Technical Data Sheet

Schulaketon GF30 4DE BUE965252

Polyketone, Aliphatic

Product Description

30% glass fiber reinforced aliphatic Polyketon, flame-retardant, halogen free

Processing Method	Injection Molding
Attribute	Halogen Free; PFAS free
Additive	Flame Retardant
Filler/Reinforcement	Glass Fiber, 30%
Resin ID	PK GF30 FR(40)

Typical Properties	Nominal Value	Units	Test Method
Physical			
Melt Volume Flow Rate, (240 °C/5.0 kg)	7.0	cm³/10 min	ISO 1133
Density, (Method A)	1.47	g/cm³	ISO 1183
Mechanical			
Tensile Strain at Break, (Type 1A, 5 mm/min)	4.5	%	ISO 527-2
Flexural Modulus, (2.0 mm/min)	8800	MPa	ISO 178
Tensile Stress at Break, (Type 1A, 5 mm/min)	130	MPa	ISO 527-2
Tensile Modulus, (1 mm/min, Type 1A)	8000	MPa	ISO 527-1
Flexural Stress, (2.0 mm/min, 3.5%)	190	MPa	ISO 178
Impact			
Charpy Impact Strength - Notched			
(23 °C, Type 1, Edgewise, Notch A)	13	kJ/m²	ISO 179
(-30 °C, Type 1, Edgewise, Notch A)	7.9	kJ/m²	ISO 179
Charpy Impact Strength - Unnotched			
(23 °C, Type 1, Edgewise)	68	kJ/m²	ISO 179
(-30 °C, Type 1, Edgewise)	65	kJ/m²	ISO 179
Hardness			
Ball Pressure Test, (130 °C)	Pass		IEC 60695-10-2
Thermal			
Vicat Softening Temperature			
(B (50N), 50 °C/h)	208	°C	ISO 306
(A (10N), 50 °C/h)	216	°C	ISO 306
Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise)	215	°C	ISO 75-2/B
Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise)	206	°C	ISO 75-2/A

RTI Elec			
(1.6 mm)	50.0	°C	UL 746B
(3.0 mm)	50.0	°C	UL 746B
(0.8 mm)	50.0	°C	UL 746B
(0.40 mm)	50.0	°C	UL 746B
(0.60 mm)	50.0	°C	UL 746B
RTI Imp			
(1.6 mm)	50.0	°C	UL 746B
(3.0 mm)	50.0	°C	UL 746B
(0.8 mm)	50.0	°C	UL 746B
(0.40 mm)	50.0	°C	UL 746B
(0.60 mm)	50.0	°C	UL 746B
RTI Str			
(1.6 mm)	50.0	°C	UL 746B
(3.0 mm)	50.0	°C	UL 746B
(0.8 mm)	50.0	°C	UL 746B
(0.40 mm)	50.0	°C	UL 746B
(0.60 mm)	50.0	°C	UL 746B
Electrical			
Volume Resistivity	>1.0E+13	ohm*m	IEC 62631-3-1
Dielectric Strength, (in Oil, 1.00 mm, 23 °C, 2000 V/sec)	32	kV/mm	IEC 60243-1
Comparative Tracking Index (CTI)	600	V	IEC 60112
High Amp Arc Ignition			UL 746A
Surface Resistivity	>1.0E+15	ohm	IEC 60093
Flammable			
Hot-wire Ignition (HWI)			UL 746A
Burning Rate			
(2.00 mm, Self-Extinguishing)	0.0	mm/min	ISO 3795
(2.00 mm, Self-Extinguishing)	0.0	mm/min	FMVSS 302
Glow Wire Flammability Index			
(3.0 mm)	960	°C	IEC 60695-2-12
(0.60 mm)	960	°C	IEC 60695-2-12
(0.8 mm)	960	°C	IEC 60695-2-12
(1.6 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			
(3.0 mm)	825	°C	IEC 60695-2-13
(1.6 mm)	850	°C	IEC 60695-2-13
(0.60 mm)	825	°C	IEC 60695-2-13
(0.8 mm)	825	°C	IEC 60695-2-13
Oxygen Index	30	%	ISO 4589-2
UL Information			
Flame Rating			
(1.6 mm)	5VA		UL 94
(1.6 mm)	V-0		UL 94
(3.0 mm)	5VA		UL 94
(3.0 mm)	V-0		UL 94
(0.8 mm)	V-0		UL 94
(0.40 mm)	V-0		UL 94
(0.60 mm)	V-0		UL 94

Flammability Classification		
(0.40 mm)	V-0	IEC 60695-11-10, -20
(0.60 mm)	V-0	IEC 60695-11-10, -20
(0.8 mm)	V-0	IEC 60695-11-10, -20
(1.6 mm)	V-0	IEC 60695-11-10, -20
(1.6 mm)	5VA	IEC 60695-11-10, -20
(3.0 mm)	5VA	IEC 60695-11-10, -20
(3.0 mm)	V-0	IEC 60695-11-10, -20
UL File Number	E86615	

Injection Parameters	Nominal Value	Units
Drying Time	2.0 to 4.0	hr
Drying Temperature	80	°C
Suggested Max Moisture	0.15	%
Screw Speed	<250	mm/sec
Processing (Melt) Temp	220 to 230	°C
Injection Rate	Slow-Moderate	
Back Pressure	2.00 to 8.00	MPa
Mold Temperature	60 to 100	°C