



POLYPHENYLENE ETHER + POLYAMIDE BLEND (PPE+PA) MOLDING COMPOUND, HIGH IMPACT AND HIGHER FLOW

WSS-M4D891-A3

1. SCOPE

The material defined by this specification is a thermoplastic molding compound based on polyphenylene ether and polyamide blend.

2. APPLICATION

This specification was released originally for material used for fuel filler doors.

Notice: This material absorbs and retains moisture. Part design and tolerances must accommodate changes in part dimensions and physical properties due to moisture absorption or loss in the service/assembly environment.

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 MOLDING COMPOUND

3.2.1 Melt Volume Rate 5.0 - 10.0 g/10 minutes
(ISO 1133, 280 °C, 2.16 kg)

The material shall be dried for 30 minutes minimum at 95 °C in a mechanical convection oven immediately preceding the test.

3.3 MOLDED TEST SPECIMEN

3.3.1 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	Rev 03
2011 10 06	Activated	Re-Activate	C. Mracna, NA
2011 03 01	N Status	No replacement named	7. Pan, APA
2002 09 30	Revised		M. A. Myers





3.3.2	Density (ISO 1183, Method A)	1.02 - 1.18 g/cm ³
3.3.3	Tensile Strength at Yield (ISO R 527, 150 minimum x 10 x 4.0 +/- 0.2 mm specimen, 50 mm/min test speed)	46 MPa min
3.3.3.1	Elongation at Yield (Test Method according to para 3.3.3)	4.7% min
3.3.4	Flexural Modulus (ISO 178, 80 x 10 x 4.0 +/- 0.2 mm specimen, 2 mm/min test speed, 64 mm support span)	1.5 GPa min
3.3.5	Impact Strength, Izod (ISO 180/1A, 80 x 10 x 4.0 +/- 0.2 mm specimen, 10 specimens for each test)	
3.3.5.1	At 23 +/- 2 °C	36.0 kJ/m ² min
3.3.5.2	At -40 +/- 1 °C	18.0 kJ/m ² min
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.		
3.3.6	Heat Deflection Temperature (ISO 75, 120 x 10 x 4.0 +/- 0.2 mm specimen, flatwise, 0.32 +/- 0.01 mm deflection)	
3.3.6.1	At 1.80 MPa	86 °C min
3.3.6.2	At 0.45 MPa	172 °C min
All specimens dry as molded. If not tested immediately after molding, specimens must be stored in a sealed, moisture-proof container filled with silica gel.		
3.3.7	Vicat Softening Temperature (ISO 306, 10 x 10 x 4.0 +/- 0.2 mm specimens. Bath - silicone oil, temperature raise 50 +/- 5 °C/h. Dial gage reset to '0' after addition of 5 kg weight. At 50 N load)	172 °C min

All specimens dry as molded. If not tested immediately after molding, specimens must be stored in a sealed, moisture-proof container filled with silica gel.