



Product Datasheet

Drake 4200 PAI

High Purity for Semiconductor Manufacturing, Extruded

Drake 4200 PAI rod, plate and Seamless Tube® meet the quality and performance specifications of shapes previously offered as Torlon 4200 PAI. Drake 4200 PAI is made from Torlon 4000T resin which has been compounded into pellets. It contains no TiO₂ which is considered a potential contaminant in semiconductor manufacturing. Drake 4200 PAI is available as extruded shapes for machining and injection molded parts. It resists extreme temperatures and affords performance of unreinforced PAI grades such as Torlon 4203, coupled with high purity. It is dark brown in color.

Drake 4200 PAI is well suited for:

- Fasteners used within the plasma etch chamber
- Wafer handling contacts
- Electrical insulators

Physical Properties	Metric	English	Methods
Specific Gravity	1.41 g/cc	.051 lb/in ³	ASTM D792
Water Absorption	0.4%	0.4 %	Immersion, 24hr; ASTM D570(2)
	1.7%	1.7 %	

Mechanical Properties*

Hardness, Rockwell M		M120	ASTM D785
Hardness, Rockwell		E80	ASTM D785
Hardness, Shore D		90	ASTM D2240
Tensile Strength, Ultimate	138 MPa	20,000 psi	ASTM D638
Elongation at Break	20 %	20 %	ASTM D638
Tensile Modulus	4136 MPa	600,000 psi	ASTM D638
Flexural Modulus	4136 MPa	600,000 psi	ASTM D790
Flexural Yield Strength	165 MPa	24,000 psi	ASTM D790
Compressive Strength	165 MPa	24,000 psi	10% Def.; ASTM D695
Compressive Modulus	3,296 MPa	478,000 psi	ASTM D695
Izod Impact (notched)	105 J/M	2.0	ASTM D256 Type A

Thermal Properties

Melt Point	275°C	527°F	ASTMD3418
Heat Deflection Temp (264 psi)	278°C	532°F	ASTM D638
Coefficient of Linear Thermal Exp. in/in/°F		1.7x10 ⁻⁵	ASTM E831

*The mechanical properties of extruded shapes may differ from the values published by resin producers. Published resin data is always generated off injection molded test specimens run under near perfect conditions. Drake's extruded shape values are generated using specimens machined from actual shapes and may reflect surface imperfections from machining, enhanced crystallinity, resulting from 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.