

Technical Data Sheet

# SCHULAMID® 6 GF 20 FR GREY 96.7685

Polyamide 6  
Engineering Plastics

**Product Description**  
20% glass fibre reinforced flame-retardant Polyamide 6 grade (V-2); halogen free

General	
Filler / Reinforcement	• Glass Fiber, 20% Filler by Weight
Processing Method	• Injection Molding
Resin ID (ISO 1043)	• PA 6 GF 20 FR(30)

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.34 g/cm <sup>3</sup>	1.34 g/cm <sup>3</sup>	ISO 1183/A

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	667000 psi	4600 MPa	ISO 527-2/1A/1
Tensile Stress (Break)	8700 psi	60.0 MPa	ISO 527-2/1A/5
Tensile Strain (Break)	7.0 %	7.0 %	ISO 527-2/1A/5
Flexural Modulus	580000 psi	4000 MPa	ISO 178
Flexural Stress <sup>1</sup>			ISO 178
6.0% Strain	15200 psi	105 MPa	
3.5% Strain	14500 psi	100 MPa	
9.0% Strain	13800 psi	95.0 MPa	

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	1.9 ft·lb/in <sup>2</sup>	4.0 kJ/m <sup>2</sup>	
73°F (23°C)	1.9 ft·lb/in <sup>2</sup>	4.0 kJ/m <sup>2</sup>	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F (-30°C)	19 ft·lb/in <sup>2</sup>	40 kJ/m <sup>2</sup>	
73°F (23°C)	24 ft·lb/in <sup>2</sup>	50 kJ/m <sup>2</sup>	

Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	401 °F	205 °C	ISO 75-2/Bf
264 psi (1.8 MPa), Unannealed	284 °F	140 °C	ISO 75-2/af
Continuous Use Temperature <sup>2</sup>	194 °F	90.0 °C	
Vicat Softening Temperature			
--	419 °F	215 °C	ISO 306/A50
--	401 °F	205 °C	ISO 306/B50

Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Electric Strength	900 V/mil	35 kV/mm	IEC 60243-1
Comparative Tracking Index	450 V	450 V	IEC 60112

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating			
0.031 in (0.8 mm)	V-2	V-2	UL 94
0.06 in (1.6 mm)	V-2	V-2	UL 94 IEC 60695-11-10, -20
0.13 in (3.2 mm)	V-2	V-2	UL 94 IEC 60695-11-10, -20
0.03 in (0.8 mm)	V-2	V-2	IEC 60695-11-10, -20

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Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Glow Wire Flammability Index			IEC 60695-2-12
0.030 in (0.75 mm)	1760 °F	960 °C	
0.06 in (1.5 mm)	1760 °F	960 °C	
0.12 in (3.0 mm)	1760 °F	960 °C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.030 in (0.75 mm)	1340 °F	725 °C	
0.06 in (1.5 mm)	1340 °F	725 °C	
0.12 in (3.0 mm)	1340 °F	725 °C	

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Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	176 °F	80 °C
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr
Suggested Max Moisture	0.04 to 0.10 %	0.04 to 0.10 %
Suggested Max Regrind	25 %	25 %
Processing (Melt) Temp	464 to 500 °F	240 to 260 °C
Mold Temperature	140 to 212 °F	60 to 100 °C
Injection Pressure	11600 to 20300 psi	80.0 to 140 MPa
Injection Rate	Slow-Moderate	Slow-Moderate
Holding Pressure	5800 to 12300 psi	40.0 to 85.0 MPa
Back Pressure	290 to 1160 psi	2.00 to 8.00 MPa
Screw Speed	< 591 in/min	< 15 m/min

**Notes**

<sup>1</sup> 0.079 in/min (2.0 mm/min)

<sup>2</sup> Long periode (20000h)

**Notes**

These are typical property values not to be construed as specification limits.