



**Product Data Sheet &  
General Processing Conditions**

**EMI 333 G FR  
Polycarbonate (PC)  
20% Glass Fiber  
15% Stainless Steel Fiber  
Electrically Conductive  
EMI/RFI/ESD Protection  
Flame Retardant**

**PROPERTIES & AVERAGE VALUES OF INJECTION MOLDED SPECIMENS**

<b>PERMANENCE</b>	<b>English</b>	<b>SI Metric</b>	<b>ASTM TEST</b>
Specific Gravity	1.64	1.64	D 792
Molding Shrinkage 1/8 in (3.2 mm) section	0.0020 - 0.0030 in/in	0.20 - 0.30 %	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	9.8 ft-lbs/in	523 J/m	D 4812
Tensile Strength	15200 psi	105 MPa	D 638
Tensile Elongation	1.0 - 3.0 %	1.0 - 3.0 %	D 638
Tensile Modulus	1.30 x 10 <sup>6</sup> psi	8964 MPa	D 638
Flexural Strength	24800 psi	171 MPa	D 790
Flexural Modulus	1.22 x 10 <sup>6</sup> psi	8412 MPa	D 790

**ELECTRICAL**

Volume Resistivity	< 0 ohm.cm	< 0 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**

Ignition Resistance* Flammability**	V-0 @ 1/16 in	V-0 @ 1.5 mm	D 3801
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**EMI**

Shielding Effectiveness @ 2 mm thickness	70 dB @ 300 MHz	70 dB @ 300 MHz	D 4935
Shielding Effectiveness @ 2 mm thickness	72 dB @ 500 MHz	72 dB @ 500 MHz	D 4935
Shielding Effectiveness @ 2 mm thickness	76 dB @ 700 MHz	76 dB @ 700 MHz	D 4935
Shielding Effectiveness @ 2 mm thickness	80 dB @ 1000 MHz	80 dB @ 1000 MHz	D 4935
Shielding Effectiveness @ 2 mm thickness	84 dB @ 1300 MHz	84 dB @ 1300 MHz	D 4935
Shielding Effectiveness @ 2 mm thickness	85 dB @ 1500 MHz	85 dB @ 1500 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	80 dB @ 300 MHz	80 dB @ 300 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	87 dB @ 500 MHz	87 dB @ 500 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	91 dB @ 700 MHz	91 dB @ 700 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	96 dB @ 1000 MHz	96 dB @ 1000 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	97 dB @ 1300 MHz	97 dB @ 1300 MHz	D 4935
Shielding Effectiveness @ 3 mm thickness	99 dB @ 1500 MHz	99 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	530 - 580 °F	277 - 304 °C
Mold Temperature	160 - 250 °F	71 - 121 °C
Drying	4 hrs @ 250 °F	4 hrs @ 121 °C
Moisture Content	0.02 %	0.02 %
Dew Point	-20 °F	-29 °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.

Remove hopper magnets.

Desiccant Type Dryer Required.

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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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