



**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

PERMANENCE	English	SI Metric	ASTM TEST
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

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	18000 psi	124 MPa	D 638
Tensile Elongation	1.5 %	1.5 %	D 638
Tensile Modulus	2.80 x 10 ⁶ psi	19306 MPa	D 638
Flexural Strength	26000 psi	179 MPa	D 790
Flexural Modulus	2.35 x 10 ⁶ psi	16203 MPa	D 790
Hardness			
Rockwell, R	110	110	D 785

ELECTRICAL

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

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

	English	SI Metric
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.