



THERMOPLASTIC POLYOLEFIN ELASTOMER (TEO) POST INDUSTRIAL REPROCESSED, MINERAL FILLED MOLDING COMPOUND, EXTERIOR

WSB-M4D713-A3

1. SCOPE

The material defined by this specification is a reprocessed, post industrial TEO, mineral filled, rigid thermoplastic polyolefin elastomer injection molding compound. This material is UV stabilized and color pigmented.

2. APPLICATION

This specification was released originally for material used for exterior air dam applications.

3. REQUIREMENTS

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

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

3.1.1 All requirements of this specification, identified by symbol (s), shall be met with data representing 3 sigma values.

3.4 MOLDING COMPOUND

(s) 3.4.1 Melt Flow Rate 7 - 11 g/10 minutes
(ISO 1133/ASTM D 1238,
230 °C, 2.16 kg)

(s) 3.4.2 Filler Content 5 - 9%
(ISO 3451/1, Method A, talc filler,
3 h at 650 +/- 25 °C, test portion
1 to 2 g)

3.5 MOLDED TEST SPECIMEN

3.5.1 Preparation of Test Specimens

Unless otherwise specified all tests shall be carried out on injection molded one-end gated test specimens.

The following dimensions are required:

- A. 150 min x 10 x 4.0 +/- 0.2 mm (Tensile Bar, ISO 3167)
- B. 120 x 10 x 4.0 +/- 0.2 mm

Specimens with shorter dimensions shall be cut from the center portion of the test specimen A and/or B. The specimens shall be prepared according to ISO 294. No annealing allowed.

Date	Action	Revisions
2005 11 30	Revised	Inserted 3.0; Deleted 3.1, 3.2, 3.3, 3.8, 3.9 & 4; Corrected numbering 3.5.7
1995 01 15	Released	NB00110043054420



	3.5.2	Density (ISO 1183, Method A)	0.90 - 0.94 g/cm ³
(s)	3.5.3	Tensile Strength at Yield, min (ISO R 527, 150 minimum x 10 x 4.0 +/- 0.2 mm specimen, 50 mm/min test speed)	16 MPa
(s)	3.5.4	Flexural Modulus, min (ISO 178, 80 x 10 x 4.0 +/- 0.2 mm specimen, 2 mm/min test speed, 64 mm support span)	645 MPa
	3.5.5	Shear Modulus at 23 °C (ASTM D 4065, forced constant amplitude, fixed frequency of 1 Hz +/- 15%, strain level below 1%. Specimen approx. 60 x 10 x 4.0 +/- 0.2 mm cut from the center of specimen A. Specimen length between clamps 35-40 mm. Soak time at each temperature interval - 3 minutes minimum)	280 - 460 MPa

Additionally, a Shear Modulus vs. Temperature curve shall be plotted for -50 to +150 °C temperature range, at 5 °C minimum intervals. The plotted curve must be within tolerance range shown on page 5.

(s)	3.5.6	Impact Strength, Izod, min (ISO 180/1A, 80 x 10 x 4.0 +/- 0.2 mm specimen, 10 specimens for each test)	
	3.5.6.1	At 23 +/- 2 °C	17 kJ/m ²
	3.5.6.2	At -40 +/- 2 °C	3 kJ/m ²
	3.5.6.3	At 0 +/- 2 °C	16 kJ/m ²

The test specimens must be conditioned for minimum of 6 h at the above specified temperature prior to impact test. Low temperature testing shall be done within the cold box.

(s)	3.5.7	Heat Deflection Temperature, min (ISO 75, 120 x 10 x 4.0 +/- 0.2 mm specimen, edgewise, 0.32 +/- 0.01 mm deflection)	
	3.5.7.1	At 1.80 MPa	46 °C
	3.5.7.2	At 0.45 MPa	60 °C