

LNP Starflam* AFR450X1

Polyamide 66

SABIC Innovative Plastics Asia Pacific

Product Description

Flame retarded, halogen free, 25% glass fibre reinforced Polyamide 66 injection moulding resin.

General

Filler / Reinforcement	• Glass Fiber Reinforcement, 25% Filler by Weight		
Features	• Bromine Free	• Chlorine Free	• Flame Retardant
Forms	• Granules		
Processing Method	• Injection Molding		

Physical	Nominal Value	Unit	Test Method
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Specific Gravity	1.36	g/cm ³	ASTM D792 ISO 1183
Molding Shrinkage - Flow	0.30 to 0.50	%	ASTM D955
Water Absorption (Saturation, 23°C)	6.0	%	ISO 62

Mechanical	Nominal Value	Unit	Test Method
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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

Impact	Nominal Value	Unit	Test Method
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Charpy Notched Impact Strength			ISO 179/1eA
-30°C	8.0	kJ/m ²	
23°C	11	kJ/m ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-30°C	55	kJ/m ²	
23°C	65	kJ/m ²	
Notched Izod Impact Strength			ISO 180/1A
-40°C	8.00	kJ/m ²	
-20°C	9.00	kJ/m ²	
23°C	12.0	kJ/m ²	

Hardness	Nominal Value	Unit	Test Method
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Rockwell Hardness (L-Scale)	108		ISO 2039-2
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Thermal	Nominal Value	Unit	Test Method
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Heat Deflection Temperature ³			
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
CLTE			ISO 11359-2
Flow: 23 to 60°C	0.000025	cm/cm/°C	
Transverse: 23 to 60°C	0.000090	cm/cm/°C	

Electrical	Nominal Value	Unit	Test Method
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Surface Resistivity	1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohm·cm	IEC 60093
Relative Permittivity			IEC 60250
50 Hz	2.97		
1E+6 Hz	2.68		
Dissipation Factor			IEC 60250
50 Hz	0.0049		
1E+6 Hz	0.012		
Comparative Tracking Index	550	V	IEC 60112
Electric Strength (3.20 mm, in Oil)	16	kV/mm	IEC 60243-1

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Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL (0.750 mm)	V-0		UL 94
Glow Wire Ignition Temperature 2.00 mm, Passes	960	°C	IEC 60695-2-13
Oxygen Index	28	%	ISO 4589-2

UL 746	Nominal Value	Unit	Test Method
RTI Str	115	°C	UL 746
RTI Imp	110	°C	UL 746
RTI Elec	110	°C	UL 746

Additional Information
Ball Pressure Test, 125 C +/- 2 C, IEC 60035-1: PASSES Comparative Tracking Index, M, IEC 60112/3rd: 400.0000 V Flexural Strength, break, 2 mm/min, ISO 178: 210.0000 MPa Moisture Absorption (23 C / 50% RH) 1L, ISO 15512: 1.3000 % Moisture Absorption, 50% RH, 24 hrs, ASTM D 570: 0.7000 % Surface Resistivity, ROA, IEC 60093: >1E15 Ohm/Sq Volume Resistivity, IEC 60093: >1E15 Ohm-cm

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	%
Hopper Temperature	60.0 to 80.0	°C
Rear Temperature	270 to 290	°C
Middle Temperature	270 to 290	°C
Front Temperature	270 to 290	°C
Nozzle Temperature	260 to 280	°C
Processing (Melt) Temp	260 to 290	°C
Mold Temperature	90.0 to 120	°C