



**POLYBUTYLENE TEREPHTHALATE +
ACRYLONITRILE STYRENE ACRYLATE BLEND
(PBT+ASA), 10% GLASS FIBER REINFORCED
MOLDING COMPOUND, GENERAL PURPOSE**

WSK-M4D894-A1

**POLYBUTYLENE TEREPHTHALATE + ACRYLONITRILE
STYRENE ACRYLATE BLEND (PBT+ASA), 10%
GLASS FIBER REINFORCED MOLDING COMPOUND, INTERIOR**

WSK-M4D894-A2

**POLYBUTYLENE TEREPHTHALATE + ACRYLONITRILE
STYRENE ACRYLATE BLEND (PBT+ASA), 10%
GLASS FIBER REINFORCED MOLDING COMPOUND, EXTERIOR**

WSK-M4D894-A3

1. SCOPE

The materials defined by these specifications are 10% glass fiber reinforced blends of polybutylene terephthalate and acrylonitrile-styrene-acrylate (PBT+ASA). WSK-M4D894-A2 and WSK-M4D894-A3 materials are able to fulfill weathering requirements necessary for interior and exterior applications, respectively.

2. APPLICATION

These specifications were released originally for materials used for: WSK-M4D894-A1 - various functional general purpose applications such as nonvisible covers, WSK-M4D894-A2 - various functional interior applications such as covers exposed to sunlight, WSK-M4D894-A3 - various functional exterior applications such as body covers.

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 MOLDING COMPOUND

(s) 3.4.1 Melt Flow Rate 8 - 20 g/10 minutes
(ISO 1133, 260 °C, 2.16 kg)

The material shall be dried for 2 h minimum at 125 °C in a mechanical convection oven immediately preceding the test.

3.4.2 Glass Fiber Content 8 - 12%
(ISO 3451/2, at 750 +/- 25 °C,
test portion 2.5 - 3.0 g)

Date	Action	Revisions
2006 06 26	Revised	Inserted 3.0; Deleted 3.1, 3.2, 3.3, 3.11, 3.9-Suppliers Resp. & 4
1995 04 03	Activated	EP00E10460370000

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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)	1.29 - 1.34 g/cm ³
(s)	3.5.3	Tensile Strength at Max Load, min (ISO R 527, 150 x 10 x 4.0 +/- 0.2 mm specimen, 5 mm/minute test speed)	65 MPa
(s)	3.5.4	Flexural Modulus, min (ISO 178, 80 x 10 x 4.0 +/- 0.2 mm specimen, 2 mm/min test speed, 64 mm support span)	3.7 GPa
	3.5.5	Shear Modulus at 23 °C (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)	0.92 - 1.55 GPa
	Additionally, a Shear Modulus versus Temperature curve shall be plotted for -50 to +210 °C temperature range, at 5 °C minimum intervals. The plotted curve must be within tolerance range shown on page 6.		
(s)	3.5.6	Impact Strength, Izod, min (ISO 180/1A, 80 x 10 x 4.0 +/- 0.2 mm specimen, 10 specimens for each test)	
	3.5.6.1	At 23 +/- 2 °C	3.0 kJ/m ²
	3.5.6.2	At -40 +/- 2 °C	2.0 kJ/m ²

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.

