Technical Data Sheet

LyondellBasell

Polyflam HSF 36

General Purpose Polystyrene
LyondellBasell Industries
Engineering Plastics

Product Description			
High impact flame-retardant PS grade; without PBDE			
General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Flame Retardant		
UL File Number	• E86615		
Processing Method	• Injection Molding		

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.18 g/cm³	1.18 g/cm³	ISO 1183/A
Melt Volume-Flow Rate (MVR) (200°C/5.0 kg)	5.0 cm³/10min	5.0 cm³/10min	ISO 1133
Mechanical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Tensile Modulus	305000 psi	2100 MPa	ISO 527-1/1A/1
Tensile Stress (Yield)	3630 psi	25.0 MPa	ISO 527-2/1A/50
Tensile Strain (Yield)	2.0 %	2.0 %	ISO 527-2/1A/50
Impact	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	0.95 ft·lb/in²	2.0 kJ/m²	
73°F (23°C)	4.8 ft·lb/in²	10 kJ/m²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F (-30°C)	19 ft·lb/in²	40 kJ/m²	
73°F (23°C)	38 ft·lb/in²	80 kJ/m²	
Thermal	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed	187 °F	86.0 °C	ISO 75-2/Bf
264 psi (1.8 MPa), Unannealed	167 °F	75.0 °C	ISO 75-2/Af
Vicat Softening Temperature			
--	187 °F	86.0 °C	ISO 306/B50
--	212 °F	100 °C	ISO 306/A50
Ball Pressure Test (176°F (80°C))	Pass	Pass	IEC 60695-10-2
RTI Elec			UL 746B
0.06 in (1.5 mm)	122 °F	50.0 °C	
0.12 in (3.0 mm)	122 °F	50.0 °C	
RTI Imp			UL 746B
0.06 in (1.5 mm)	122 °F	50.0 °C	
0.12 in (3.0 mm)	122 °F	50.0 °C	
RTI Str			UL 746B
0.06 in (1.5 mm)	122 °F	50.0 °C	
0.12 in (3.0 mm)	122 °F	50.0 °C	
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
Comparative Tracking Index	350 V	350 V	IEC 60112
Flammability	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Burning Rate			
0.0787 in (2.00 mm), Self-Extinguishing	0.0 in/min	0.0 mm/min	FMVSS 302
0.0787 in (2.00 mm), Self-Extinguishing	0.0 in/min	0.0 mm/min	ISO 3795

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Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating			
0.06 in (1.5 mm)	V-0	V-0	UL 94 IEC 60695-11-10, -20
0.12 in (3.0 mm)	V-0	V-0	UL 94
0.15 in (3.9 mm)	V-0	V-0	UL 94
0.12 in (3.0 mm)	• V-0 • 5VA	• V-0 • 5VA	IEC 60695-11-10, -20
0.15 in (3.9 mm)	• V-0 • 5VA	• V-0 • 5VA	IEC 60695-11-10, -20
0.08 in (2.0 mm)	5VB	5VB	IEC 60695-11-10, -20
Glow Wire Flammability Index			IEC 60695-2-12
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
0.06 in (1.5 mm)	1200 °F	650 °C	
0.12 in (3.0 mm)	1160 °F	625 °C	
Oxygen Index	26 %	26 %	ISO 4589-2

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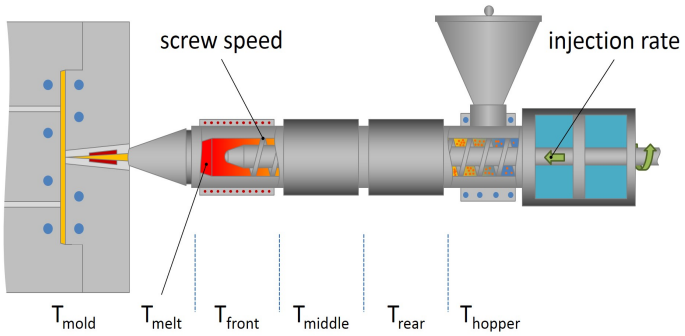

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	158 to 176 °F	70 to 80 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Processing (Melt) Temp	374 to 428 °F	190 to 220 °C
Mold Temperature	86 to 140 °F	30 to 60 °C
Injection Rate	Slow-Moderate	Slow-Moderate
Back Pressure	725 to 1450 psi	5.00 to 10.0 MPa
Screw Speed	< 709 in/min	< 18 m/min
Injection Notes		
Mould surface contacting melt should be of non-corrosive steel (content of chrome > 12%)		

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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