Technical Data Sheet

Schulamid 66 GF 25 FR 5 A NAT

Polyamide 66

Product Description

25% glass fibre reinforced flame-retardant Polyamide 66 grade; without PBDE and antimony trioxide

Processing Method	Injection Molding
Attribute	Antimony Free; Good Electrical Properties; Good Strength
Additive	Flame Retardant
Filler/Reinforcement	Glass Fiber, 25%
Resin ID	PA 66 GF25 FR(16+72)

Typical Properties	Nominal Value	Units	Test Method
Physical			
Density, (Method A)	1.59	g/cm³	ISO 1183
Viscosity Number	170	cm³/g	ISO 307
Mechanical			
Tensile Strain at Break			
(Type 1A, 5 mm/min)	2.2	%	ISO 527-2
(Type 1A, 5 mm/min) - Conditioned	3.0	%	ISO 527-2
Flexural Modulus, (2.0 mm/min)	8600	MPa	ISO 178
Tensile Stress at Break			
(Type 1A, 5 mm/min)	125	MPa	ISO 527-2
(Type 1A, 5 mm/min) - Conditioned	112	MPa	ISO 527-2
Tensile Modulus			
(1 mm/min, Type 1A)	9800	MPa	ISO 527-1
(1 mm/min, Type 1A) - Conditioned	8000	MPa	ISO 527-1
Flexural Stress, (2.0 mm/min, 2.9%)	195	MPa	ISO 178
Impact			
Charpy Impact Strength - Notched			
(23 °C, Type 1, Edgewise, Notch A)	10	kJ/m²	ISO 179
(-30 °C, Type 1, Edgewise, Notch A)	10	kJ/m²	ISO 179
(23 °C, Type 1, Edgewise, Notch A) - Conditioned	12	kJ/m²	ISO 179
Charpy Impact Strength - Unnotched			
(23 °C, Type 1, Edgewise)	52	kJ/m²	ISO 179
(-30 °C, Type 1, Edgewise)	52	kJ/m²	ISO 179
(23 °C, Type 1, Edgewise) - Conditioned	55	kJ/m²	ISO 179
Notched Izod Impact Strength, (23 °C, Type 1, Notch A)	8.5	kJ/m²	ISO 180
Unnotched Izod Impact Strength, (23 °C, Type 1)	46	kJ/m²	ISO 180

Hardness			
Ball Pressure Test, (200 °C)	Pass		IEC 60695-10-2
Thermal			
Vicat Softening Temperature			
(B (50N), 50 °C/h)	229	°C	ISO 306
(A (10N), 50 °C/h)	>250	°C	ISO 306
Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise)	>250	°C	ISO 75-2/B
Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise)	240	°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
(0.50 mm)	130	°C	UL 746B
RTI Imp			
(1.5 mm)	110	°C	UL 746B
(3.0 mm)	110	°C	UL 746B
(0.75 mm)	105	°C	UL 746B
(0.50 mm)	105	°C	UL 746B
RTI Str			
(1.5 mm)	120	°C	UL 746B
(3.0 mm)	120	°C	UL 746B
(0.75 mm)	105	°C	UL 746B
(0.50 mm)	105	°C	UL 746B
Electrical			
Volume Resistivity	2700000000000000	ohm*m	IEC 62631-3-1
- Conditioned	1800000000000000	ohm*m	IEC 62631-3-1
Dielectric Strength	28	kV/mm	IEC 60243-1
Comparative Tracking Index (CTI)	400	V	IEC 60112
High Amp Arc Ignition			UL 746A
Surface Resistivity	4700000000000000	ohm	IEC 60093
- Conditioned	1400000000000000	ohm	IEC 60093
Flammable			
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
(0.500 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)	900	°C	IEC 60695-2-13
(0.75 mm)	900	°C	IEC 60695-2-13
(1.5 mm)	900	°C	IEC 60695-2-13
(3.0 mm)	930	°C	IEC 60695-2-13

Oxygen Index	34	%	ISO 4589-2
UL Information			
Flame Rating			
(1.5 mm)	V-0		UL 94
(1.5 mm)	5VA		UL 94
(3.0 mm)	V-0		UL 94
(3.0 mm)	5VA		UL 94
(0.75 mm)	V-0		UL 94
(0.50 mm)	V-0		UL 94
Flammability Classification			
(0.50 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
(1.5 mm)	5VA		IEC 60695-11-10, -20
(3.0 mm)	5VA		IEC 60695-11-10, -20
(3.0 mm)	V-0		IEC 60695-11-10, -20
UL File Number			
(Global)	E344659		
(Global)	E86615		

Injection Parameters	Nominal Value	Units
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	270 to 300	°C
Injection Rate	Slow-Moderate	
Back Pressure	20 to 80	bar
Mold Temperature	60 to 90	°C