



**Product Data Sheet &  
General Processing Conditions**

**RTP 681 FR  
Acrylonitrile Butadiene Styrene  
(ABS)  
Carbon Fiber  
Flame Retardant**

The RTP 680 FR Series offers a good combination of physical properties, stiffness, ignition resistance and the ability to be fabricated to close dimensional tolerances.

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

<b>PERMANENCE</b>	<b>English</b>	<b>SI Metric</b>	<b>ASTM TEST</b>
Primary Additive	10 %	10 %	
Specific Gravity	1.24	1.24	D 792
Molding Shrinkage 1/8 in (3.2 mm) section	0.0010 - 0.0020 in/in	0.10 - 0.20 %	D 955
Water Absorption, 24 hrs @ 23°C	0.180 %	0.180 %	D 570

**MECHANICAL**

Impact Strength, Izod notched 1/8 in (3.2 mm) section	1.0 ft-lbs/in	53 J/m	D 256
unnotched 1/8 in (3.2 mm) section	5.0 ft-lbs/in	267 J/m	D 4812
Tensile Strength	15000 psi	103 MPa	D 638
Tensile Elongation	1.0 - 2.0 %	1.0 - 2.0 %	D 638
Tensile Modulus	1.40 x 10 <sup>6</sup> psi	9653 MPa	D 638
Flexural Strength	20000 psi	138 MPa	D 790
Flexural Modulus	1.30 x 10 <sup>6</sup> psi	8964 MPa	D 790

**ELECTRICAL**

Volume Resistivity	< 1E5 ohm.cm	< 1E5 ohm.cm	D 257
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**THERMAL**

Deflection Temperature @ 264 psi (1820 kPa)	220 °F	104 °C	D 648
@ 66 psi (455 kPa)	225 °F	107 °C	D 648
Ignition Resistance* Flammability**	V-0 @ 1/16 in	V-0 @ 1.5 mm	D 3801

**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**

	<b>English</b>	<b>SI Metric</b>
Injection Pressure	10000 - 15000 psi	69 - 103 MPa
Melt Temperature	400 - 460 °F	204 - 238 °C
Mold Temperature	145 - 185 °F	63 - 85 °C
Drying	2 hrs @ 180 °F	2 hrs @ 82 °C
Moisture Content	0.10 %	0.10 %
Dew Point	0 °F	-18 °C

**PROCESSING NOTES**

Desiccant Type Dryer Required.