

Technical Data Sheet

Schulamid 6 GF 15 FR 4 K1681 NAT

Polyamide 6

Product Description

15% glass fibre reinforced flame-retardant Polyamide 6 grade without PBDE

Processing Method	Injection Molding
Additive	Flame Retardant
Filler/Reinforcement	Glass Fiber, 15%
Resin ID	PA6 GF15 FR(17+30)

Typical Properties	Nominal Value	Units	Test Method
Physical			
Density, (Method A)	1.38	g/cm ³	ISO 1183
Viscosity Number	145	cm ³ /g	ISO 307
Mechanical			
Tensile Strain at Break			
(Type 1A, 5 mm/min)	3.5	%	ISO 527-2
(Type 1A, 5 mm/min) - Conditioned	8.5	%	ISO 527-2
Tensile Stress at Break			
(Type 1A, 5 mm/min)	117	MPa	ISO 527-2
(Type 1A, 5 mm/min) - Conditioned	71.0	MPa	ISO 527-2
Tensile Modulus			
(1 mm/min, Type 1A)	7100	MPa	ISO 527-1
(1 mm/min, Type 1A) - Conditioned	4000	MPa	ISO 527-1
Impact			
Charpy Impact Strength - Notched			
(23 °C, Type 1, Edgewise, Notch A)	9.0	kJ/m ²	ISO 179
(-30 °C, Type 1, Edgewise, Notch A)	6.0	kJ/m ²	ISO 179
(23 °C, Type 1, Edgewise, Notch A) - Conditioned	14	kJ/m ²	ISO 179
Charpy Impact Strength - Unnotched			
(23 °C, Type 1, Edgewise)	60	kJ/m ²	ISO 179
(-30 °C, Type 1, Edgewise)	55	kJ/m ²	ISO 179
(23 °C, Type 1, Edgewise) - Conditioned	70	kJ/m ²	ISO 179
Hardness			
Ball Pressure Test, (200 °C)	Pass		IEC 60695-10-2
Thermal			

Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise)	223	°C	ISO 75-2/B
Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise)	203	°C	ISO 75-2/A
RTI Elec			
(1.5 mm)	130	°C	UL 746B
(3.0 mm)	130	°C	UL 746B
(0.75 mm)	130	°C	UL 746B
(0.38 mm)	130	°C	UL 746B
RTI Imp			
(1.5 mm)	100	°C	UL 746B
(3.0 mm)	100	°C	UL 746B
(0.75 mm)	90.0	°C	UL 746B
(0.38 mm)	75.0	°C	UL 746B
RTI Str			
(1.5 mm)	120	°C	UL 746B
(3.0 mm)	120	°C	UL 746B
(0.75 mm)	110	°C	UL 746B
(0.38 mm)	100	°C	UL 746B
Electrical			
Volume Resistivity	>1.0E+13	ohm*m	IEC 62631-3-1
- Conditioned	>1.0E+10	ohm*m	IEC 62631-3-1
Comparative Tracking Index (CTI)	275	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			
(0.750 mm, Self-Extinguishing)	0.0	mm/min	ISO 3795
(1.50 mm, Self-Extinguishing)	0.0	mm/min	ISO 3795
(3.00 mm, Self-Extinguishing)	0.0	mm/min	ISO 3795
(0.380 mm, Self-Extinguishing)	0.0	mm/min	ISO 3795
Glow Wire Flammability Index			
(0.75 mm)	960	°C	IEC 60695-2-12
(1.5 mm)	960	°C	IEC 60695-2-12
(3.0 mm)	960	°C	IEC 60695-2-12
(0.38 mm)	850	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			
(0.75 mm)	900	°C	IEC 60695-2-13
(1.5 mm)	900	°C	IEC 60695-2-13
(3.0 mm)	900	°C	IEC 60695-2-13
(0.38 mm)	825	°C	IEC 60695-2-13
Oxygen Index	26	%	ISO 4589-2
UL Information			
Flame Rating			
(1.5 mm)	V-2		UL 94
(3.0 mm)	V-2		UL 94
(0.75 mm)	V-2		UL 94
(0.38 mm)	V-2		UL 94

Flammability Classification		
(0.38 mm)	V-2	IEC 60695-11-10, -20
(0.75 mm)	V-2	IEC 60695-11-10, -20
(1.5 mm)	V-2	IEC 60695-11-10, -20
(3.0 mm)	V-2	IEC 60695-11-10, -20
UL File Number	E86615	

Injection Parameters	Nominal Value	Units
Drying Time	4.0 to 6.0	hr
Drying Temperature	80	°C
Suggested Max Moisture	0.1	%
Screw Speed	<250	mm/sec
Processing (Melt) Temp	240 to 260	°C
Injection Rate	Slow-Moderate	
Back Pressure	20 to 80	bar
Mold Temperature	60 to 90	°C