

**POLYAMIDE (PA) 66, HEAT STABILIZED, 30% GLASS
FIBER REINFORCED MOLDING COMPOUND, INTERIOR****WSK-M4D642-A2****1. SCOPE**

The material defined by this specification is a heat stabilized glass fiber reinforced polyamide 66 molding compound UV stabilized for interior use.

2. APPLICATION

This specification was released originally for material used for interior functional automotive applications.

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

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).

3.3 CONDITIONING AND TEST CONDITIONS

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5% relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

All test materials immediately after processing have to be sealed in containers that are impermeable to water vapor. If the moisture content exceeds 0.2%, condition the material for a minimum of 16 h at 40 - 50 °C at a reduced pressure below 133 Pa.

Conduct tests in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5% relative humidity. Individual specimens shall not be removed from closed containers until immediately before testing.

3.4 MOLDING COMPOUND

3.4.1	Glass Fiber Content (ISO 3451/4, test temperature 600 +/- 25 °C, test portion 1 g)	27.5 - 32.5%
3.4.2	Melt Temperature (ISO 1218, Method B/ASTM D 789)	250 - 265 °C

Date	Action	Revisions
2009 09 22	Revised	See Summary of Revisions J. Souza, SA
2006 12 06	Revised	Inserted 3.8.3, Revised 3.8, 3.8.1, 3.8.2 C. Leslie
1990 05 02	Released	EP00E01031535000 M. Siewert



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 (ISO 1183, Method A/ASTM D 792, Method A1)	1.34 - 1.40 g/cm ³
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3.5.3	Tensile Strength at Max Load, min (ISO R 527/ASTM D 638M, 150 x 10 x 4.0 +/- 0.2 mm specimen, 5 mm/minute test speed)	150 MPa
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3.5.4	Flexural Modulus, min (ISO 178/ASTM D 790M, Method I, Procedure A, 80 x 10 x 4.0 +/- 0.2 mm specimen, 64 mm support span)	7.5 GPa
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3.5.6	Impact Strength, Izod, min (ISO 180, Method A/ASTM D 256, Method A, 63.5 x 10 x 4.0 +/- 0.2 mm specimen, 10 specimens for each test)	
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3.5.6.1	At 23 +/- 2 °C	6 kJ/m ²
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3.5.6.2	At -40 +/- 2 °C	5 kJ/m ²
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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.

3.5.7	Heat Deflection Temperature, min (ISO 75/ASTM D 648, 120 x 10 x 4.0 +/- 0.2 mm specimen)	
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3.5.7.1	At 1.82 MPa	235 °C
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3.5.7.2	At 0.45 MPa	245 °C
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3.5.8	Heat Aging Performance (ISO 188/ASTM D 573, 150 +/- 50 air changes/h, 1000 h at 140 +/- 2 °C. After heat aging test specimens are to be conditioned in a desiccator for 3 - 5 h at 23 +/- 2 °C. Unaged property values shall be determined at the time of the aged properties determination)	
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