

Starflam AFR450X1

Polyamide 66
Eurostar Engineering Plastics

Message:
Starflam AFR450X1 is a Red Phosphorous Flame Retardant, Glass Fiber Reinforced Polyamide 66 Injection Molding Resin

General Information			
UL YellowCard	E340012-100747896		
Filler / Reinforcement	Glass Fiber		
Additive	Flame Retardant 3		
Features	Flame Retardant		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.36	g/cm ³	ISO 1183
Molding Shrinkage - Flow ¹	0.30 to 0.50	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	6.0	%	
Equilibrium, 23°C, 50% RH	1.3	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (L-Scale)	108		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	8000	MPa	ISO 527-2/1
Tensile Stress (Break)	150	MPa	ISO 527-2/5
Tensile Strain (Break)	3.0	%	ISO 527-2/5
Flexural Modulus ²	7500	MPa	ISO 178
Flexural Stress	210	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ³			ISO 179/1eA
-30°C	8.0	kJ/m ²	
23°C	11	kJ/m ²	
Charpy Unnotched Impact Strength ⁴			ISO 179/1eU
-30°C	55	kJ/m ²	
23°C	65	kJ/m ²	
Notched Izod Impact Strength ⁵			ISO 180/1A
-40°C	8.0	kJ/m ²	
-20°C	9.0	kJ/m ²	
23°C	12	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁶			

0.45 MPa, Unannealed, 100 mm Span	250	°C	ISO 75-2/Be
1.8 MPa, Unannealed, 100 mm Span	230	°C	ISO 75-2/Ae
Vicat Softening Temperature	240	°C	ISO 306/B50, ISO 306/B120
Ball Pressure Test ⁷ (125°C)	Pass		IEC 60695-10-2
CLTE			ISO 11359-2
Flow : 23 to 60°C	2.5E-5	cm/cm/°C	
Transverse : 23 to 60°C	9.0E-5	cm/cm/°C	
RTI Elec	110	°C	UL 746
RTI Imp	110	°C	UL 746
RTI Str	115	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity ⁸	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
Electric Strength (3.20 mm, in Oil)	16	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	2.90		
60 Hz	2.90		
1 MHz	2.60		
Dissipation Factor			IEC 60250
50 Hz	4.9E-3		
60 Hz	4.9E-3		
1 MHz	0.012		
Comparative Tracking Index			IEC 60112
--	550	V	
Solution B	400	V	
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.750 mm)	V-0		UL 94
Glow Wire Flammability Index (2.00 mm)	960	°C	IEC 60695-2-12
Oxygen Index	28	%	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	0.10	%	
Rear Temperature	275 to 285	°C	
Middle Temperature	275 to 285	°C	
Front Temperature	275 to 285	°C	
Processing (Melt) Temp	275 to 285	°C	
Mold Temperature	70.0 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.	120*10*4
7.	125°C ±2°C
8.	ROA

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