



POLYAMIDE 6 + POLYPROPYLENE BLEND (PA6 + PP), 8% GLASS FIBER REINFORCED MOLDING COMPOUND

WSS-M4D976-A

1. SCOPE

The material defined by this specification is an 8% glass fiber reinforced polyamide 6 + polypropylene blend molding compound.

2. APPLICATION

This specification was released originally for material used for functional fastener plugs/body.

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).

Deviating for this all test values indicated in this specification are based on material and specimens with moisture content not exceeding 0.2% (test according to ISO 960, Method B).

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 reduced pressure below 133 Pa.

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

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

3.2 MOLDING COMPOUND

(s)	3.2.1	Glass Fiber Content (ISO 3451-4, test temperature 600 +/- 25 °C, test portion 1g)	6.5 - 9.5%
	3.2.2	Melt Temperature, min (ISO 3146, Method C, 10 °C/min heating rate)	165 °C

Date	Action	Revisions
2003 10 15	Activated	



Documents

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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 minimum x 10 x 4.0 +/- 0.2 mm (ISO 3167, Type 1A)
- B. 60 x 60 x 2.0 +/- 0.1 mm (ISO/DIS 294-3)
- C. 355 x 100 x 1.0 +/- 0.1 mm (ISO 3795)

Test specimen A shall be molded using molding conditions defined in ISO 1874-2. Specimens with shorter dimensions shall be cut from the center of the specimen A. No annealing allowed.

	3.3.2	Density (ISO 1183, Method A)	1.07 - 1.1 g/cm ³
(s)	3.3.3	Tensile Strength at Yield, min (ISO 527-1 & ISO 527-2, 150 minimum x 10 x 4.0 +/- 0.2 mm specimen, test speed: 5 mm/minute)	60 MPa
(s)	3.3.3.1	Elongation at Break, min (Test Method according to para 3.3.4)	3%
(s)	3.3.4	Flexural Modulus, min (ISO 178, 80 x 10 x 4.0 +/- 0.2 mm specimen [use center section of specimen A], 2 mm/min test speed, 64 mm support span)	2.8 GPa
	3.3.5	Shear Modulus at 23 °C (ASTM D 5279, forced constant amplitude, fixed frequency of 1Hz +/- 15%, strain level below 1%. Specimen length between clamps 35 - 40 mm. Soak time at each temperature interval - 3 minutes minimum)	0.9 - 1.3 Gpa
(s)	3.3.6	Impact Strength, Izod, min (ISO 180/1A, 80 x 10 x 4.0 +/- 0.2 mm specimen [use center section of specimen A], 10 specimens for each test)	