Technical Data Sheet

Schulamid 6 MV14 GW FR BLK968001

Polyamide 6

Product Description

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

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

Typical Properties	Nominal Value	Units	Test Method
Physical			
Density, (Method A)	1.19	g/cm³	ISO 1183
Viscosity Number	145	cm³/g	ISO 307
Mechanical			
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	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	130	MPa	ISO 178
- Conditioned	48	MPa	ISO 178
Impact			
Charpy Impact Strength - Notched			
(23 °C, Type 1, Edgewise, Notch A)	3.2	kJ/m²	ISO 179
(-30 °C, Type 1, Edgewise, Notch A)	3.2	kJ/m²	ISO 179
(23 °C, Type 1, Edgewise, Notch A) - Conditioned	7.2	kJ/m²	ISO 179

Charpy Impact Strength - Unnotched			
(23 °C, Type 1, Edgewise)	70	kJ/m²	ISO 179
(-30 °C, Type 1, Edgewise)	60	kJ/m²	ISO 179
(23 °C, Type 1, Edgewise) - Conditioned	No Break		ISO 179
Hardness			
Ball Pressure Test, (200 °C)	Pass		IEC 60695-10-2
Thermal			
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
Electrical			
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
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
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
UL Information			

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	

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	240 to 260	°C
Injection Rate	Slow-Moderate	
Back Pressure	2.00 to 8.00	MPa
Mold Temperature	60 to 90	°C