Technical Data Sheet

Polyflam RPP 490 CS1 K2054 NAT

Polypropylene, Homopolymer

Product Description
Flame-retardant PP-homopolymer; halogen free

Processing Method	Injection Molding
Attribute	Copper Contact Stabilized; Halogen Free; Homopolymer
Additive	Flame Retardant
Resin ID	PP FR(51)

Typical Properties	Nominal Value	Units	Test Method
Physical			
Melt Volume Flow Rate, (230 °C/2.16 kg)	23	cm³/10 min	ISO 1133
Density, (Method A)	1.06	g/cm³	ISO 1183
Mechanical			
Tensile Stress at Yield, (Type 1A, 50 mm/min)	26.0	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)	2400	MPa	ISO 527-1
Impact			
Charpy Impact Strength - Notched			
(23 °C, Type 1, Edgewise, Notch A)	2.0	kJ/m²	ISO 179
(-30 °C, Type 1, Edgewise, Notch A)	1.5	kJ/m²	ISO 179
Charpy Impact Strength - Unnotched			
(23 °C, Type 1, Edgewise)	20	kJ/m²	ISO 179
(-30 °C, Type 1, Edgewise)	10	kJ/m²	ISO 179
Hardness			
Ball Pressure Test, (140 °C)	Pass		IEC 60695-10-2
Thermal			
Vicat Softening Temperature			
(B (50N), 50 °C/h)	98.0	°C	ISO 306
(A (10N), 50 °C/h)	151	°C	ISO 306
Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise)	105	°C	ISO 75-2/B
Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise)	60.0	°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			
Comparative Tracking Index (CTI)	600	V	IEC 60112
Flammable			
Burning Rate			
(1.50 mm, Self-Extinguishing)	0.0	mm/min	ISO 3795
(3.00 mm, Self-Extinguishing)	0.0	mm/min	ISO 3795
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)	825	°C	IEC 60695-2-13
(3.0 mm)	825	°C	IEC 60695-2-13
Oxygen Index	39	%	ISO 4589-2
UL Information			
Flame Rating			
(1.5 mm)	V-0		UL 94
(3.0 mm)	V-0		UL 94
(0.8 mm)	V-2		UL 94
Flammability Classification			
(0.8 mm)	V-2		IEC 60695-11-10, -20
(1.5 mm)	V-0		IEC 60695-11-10, -20
(3.0 mm)	V-0		IEC 60695-11-10, -20

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	40.0 to 90.0	MPa
Middle Temperature	200	°C
Rear Temperature	180	°C
Injection Rate	Slow-Moderate	
Back Pressure	5.00 to 10.0	MPa
Mold Temperature	40 to 80	°C
Injection Pressure	80.0 to 120	MPa
Cushion	<5.00	mm