensions of at least 500 x 500 mm.

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.

Date	Action	Revisions
2001 09 17	Revised	Editorial – no technical change A. Cockman
1994 02 28		

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Procedure

1. Condition the material before test as specified above. Note: Cutting out and stretching of the actual test specimens must be done under the same conditions.

2. Place frame top side down, on the outer face side of the test material, and mark off the outside dimensions.

Cut out the test specimen as indicated by the markings.

Mark a guide line for alignment purposes in the centre of the test specimen in the longitudinal and transverse fabric directions, to ensure a uniform stretching over the frame.

3. Align the test specimen on the frame, face side of material down, and staple on to the sides, in the longitudinal and transverse fabric directions. Stretch the opposite sides until the initial sag reaches 1.0 mm to 3.0 mm. Attention must be paid to stretch the material evenly and without wrinkles.

4. Measure the initial sag as follows:

Place the depth gauge across the centre of the frame, using the edges of the frame for support (see drawing). Lower the measuring foot until it contacts the material under test.

If initial sag is too great or too low, remove staples, and restretch the test specimen until specified initial sag values are obtained. After the depth of sag is measured, mark off the position of the depth gauge on the sides of the material, and remove the depth gauge.

5. **Storage Conditions**

Method A

16 h at 5 +/- 1 °C and 98 +/- 2 % relative humidity.

Method B

16 h at 38 +/- 2 °C and 98 +/- 2 % relative humidity.

Method C

4 h at 80 +/- 2 °C.