

Technical Data Sheet

**Schulamid 6 MV14 GW FR NAT**



Polyamide 6

**Product Description**

Medium viscosity flame-retardant Polyamide 6 grade; V-0; GWIT 775°C; halogen free

<b>Processing Method</b>	Injection Molding
<b>Attribute</b>	Antimony Free; Halogen Free; Medium Viscosity
<b>Additive</b>	Flame Retardant
<b>Resin ID</b>	PA 6 FR(30)

Typical Properties	Nominal Value	Units	Test Method
<b>Physical</b>			
Density, (Method A)	1.19	g/cm <sup>3</sup>	ISO 1183
Viscosity Number	145	cm <sup>3</sup> /g	ISO 307
<b>Mechanical</b>			
Flexural Strain at Flexural Strength	5.5	%	ISO 178
- Conditioned	8	%	ISO 178
Tensile Stress at Yield			
(Type 1A, 50 mm/min)	80.0	MPa	ISO 527-2
(Type 1A, 50 mm/min) - Conditioned	42.0	MPa	ISO 527-2
Flexural Modulus			
- Conditioned	4400	MPa	ISO 178
- Conditioned	1760	MPa	ISO 178
Tensile Strain at Yield			
(Type 1A, 50 mm/min)	3.4	%	ISO 527-2
(Type 1A, 50 mm/min) - Conditioned	20	%	ISO 527-2
Tensile Modulus			
(1 mm/min, Type 1A)	4000	MPa	ISO 527-1
(1 mm/min, Type 1A) - Conditioned	1400	MPa	ISO 527-1
Flexural Stress			
- Conditioned	130	MPa	ISO 178
- Conditioned	48	MPa	ISO 178
<b>Impact</b>			
Charpy Impact Strength - Notched			
(23 °C, Type 1, Edgewise, Notch A)	3.2	kJ/m <sup>2</sup>	ISO 179
(-30 °C, Type 1, Edgewise, Notch A)	3.2	kJ/m <sup>2</sup>	ISO 179
(23 °C, Type 1, Edgewise, Notch A) - Conditioned	7.2	kJ/m <sup>2</sup>	ISO 179

Charpy Impact Strength - Unnotched		
(23 °C, Type 1, Edgewise)	70 kJ/m <sup>2</sup>	ISO 179
(-30 °C, Type 1, Edgewise)	60 kJ/m <sup>2</sup>	ISO 179
(23 °C, Type 1, Edgewise) - Conditioned	No Break	ISO 179
<b>Hardness</b>		
Ball Pressure Test, (200 °C)	Pass	IEC 60695-10-2
<b>Thermal</b>		
Vicat Softening Temperature		
(B (50N), 50 °C/h)	203 °C	ISO 306
(A (10N), 50 °C/h)	216 °C	ISO 306
Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise)	198 °C	ISO 75-2/B
Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise)	86.0 °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)	85.0 °C	UL 746B
(3.0 mm)	85.0 °C	UL 746B
(0.75 mm)	80.0 °C	UL 746B
(0.38 mm)	80.0 °C	UL 746B
RTI Str		
(1.5 mm)	115 °C	UL 746B
(3.0 mm)	115 °C	UL 746B
(0.75 mm)	105 °C	UL 746B
(0.38 mm)	105 °C	UL 746B
<b>Electrical</b>		
Volume Resistivity	>1.0E+13 ohm*m	IEC 62631-3-1
Comparative Tracking Index (CTI)	600 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
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
Glow Wire Flammability Index		
(0.50 mm)	960 °C	IEC 60695-2-12
(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
Glow Wire Ignition Temperature		
(0.50 mm)	775 °C	IEC 60695-2-13
(0.75 mm)	775 °C	IEC 60695-2-13
(1.5 mm)	775 °C	IEC 60695-2-13
(3.0 mm)	775 °C	IEC 60695-2-13
Oxygen Index	31 %	ISO 4589-2
<b>UL Information</b>		

Flame Rating		
(1.5 mm)	V-0	UL 94
(3.0 mm)	V-0	UL 94
(0.75 mm)	V-0	UL 94
(0.40 mm)	V-0	UL 94
Flammability Classification		
(0.40 mm)	V-0	IEC 60695-11-10, -20
(0.75 mm)	V-0	IEC 60695-11-10, -20
(1.5 mm)	V-0	IEC 60695-11-10, -20
(3.0 mm)	V-0	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	0.040 to 0.10	%
Screw Speed	<250	mm/sec
Processing (Melt) Temp	240 to 260	°C
Injection Rate	Slow-Moderate	
Back Pressure	2.00 to 8.00	MPa
Mold Temperature	60 to 90	°C