



Product Data Sheet & General Processing Conditions

EMI 161 Polypropylene (PP) Stainless Steel Fiber Electrically Conductive EMI/RFI/ESD Protection

PROPERTIES & AVERAGE VALUES OF INJECTION MOLDED SPECIMENS

PERMANENCE	English	SI Metric	ASTM TEST
Primary Additive	10 %	10 %	
Specific Gravity	0.99	0.99	D 792
Molding Shrinkage			
1/8 in (3.2 mm) section	0.0090 - 0.0140 in/in	0.90 - 1.40 %	D 955
Water Absorption, 24 hrs @ 23°C	0.010 %	0.010 %	D 570

MECHANICAL

Impact Strength, Izod			
notched 1/8 in (3.2 mm) section	5.0 ft-lbs/in	267 J/m	D 256
unnotched 1/8 in (3.2 mm) section	20.0 ft-lbs/in	1068 J/m	D 4812
Tensile Strength	3000 psi	21 MPa	D 638
Tensile Elongation	> 10.0 %	> 10.0 %	D 638
Tensile Modulus	0.21 x 10 ⁶ psi	1448 MPa	D 638
Flexural Strength	4000 psi	28 MPa	D 790
Flexural Modulus	0.18 x 10 ⁶ psi	1241 MPa	D 790

ELECTRICAL

Volume Resistivity	1E-1 - 1E1 ohm.cm	1E-1 - 1E1 ohm.cm	D 257
Surface Resistivity	1E2 - 1E4 ohm/sq	1E2 - 1E4 ohm/sq	D 257
Surface Resistance	1E1 - 1E3 ohm	1E1 - 1E3 ohm	ESD STM11.11
Static Decay			
MIL-PRF-81705D, 5kV to 50 V, 12% RH	< 2.00 s	< 2.00 s	FTMS101C 4046.1

THERMAL

Ignition Resistance*			
Flammability**	HB @ 1/16 in	HB @ 1.5 mm	D 635

EMI

Shielding Effectiveness @ 2 mm thickness	53 dB @ 300 MHz	53 dB @ 300 MHz	D 4935
Shielding Effectiveness @ 2 mm thickness	47 dB @ 500 MHz	47 dB @ 500 MHz	D 4935
Shielding Effectiveness @ 2 mm thickness	46 dB @ 700 MHz	46 dB @ 700 MHz	D 4935
Shielding Effectiveness @ 2 mm thickness	46 dB @ 1000 MHz	46 dB @ 1000 MHz	D 4935
Shielding Effectiveness @ 2 mm thickness	46 dB @ 1300 MHz	46 dB @ 1300 MHz	D 4935
Shielding Effectiveness @ 2 mm thickness	48 dB @ 1500 MHz	48 dB @ 1500 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	58 dB @ 300 MHz	58 dB @ 300 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	61 dB @ 500 MHz	61 dB @ 500 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	63 dB @ 700 MHz	63 dB @ 700 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	64 dB @ 1000 MHz	64 dB @ 1000 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	68 dB @ 1300 MHz	68 dB @ 1300 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	70 dB @ 1500 MHz	70 dB @ 1500 MHz	D 4935

PROPERTY NOTES

Data herein is typical and not to be construed as specifications.

Unless otherwise specified, all data listed is for natural or black colored materials. Pigments can affect properties.

* This rating is not intended to reflect hazards of this or any other material under actual fire conditions.

** Values per RTP Company testing.

GENERAL PROCESSING FOR INJECTION MOLDING

	English	SI Metric
Injection Pressure	10000 - 15000 psi	69 - 103 MPa
Melt Temperature	380 - 430 °F	193 - 221 °C
Mold Temperature	100 - 125 °F	38 - 52 °C
Drying	2 hrs @ 175 °F	2 hrs @ 79 °C
Moisture Content	0.10 %	0.10 %

PROCESSING NOTES

Use a reverse barrel profile. Remove hopper magnets. Allow 4 - 5 shots to properly disperse the conductive fibers. The surface finish should have a silver streaking appearance, not clumps.
Remove hopper magnets.

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This information is intended to be used only as a guideline for designers and processors of modified thermoplastics. Because design and processing is complex, a set solution will not solve all problems. Observation on a "trial and error" basis may be required to achieve desired results.

Data are obtained from specimens molded under carefully controlled conditions from representative samples of the compound described herein. Properties may be materially affected by molding techniques applied and by the size and shape of the item molded. No assurance can be implied that all molded articles will have the same properties as those listed.

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