TORLON® 4275

Premium Bearing Grade

DESCRIPTION

TORLON® 4275 is a wear-resistant grade of polyamide-imde (PAI) offering an excellent balance of mechanical properties and wear resistance for more demanding applications. It has comparable strength, but a higher modulus than 4301, combined with better wear resistance at both high velocity and high pressure conditions.

TYPICAL APPLICATIONS:

- Thrust washers
- Valve seats
- Bushings & ball bearing spacers
- Wear rings requiring strength at high temperature & wear resistance

Material Notes: *Torlon 4275 contains 20% graphite and 3% PTFE. The wear rate and limiting PV for machined parts can be improved in post-cured parts after machining to achieve optimum wear resistance on the part's outer surface.*

EXTRUDED SHAPES PROPERTIES

PHYSICAL PROPERTIES	METRIC	IMPERIAL	METHODS
Specific Gravity	1.51 g/cc	0.054 lb/in^3	ASTM D792
Water Absorption	0.47%	0.47%	Immersion, 24hr; ASTM D570(2)
Water Absoption at Saturation	1.5%	1.5%	Immersion; ASTM D570(2)
MECHANICAL PROPERTIES*			
Hardness, Rockwell M		M102	ASTM D785
Hardness, Rockwell		E68	ASTM D785
Hardness, Shore D		88	ASTM D2240
Tensile Strength, Ultimate	107 MPa	15,500 PSI	ASTM D638
Elongation at Break	4%	4%	ASTM D638
Tensile Modulus	6760 MPa	980,000 PSI	ASTM D638
Flexural Modulus	6070 MPa	880,000 PSI	ASTM D790
Flexural Yield Strength	152 MPa	22,000 PSI	ASTM D790
Compressive Strength	145 MPa	21,000 PSI	10% Def.; ASTM D695
Compressive Modulus	6552 MPa	950,000 PSI	ASTM D695
Izod Impact (notched)	42 J/M	0.8 ft-lbs/in	ASTM D256 Type A
THERMAL PROPERTIES			
Glass Transition Temp./T_g	275° C	527° F	ASTM D3418
Heat Deflection Temperature (264 PSI)	278° C	532° F	ASTM TMA
Coefficient of Linear Thermal Expansion	2.5 x 10^{-5} C^{-1}	1.4 x 10^{-5} F^{-1}	E831 TMA

*The 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.