

## Technical Data Sheet

**Schulamid 6 MV14 FR4 K1681 GRN966161**

Polyamide 6

**Product Description**

Medium viscosity flame-retardant Polyamide 6 grade (V-2); without PBDE

<b>Processing Method</b>	Injection Molding
<b>Attribute</b>	Medium Viscosity
<b>Additive</b>	Flame Retardant
<b>Resin ID</b>	PA6 FR(17+30)

<b>Typical Properties</b>	<b>Nominal Value</b>	<b>Units</b>	<b>Test Method</b>
<b>Physical</b>			
Density, (Method A)	1.26	g/cm <sup>3</sup>	ISO 1183
Viscosity Number	130	cm <sup>3</sup> /g	ISO 307
<b>Mechanical</b>			
Tensile Stress at Yield			
(Type 1A, 50 mm/min)	70.0	MPa	ISO 527-2
(Type 1A, 50 mm/min) - Conditioned	35.0	MPa	ISO 527-2
Tensile Strain at Yield			
(Type 1A, 50 mm/min)	4.0	%	ISO 527-2
(Type 1A, 50 mm/min) - Conditioned	24	%	ISO 527-2
Tensile Modulus			
(1 mm/min, Type 1A)	3800	MPa	ISO 527-1
(1 mm/min, Type 1A) - Conditioned	1250	MPa	ISO 527-1
<b>Impact</b>			
Charpy Impact Strength - Notched			
(23 °C, Type 1, Edgewise, Notch A)	4.0	kJ/m <sup>2</sup>	ISO 179
(-30 °C, Type 1, Edgewise, Notch A)	3.0	kJ/m <sup>2</sup>	ISO 179
(23 °C, Type 1, Edgewise, Notch A) - Conditioned	18	kJ/m <sup>2</sup>	ISO 179
Charpy Impact Strength - Unnotched			
(23 °C, Type 1, Edgewise)	55	kJ/m <sup>2</sup>	ISO 179
(-30 °C, Type 1, Edgewise)	48	kJ/m <sup>2</sup>	ISO 179
(23 °C, Type 1, Edgewise) - Conditioned	No Break		ISO 179
<b>Hardness</b>			
Ball Indentation Hardness, (H 358/30)	160	MPa	ISO 2039-1
Ball Pressure Test, (200 °C)	Pass		IEC 60695-10-2
<b>Thermal</b>			

<b>Vicat Softening Temperature</b>			
(B (50N), 50 °C/h)	202	°C	ISO 306
(A (10N), 50 °C/h)	217	°C	ISO 306
<b>Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise)</b>			
	186	°C	ISO 75-2/B
<b>Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise)</b>			
	70.0	°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	10000000000	ohm*m	IEC 62631-3-1
	0000		
Comparative Tracking Index (CTI)	300	V	IEC 60112
High Amp Arc Ignition			UL 746A
Surface Resistivity	1E+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)	850	°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)	825	°C	IEC 60695-2-13
(1.5 mm)	825	°C	IEC 60695-2-13
(3.0 mm)	825	°C	IEC 60695-2-13
(0.38 mm)	825	°C	IEC 60695-2-13
Oxygen Index	23	%	ISO 4589-2
<b>Additional Information</b>			
Molding Shrinkage	1.0 to 1.3	%	ISO 294-4
<b>UL Information</b>			

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	

<b>Injection Parameters</b>	<b>Nominal Value</b>	<b>Units</b>
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