

Technical Data Sheet



Polyflam SDR 5005 WHITE 81990 HP25

General Purpose Polystyrene
LyondellBasell Industries
Engineering Plastics

Product Description

non reinforced flame-retardant PS, mixing grade. Data are based on 100% compound.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific • Europe	• Latin America • North America	
Processing Method	• Injection Molding		
Resin ID (ISO 1043)	• PSHI (FR 16)		

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.19 g/cm ³	1.19 g/cm ³	ISO 1183/A
Melt Volume-Flow Rate (MVR) (200°C/5.0 kg)	35 cm ³ /10min	35 cm ³ /10min	ISO 1133
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	363000 psi	2500 MPa	ISO 527-1/1A/1
Tensile Stress			ISO 527-2/1A/50
Yield	4350 psi	30.0 MPa	
Break	3630 psi	25.0 MPa	
Tensile Strain (Yield)	2.0 %	2.0 %	ISO 527-2/1A/50
Nominal Tensile Strain at Break	15 %	15 %	ISO 527-2/50
Flexural Modulus ¹	392000 psi	2700 MPa	ISO 178
Flexural Stress ¹			ISO 178
4.3% Strain	7250 psi	50.0 MPa	
3.5% Strain	7250 psi	50.0 MPa	
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	0.95 ft·lb/in ²	2.0 kJ/m ²	
73°F (23°C)	2.9 ft·lb/in ²	6.0 kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F (-30°C)	21 ft·lb/in ²	45 kJ/m ²	
73°F (23°C)	24 ft·lb/in ²	50 kJ/m ²	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed	163 °F	73.0 °C	ISO 75-2/Bf
264 psi (1.8 MPa), Unannealed	153 °F	67.0 °C	ISO 75-2/Af
Vicat Softening Temperature			
--	171 °F	77.0 °C	ISO 306/B50
--	185 °F	85.0 °C	ISO 306/A50

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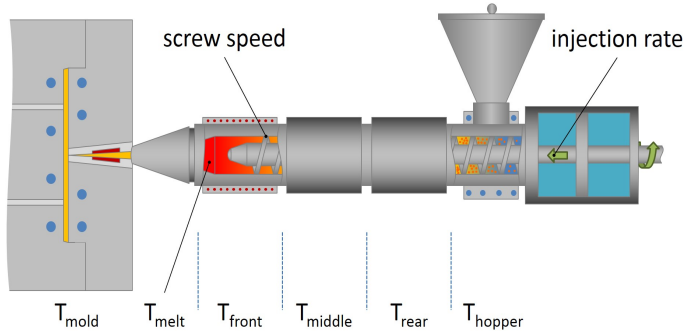
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating			
0.031 in (0.8 mm)	V-2	V-2	UL 94
0.06 in (1.6 mm)	V-2	V-2	UL 94 IEC 60695-11-10, -20
0.13 in (3.2 mm)	V-2	V-2	UL 94 IEC 60695-11-10, -20
0.03 in (0.8 mm)	V-2	V-2	IEC 60695-11-10, -20
Glow Wire Flammability Index			IEC 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	

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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	374 to 410 °F	190 to 210 °C
Mold Temperature	86 to 140 °F	30 to 60 °C
Injection Rate	Slow-Moderate	Slow-Moderate
Back Pressure	725 to 1450 psi	5.00 to 10.0 MPa
Screw Speed	< 591 in/min	< 15 m/min

Injection Notes

Mould surface contacting melt should
be of non-corrosive steel (content of chrome > 12%)

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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/>.

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