

Starflam® AFR450X2

polyamide 66



Starflam AFR450X2 is a 25% glass filled, red phosphorous flame retardant PA66 for injection molded applications.

General

Regional Availability	• North America	• Europe	
Additive	• Flame Retarding Agent	• Heat Stabilizer	• Release agent
Features	• Flame Retardant	• Halogen Content, None	
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical

	dry	cond.	Unit	Test Standard
Density	1.38	-	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	1.0	*	%	
Flow : 23°C, 2.00 mm	0.5	*	%	
Water Absorption				ISO 62
23°C, 24 hr	1	*	%	
Equilibrium, 23°C, 50% RH	1.7	*	%	
Water Absorption, Saturation, 23°C	6		%	ISO 62

Mechanical

	dry	cond.	Unit	Test Standard
Tensile Modulus (23°C)	8600	5600	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	139	90	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	2.6	4.8	%	ISO 527-2
Flexural Modulus (23°C)	8200	5100	MPa	ISO 178
Flexural Strength (23°C)	203	119	MPa	ISO 178

Impact

	dry	cond.	Unit	Test Standard
Charpy Notched Impact Strength				ISO 179/1eA
+23°C	11	14	kJ/m ²	
-30°C	7.8	7.7	kJ/m ²	
-40°C	7.3	7	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
+23°C	67	72	kJ/m ²	
-30°C	60	58	kJ/m ²	
-40°C	58	57	kJ/m ²	
Notched Izod Impact Strength				ISO 180/1A
+23°C	9.7	13	kJ/m ²	

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-30°C	7.4	7.3	kJ/m²
-40°C	7.3	6.7	kJ/m²

Thermal	dry	cond.	Unit	Test Standard
Heat Deflection Temperature				ISO 75-2/A
1.80 MPa, Unannealed	239	225	°C	
0.45 MPa, Unannealed	258	256	°C	
Melting Temperature	261	*	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	28	*	E-6/K	
Transverse : 23 to 55°C, 2.00 mm	90	*	E-6/K	
RTI Elec				UL 746
0.750 mm	110		°C	
1.50 mm	110		°C	
3.00 mm	110		°C	
RTI Imp				UL 746
0.750 mm	110		°C	
1.50mm	110		°C	
3.00 mm	110		°C	
RTI Str				UL 746
0.750 mm	115		°C	
1.50 mm	115		°C	
3.00 mm	120		°C	
Electrical	dry	cond.	Unit	Test Standard
Volume Resistivity (1.00 mm)	1E13	-	Ohm*m	IEC 60093
Surface resistivity (1.00 mm)	1E16	-	Ohm	IEC 62631-3-2
Dielectric Strength (1.00 mm)	24	22	kV/mm	IEC 60243
Comparative Tracking Index (3.00 mm)	600		V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
0.750 mm	PLC 0		-	
1.50 mm	PLC 0		-	
3.00 mm	PLC 0		-	
Hot-wire Ignition (HWI)				UL 746
0.750 mm	PLC 0		-	
1.50 mm	PLC 0		-	
3.00 mm	PLC 0		-	

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Flammability	Value	Test Standard
Flammability		UL 94
0.750 mm	V-2	
1.50 mm	V-0	
3.00 mm	V-0	

Injection	Value	Unit
Drying Temperature	75 - 85	°C
Drying Time	4	h
Suggested Max Moisture	0.1	%
Rear Temperature	275 - 285	°C
Middle Temperature	275 - 285	°C
Front Temperature	270 - 285	°C
Processing (Melt) Temperature	275 - 285	°C
Mold Temperature	60 - 90	°C

