



# Product Datasheet

## Torlon® 4435



### *Bearing Grade for High PV Applications, Extruded*

Torlon 4435 is a wear grade containing graphite, PTFE and other additives making it well suited for high pressure and velocity bearings and wear parts. It offers the lowest wear rate under most non-lubricated conditions. It is well suited for:

- Sliding vanes
- Bobbins
- Thrust washers
- Seal and piston rings

**Material Notes:** *The wear rate and limiting PV for machined parts can be improved by post curing parts after machining to achieve optimum wear resistance on the part's outer surfaces.*

Physical Properties	Metric	English	Methods
Specific Gravity	1.59 g/cc	.054 lb/in <sup>3</sup>	ASTM D792
Water Absorption	0.12%	0.12 %	Immersion, 24hr; ASTM D570(2)
Water Absorption at Saturation	1.5%	1.5 %	Immersion; ASTM D570(2)

#### Mechanical Properties\*

Hardness, Rockwell M		M106	ASTM D785
Hardness, Rockwell		E62	ASTM D785
Hardness, Shore D		84	ASTM D2240
Tensile Strength, Ultimate	90 MPa	13,000 psi	ASTM D638
Elongation at Break	2 %	2 %	ASTM D638
Tensile Modulus	6900 MPa	1,000,000 psi	ASTM D638
Flexural Modulus	7586 MPa	1,100,000 psi	ASTM D790
Flexural Yield Strength	159 MPa	16,000 psi	ASTM D790
Compressive Strength	152 MPa	20,000 psi	10% Def.; ASTM D695
Compressive Modulus	6,552 MPa	990,000 psi	ASTM D695
Izod Impact (notched)	32 J/M	0.6	ASTM D256 Type A

#### Thermal Properties

Melt Point/T <sub>g</sub>	275 °C	527°F	ASTM D3418
Heat Deflection Temp (264 psi)	281°C	538°F	ASTM TMA
Coefficient of Linear Thermal Expansion	1.5 x 10 <sup>-5</sup> C <sup>-1</sup>	.8 x 10 <sup>-5</sup> F <sup>-1</sup>	E831 TMA

\*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.