

SCHULADUR® A GF 20 HF FR 1

Polybutylene Terephthalate

A. Schulman Europe

Message:

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

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 20% filler by weight		
Features	Good dimensional stability		
	High liquidity		
	Halogenated		
	Fill		
	Flame retardancy		
UL File Number	E86615		
Processing Method	Injection molding		
Resin ID (ISO 1043)	PBT GF20 FR(17)		
Physical	Nominal Value	Unit	Test Method
Density	1.58	g/cm³	ISO 1183/A
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	40.0	cm³/10min	ISO 1133
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	8500	MPa	ISO 527-2/1A/1
Tensile Stress (Break)	120	MPa	ISO 527-2/1A/5
Tensile Strain (Break)	2.5	%	ISO 527-2/1A/5
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C	5.0	kJ/m²	ISO 179/1eA
23°C	6.0	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	30	kJ/m²	ISO 179/1eU
23°C	40	kJ/m²	ISO 179/1eU
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, not annealed	217	°C	ISO 75-2/Bf
1.8 MPa, not annealed	197	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	218	°C	ISO 306/A50
--	202	°C	ISO 306/B50
RTI Elec			UL 746

0.750 mm	75.0	°C	UL 746
1.50 mm	75.0	°C	UL 746
3.00 mm	75.0	°C	UL 746
RTI Imp			UL 746
0.750 mm	75.0	°C	UL 746
1.50 mm	75.0	°C	UL 746
3.00 mm	75.0	°C	UL 746
RTI			UL 746
0.750 mm	75.0	°C	UL 746
1.50 mm	75.0	°C	UL 746
3.00 mm	75.0	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+13	ohms · cm	IEC 60093
Comparative Tracking Index	225	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Burning Rate			ISO 3795
0.750mm, automatic fire extinguishing	0.0	mm/min	ISO 3795
1.50mm, automatic fire extinguishing	0.0	mm/min	ISO 3795
3.00mm, automatic fire extinguishing	0.0	mm/min	ISO 3795
Flame Rating			UL 94, IEC 60695-11-10, -20
0.750 mm	V-0		UL 94, IEC 60695-11-10, -20
	V-0		
1.50 mm	5VA		UL 94, IEC 60695-11-10, -20
3.00 mm	V-0		UL 94, IEC 60695-11-10, -20
Glow Wire Flammability Index			IEC 60695-2-12
0.750 mm	960	°C	IEC 60695-2-12
1.50 mm	960	°C	IEC 60695-2-12
3.00 mm	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			IEC 60695-2-13
0.750 mm	675	°C	IEC 60695-2-13
1.50 mm	675	°C	IEC 60695-2-13
3.00 mm	675	°C	IEC 60695-2-13
Oxygen Index	30	%	ISO 4589-2
Additional Information			

1.)

Not for use in food contact applications2.)

Not for use in medical or pharmaceutical applicationsCharacteristic propertiesSCHULADUR possesses good rigidity, cold impact strength, dimensional stability and high heat deflection temperature.

Injection	Nominal Value	Unit
Drying Temperature	120	°C
Drying Time	2.0 - 4.0	hr
Suggested Max Moisture	0.050	%
Suggested Max Regrind	10	%
Hopper Temperature	70.0	°C
Rear Temperature	230	°C
Middle Temperature	245	°C
Front Temperature	260	°C
Nozzle Temperature	260	°C
Processing (Melt) Temp	250 - 260	°C
Mold Temperature	70.0 - 90.0	°C
Injection Pressure	80.0 - 120	MPa
Injection Rate	Moderate	
Holding Pressure	40.0 - 70.0	MPa
Back Pressure	5.00 - 10.0	MPa
Cushion	2.00 - 5.00	mm
Vent Depth	0.020	mm
Screw Speed		mm/sec

Injection instructions

Predrying A dehumidifying dryer has to be used for drying. Unless a drying hopper is in use, material for no more than one hours processing should be placed in the hopper. Reprocessing Up to 20% regrind may be used, in which case use of additional stabilization is recommended as a safety precaution. Use only well dried regrind. Shut down After breaks >2 minutes purge with fresh material. For shut down purge with polyolefin. For breaks in production reduce the temperature to 210° C. Finishing SCHULADUR is suitable for machining. Varnishing, printing, gluing and embossing can be carried out using commercially available products after pretreatment. This is often achieved by washing the surface with an organic solvent. It can be laser marked without special Additives. For improved contrast use specific laser printable types.

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