

Technical Data Sheet

Schulamid 6 GF 15 FR 4 K1681 NAT



Polyamide 6

Product Description

15% glass fibre reinforced flame-retardant Polyamide 6 grade without PBDE

Regulatory Status

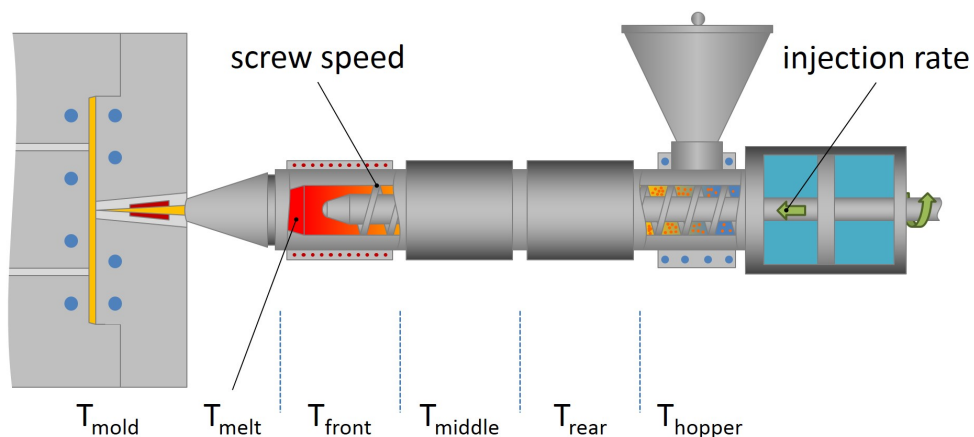
For regulatory compliance information, see *Schulamid 6 GF 15 FR 4 K1681 NAT* [Product Stewardship Bulletin \(PSB\)](#) and [Safety Data Sheet \(SDS\)](#).

Status	Commercial: Active
Availability	Africa-Middle East; Asia-Pacific; Europe; Latin America; North America
Processing Method	Injection Molding
Additive	Flame Retardant
Filler/Reinforcement	Glass Fiber, 15%
Resin ID	PA6 GF15 FR(17+30)

Typical Properties	Nominal Value	Units	Test Method
Physical			
Density, (Method A)	1.38	g/cm ³	ISO 1183
Viscosity Number	145	cm ³ /g	ISO 307
Mechanical			
Tensile Strain at Break			
(Type 1A, 5 mm/min)	3.5	%	ISO 527-2
(Type 1A, 5 mm/min) - Conditioned	8.5	%	ISO 527-2
Tensile Stress at Break			
(Type 1A, 5 mm/min)	117	MPa	ISO 527-2
(Type 1A, 5 mm/min) - Conditioned	71.0	MPa	ISO 527-2
Tensile Modulus			
(1 mm/min, Type 1A)	7100	MPa	ISO 527-1
(1 mm/min, Type 1A) - Conditioned	4000	MPa	ISO 527-1
Impact			
Charpy Impact Strength - Notched			
(23 °C, Type 1, Edgewise, Notch A)	9.0	kJ/m ²	ISO 179
(-30 °C, Type 1, Edgewise, Notch A)	6.0	kJ/m ²	ISO 179
(23 °C, Type 1, Edgewise, Notch A) - Conditioned	14	kJ/m ²	ISO 179
Charpy Impact Strength - Unnotched			
(23 °C, Type 1, Edgewise)	60	kJ/m ²	ISO 179
(-30 °C, Type 1, Edgewise)	55	kJ/m ²	ISO 179
(23 °C, Type 1, Edgewise) - Conditioned	70	kJ/m ²	ISO 179
Hardness			
Ball Pressure Test, (200 °C)	Pass		IEC 60695-10-2
Thermal			

Deflection Temperature Under Load Unannealed (0.45 MPa), (Flatwise)	223	°C	ISO 75-2/B
Deflection Temperature Under Load Unannealed (1.80 MPa), (Flatwise)	203	°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)	100	°C	UL 746B
(3.0 mm)	100	°C	UL 746B
(0.75 mm)	90.0	°C	UL 746B
(0.38 mm)	75.0	°C	UL 746B
RTI Str			
(1.5 mm)	120	°C	UL 746B
(3.0 mm)	120	°C	UL 746B
(0.75 mm)	110	°C	UL 746B
(0.38 mm)	100	°C	UL 746B
Electrical			
Volume Resistivity	>1.0E+13	ohm*m	IEC 62631-3-1
- Conditioned	>1.0E+10	ohm*m	IEC 62631-3-1
Comparative Tracking Index (CTI)	275	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
(0.380 mm, Self-Extinguishing)	0.0	mm/min	ISO 3795
Glow Wire Flammability Index			
(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
(0.38 mm)	850	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			
(0.75 mm)	900	°C	IEC 60695-2-13
(1.5 mm)	900	°C	IEC 60695-2-13
(3.0 mm)	900	°C	IEC 60695-2-13
(0.38 mm)	825	°C	IEC 60695-2-13
Oxygen Index	26	%	ISO 4589-2
UL Information			
Flame Rating			
(1.5 mm)	V-2		UL 94
(3.0 mm)	V-2		UL 94
(0.75 mm)	V-2		UL 94
(0.38 mm)	V-2		UL 94

Flammability Classification		
(0.38 mm)	V-2	IEC 60695-11-10, -20
(0.75 mm)	V-2	IEC 60695-11-10, -20
(1.5 mm)	V-2	IEC 60695-11-10, -20
(3.0 mm)	V-2	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	0.1	%
Screw Speed	<250	mm/sec
Processing (Melt) Temp	240 to 260	°C
Injection Rate	Slow-Moderate	
Back Pressure	20 to 80	bar
Mold Temperature	60 to 90	°C

Notes

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

Processing notes

Melt contacting surfaces should be made of a high quality, corrosive resistant steel. Positive experiences have been made with steel qualities containing > 12% chromium.

Avoid processing at very barrel high temperatures or above the recommended melt temperature range as this can increase risk of deposit onto the tool surfaces. Avoid long residence times. At start and end of production, it is recommended to purge clean with non-flame retardant polymer or a polyolefin.

Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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