

Eurostar Starflam AFR682A1 PA66, Mineral Reinforced, Flame Retardant, Injection Molding

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 10% Mineral Filled

Material Notes:

Starflam AFR682A1 is a Flame Retardant, Mineral Filled Polyamide 66, Injection Molding Resin. Information provided by Eurostar.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Eurostar-Starflam-AFR682A1-PA66-Mineral-Reinforced-Flame-Retardant-Injection-Molding.php

Physical Properties	Metric	English	Comments
Density	1.60 g/cc	0.0578 lb/in ³	ISO 1183
Moisture Absorption	0.600 % @Temperature 23.0 °C	0.600 % @Temperature 73.4 °F	50% RH; ISO 62
Water Absorption at Saturation	5.0 % @Temperature 23.0 °C	5.0 % @Temperature 73.4 °F	ISO 62-1
Linear Mold Shrinkage, Flow	0.0080 - 0.010 cm/cm	0.0080 - 0.010 in/in	on Tensile Bar; E2P method

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	118	118	ISO 2039-2
Hardness, H358/30	133 MPa	19300 psi	ISO 2039-1
Tensile Strength at Break	70.0 MPa	10200 psi	5 mm/min; ISO 527
Elongation at Break	2.8 %	2.8 %	5 mm/min; ISO 527
Tensile Modulus	7.50 GPa	1090 ksi	1 mm/min; ISO 527
Flexural Strength	120 MPa	17400 psi	2 mm/min; ISO 178
Flexural Modulus	6.80 GPa	986 ksi	2 mm/min; ISO 178
Izod Impact, Notched (ISO)	3.00 kJ/m ² @Temperature -40.0 °C	1.43 ft-lb/in ² @Temperature -40.0 °F	80x10x4; ISO 180/1A
	4.00 kJ/m ² @Temperature 23.0 °C	1.90 ft-lb/in ² @Temperature 73.4 °F	80x10x4; ISO 180/1A
	4.00 kJ/m ² @Temperature -20.0 °C	1.90 ft-lb/in ² @Temperature -4.00 °F	80x10x4; ISO 180/1A
	4.00 kJ/m ² @Temperature -30.0 °C	1.90 ft-lb/in ² @Temperature -22.0 °F	80x10x4; ISO 180/1A

Mechanical Properties	Metric	English	Comments
Izod Impact, Unnotched (ISO)			80x10x4; ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	27.0 kJ/m ²	12.8 ft-lb/in ²	80x10x4; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	3.00 J/cm ²	14.3 ft-lb/in ²	Edgew 80x10x4 sp=62; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	3.00 J/cm ²	14.3 ft-lb/in ²	Edgew 80x10x4 sp=62; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.400 J/cm ²	1.90 ft-lb/in ²	Edgew 80x10x4 sp=62; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.400 J/cm ²	1.90 ft-lb/in ²	Edgew 80x10x4 sp=62; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Taber Abrasion, mg/1000 Cycles	34	34	CS-17; E2P Method
	@Load 1.00 kg	@Load 2.20 lb	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	35.0 µm/m-°C	19.4 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 60.0 °C	@Temperature 73.4 - 140 °F	
CTE, linear, Transverse to Flow	45.0 µm/m-°C	25.0 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 60.0 °C	@Temperature 73.4 - 140 °F	
Thermal Conductivity	0.350 W/m-K	2.43 BTU-in/hr-ft ² -°F	ISO 8302
Hot Ball Pressure Test	123 - 127 °C	253 - 261 °F	IEC 60695-10-2
Deflection Temperature at 0.46 MPa (66 psi)	235 °C	455 °F	Edgew 120x10x4, sp=100 mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	145 °C	293 °F	Edgew 120x10x4, sp=100 mm; ISO 75/Ae
Vicat Softening Point	235 °C	455 °F	B/120; ISO 306
	235 °C	455 °F	B/50; ISO 306
UL RTI, Electrical	65.0 °C	149 °F	
UL RTI, Mechanical with Impact	65.0 °C	149 °F	
UL RTI, Mechanical without Impact	65.0 °C	149 °F	

Thermal Properties	Metric	English	Comments
Flammability, UL94	@Thickness 0.750 mm	@Thickness 0.0295 in	
Oxygen Index	32 %	32 %	ISO 4589
Glow Wire Test	960 °C @Thickness 2.00 mm	1760 °F @Thickness 0.0787 in	IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+16 ohm	>= 1.00e+16 ohm	IEC 60093
Dielectric Constant	3.2	3.2	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	3.4	3.4	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dielectric Strength	24.0 kV/mm	610 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	0.0104	0.0104	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dissipation Factor	0.0122	0.0122	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	600 V	600 V	IEC 60112

Processing Properties	Metric	English	Comments
Zone 1	260 - 270 °C	500 - 518 °F	
Zone 2	270 - 280 °C	518 - 536 °F	
Zone 3	270 - 285 °C	518 - 545 °F	
Melt Temperature	270 - 285 °C	518 - 545 °F	
Mold Temperature	60.0 - 90.0 °C	140 - 194 °F	
Drying Temperature	75.0 - 85.0 °C	167 - 185 °F	
	@Time 14400 - 21600		

Processing Properties	^{sec} Metric	@Time 4.00 - 6.00 hour English	Comments
Moisture Content	0.20 %	0.20 %	

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