

**POLYETHYLENE TEREPHTHALATE (PET) 30% GLASS
FIBER REINFORCED POST CONSUMER RECYCLATE
MOLDING COMPOUND****WSS-M4D726-A3****1. SCOPE**

The material defined by this specification is a 30% glass fiber reinforced molding compound based on polyethylene terephthalate (PET) and containing a minimum of 25% and up to 100% post consumer recycle.

2. APPLICATION

This specification was released originally for material used for wiper system components.

3. REQUIREMENTS**3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS**

Material suppliers and part producer 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 MOLDING COMPOUND

(s) 3.4.1 Glass Fiber Content 28 - 32%
(ISO 3451-2, Method A)

The material shall be dried for 4 h minimum at 130 °C in a mechanical convection oven immediately preceding the test.

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 (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 294. Specimens with shorter dimensions shall be cut from the center of the specimen A. No annealing allowed.

Date	Action	Revisions
2010 02 16	Revised	Revised Item 5.6 MATERIAL IDENTIFICATION FOR RECYCLING PURPOSES (recycling code was printed wrong) M. Souza
2005 12 12	Revised	Inserted 3.0; Deleted 3.1, 3.2, 3.3, 3.8, 3.9 & 4
1997 05 28	Activated	

**Documents**

M. Myers

Document Sharing Hub



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|-----|-------|--|-------------------------------|
| | 3.5.2 | Density
(ISO 1183, Method A) | 1.53 - 1.63 g/cm ³ |
| (s) | 3.5.3 | Tensile Strength at Break, min
(ISO 527-1 & ISO 527-2, 150 minimum x 10
x 4.0 +/- 0.2 mm specimen, test speed:
5 mm/minute) | 110 MPa |
| (s) | 3.5.4 | 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) | 8.0 GPa |
| | 3.5.5 | Shear Modulus at 23 °C
(ASTM D 5279, forced constant amplitude,
fixed frequency of 1 Hz +/- 15%, strain
level below 1%. Specimen approximately
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). | 1.57 - 2.61 GPa |

Additionally, a shear modulus versus temperature curve shall be plotted for -50 to +250 °C temperature range, at 5 °C minimum intervals. The plotted curve must be within tolerance range granted on the original material approval and it shall constitute the reference standard for materials supplied to this specification and shall be kept on file at the designated material laboratory and be available on request.

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| (s) | 3.5.6 | 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) | |
| | 3.5.6.1 | At 23 +/- 2 °C | 6.0 kJ/m ² |
| | 3.5.6.2 | At -25 +/- 1 °C | 3.1 kJ/m ² |
| | 3.5.6.3 | At -40 +/- 2 °C | 1.6 kJ/m ² |

The test specimen must be conditioned for minimum of 6 hours at the above specified temperature prior to impact test. Low temperature testing shall be done within the cold chamber, if not possible, test may be conducted outside, but within 5 seconds.

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| (s) | 3.5.7 | Heat Deflection Temperature, min
(ISO 75-1 & ISO 75-2, 80 x 10 x 4.0
+/- 0.2 mm specimen [use center
section of specimen A], flatwise,
0.34 +/- 0.1 mm deflection. At 1.80 MPa) | 225 °C |
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