Technical Data Sheet

Polyflam RPP 4000 NAT

Polypropylene, Homopolymer

Product Description

Unfilled flame-retardant PP-Homopolymer, halogenfree

Processing Method	Injection Molding
Attribute	Good Processability; 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)	16	cm³/10 min	ISO 1133
Density, (Method A)	1.06	g/cm³	ISO 1183
Mechanical			
Tensile Stress at Yield, (Type 1A, 50 mm/min)	25.0	MPa	ISO 527-2
Nominal Tensile Strain at Break, (50 mm/min, Type 1A)	15	%	ISO 527-2
Tensile Strain at Yield, (Type 1A, 50 mm/min)	3.3	%	ISO 527-2
Tensile Stress at Break, (Type 1A, 50 mm/min)	20.0	MPa	ISO 527-2
Tensile Modulus, (1 mm/min, Type 1A)	2600	MPa	ISO 527-1
Impact			
Charpy Impact Strength - Notched			
(23 °C, Type 1, Edgewise, Notch A)	3.0	kJ/m²	ISO 179
(-30 °C, Type 1, Edgewise, Notch A)	2.0	kJ/m²	ISO 179
Charpy Impact Strength - Unnotched			
(23 °C, Type 1, Edgewise)	28	kJ/m²	ISO 179
(-30 °C, Type 1, Edgewise)	12	kJ/m²	ISO 179
Hardness			
Ball Pressure Test, (145 °C, 1.80 mm) (DIN EN 60695)	Pass		IEC 60695-10-2
Thermal			
Vicat Softening Temperature			
(B (50N), 50 °C/h)	101	°C	ISO 306
(A (10N), 50 °C/h)	153	°C	ISO 306
Deflection Temperature Under Load Unannealed (0.45 MPa)	106	°C	ISO 75-2/B
Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise)	59.0	°C	ISO 75-2/A
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	FMVSS 302
(2.00 mm, Self-Extinguishing)	0.0	mm/min	ISO 3795
Glow Wire Flammability Index			
(0.75 mm)	960	°C	IEC 60695-2-12
(1.5 mm)	960	°C	IEC 60695-2-12
(3.0 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			
(0.75 mm)	750	°C	IEC 60695-2-13
(1.5 mm)	725	°C	IEC 60695-2-13
(3.0 mm)	750	°C	IEC 60695-2-13
UL Information			
Flammability Classification			
(0.75 mm)	V-0		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
(3.0 mm)	5VA		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
Screw Speed	<300	mm/sec
Processing (Melt) Temp	180 to 220	°C
Holding Pressure	40.0 to 90.0	MPa
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