

Starflam® P10002E

polyamide 6



Starflam P10002E is an unfilled, flame retardant PA6 for injection molded applications. The material is halogen free and red phosphorus free.

General

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

Physical

	dry	cond.	Unit	Test Standard
Density	1.17	-	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	1.2	*	%	
Flow : 23°C, 2.00 mm	1.3	*	%	
Water Absorption				ISO 62
23°C, 24 hr	2.2	*	%	
Equilibrium, 23°C, 50% RH	2.1	*	%	

Mechanical

	dry	cond.	Unit	Test Standard
Tensile Modulus (23°C)	3500	1400	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	78	43	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	5.5	32	%	ISO 527-2
Flexural Modulus (23°C)	3900	1200	MPa	ISO 178
Flexural Strength (23°C)	108	29	MPa	ISO 178

Impact

	dry	cond.	Unit	Test Standard
Charpy Notched Impact Strength				ISO 179/1eA
+23°C	3.5	10	kJ/m ²	
-30°C	3.9	4	kJ/m ²	
-40°C	2.2	3.1	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
+23°C	58	N	kJ/m ²	
-30°C	47	78	kJ/m ²	
-40°C	41	98	kJ/m ²	
Notched Izod Impact Strength				ISO 180/1A
+23°C	3.9	6.5	kJ/m ²	

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-30°C	2.7	4.6	kJ/m ²	
-40°C	2	3.8	kJ/m ²	
Unnotched Izod Impact Strength, +23°C	60	-	kJ/m ²	ISO 180/1U

Thermal	dry	cond.	Unit	Test Standard
Heat Deflection Temperature				ISO 75-2/A
1.80 MPa, Unannealed	75	91	°C	
0.45 MPa, Unannealed	174	177	°C	
Melting Temperature	224	*	°C	ISO 11357-3
RTI Elec				UL 746
0.750 mm	120		°C	
1.50 mm	120		°C	
3.00 mm	120		°C	
RTI Imp				UL 746
0.750 mm	65		°C	
1.50mm	75		°C	
3.00 mm	75		°C	
RTI Str				UL 746
0.750 mm	85		°C	
1.50 mm	85		°C	
3.00 mm	85		°C	

Electrical	dry	cond.	Unit	Test Standard
Dielectric Strength (1.00 mm)	27	27	kV/mm	IEC 60243
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 4		-	

Flammability	Value	Unit	Test Standard
Flammability			UL 94
0.400 mm	V-0	-	
0.750 mm	V-0	-	
1.50 mm	V-0	-	
3.00 mm	V-0	-	
Glow Wire Flammability Index			IEC 60695-2-12
0.750 mm	960	°C	

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Glow Wire Ignition Temperature
0.750 mm

725

°C

IEC 60695-2-13

Railway Application	dry	cond.	Unit	Test Standard
Oxygen index	35	-	%	EN ISO 4589-2
Smoke Density	92		Ds Max	EN ISO 5659-2
Smoke Toxicity	0.62		CIT _{NLP}	NF X 70-100-1/2
Railway Classification				EN 45545-2
R22	HL3		-	
R23	HL3		-	

Injection	Value	Unit
Drying Temperature	75 - 85	°C
Drying Time	4	h
Suggested Max Moisture	0.2	%
Rear Temperature	230 - 240	°C
Middle Temperature	235 - 245	°C
Front Temperature	240 - 260	°C
Processing (Melt) Temperature	240 - 260	°C
Mold Temperature	60 - 80	°C

