

# Polyflam RPP 4225 CS1 LM BLACK

Polypropylene Homopolymer  
LyondellBasell Industries  
Engineering Plastics

## Product Description

25% glass fibre reinforced laser markable flame-retardant PP-Homopolymer, halogenfree. Product is available in black color.

## General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 25% Filler by Weight		
Features	• Copper Contact Stabilized • Flame Retardant	• Halogen Free • High Strength	• Homopolymer • Low Density
UL File Number	• E86615		
Processing Method	• Injection Molding		
Resin ID (ISO 1043)	• PP GF25 FR(51)		

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.26 g/cm <sup>3</sup>	1.26 g/cm <sup>3</sup>	ISO 1183/A
Melt Volume-Flow Rate (MVR)			ISO 1133
230°C/2.16 kg	4.0 cm <sup>3</sup> /10min	4.0 cm <sup>3</sup> /10min	
230°C/5.0 kg	12 cm <sup>3</sup> /10min	12 cm <sup>3</sup> /10min	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	1.06E+6 psi	7300 MPa	ISO 527-1/1A/1
Tensile Stress (Break)	11600 psi	80.0 MPa	ISO 527-2/1A/5
Tensile Strain (Break)	3.0 %	3.0 %	ISO 527-2/1A/5

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	4.0 ft·lb/in <sup>2</sup>	8.5 kJ/m <sup>2</sup>	
73°F (23°C)	4.3 ft·lb/in <sup>2</sup>	9.0 kJ/m <sup>2</sup>	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F (-30°C)	16 ft·lb/in <sup>2</sup>	33 kJ/m <sup>2</sup>	
73°F (23°C)	18 ft·lb/in <sup>2</sup>	38 kJ/m <sup>2</sup>	

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed	315 °F	157 °C	ISO 75-2/Bf
264 psi (1.8 MPa), Unannealed	291 °F	144 °C	ISO 75-2/Af
Vicat Softening Temperature			
--	279 °F	137 °C	ISO 306/B50
--	327 °F	164 °C	ISO 306/A50
Ball Pressure Test (311°F (155°C))	Pass	Pass	IEC 60695-10-2
RTI Elec			UL 746B
0.06 in (1.6 mm)	149 °F	65.0 °C	
0.12 in (3.0 mm)	149 °F	65.0 °C	
RTI Imp			UL 746B
0.06 in (1.6 mm)	149 °F	65.0 °C	
0.12 in (3.0 mm)	149 °F	65.0 °C	
RTI Str			UL 746B
0.06 in (1.6 mm)	149 °F	65.0 °C	
0.12 in (3.0 mm)	149 °F	65.0 °C	

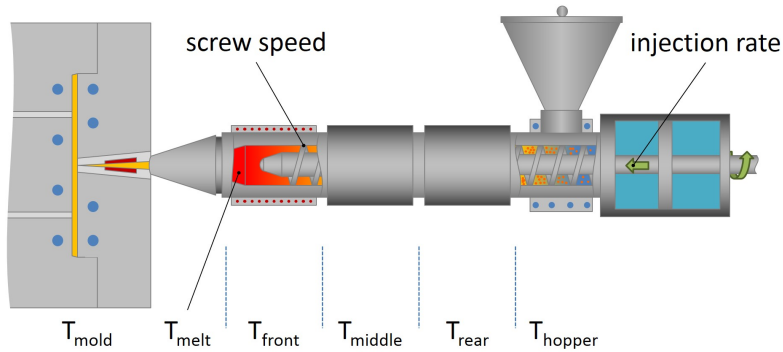
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Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	> 1.0E+15 ohms	> 1.0E+15 ohms	IEC 60093
Volume Resistivity	> 1.0E+13 ohms·m	> 1.0E+13 ohms·m	IEC 62631-3-1
Electric Strength <sup>1</sup> 73°F (23°C), 0.0394 in (1.00 mm), in Oil	970 V/mil	38 kV/mm	IEC 60243-1
Comparative Tracking Index	600 V	600 V	IEC 60112
High Amp Arc Ignition (HAI) 0.06 in (1.6 mm) 0.12 in (3.0 mm)	PLC 0 PLC 0	PLC 0 PLC 0	UL 746A
Hot-wire Ignition (HWI) 0.06 in (1.6 mm) 0.12 in (3.0 mm)	PLC 0 PLC 0	PLC 0 PLC 0	UL 746A
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Burning Rate 0.0787 in (2.00 mm), Self-Extinguishing 0.0787 in (2.00 mm), Self-Extinguishing	0.0 in/min 0.0 in/min	0.0 mm/min 0.0 mm/min	FMVSS 302 ISO 3795
Flame Rating 0.031 in (0.8 mm) 0.06 in (1.6 mm) 0.12 in (3.0 mm) 0.03 in (0.8 mm)	V-2 V-0 V-0 5VA V-2	V-2 V-0 V-0 5VA V-2	UL 94 UL 94 IEC 60695-11-10, -20 UL 94 IEC 60695-11-10, -20 IEC 60695-11-10, -20
Glow Wire Flammability Index 0.06 in (1.5 mm) 0.12 in (3.0 mm)	1760 °F 1760 °F	960 °C 960 °C	IEC 60695-2-12
Glow Wire Ignition Temperature 0.06 in (1.5 mm) 0.12 in (3.0 mm)	1560 °F 1560 °F	850 °C 850 °C	IEC 60695-2-13
Oxygen Index	44 %	44 %	ISO 4589-2

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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
Rear Temperature	356 °F	180 °C
Middle Temperature	392 °F	200 °C
Front Temperature	410 °F	210 °C
Nozzle Temperature	428 °F	220 °C
Processing (Melt) Temp	392 to 446 °F	200 to 230 °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
Cushion	< 0.197 in	< 5.00 mm
Screw Speed	< 709 in/min	< 18 m/min

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## **Notes**

<sup>1</sup> 2000 V/sec

## **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 affect 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/>.

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