Technical Data Sheet

Polyflam RPP 4000

Polypropylene Homopolymer
LyondellBasell Industries
Engineering Plastics

Product Description
Unfilled flame-retardant PP-Homopolymer, halogenfree

General		
Features	• Flame Retardant • Good Processability	• Halogen Free • Homopolymer
UL File Number	• E86615	
Processing Method	• Injection Molding	
Resin ID (ISO 1043)	• PP FR(51)	

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.06 g/cm³	1.06 g/cm³	ISO 1183/A
Melt Volume-Flow Rate (MVR) (230°c/2.16 Kg)	16 cm³/10min	16 cm³/10min	ISO 1133
Mechanical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Tensile Modulus	377000 psi	2600 MPa	ISO 527-1/1A/1
Tensile Stress			ISO 527-2/1A/50
Yield	3630 psi	25.0 MPa	
Break	2900 psi	20.0 MPa	
Tensile Strain (Yield)	3.3 %	3.3 %	ISO 527-2/1A/50
Nominal Tensile Strain at Break	15 %	15 %	ISO 527-2/1A/50
Impact	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-22°f (-30°c)	0.95 ft·lb/in²	2.0 kJ/m²	
73°f (23°c)	1.4 ft·lb/in²	3.0 kJ/m²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°f (-30°c)	5.6 ft·lb/in²	12 kJ/m²	
73°f (23°c)	14 ft·lb/in²	28 kJ/m²	
Thermal	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Deflection Temperature Under Load			
66 Psi (0.45 Mpa), Unannealed	223 °F	106 °C	ISO 75-2/B
264 Psi (1.8 Mpa), Unannealed	138 °F	59.0 °C	ISO 75-2/Af
Vicat Softening Temperature			
--	214 °F	101 °C	ISO 306/B50
--	307 °F	153 °C	ISO 306/A50
Ball Pressure Test			DIN EN 60695
293°f (145°c), 0.0709 In (1.80 Mm)	Pass	Pass	

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Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	> 1.0E+15 ohms	> 1.0E+15 ohms	IEC 60093
Volume Resistivity	> 1.0E+13 ohms·m	> 1.0E+13 ohms·m	IEC 62631-3-1
Comparative Tracking Index	600 V	600 V	IEC 60112
High Amp Arc Ignition (HAI)			UL 746A
0.030 In (0.75 Mm)	PLC 0	PLC 0	
0.06 In (1.5 Mm)	PLC 0	PLC 0	
0.12 In (3.0 Mm)	PLC 0	PLC 0	
Hot-wire Ignition (HWI)			UL 746A
0.030 In (0.75 Mm)	PLC 0	PLC 0	
0.06 In (1.5 Mm)	PLC 0	PLC 0	
0.12 In (3.0 Mm)	PLC 0	PLC 0	
Flammability	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Burning Rate			
0.0787 In (2.00 Mm), Self-extinguishing	0.0 in/min	0.0 mm/min	ISO 3795
0.0787 In (2.00 Mm), Self-extinguishing	0.0 in/min	0.0 mm/min	FMVSS 302
Flammability Classification			IEC 60695-11-10, -20
0.030 In (0.75 Mm)	V-0	V-0	
0.06 In (1.5 Mm)	V-0	V-0	
0.12 In (3.0 Mm)	• V-0 • 5VA	• V-0 • 5VA	
Glow Wire Flammability Index			IEC 60695-2-12
0.030 In (0.75 Mm)	1760 °F	960 °C	
0.06 In (1.5 Mm)	1760 °F	960 °C	
0.12 In (3.0 Mm)	1760 °F	960 °C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.030 In (0.75 Mm)	1380 °F	750 °C	
0.06 In (1.5 Mm)	1340 °F	725 °C	
0.12 In (3.0 Mm)	1380 °F	750 °C	

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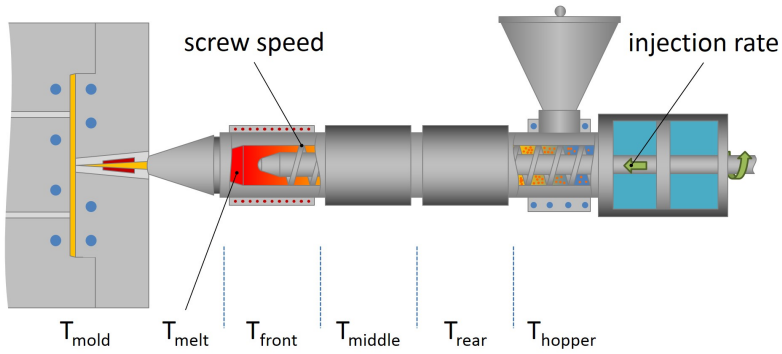

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	158 to 176 °F	70 to 80 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Processing (Melt) Temp	356 to 428 °F	180 to 220 °C
Mold Temperature	104 to 176 °F	40 to 80 °C
Injection Pressure	11600 to 17400 psi	80.0 to 120 MPa
Injection Rate	Slow-Moderate	Slow-Moderate
Holding Pressure	5800 to 13100 psi	40.0 to 90.0 MPa
Back Pressure	725 to 1450 psi	5.00 to 10.0 MPa
Screw Speed	< 709 in/min	< 18 m/min

Injection Notes

Predrying

Predrying at 70°C for 2-4 hours is recommended as a precaution.

Reprocessing

Addition of regrind is normally possible, but it must be tested in each case regarding the percentage and requirements of the article. Thermal damage during first processing depends on processing parameters and the geometry of flow path and article.

Shut down

Avoid long melt residence time. Purge with base polymer or with polyolefines.

Finishing

Machining is usually possible.

Notes

These are typical property values not to be construed as specification limits.