Technical Data Sheet

Polyflam RPP 4000 E

Polypropylene Homopolymer
LyondellBasell Industries
Engineering Plastics

Product Description
Unfilled flame-retardant PP-Homopolymer, Extrusion grade, halogenfree

General		
Features	• Flame Retardant • Good Processability	• Halogen Free • Homopolymer
Processing Method	• Extrusion	• 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)	2.0 cm³/10min	2.0 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	3890 psi	26.8 MPa	
Break	2410 psi	16.6 MPa	
Tensile Strain (Yield)	4.1 %	4.1 %	ISO 527-2/1A/50
Nominal Tensile Strain at Break	26 %	26 %	ISO 527-2/1A/50
Flexural Modulus [1]	334000 psi	2300 MPa	ISO 178
Flexural Stress [1]			ISO 178
5.1% Strain	5660 psi	39.0 MPa	
3.5% Strain	5380 psi	37.1 MPa	
Impact	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-22°f (-30°c)	0.71 ft·lb/in²	1.5 kJ/m²	
73°f (23°c)	1.2 ft·lb/in²	2.5 kJ/m²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°f (-30°c)	7.1 ft·lb/in²	15 kJ/m²	
73°f (23°c)	19 ft·lb/in²	40 kJ/m²	
Thermal	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Deflection Temperature Under Load			
66 Psi (0.45 Mpa), Unannealed	226 °F	108 °C	ISO 75-2/B
264 Psi (1.8 Mpa), Unannealed	136 °F	58.0 °C	ISO 75-2/Af
Vicat Softening Temperature			
--	207 °F	97.0 °C	ISO 306/B50
--	309 °F	154 °C	ISO 306/A50
Electrical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Comparative Tracking Index	600 V	600 V	IEC 60112
Flammability	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Flammability Classification			IEC 60695-11-10, -20
0.03 In (0.8 Mm)	V-0	V-0	
0.06 In (1.6 Mm)	V-0	V-0	
0.13 In (3.2 Mm)	V-0	V-0	
0.12 In (3.0 Mm)	• 5V • 5VA	• 5V • 5VA	

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Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
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)	1430 °F	775 °C	
0.06 In (1.5 Mm)	1430 °F	775 °C	
0.12 In (3.0 Mm)	1430 °F	775 °C	

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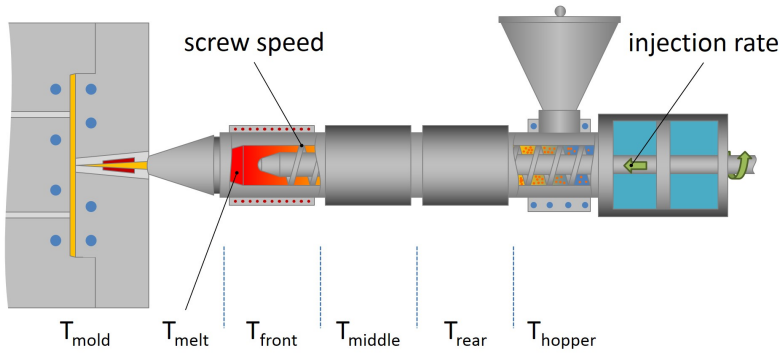

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	158 °F	70 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Processing (Melt) Temp	356 to 410 °F	180 to 210 °C
Mold Temperature	104 to 176 °F	40 to 80 °C
Injection Pressure	11600 to 17400 psi	80.0 to 120 MPa
Injection Rate	Slow-Moderate	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.

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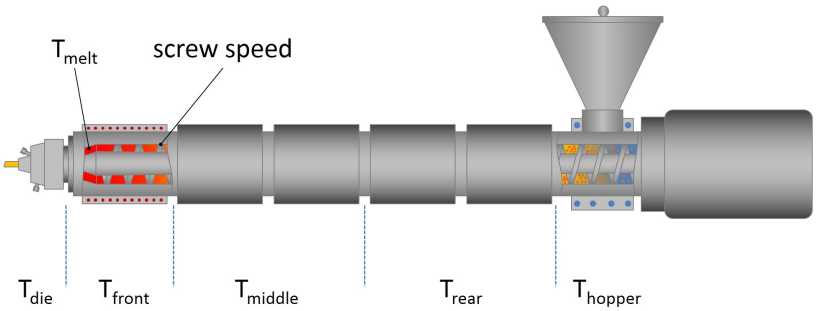

Extrusion	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	158 to 176 °F	70 to 80 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Suggested Max Moisture	< 0.10 %	< 0.10 %
Melt Temperature	338 to 410 °F	170 to 210 °C