

Technical Data Sheet

**Polyflam RIPP 490 NAT**



Polypropylene Copolymer

**Product Description**

Flame-retardant PP-Copolymer; halogen free

<b>Processing Method</b>	Injection Molding
<b>Attribute</b>	Copolymer; Halogen Free
<b>Additive</b>	Flame Retardant
<b>Resin ID</b>	PP FR(51)

Typical Properties	Nominal Value	Units	Test Method
<b>Physical</b>			
Melt Volume Flow Rate, (230 °C/2.16 kg)	9.0	cm <sup>3</sup> /10 min	ISO 1133
Density, (Method A)	1.04	g/cm <sup>3</sup>	ISO 1183
<b>Mechanical</b>			
Tensile Stress at Yield, (Type 1A, 50 mm/min)	22.0	MPa	ISO 527-2
Tensile Strain at Yield, (Type 1A, 50 mm/min)	3.0	%	ISO 527-2
Tensile Modulus, (1 mm/min, Type 1A)	1900	MPa	ISO 527-1
<b>Impact</b>			
Charpy Impact Strength - Notched			
(23 °C, Type 1, Edgewise, Notch A)	3.0	kJ/m <sup>2</sup>	ISO 179
(-30 °C, Type 1, Edgewise, Notch A)	3.0	kJ/m <sup>2</sup>	ISO 179
Charpy Impact Strength - Unnotched			
(23 °C, Type 1, Edgewise)	37	kJ/m <sup>2</sup>	ISO 179
(-30 °C, Type 1, Edgewise)	11	kJ/m <sup>2</sup>	ISO 179
<b>Hardness</b>			
Ball Pressure Test, (125 °C)	Pass		IEC 60695-10-2
<b>Thermal</b>			
Vicat Softening Temperature			
(B (50N), 50 °C/h)	72.0	°C	ISO 306
(A (10N), 50 °C/h)	150	°C	ISO 306
Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise)	108	°C	ISO 75-2/B
Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise)	58.0	°C	ISO 75-2/A
RTI Elec			
(1.5 mm)	65.0	°C	UL 746B
(3.0 mm)	65.0	°C	UL 746B

RTI Imp			
(1.5 mm)	65.0	°C	UL 746B
(3.0 mm)	65.0	°C	UL 746B
RTI Str			
(1.5 mm)	65.0	°C	UL 746B
(3.0 mm)	65.0	°C	UL 746B

**Electrical**

Volume Resistivity	>1.0E+13	ohm*m	IEC 62631-3-1
Comparative Tracking Index (CTI)	600	V	IEC 60112
High Amp Arc Ignition			UL 746A
Surface Resistivity	>1.0E+15	ohm	IEC 60093

**Flammable**

Hot-wire Ignition (HWI)			UL 746A
Burning Rate			
(2.00 mm, Self-Extinguishing)	0.0	mm/min	ISO 3795
(2.00 mm, Self-Extinguishing)	0.0	mm/min	FMVSS 302
Glow Wire Flammability Index			
(1.5 mm)	960	°C	IEC 60695-2-12
(3.0 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			
(1.5 mm)	725	°C	IEC 60695-2-13
(3.0 mm)	725	°C	IEC 60695-2-13
Oxygen Index	36	%	ISO 4589-2

**UL Information**

Flame Rating			
(1.5 mm)	V-0		UL 94
(3.0 mm)	V-0		UL 94
Flammability Classification			
(1.5 mm)	V-0		IEC 60695-11-10, -20
(3.0 mm)	V-0		IEC 60695-11-10, -20
UL File Number	E86615		

Injection Parameters	Nominal Value	Units
Drying Time	2.0 to 4.0	hr
Drying Temperature	70 to 80	°C
Nozzle Temperature	220	°C
Screw Speed	<300	mm/sec
Processing (Melt) Temp	180 to 220	°C
Front Temperature	210	°C
Holding Pressure	5.00 to 10.0	MPa
Middle Temperature	200	°C
Rear Temperature	180	°C
Injection Rate	Slow-Moderate	
Mold Temperature	40 to 80	°C
Injection Pressure	80.0 to 120	MPa
Cushion	<5.00	mm