Technical Data Sheet

SCHULADUR® A GF 20 HF FR 1

Polybutylene Terephthalate
Engineering Plastics

Product Description
Flame retardant halogenated PBT standard grade reinforced with 20% glass fiber; without PBDE; high flow

General			
Filler / Reinforcement	• Glass Fiber, 20% Filler by Weight		
Features	• Filled • Flame Retardant	• Good Dimensional Stability • Halogenated	• High Flow
UL File Number	• E86615		
Processing Method	• Injection Molding		
Resin ID (ISO 1043)	• PBT GF20 FR(17)		

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.58 g/cm³	1.58 g/cm³	ISO 1183/A
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	40 cm³/10min	40 cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.3 %	1.3 %	
Flow	0.40 %	0.40 %	
Mechanical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Tensile Modulus	1.23E+6 psi	8500 MPa	ISO 527-2/1A/1
Tensile Stress (Break)	17400 psi	120 MPa	ISO 527-2/1A/5
Tensile Strain (Break)	2.5 %	2.5 %	ISO 527-2/1A/5
Impact	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	2.4 ft·lb/in²	5.0 kJ/m²	
73°F (23°C)	2.9 ft·lb/in²	6.0 kJ/m²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F (-30°C)	14 ft·lb/in²	30 kJ/m²	
73°F (23°C)	19 ft·lb/in²	40 kJ/m²	
Thermal	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	423 °F	217 °C	ISO 75-2/Bf
264 psi (1.8 MPa), Unannealed	387 °F	197 °C	ISO 75-2/Af
Vicat Softening Temperature			
--	424 °F	218 °C	ISO 306/A50
--	396 °F	202 °C	ISO 306/B50
RTI Elec			UL 746
0.030 in (0.75 mm)	167 °F	75.0 °C	
0.06 in (1.5 mm)	167 °F	75.0 °C	
0.12 in (3.0 mm)	167 °F	75.0 °C	
RTI Imp			UL 746
0.030 in (0.75 mm)	167 °F	75.0 °C	
0.06 in (1.5 mm)	167 °F	75.0 °C	
0.12 in (3.0 mm)	167 °F	75.0 °C	
RTI Str			UL 746
0.030 in (0.75 mm)	167 °F	75.0 °C	
0.06 in (1.5 mm)	167 °F	75.0 °C	
0.12 in (3.0 mm)	167 °F	75.0 °C	

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Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	> 1.0E+15 ohms	> 1.0E+15 ohms	IEC 60093
Volume Resistivity	> 1.0E+13 ohms·m	> 1.0E+13 ohms·m	IEC 62631-3-1
Comparative Tracking Index	225 V	225 V	IEC 60112
Flammability	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Burning Rate			ISO 3795
0.0295 in (0.750 mm), Self-Extinguishing	0.0 in/min	0.0 mm/min	
0.0591 in (1.50 mm), Self-Extinguishing	0.0 in/min	0.0 mm/min	
0.118 in (3.00 mm), Self-Extinguishing	0.0 in/min	0.0 mm/min	
Flame Rating			UL 94 IEC 60695-11-10, -20
0.030 in (0.75 mm)	V-0	V-0	
0.06 in (1.5 mm)	• V-0 • 5VA	• V-0 • 5VA	
0.12 in (3.0 mm)	V-0	V-0	
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)	1250 °F	675 °C	
0.06 in (1.5 mm)	1250 °F	675 °C	
0.12 in (3.0 mm)	1250 °F	675 °C	
Oxygen Index	30 %	30 %	ISO 4589-2

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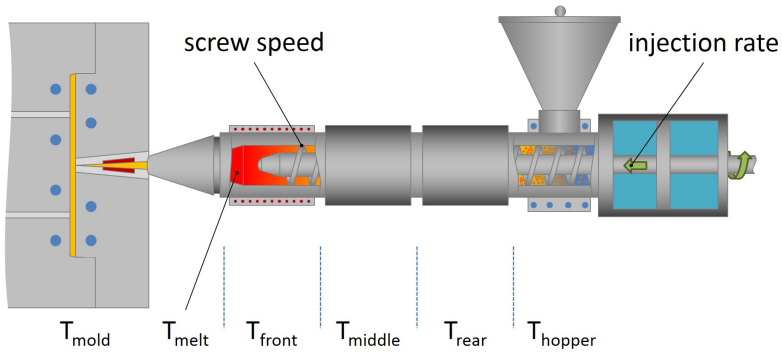

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	248 °F	120 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Suggested Max Moisture	0.02 %	0.02 %
Suggested Max Regrind	25 %	25 %
Processing (Melt) Temp	482 to 500 °F	250 to 260 °C
Mold Temperature	158 to 194 °F	70 to 90 °C
Injection Rate	Slow-Moderate	Slow-Moderate
Back Pressure	290 to 1160 psi	2.00 to 8.00 MPa
Screw Speed	< 591 in/min	< 15 m/min
Injection Notes		
Mould surfaces in contact with melt should be of non-corrosive steel, chrome content >12%		

Notes

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