

Starflam® X-Protect RX12414

Ascend Performance Materials Operations LLC - Polyamide 66

General Information

Product Description

Starflam X-Protect RX12414 is an unfilled, flame retardant PA66 for injection molded applications. The material is halogen free and red phosphorus free.

General

Material Status	• Commercial: Active
Availability	• Europe • North America
Additive	• Flame Retardant • Heat Stabilizer • Mold Release
Features	• Flame Retardant • Halogen Free • Heat Stabilized
Appearance	• Natural Color
Forms	• Pellets
Processing Method	• Injection Molding
Resin ID	• PA66-X FR

Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.22	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	2.0	--	%	
Flow : 73°F, 0.0787 in	1.6	--	%	
Water Absorption (24 hr, 73°F)	1.5	--	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	1.7	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	537000	261000	psi	ISO 527-1
Tensile Stress (Yield, 73°F)	7830	4640	psi	ISO 527-2
Tensile Stress (Break, 73°F)	7690	4640	psi	ISO 527-2
Tensile Strain (Yield, 73°F)	2.5	24	%	ISO 527-2
Tensile Strain (Break, 73°F)	3.9	24	%	ISO 527-2
Flexural Modulus (73°F)	580000	203000	psi	ISO 178
Flexural Stress (73°F)	13300	4210	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-40°F	1.0	1.4	ft·lb/in ²	
-22°F	1.0	1.4	ft·lb/in ²	
73°F	1.2	2.3	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-40°F	18	19	ft·lb/in ²	
-22°F	17	20	ft·lb/in ²	
73°F	17	31	ft·lb/in ²	
Notched Izod Impact Strength				ISO 180/1A
-40°F	1.3	1.4	ft·lb/in ²	
-22°F	1.3	1.4	ft·lb/in ²	
73°F	1.0	1.5	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	354	--	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	165	--	°F	ISO 75-2/A
Melting Temperature	500	--	°F	ISO 11357-3
RTI Elec				UL 746B



0.031 in	266	--		°F
0.06 in	266	--		°F
0.12 in	266	--		°F
RTI Imp				UL 746B
0.031 in	149	--		°F
0.06 in	149	--		°F
0.12 in	149	--		°F
RTI Str				UL 746B
0.031 in	149	--		°F
0.06 in	149	--		°F
0.12 in	149	--		°F
Electrical	Dry	Conditioned	Unit	Test Method
Electric Strength (0.0394 in)	660	560	V/mil	IEC 60243-1
High Amp Arc Ignition (HAI)				UL 746A
0.03 in	PLC 0	--		
0.06 in	PLC 0	--		
0.12 in	PLC 0	--		
Hot-wire Ignition (HWI)				UL 746A
0.03 in	PLC 1	--		
0.06 in	PLC 1	--		
0.12 in	PLC 0	--		
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.031 in	V-1	--		
0.06 in	V-1	--		
0.12 in	V-0	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.031 in	1760	--		°F
0.06 in	1760	--		°F
0.12 in	1760	--		°F

Processing Information

Injection	Dry Unit
Drying Temperature	< 140 °F
Drying Time	< 4.0 hr
Suggested Max Moisture	< 0.20 %
Rear Temperature	500 to 536 °F
Middle Temperature	518 to 536 °F
Front Temperature	482 to 518 °F
Nozzle Temperature	518 to 536 °F
Processing (Melt) Temp	500 to 536 °F
Mold Temperature	104 to 194 °F

