Technical Data Sheet

Polyflam SDR 5000

General Purpose Polystyrene
LyondellBasell Industries
Engineering Plastics

Product Description
Flame-retardant PS standard grade without PBDE; without HBCD

General		
Features	• Flame Retardant • Good Flow	• Good Impact Resistance • Good Processability
UL File Number	• E86615	
Processing Method	• Injection Molding	

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.08 g/cm³	1.08 g/cm³	ISO 1183/A
Melt Volume-Flow Rate (MVR) (200°c/5.0 Kg)	13 cm³/10min	13 cm³/10min	ISO 1133
Mechanical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Tensile Modulus	348000 psi	2400 MPa	ISO 527-1/1A/1
Tensile Stress (Yield)	4060 psi	28.0 MPa	ISO 527-2/1A/50
Tensile Strain (Yield)	1.7 %	1.7 %	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)	1.4 ft·lb/in²	3.0 kJ/m²	
73°f (23°c)	2.4 ft·lb/in²	5.0 kJ/m²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°f (-30°c)	20 ft·lb/in²	41 kJ/m²	
73°f (23°c)	29 ft·lb/in²	60 kJ/m²	
Thermal	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Deflection Temperature Under Load			
66 Psi (0.45 Mpa), Unannealed	172 °F	78.0 °C	ISO 75-2/Bf
264 Psi (1.8 Mpa), Unannealed	158 °F	70.0 °C	ISO 75-2/Af
Vicat Softening Temperature			
--	185 °F	85.0 °C	ISO 306/B50
--	198 °F	92.0 °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	

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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
Comparative Tracking Index	375 V	375 V	IEC 60112
High Amp Arc Ignition (HAI)			UL 746A
0.06 In (1.5 Mm)	PLC 2	PLC 2	
0.12 In (3.0 Mm)	PLC 2	PLC 2	
Hot-wire Ignition (HWI)			UL 746A
0.06 In (1.5 Mm)	PLC 4	PLC 4	
0.12 In (3.0 Mm)	PLC 2	PLC 2	
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
Flame Rating			UL 94
0.06 In (1.5 Mm)	V-2	V-2	IEC 60695-11-10, -20
0.12 In (3.0 Mm)	V-2	V-2	
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)	1200 °F	650 °C	
Oxygen Index	24 %	24 %	ISO 4589-2

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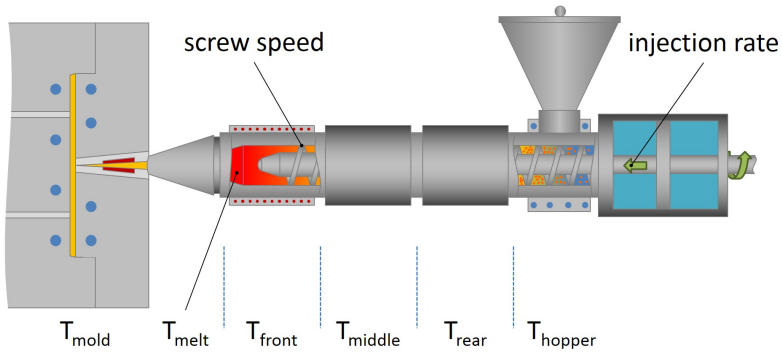

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	158 to 176 °F	70 to 80 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Processing (Melt) Temp	356 to 410 °F	180 to 210 °C
Mold Temperature	86 to 140 °F	30 to 60 °C
Injection Rate	Slow-Moderate	Slow-Moderate
Back Pressure	725 to 1450 psi	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

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