

## Technical Data Sheet

**Schulamid 6 GF15 FR4 K1681 GRY967686**

Polyamide 6

**Product Description**

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

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

<b>Typical Properties</b>	<b>Nominal Value</b>	<b>Units</b>	<b>Test Method</b>
<b>Physical</b>			
Density, (Method A)	1.38	g/cm <sup>3</sup>	ISO 1183
Viscosity Number	145	cm <sup>3</sup> /g	ISO 307
<b>Mechanical</b>			
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
<b>Impact</b>			
Charpy Impact Strength - Notched			
(23 °C, Type 1, Edgewise, Notch A)	9.0	kJ/m <sup>2</sup>	ISO 179
(-30 °C, Type 1, Edgewise, Notch A)	6.0	kJ/m <sup>2</sup>	ISO 179
(23 °C, Type 1, Edgewise, Notch A) - Conditioned	14	kJ/m <sup>2</sup>	ISO 179
Charpy Impact Strength - Unnotched			
(23 °C, Type 1, Edgewise)	60	kJ/m <sup>2</sup>	ISO 179
(-30 °C, Type 1, Edgewise)	55	kJ/m <sup>2</sup>	ISO 179
(23 °C, Type 1, Edgewise) - Conditioned	70	kJ/m <sup>2</sup>	ISO 179
<b>Hardness</b>			
Ball Pressure Test, (200 °C)	Pass		IEC 60695-10-2
<b>Thermal</b>			

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
<b>RTI Elec</b>		
(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
<b>RTI Imp</b>		
(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
<b>RTI Str</b>		
(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
<b>Electrical</b>		
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
<b>Flammable</b>		
Hot-wire Ignition (HWI)		UL 746A
<b>Burning Rate</b>		
(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
<b>Glow Wire Flammability Index</b>		
(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
<b>Glow Wire Ignition Temperature</b>		
(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
<b>UL Information</b>		
<b>Flame Rating</b>		
(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