



**Product Data Sheet &  
General Processing Conditions**

**RTP 685 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	30 %	30 %	
Specific Gravity	1.38	1.38	D 792
Molding Shrinkage			
1/8 in (3.2 mm) section	0.0005 - 0.0015 in/in	0.05 - 0.15 %	D 955
Water Absorption, 24 hrs @ 23°C	0.160 %	0.160 %	D 570
<b>MECHANICAL</b>			
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	18000 psi	124 MPa	D 638
Tensile Elongation	1.5 %	1.5 %	D 638
Tensile Modulus	2.80 x 10 <sup>6</sup> psi	19306 MPa	D 638
Flexural Strength	26000 psi	179 MPa	D 790
Flexural Modulus	2.35 x 10 <sup>6</sup> psi	16203 MPa	D 790
Hardness			
Rockwell, R	110	110	D 785
<b>ELECTRICAL</b>			
Volume Resistivity	< 1E5 ohm.cm	< 1E5 ohm.cm	D 257
<b>THERMAL</b>			
Deflection Temperature			
@ 264 psi (1820 kPa)	230 °F	110 °C	D 648
@ 66 psi (455 kPa)	235 °F	113 °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**

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Desiccant Type Dryer Required.