



TORLON® 7130 PAI

30% Carbon Fiber Reinforced

DESCRIPTION

TORLON® 7130 is recognized as the strongest and stiffest of polyamide-imide grades. Torlon 7130 also has the lowest CLTE, closely matching both aluminum and many advanced composites. The high surface hardness, resulting from the carbon fiber, results in good wear resistance in well lubricated service.

TYPICAL APPLICATIONS:

- Vacuum pump vanes
- Labyrinth seals
- Mechanical stand-offs and linkages
- Impellers, wear rings and guides

EXTRUDED SHAPES PROPERTIES

PHYSICAL PROPERTIES	METRIC	IMPERIAL	METHODS
Specific Gravity	1.47 g/cc	0.054 lb/in ³	ASTM D792
Water Absorption	0.3%	0.3%	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	1.5%	1.5%	Immersion; ASTM D570(2)
MECHANICAL PROPERTIES ¹			
Hardness, Rockwell M		M125	ASTM D785
Hardness, Rockwell		E91	ASTM D785
Hardness, Shore D		88	ASTM D2240
Tensile Strength, Ultimate	152 MPa	22,000 PSI	ASTM D638
Elongation at Break	3%	3%	ASTM D638
Tensile Modulus	8,275 MPa	1,200,000 PSI	ASTM D638
Flexural Modulus	6,900 MPa	1,000,000 PSI	ASTM D790
Flexural Yield Strength	220 MPa	32,000 PSI	ASTM D790
Compressive Strength	255 MPa	37,000 PSI	10% Def.; ASTM D695
Compressive Modulus	7,240 MPa	1,050,000 PSI	ASTM D695
Izod Impact (notched)	42 J/m	0.9 ft-lbs/in	ASTM D256 Type A
THERMAL PROPERTIES			
Melt Point/T _g	275° C	527° F	ASTM D3418
Heat Deflection Temperature (264 PSI)	278° C	532° F	ASTM TMA
Coefficient of Linear Thermal Expansion	0.9 x 10 ⁻⁵ C ⁻¹	0.5 x 10 ⁻⁵ F ⁻¹	E831 TMA

¹The mechanical properties of extruded shapes may differ from the values published by resin producers. Published resin data is always generated from test specimens injection molded under optimum conditions. Drake's extruded shape values are generated using specimens machined from actual shapes and may reflect surface imperfections from machining, enhanced crystallinity as a result of processing, and fiber alignment inherent in all reinforced plastic shapes, regardless of process. For additional information on the effects of fiber alignment, see Drake Fiber Orientation Diagram, available on the Resource page of our website.