

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**

- 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 <sup>3</sup>	1.19 g/cm <sup>3</sup>	ISO 1183/A
Melt Volume-Flow Rate (MVR) (200°C/5.0 Kg)	35 cm <sup>3</sup> /10min	35 cm <sup>3</sup> /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 <sup>1</sup>	392000 psi	2700 MPa	ISO 178
Flexural Stress <sup>1</sup>			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 <sup>2</sup>	2.0 kJ/m <sup>2</sup>	
73°F (23°C)	2.9 ft·lb/in <sup>2</sup>	6.0 kJ/m <sup>2</sup>	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F (-30°C)	21 ft·lb/in <sup>2</sup>	45 kJ/m <sup>2</sup>	
73°F (23°C)	24 ft·lb/in <sup>2</sup>	50 kJ/m <sup>2</sup>	
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%)

**Notes**

<sup>1</sup> 0.079 in/min (2.0 mm/min)

**Notes**

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