



THERMOPLASTIC POLYOLEFIN ELASTOMER (TEO) MOLDING COMPOUND, PAINTED APPLICATIONS

WSB-M4D734-A

1. SCOPE

The material defined by this specification is a rigid thermoplastic polyolefin elastomer (TEO) injection molding compound. This material is non-UV stabilized black and must be painted to achieve acceptable color match and weatherability.

2. APPLICATION

This specification was released originally for material used for the driver air bag cover.

3. REQUIREMENTS

Material specification requirements are to be used for initial qualification of materials.

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).

3.4 MOLDING COMPOUND

3.4.1 Melt Flow Rate 1.6 – 3.3 g/10 minutes
(ISO 1133/ASTM D 1238,
230 °C, 2.16 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.

3.5.2 Density 0.88 - 0.92 g/cm³
(ISO 1183, Method A/ASTM D 792,
Method A1)

Date	Action	Revisions
2005 12 22	Revised	Inserted 3.0; Deleted 3.1, 3.2, 3.3, 3.8 & 4
2001 07 06	Revised	Revised 3.5.9.1 & updated L. Soreide; M. Masserant
1990 05 22	Released	NB00110043054025 L. McIlrath; L. A. Graham



3.5.3	Hardness, Durometer D (ISO 868/ASTM D 2240, 15 s dwell)	35 - 46
3.5.4	Tensile Strength at Max Load, min (ISO R 527/ASTM D 638M, 150 min x 10 x 4.0 +/- 0.2 mm specimen, 50 mm/minute test speed. See para 5.3 for additional data)	9.0 MPa
3.5.4.1	Elongation at Break, min (Test Method according to para 3.5.4)	325%
3.5.5	Flexural Modulus (ISO 178/ASTM D 790M, Method I, Procedure A, 80 x 10 x 4.0 +/- 0.2 mm specimen, 2 mm/minute test speed, 64 mm support span, the radius of the loading nose 5.0 +/- 0.1 mm and of the supports 2.0 +/- 0.2 mm. See 5.4 for additional data).	275 - 500 MPa
3.5.6	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 min).	80 - 125 MPa
Additionally, a Shear Modulus vs. Temperature curve shall be plotted for -50 to +125 °C temperature range, at 5 °C minimum intervals. The plotted curve must be within tolerance range shown on page 5.		
3.5.7	Impact Strength, Izod, min (ISO 180, Method A/ASTM D 256, Method A, 80 x 10 x 4.0 +/- 0.2 mm specimen, 10 specimens for each test)	
3.5.7.1	At 23 +/- 2 °C	No break
3.5.7.2	At -40 +/- 2 °C	No break
3.5.7.3	At -20 +/- 2 °C	No break

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, if not possible, test can be
conducted outside, but within 5 s.