



**Product Data Sheet &
General Processing Conditions**

**EMI 661
Acrylonitrile Butadiene Styrene
(ABS)
Stainless Steel Fiber
Electrically Conductive
EMI/RFI Shielding**

PROPERTIES & AVERAGE VALUES OF INJECTION MOLDED SPECIMENS

PERMANENCE	English	SI Metric	ASTM TEST
Primary Additive	10 %	10 %	
Specific Gravity	1.15	1.15	D 792
Molding Shrinkage 1/8 in (3.2 mm) section	0.0040 - 0.0060 in/in	0.40 - 0.60 %	D 955

MECHANICAL

Impact Strength, Izod notched 1/8 in (3.2 mm) section	1.2 ft-lbs/in	64 J/m	D 256
unnotched 1/8 in (3.2 mm) section	5.0 ft-lbs/in	267 J/m	D 4812
Tensile Strength	5800 psi	40 MPa	D 638
Tensile Elongation	3.0 - 7.0 %	3.0 - 7.0 %	D 638
Tensile Modulus	0.40 x 10 ⁶ psi	2758 MPa	D 638
Flexural Strength	10500 psi	72 MPa	D 790
Flexural Modulus	0.40 x 10 ⁶ psi	2758 MPa	D 790

ELECTRICAL

Volume Resistivity	< 1E0 ohm.cm	< 1E0 ohm.cm	D 257
Surface Resistivity	< 1E4 ohm/sq	< 1E4 ohm/sq	D 257
Surface Resistance	< 1E3 ohm	< 1E3 ohm	ESD STM11.11
Static Decay MIL-PRF-81705D, 5kV to 50 V, 12% RH	< 0.50 s	< 0.50 s	FTMS101C 4046.1

THERMAL

Coefficient of Linear Thermal Expansion			
Flow Direction	3.4 x 10 ⁻⁵ /°F	6.1 x 10 ⁻⁵ /°C	E 831
Transverse Direction	6.3 x 10 ⁻⁵ /°F	11.3 x 10 ⁻⁵ /°C	E 831

EMI

Shielding Effectiveness @ 2 mm thickness	52 dB @ 300 MHz	52 dB @ 300 MHz	D 4935
Shielding Effectiveness @ 2 mm thickness	54 dB @ 500 MHz	54 dB @ 500 MHz	D 4935
Shielding Effectiveness @ 2 mm thickness	58 dB @ 700 MHz	58 dB @ 700 MHz	D 4935
Shielding Effectiveness @ 2 mm thickness	61 dB @ 1000 MHz	61 dB @ 1000 MHz	D 4935
Shielding Effectiveness @ 2 mm thickness	64 dB @ 1300 MHz	64 dB @ 1300 MHz	D 4935
Shielding Effectiveness @ 2 mm thickness	67 dB @ 1500 MHz	67 dB @ 1500 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	68 dB @ 300 MHz	68 dB @ 300 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	72 dB @ 500 MHz	72 dB @ 500 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	75 dB @ 700 MHz	75 dB @ 700 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	81 dB @ 1000 MHz	81 dB @ 1000 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	84 dB @ 1300 MHz	84 dB @ 1300 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	88 dB @ 1500 MHz	88 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.

GENERAL PROCESSING FOR INJECTION MOLDING

	English	SI Metric
Injection Pressure	10000 - 15000 psi	69 - 103 MPa
Melt Temperature	440 - 480 °F	227 - 249 °C
Mold Temperature	150 - 180 °F	66 - 82 °C
Drying	2 hrs @ 180 °F	2 hrs @ 82 °C
Moisture Content	0.10 %	0.10 %
Dew Point	0 °F	-18 °C

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.

Use a reverse barrel profile. To maximize fiber length, the following injection barrel, screw, and tip designs should be followed. L/D ratio 16/1 - 22/1, Compression ratio 2:1, Flight depth 0.200 in (5 mm) minimum, in feed section, Screw diameter 0.65 - 0.80 in (16.5 - 20 mm) minimum, Compression section length 12 - 13 diameters, Check ring valve assembly - free flow type no restrictions, Nozzle orifice 0.250 in (6 mm) diameter. Feed throat from hopper to machine must have sufficient opening to prevent bridging of long pellet composition.

Desiccant Type Dryer Required.