

Starflam AFR682A1

Polyamide 66
Eurostar Engineering Plastics

Message:
Starflam AFR682A1 is a Flame Retardant, Mineral Filled Polyamide 66 Injection Molding Resin

General Information			
UL YellowCard	E340012-100759109		
Filler / Reinforcement	Mineral		
Features	Flame Retardant		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.60	g/cm ³	ISO 1183
Molding Shrinkage - Flow ¹	0.80 to 1.0	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	5.0	%	
Equilibrium, 23°C, 50% RH	0.60	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	118		ISO 2039-2
Ball Indentation Hardness (H 358/30)	133	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	7500	MPa	ISO 527-2/1
Tensile Stress (Break)	70.0	MPa	ISO 527-2/5
Tensile Strain (Break)	2.8	%	ISO 527-2/5
Flexural Modulus ²	6800	MPa	ISO 178
Flexural Stress	120	MPa	ISO 178
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	34.0	mg	Internal Method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ³			ISO 179/1eA
-30°C	2.0	kJ/m ²	
23°C	3.0	kJ/m ²	
Charpy Unnotched Impact Strength ⁴			ISO 179/1eU
-30°C	30	kJ/m ²	
23°C	30	kJ/m ²	
Notched Izod Impact Strength ⁵			ISO 180/1A
-40°C	3.0	kJ/m ²	
-30°C	4.0	kJ/m ²	
-20°C	4.0	kJ/m ²	

23°C	4.0	kJ/m ²	
Unnotched Izod Impact Strength ⁶			ISO 180/1U
-30°C	27	kJ/m ²	
23°C	27	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁷			
0.45 MPa, Unannealed, 100 mm Span	235	°C	ISO 75-2/Be
1.8 MPa, Unannealed, 100 mm Span	145	°C	ISO 75-2/Ae
Vicat Softening Temperature	235	°C	ISO 306/B50, ISO 306/B120
Ball Pressure Test ⁸ (125°C)	Pass		IEC 60695-10-2
CLTE			ISO 11359-2
Flow : 23 to 60°C	3.5E-5	cm/cm/°C	
Transverse : 23 to 60°C	4.5E-5	cm/cm/°C	
Thermal Conductivity	0.35	W/m/K	ISO 8302
RTI Elec	65.0	°C	UL 746
RTI Imp	65.0	°C	UL 746
RTI Str	65.0	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity ⁹	> 1.0E+16	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
Electric Strength (3.20 mm, in Oil)	24	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	3.40		
60 Hz	3.40		
1 MHz	3.20		
Dissipation Factor			IEC 60250
50 Hz	0.010		
60 Hz	0.010		
1 MHz	0.012		
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.750 mm)	V-2		UL 94
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Oxygen Index	32	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	75.0 to 85.0	°C	
Drying Time	4.0 to 6.0	hr	
Suggested Max Moisture	0.20	%	
Rear Temperature	260 to 270	°C	
Middle Temperature	270 to 280	°C	
Front Temperature	270 to 285	°C	
Processing (Melt) Temp	270 to 285	°C	

Mold Temperature	60.0 to 90.0	°C
NOTE		
1.	Tensile Bar	
2.	2.0 mm/min	
3.	80*10*4 sp=62mm	
4.	80*10*4 sp=62mm	
5.	80*10*4	
6.	80*10*4	
7.	120*10*4	
8.	125°C ±2°C	
9.	ROA	

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