Technical Data Sheet

Schulaketon GF 15 4DE

Polyketone, Aliphatic
LyondellBasell Industries
Engineering Plastics

Product Description
15% glass fiber reinforced aliphatic Polyketon, flame-retardant, halogen free

General		
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/cm³	1.35 g/cm³	ISO 1183/A
Melt Volume-Flow Rate (MVR) (240°c/5.0 Kg)	20 cm³/10min	20 cm³/10min	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/in²	8.0 kJ/m²	
73°f (23°c)	6.2 ft·lb/in²	13 kJ/m²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°f (-30°c)	31 ft·lb/in²	65 kJ/m²	
73°f (23°c)	33 ft·lb/in²	70 kJ/m²	
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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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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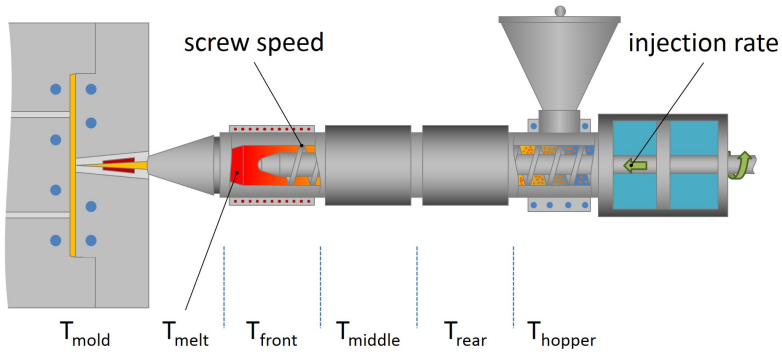

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	176 °F	80 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Suggested Max Moisture	0.15 %	0.15 %
Processing (Melt) Temp	446 to 482 °F	230 to 250 °C
Mold Temperature	140 to 248 °F	60 to 120 °C
Injection Rate	Slow-Moderate	Slow-Moderate
Back 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%

Notes

[1] 0.079 in/min (2.0 mm/min)

Notes

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