



ADHESIVE, PRESSURE SENSITIVE, STRUCTURAL BONDING

WSS-M2G389-A

1. SCOPE

The material defined by this specification is a pressure sensitive adhesive film which is heat cured to provide a structural bond. The tape exhibits excellent shelf life at room temperature and is fully cured using an autoclave process.

2. APPLICATION

This specification was released originally for material used for bonding the interior rear-view mirror button to the windshield glass. The adhesive film is applied to the sintered stainless mirror button.

3. REQUIREMENTS

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.2 UNCURED FILM PROPERTIES

3.2.1	Color	Black
3.2.2	Thickness (ASTM D1000)	Report, mm
	The thickness tolerance for any one supplier shall be +/- 0.08 mm, based on the recorded thickness of the originally approved product and listed on the approved source list (ASL).	
3.2.3	Adhesion (ASTM D1000, method B, flat stainless steel panel, 20 min dwell, 90 peel, 12.7 mm width)	1.0 min
3.2.4	Volatiles, Gravimetric (weight loss after 4 h, 120 °C)	2 % max

3.3 CURED TAPE PHYSICAL PROPERTIES

3.3.1	Color	Gray
3.3.2	Breaking Strength (ASTM D 1000, 12.7 mm width)	6,000 kPa, min
3.3.3	Elongation at Break (ASTM D1000, 12.7 mm width)	35%, min
3.3.4	Modulus (ASTM D882, Die C)	
3.3.4.1	At 10 % elongation	3,000 kPa, min
3.3.4.2	At 20 % elongation	4,000 kPa, min

Date	Action	Revisions	Rev 02
2014 05 16	Revised	Revised paragraph thickness requirement	J. Crist, NA
2002 12 09	Revised	Para 3.0 inserted; Para 3.1, 3.2, 3.3, 3.12, 3.13 & 4 deleted	
1996 06 13	Activated		



3.3.5	Shear Strength (SAE J1523, 50.8 mm/min, E-coated steel panel, 25.4 mm wide, 12.7 mm overlap, 23 +/- 2 °C)	12,000 kPa, min
3.3.6	Flammability (ISO 3795/SAE J 369)	100 mm/min max
3.3.7	Odor (SAE J1351)	Rating 2 max

3.4 HEAT AGED

(ASTM D1000, 150 +/- 50 air changes/h, 1000 h at 90 +/- 2 °C)

3.4.1	Shear Strength (SAE J1523, 50.8 mm/min, E-coated steel panel, 25.4 mm wide, 12.7 mm overlap, 23 +/- 2 °C)	12,000 min
3.4.2	Visual Evaluation Pass (Shall exhibit no surface cracks, discoloration or tackiness after conditioning)	

3.5 HUMIDITY AGED

(ASTM D1000, 21 days at 50 +/- 2 °C and 95 - 100 % relative humidity)

3.5.1	Shear Strength (SAE J1523, 50.8 mm/min, E-coated steel panel, 25.4 mm wide, 12.7 mm overlap, 23 +/- 2 °C)	10,000 min
3.5.2	Visual Evaluation Pass (Shall exhibit no surface cracks, discoloration or tackiness after conditioning)	

3.6 FINISHED PARTS

The following requirements shall be assessed on samples of the mirror button bonded to the current production safety glass.

Test samples shall be prepared in a manner that represents the production process. The preparation procedure shall be documented and provided with the test data.

The test samples shall consist of a mirror button bonded to the center of a 100 mm x 100 mm section of current production safety glass.

Separate specimens are required for each test (5 samples per test unless otherwise specified in the test method).

The test specimens as received and after exposure to each of the test requirements defined below shall conform to the following:

- There shall be no loss of adhesion, visible delamination, staining or discoloration after each of the exposure cycles.
- There shall be no separation of the adhesive tape from the glass or mirror button.
- Any attempt to remove the mirror button from the glass shall result in at least a 50 % cohesive failure of the adhesive.

