



THERMOPLASTIC ELASTOMER, STYRENE POLYOLEFIN BLOCK COPOLYMER (TES), 70 DUROMETER A HARDNESS, EXTERIOR APPLICATIONS

WSS-M2D505-A3

1. SCOPE

The materials defined by this specification are U.V. stabilized thermoplastic styrene-ethylene/butylene-styrene copolymer elastomers. The materials can be processed by conventional thermoplastic molding techniques such as injection and/or extrusion molding.

2. APPLICATION

This specification was released originally for material used for window encapsulation seals, door belt line seals, roof profile seals and windshield trim seals.

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 DYNAMIC MECHANICAL ANALYSIS (ASTM D 4065)

Ford Motor Company, at its option, may establish shear modulus/damping vs. temperature curves plotted for - 50 to + 170 °C temperature range for material/parts supplied to this specification. The shear modulus and damping curves established for initial approval shall constitute the reference standard and shall be kept on file at the designated material laboratory. All samples shall produce shear modulus and damping curves that correspond to the reference standard when tested under the same conditions.

3.3 MATERIAL TESTING

3.3.1 Preparation of Test Specimens

Whenever possible, all test specimens shall be die-cut from the finished parts. When not feasible, specimens cut from molded test sheets manufactured from the same material and with equivalent cure to the molded parts are recommended. The test sheets shall have the following dimensions:

150 x 150 mm, min x 2.0 +/- 0.2 mm

Date	Action	Revisions
2003 12 15	Activated	



Documents

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**3.4 ORIGINAL PROPERTIES**

3.4.1	Density, +/- 0.05 g/cm ³ (ISO 1183, Method A)	1.14
3.4.2	Hardness, Durometer A (ISO 868, 15 second dwell)	70 +/- 5
3.4.3	Tensile Strength, MPa, min (ISO 37/type 1/500 mm/min)	
	I. Parallel to Flow	4.2
	II. Perpendicular to Flow	4.9
3.4.3.1	Elongation at Break, %, min (Test method according to para 3.4.3)	
	I. Parallel to Flow	300
	II. Perpendicular to Flow	450
3.4.3.2	Modulus at 100% Elongation, MPa, min (Test method according to para 3.4.3)	
	I. Parallel to Flow	3.2
	II. Perpendicular to Flow	2.0
3.4.4	Tear Strength, kN/m, min (ISO 34, specimen angular type)	
3.4.4.1	Parallel to Flow	22
3.4.4.2	Perpendicular to Flow	26
3.4.5	Brittleness Point, max (ISO 812, Type B specimen/ ASTM D 2137, Method A)	- 40 °C
3.4.6	Ozone Resistance, max (FLTM BP 101-01, Procedure A)	0 Rating
3.4.7	Compression Set, %, max (ISO 815, 22 h at 23 +/- 2 °C)	22