

## Solvay Specialty Polymers Torlon® 7130 Polyamide-imide (PAI) (Unverified Data\*\*)

Category : Polymer , Thermoplastic , Polyamide-imide (PAI)

### Material Notes:

Torlon 7130 is an 30% carbon-fiber reinforced grade of polyamide-imide (PAI) resin. It offers high strength and modulus, exceptional creep resistance, and good fatigue resistance. It has thermal expansion characteristics similar to steel, and therefore excellent dimensional stability. Torlon PAI has the highest strength and stiffness of any thermoplastic up to 275°C (525°F). It has outstanding resistance to wear, creep, and chemicals. The potential applications for this resin include metal replacement, sliding vanes, aerospace parts, impellers, shrouds, pistons, and housings. It is available in injection molding and extrusion (E) grades. Injection Notes: Minimum drying conditions: 3 hours at 350°F (177°C), 4 hours at 300°F (149°C), or 16 hours at 250°F (121°C). Compression Ratio: 1:1 to 1.5:1 Begin hold pressure at a high setting 6,000-8,000 psi (41.37-55.16 MPa), for several seconds, then drop off to 3,000-5,000 psi (20.69-34.48 MPa), for the duration of the hold pressure sequence. Molded parts must be post cured. Information provided by Solvay Specialty Polymers.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Solvay-Specialty-Polymers-Torlon-7130-Polyamide-imide-PAI-nbspUnverified-Data.php](http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Torlon-7130-Polyamide-imide-PAI-nbspUnverified-Data.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.48 g/cc	1.48 g/cc	ASTM D792
Filler Content	30 %	30 %	Carbon Fiber Reinforcement
Water Absorption	0.26 % @Time 86400 sec	0.26 % @Time 24.0 hour	ASTM D570
Linear Mold Shrinkage, Flow	0.00 - 0.0015 cm/cm	0.00 - 0.0015 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Tensile Strength	221 MPa	32100 psi	ASTM D638
Tensile Stress	203 MPa	29400 psi	ASTM D1708
Elongation at Break	1.5 %	1.5 %	ASTM D638
	6.0 %	6.0 %	ASTM D1708
Tensile Modulus	16.5 GPa	2390 ksi	ASTM D638
	22.3 GPa	3230 ksi	ASTM D1708
Flexural Strength	174 MPa @Temperature 232 °C	25200 psi @Temperature 450 °F	ASTM D790
	350 MPa @Temperature 23.0 °C	50800 psi @Temperature 73.4 °F	ASTM D790

Mechanical Properties	15.7 GPa Metric	2280 ksi English	Comments
	@Temperature 232 °C	@Temperature 450 °F	
	19.9 GPa	2890 ksi	ASTM D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compressive Strength	254 MPa	36800 psi	ASTM D695
Compressive Modulus	9.86 GPa	1430 ksi	ASTM D695
Izod Impact, Notched	0.480 J/cm	0.899 ft-lb/in	ASTM D256
	3.20 J/cm	5.99 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	9.00 µm/m-°C	5.00 µin/in-°F	ASTM D696
Thermal Conductivity	0.520 W/m-K	3.61 BTU-in/hr-ft <sup>2</sup> -°F	ASTM C177
Deflection Temperature at 1.8 MPa (264 psi)	282 °C	540 °F	Unannealed; ASTM D648

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	304 °C	579 °F	
Nozzle Temperature	371 °C	700 °F	
Mold Temperature	199 - 216 °C	390 - 421 °F	
Drying Temperature	177 °C	351 °F	
Dry Time	3.00 hour	3.00 hour	
Moisture Content	0.050 %	0.050 %	
Back Pressure	6.89 MPa	999 psi	
Screw Speed	50 - 100 rpm	50 - 100 rpm	

Descriptive Properties	Value	Comments
Availability	Africa & Middle East	
	Asia Pacific	
	Europe	
	North America	
	South America	

Descriptive Properties	Value	Resistant	Comments
	Flame Retardant		
	Good Chemical Resistance		
	Good Compressive Strength		
	Good Creep Resistance		
	Good Dimensional Stability		
	High Heat Resistance		
	High Stiffness		
	High Temperature Strength		
	Semi Conductive		
Forms	Pellets		
Generic	PAI		
Processing Method	Injection Molding		
	Machining		
	Profile Extrusion		
RoHS Compliance	RoHS Compliant		
Screw L/D Ratio	18.0:1.0 to 24.0:1.0		
Uses	Aerospace Applications		
	Aircraft Applications		
	Business Equipment		
	Connectors		
	Electrical/Electronic Applications		
	Film		
	Gears		
	Housings		
	Industrial Applications		
	Industrial Parts		
	Machine/Mechanical Parts		

Descriptive Properties	Value	Comments
	Metal Replacement	
	Oil/Gas Applications	
	Semiconductor Molding Compounds	

## Contact Songhan Plastic Technology Co.,Ltd.

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