

Technical Data Sheet



Polyflam RPP 4000 E

Polypropylene Homopolymer
LyondellBasell Industries
Engineering Plastics

Product Description

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

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
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/cm ³	1.06 g/cm ³	ISO 1183/A
Melt Volume-Flow Rate (MVR) (230°C/2.16 kg)	2.0 cm ³ /10min	2.0 cm ³ /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/in ²	1.5 kJ/m ²	
73°F (23°C)	1.2 ft·lb/in ²	2.5 kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F (-30°C)	7.1 ft·lb/in ²	15 kJ/m ²	
73°F (23°C)	19 ft·lb/in ²	40 kJ/m ²	

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	

Technical Data Sheet

**Polyflam RPP 4000 E**

Polypropylene Homopolymer
LyondellBasell Industries
Engineering Plastics

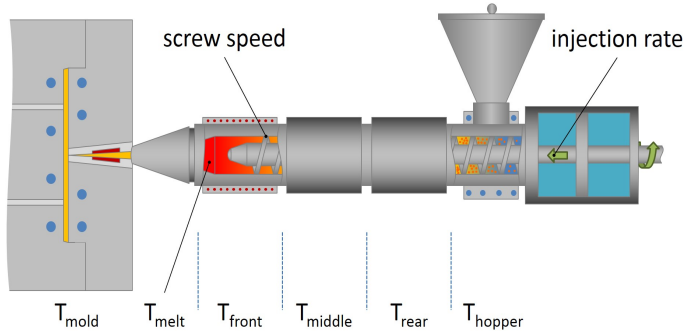
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Glow Wire Flammability Index			IEC 60695-2-12
0.030 in (0.75 mm)	1760 °F	960 °C	
0.06 in (1.5 mm)	1760 °F	960 °C	
0.12 in (3.0 mm)	1760 °F	960 °C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.030 in (0.75 mm)	1430 °F	775 °C	
0.06 in (1.5 mm)	1430 °F	775 °C	
0.12 in (3.0 mm)	1430 °F	775 °C	

Technical Data Sheet



Polyflam RPP 4000 E

Polypropylene Homopolymer
LyondellBasell Industries
Engineering Plastics



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

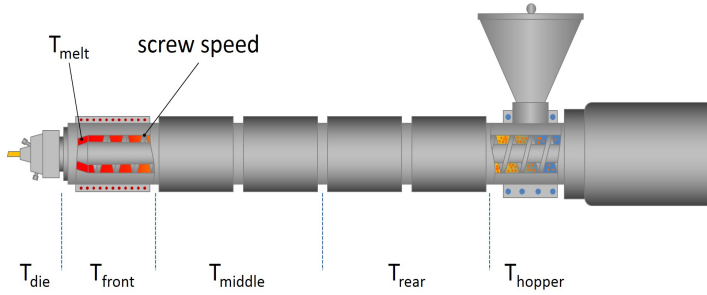
Machining is usually possible.

Technical Data Sheet



Polyflam RPP 4000 E

Polypropylene Homopolymer
LyondellBasell Industries
Engineering Plastics



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

Technical Data Sheet



Polyflam RPP 4000 E

Polypropylene Homopolymer
LyondellBasell Industries
Engineering Plastics

Notes

¹ 0.079 in/min (2.0 mm/min)

Notes

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

Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Product Storage and Handling

- Product should be stored in dry conditions at temperatures below 50°C and protected from UV-light
- Improper storage may bring damage to the packaging and can negatively affects on the quality of this product
- Keep material completely dry for good processing

Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

© LyondellBasell Industries Holdings, B.V. 2024

Disclaimer

Information in this document is accurate to the best of our knowledge at the date of publication. The document is designed to provide users general information for safe handling, use, processing, storage, transportation, disposal and release and does not constitute any warranty or quality specification, either express or implied, including any warranty of merchantability or fitness for any particular purpose. Users shall determine whether the product is suitable for their use and can be used safely and legally.

In addition to any prohibitions of use specifically noted in this document, LyondellBasell may further prohibit or restrict the sale of its products into certain applications. For further information, please contact a LyondellBasell representative.

Trademarks

The Trademark referenced within the product name is owned or used by the LyondellBasell family of companies.