

Technical Data Sheet

SCHULAMID® 6 MV 14 FR BLACK HL3

Polyamide 6
Engineering Plastics

Product Description

Medium viscosity flame-retardant Polyamide 6 grade; halogen- and phosphorus-free

General

Features	• Flame Retardant	• Halogen Free	• Medium Viscosity
UL File Number	• E86615		
Processing Method	• Injection Molding		
Resin ID (ISO 1043)	• PA 6 FR(30)		

Physical	Dry	Conditioned	Unit	Test Method
Density	1.19	--	g/cm³	ISO 1183/A
Molding Shrinkage	0.80 to 1.5	--	%	ISO 294-4
Viscosity Number	145	--	cm³/g	ISO 307
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	537000 (3700)	174000 (1200)	psi (MPa)	ISO 527-2/1A/1
Tensile Stress (Yield)	10900 (75.0)	5220 (36.0)	psi (MPa)	ISO 527-2/1A/50
Tensile Strain (Yield)	4.0	30	%	ISO 527-2/1A/50
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-22°F (-30°C)	1.7 (3.6)	--	ft·lb/in² (kJ/m²)	
73°F (23°C)	1.9 (4.0)	8.6 (18)	ft·lb/in² (kJ/m²)	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F (-30°C)	33 (70)	--	ft·lb/in² (kJ/m²)	
73°F (23°C)	No Break	No Break		
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
66 psi (0.45 MPa), Unannealed	352 (178)	--	°F (°C)	ISO 75-2/Bf
264 psi (1.8 MPa), Unannealed	156 (69.0)	--	°F (°C)	ISO 75-2/Af
Vicat Softening Temperature				
--	419 (215)	--	°F (°C)	ISO 306/A50
--	401 (205)	--	°F (°C)	ISO 306/B50
Ball Pressure Test (392°F (200°C))	Pass	--		IEC 60695-10-2

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Thermal	Dry	Conditioned	Unit	Test Method
RTI Elec				UL 746
0.030 in (0.75 mm)	266 (130)	--	°F (°C)	
0.06 in (1.5 mm)	266 (130)	--	°F (°C)	
0.12 in (3.0 mm)	266 (130)	--	°F (°C)	
RTI Imp				UL 746
0.030 in (0.75 mm)	176 (80.0)	--	°F (°C)	
0.06 in (1.5 mm)	185 (85.0)	--	°F (°C)	
0.12 in (3.0 mm)	185 (85.0)	--	°F (°C)	
RTI Str				UL 746
0.030 in (0.75 mm)	221 (105)	--	°F (°C)	
0.06 in (1.5 mm)	239 (115)	--	°F (°C)	
0.12 in (3.0 mm)	311 (155)	--	°F (°C)	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	> 1.0E+15	> 1.0E+12	ohms	IEC 60093
Volume Resistivity	> 1.0E+13	> 1.0E+10	ohms·m	IEC 62631-3-1
Comparative Tracking Index	600	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
0.030 in (0.75 mm)	PLC 0	--		
0.06 in (1.5 mm)	PLC 0	--		
0.12 in (3.0 mm)	PLC 0	--		
Hot-wire Ignition (HWI)				UL 746
0.030 in (0.75 mm)	PLC 3	--		
0.06 in (1.5 mm)	PLC 3	--		
0.12 in (3.0 mm)	PLC 2	--		
Flammability	Dry	Conditioned	Unit	Test Method
Burning Rate				ISO 3795
0.0295 in (0.750 mm), Self-Extinguishing	0.0	--	in/min (mm/min)	
0.0591 in (1.50 mm), Self-Extinguishing	0.0	--	in/min (mm/min)	
0.118 in (3.00 mm), Self-Extinguishing	0.0	--	in/min (mm/min)	

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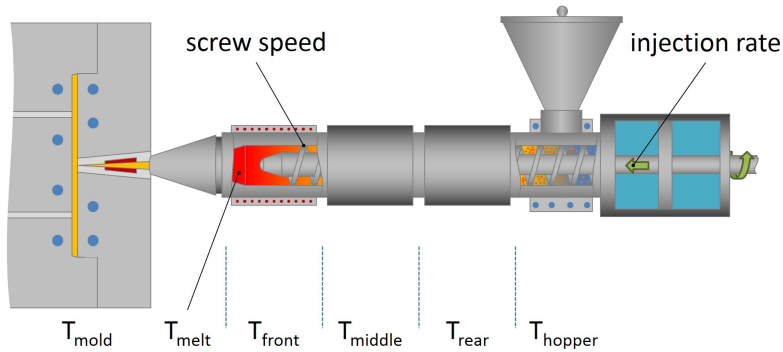
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Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94 IEC 60695-11-10, -20
0.030 in (0.75 mm)	V-0	--		
0.06 in (1.5 mm)	V-0	--		
0.12 in (3.0 mm)	V-0	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.030 in (0.75 mm)	1760 (960)	--	°F (°C)	
0.06 in (1.5 mm)	1760 (960)	--	°F (°C)	
0.12 in (3.0 mm)	1760 (960)	--	°F (°C)	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.030 in (0.75 mm)	1290 (700)	--	°F (°C)	
0.06 in (1.5 mm)	1290 (700)	--	°F (°C)	
0.12 in (3.0 mm)	1290 (700)	--	°F (°C)	
Oxygen Index	36	--	%	ISO 4589-2

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Injection	Dry (English)	Dry (SI)
Drying Temperature	176 °F	80 °C
Drying Time	4.0 to 6.0 hr	4.0 to 6.0 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 194 °F	60 to 90 °C
Injection Rate	Slow-Moderate	Slow-Moderate
Back Pressure	290 to 1160 psi	2.00 to 8.00 MPa
Back Pressure	< 591 in/min	< 15 m/min
Screw Speed	< 591 in/min	< 15 m/min

Notes

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