

Starflam® PZ0052E

polyamide 6



Starflam PZ0052E is a 25% glass fiber reinforced, 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	• Flame Retardant	• Halogen Content, None	
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical

	dry	cond.	Unit	Test Standard
Density	1.37	-	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	0.6	*	%	
Water Absorption				ISO 62
23°C, 24 hr	1.7	*	%	
Equilibrium, 23°C, 50% RH	2	*	%	

Mechanical

	dry	cond.	Unit	Test Standard
Tensile Modulus (23°C)	7300	4900	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	102	60	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	3.1	4.8	%	ISO 527-2
Flexural Modulus (23°C)	7100	3600	MPa	ISO 178
Flexural Strength (23°C)	165	73	MPa	ISO 178

Impact

	dry	cond.	Unit	Test Standard
Charpy Notched Impact Strength				ISO 179/1eA
+23°C	7.1	11	kJ/m ²	
-30°C	5.3	5.9	kJ/m ²	
-40°C	5	5.6	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
+23°C	51	64	kJ/m ²	
-30°C	44	50	kJ/m ²	
-40°C	44	49	kJ/m ²	
Notched Izod Impact Strength				ISO 180/1A
+23°C	5.7	9.4	kJ/m ²	

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-30°C	5.5	5.8	kJ/m²	
-40°C	5.4	5.4	kJ/m²	
Unnotched Izod Impact Strength, +23°C	25	-	kJ/m²	ISO 180/1U

Thermal	dry	cond.	Unit	Test Standard
Heat Deflection Temperature				ISO 75-2/A
1.80 MPa, Unannealed	194	188	°C	
0.45 MPa, Unannealed	215	211	°C	
Melting Temperature	221	*	°C	ISO 11357-3
RTI Elec				UL 746
0.750 mm	125		°C	
1.50 mm	125		°C	
3.00 mm	125		°C	
RTI Imp				UL 746
0.750 mm	125		°C	
1.50mm	125		°C	
3.00 mm	125		°C	
RTI Str				UL 746
0.750 mm	130		°C	
1.50 mm	130		°C	
3.00 mm	140		°C	

Electrical	dry	cond.	Unit	Test Standard
Dielectric Strength (1.00 mm)	29	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 2		-	
1.50 mm	PLC 2		-	
3.00 mm	PLC 2		-	

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

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Railway Application	dry	cond.	Unit	Test Standard
Oxygen index	30	-	%	EN ISO 4589-2
Smoke Density	151		Ds Max	EN ISO 5659-2
Smoke Toxicity	0.38		CIT _{NLP}	NF X 70-100-1/2
Railway Classification				EN 45545-2
R22	HL2		-	
R23	HL2		-	

Injection	Value	Unit
Drying Temperature	80	°C
Drying Time	4	h
Suggested Max Moisture	0.2	%
Rear Temperature	240 - 250	°C
Middle Temperature	250 - 260	°C
Front Temperature	250 - 270	°C
Processing (Melt) Temperature	250 - 270	°C
Mold Temperature	50 - 90	°C

