

**POLYETHERETHERKETONE (PEEK), SELF-EXTINGUISHING (SE)
MOLDING COMPOUND****WSK-M4D838-A****1. SCOPE**

The material defined by this specification is a polyetheretherketone molding compound. This material is self-extinguishing (SE) without flame retardant additives.

2. APPLICATION

This specification was released originally for material used for cable clips in engine compartment.

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 MOLDED TEST SPECIMEN**3.4.1 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.

3.4.2 Density 1.29 - 1.33 g/cm³
(ISO 1183, Method A)

(s) 3.4.3 Tensile Strength at Yield, min 80 MPa
(ISO R 527, 150 minimum x
10 x 4.0 +/- 0.2 mm specimen,
50 mm/min test speed)

Date	Action	Revisions
2006 04 13	Revised	Inserted 3.0; Deleted 3.1, 3.2, 3.3, 3.7, 3.8 & 4; Corrected numbering 3.4
1995 05 02	Revised	EP00E10460378000
1992 01 06	Released	EP00E10176259000



Documents
K. Gerhards
Document Sharing Hub



(s) 3.4.4 Flexural Modulus, min 3.0 GPa
(ISO 178, 80 x 10 x 4.0 +/- 0.2 mm specimen, 2 mm/min 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)

3.4.5 Shear Modulus at 23 °C 1150 - 1650 MPa
(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).

Additionally, a Shear Modulus versus Temperature curve shall be plotted for -50 to +300 °C temperature range, at 5 °C minimum intervals. The plotted curve must be within tolerance range shown on page 4.

(s) 3.4.6 Impact Strength, Izod, min
(ISO 180 Method A, 80 x 10 x 4.0 +/- 0.2 mm specimen, 10 specimens for each test)

3.4.6.1 At 23 +/- 2 °C 4.5 kJ/m²

3.4.6.2 At -40 +/- 1 °C 4.5 kJ/m²

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.

(s) 3.4.7 Heat Deflection Temperature, min 145 °C
(ISO 75, 120 x 10 x 4.0 +/- 0.2 mm specimen, edgewise, 0.32 +/- 0.01 mm deflection, at 1.80 MPa)

3.4.8 Heat Aging Performance
(ISO 188, 150 +/- 50 air changes/h, 1000 h at 200 +/- 2 °C. Unaged property values shall be determined at the time of the aged properties determination)

3.4.8.1 Tensile Strength at Yield Change +/- 20%
(Test Method per para 3.4.3)

3.4.8.2 Impact Strength, Izod Change +/- 20%
(Test Method per para 3.4.6.1, specimens to be notched before heat aging)

