Torlon® 7130

Polyamide-imide

Solvay Specialty Polymers

Message:

Torlon 7130 is a 30% carbon fiber reinforced grade polyamideimide (PAI) resin. It has high strength, high modulus, excellent creep resistance, and good fatigue resistance. Thermal expansion characteristics are similar to steel, so it has excellent dimensional stability. Torlon PAI has the highest strength and rigidity among all thermoplastic resins that can withstand high temperatures of 275 °C(525 °F). And has excellent wear resistance, creep resistance and chemical resistance. This resin can be used for metal substitute materials, sliding blades, aviation components, impellers, shroud, pistons, housings and other components. It has injection molding and extrusion (E) grade.

General Information	
UL YellowCard	E140728-101236276
Filler / Reinforcement	Carbon fiber reinforced material, 30% filler by weight
Features	Semi-conductive Good dimensional stability Rigidity, high High temperature strength Good creep resistance Good compressive strength Good chemical resistance Fatigue resistance Heat resistance, high Flame retardancy
Uses	Semiconductor molding compound Films Gear Electrical/Electronic Applications Aircraft applications Industrial components Industrial application Aerospace applications Machine/mechanical parts Metal substitution Connector Business equipment Oil/Gas Supplies Shell
RoHS Compliance	RoHS compliance
Forms	Particle

Processing Method	Machining Profile extrusion molding Injection molding

Multi-Point Data	Isothermal Stress vs. Strain (ISO 11403-1)		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.48	g/cm³	ASTM D792
Molding Shrinkage - Flow	0.0 - 0.15	%	ASTM D955
Water Absorption (24 hr)	0.26	%	ASTM D570
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
--	22300	MPa	ASTM D1708
--	16500	MPa	ASTM D638
Tensile Strength	221	MPa	ASTM D638
Tensile Stress	203	MPa	ASTM D1708
Tensile Elongation			
Fracture [1]	6.0	%	ASTM D1708
Fracture	1.5	%	ASTM D638
Flexural Modulus			ASTM D790
23°C	19900	MPa	ASTM D790
232°C	15700	MPa	ASTM D790
Flexural Strength			ASTM D790
23°C	350	MPa	ASTM D790
232°C	174	MPa	ASTM D790
Compressive Modulus	9860	MPa	ASTM D695
Compressive Strength	254	MPa	ASTM D695
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact	48	J/m	ASTM D256
Unnotched Izod Impact	320	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Unannealed)	282	°C	ASTM D648
Thermal Conductivity	0.52	W/m/K	ASTM C177
Coefficient of Linear Thermal Expansion	9.0E-6	cm/cm/°C	ASTM D696
Injection	**Nominal Value**	**Unit**	
Drying Temperature	177	°C	
Drying Time	3.0	hr	
Suggested Max Moisture	0.050	%	
Rear Temperature	304	°C	
Nozzle Temperature	371	°C	
Mold Temperature	199 - 216	°C	
Back Pressure	6.89	MPa	

Screw Speed	50 - 100	rpm
Screw L/D Ratio	18.0:1.0 - 24.0:1.0	

Injection instructions
最低干燥条件:350 °F (177 ° C)温度下3小时, 300 °F (149°C)温度下4小时,或250 °F (121 °C)温度下16小时. 压缩比:1:1~1.5:1 开始时,压力保持在较高的设定值6,000-8,000 psi(41.37-55.16MPa) ,几秒钟后,降至~3,000-5,000psi(20.69-34.48MPa) ,进行保压. 成型部件需进行后固化.

NOTE	
1.	Previously, ASTM standard test method D1708 was used to measure the tensile properties of PAI and similar materials because small samples can save materials. The most widely used now is the ASTM D638 1 Bar specimen. The D1708 value contained is only used as a historical reference and is not used for comparison with the D638 value.

Recommended distributors for this material

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