

Technical Data Sheet



Schulaketon GF 15 4DE

Polyketone, Aliphatic
LyondellBasell Industries
Engineering Plastics

Product Description

15% glass fiber reinforced aliphatic Polyketone, flame-retardant, halogen free

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Glass Fiber, 15% Filler by Weight		
Features	• Flame Retardant	• Halogen Free	
UL File Number	• E86615		
Processing Method	• Injection Molding		
Resin ID (ISO 1043)	• PK GF15 FR(40)		

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.35 g/cm ³	1.35 g/cm ³	ISO 1183/A
Melt Volume-Flow Rate (MVR) (240°C/5.0 kg)	20 cm ³ /10min	20 cm ³ /10min	ISO 1133
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	711000 psi	4900 MPa	ISO 527-1/1A/1
Tensile Stress (Break)	13800 psi	95.0 MPa	ISO 527-2/1A/5
Tensile Strain (Break)	4.0 %	4.0 %	ISO 527-2/1A/5
Flexural Modulus ¹	624000 psi	4300 MPa	ISO 178
Flexural Stress ¹ (3.5% Strain)	16700 psi	115 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	3.8 ft·lb/in ²	8.0 kJ/m ²	
73°F (23°C)	6.2 ft·lb/in ²	13 kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F (-30°C)	31 ft·lb/in ²	65 kJ/m ²	
73°F (23°C)	33 ft·lb/in ²	70 kJ/m ²	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
66 psi (0.45 MPa), Unannealed, 0.157 in (4.00 mm)	417 °F	214 °C	ISO 75-2/Bf
264 psi (1.8 MPa), Unannealed, 0.157 in (4.00 mm)	394 °F	201 °C	ISO 75-2/Af
Vicat Softening Temperature			
--	401 °F	205 °C	ISO 306/B50
--	419 °F	215 °C	ISO 306/A50
Ball Pressure Test (266°F (130°C))	Pass	Pass	IEC 60695-10-2
RTI Elec			UL 746B
0.016 in (0.40 mm)	122 °F	50.0 °C	
0.024 in (0.60 mm)	122 °F	50.0 °C	
0.031 in (0.8 mm)	122 °F	50.0 °C	
0.06 in (1.6 mm)	122 °F	50.0 °C	
0.12 in (3.0 mm)	122 °F	50.0 °C	

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Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
RTI Imp			UL 746B
0.016 in (0.40 mm)	122 °F	50.0 °C	
0.024 in (0.60 mm)	122 °F	50.0 °C	
0.031 in (0.8 mm)	122 °F	50.0 °C	
0.06 in (1.6 mm)	122 °F	50.0 °C	
0.12 in (3.0 mm)	122 °F	50.0 °C	
RTI Str			UL 746B
0.016 in (0.40 mm)	122 °F	50.0 °C	
0.024 in (0.60 mm)	122 °F	50.0 °C	
0.031 in (0.8 mm)	122 °F	50.0 °C	
0.06 in (1.6 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	600 V	600 V	IEC 60112
High Amp Arc Ignition (HAI)			UL 746A
0.016 in (0.40 mm)	PLC 0	PLC 0	
0.024 in (0.60 mm)	PLC 0	PLC 0	
0.03 in (0.8 mm)	PLC 0	PLC 0	
0.06 in (1.6 mm)	PLC 0	PLC 0	
0.12 in (3.0 mm)	PLC 0	PLC 0	
Hot-wire Ignition (HWI)			UL 746A
0.016 in (0.40 mm)	PLC 0	PLC 0	
0.024 in (0.60 mm)	PLC 0	PLC 0	
0.03 in (0.8 mm)	PLC 0	PLC 0	
0.06 in (1.6 mm)	PLC 0	PLC 0	
0.12 in (3.0 mm)	PLC 0	PLC 0	
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	ISO 3795
0.0787 in (2.00 mm), Self-Extinguishing	0.0 in/min	0.0 mm/min	FMVSS 302
Flame Rating			
0.016 in (0.40 mm)	V-0	V-0	UL 94 IEC 60695-11-10, -20
0.024 in (0.60 mm)	V-0	V-0	UL 94 IEC 60695-11-10, -20
0.031 in (0.8 mm)	V-0	V-0	UL 94
0.06 in (1.6 mm)	• V-0 • 5VA	• V-0 • 5VA	UL 94 IEC 60695-11-10, -20
0.12 in (3.0 mm)	• V-0 • 5VA	• V-0 • 5VA	UL 94 IEC 60695-11-10, -20
0.03 in (0.8 mm)	V-0	V-0	IEC 60695-11-10, -20

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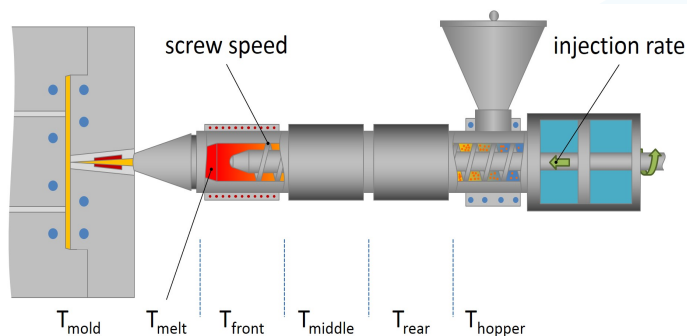
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Glow Wire Flammability Index			IEC 60695-2-12
0.024 in (0.60 mm)	1760 °F	960 °C	
0.031 in (0.8 mm)	1760 °F	960 °C	
0.06 in (1.6 mm)	1760 °F	960 °C	
0.12 in (3.0 mm)	1760 °F	960 °C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.024 in (0.60 mm)	1520 °F	825 °C	
0.031 in (0.8 mm)	1520 °F	825 °C	
0.06 in (1.6 mm)	1560 °F	850 °C	
0.12 in (3.0 mm)	1520 °F	825 °C	
Oxygen Index	30 %	30 %	ISO 4589-2

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Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	176 °F	80 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Suggested Max Moisture	0.15 %	0.15 %
Processing (Melt) Temp	446 to 482 °F	230 to 250 °C
Mold Temperature	140 to 248 °F	60 to 120 °C
Injection Rate	Slow-Moderate	Slow-Moderate
Back Pressure	290 to 1160 psi	2.00 to 8.00 MPa
Screw Speed	< 591 in/min	< 15 m/min

Injection Notes

Before start, nozzle, screw, barrel and hot-runner have to be cleaned with Polyolefin. Contamination of other material leads to degradation or crosslinking of SCHULAKETON®.

Avoid shut down for more than 8 minutes at moulding temperature, because of degradation and crosslinking of SCHULAKETON®. Purge with Polyolefin!

Mould surfaces in contact with melt are recommended to be of non-corrosive steel, chrome content >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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