

TECHNICAL DATA SHEET

Tivar® (UHMW)

TIVAR® 1000 UHMW sets the standard for engineered polymers with a unique combination of wear and corrosion resistance, low friction surface and impact strength. TIVAR® 1000 is resistant to chemical attack and moisture absorption, and retains key physical properties to -30°C.

An excellent general-purpose material, TIVAR® 1000 (natural) is a cost-effective solution for food handling problems, and meets FDA, USDA and 3-A Dairy guidelines for food processing and handling. Quadrant EPP also offers custom colors compounded with FDA/USDA approved pigments, which meet FDA and USDA guidelines for food processing and handling. Whether your business is grain, pharmaceuticals, pizza dough or frozen poultry, TIVAR® materials will reliably move your materials and products.

From food processing to packaging, bulk material handling to pharmaceutical processing...TIVAR® can improve your business performance. If your process machinery has problems with noise, premature wear, stretched chains, unscheduled downtime or expensive replacements, TIVAR® solves those problems and your machinery runs longer and smoother.

TIVAR® formulations are recognized worldwide for their wear and corrosion resistance, low friction surface and impact strength. TIVAR® can outperform stainless steel, yet it weighs only 1/8 as much. It can also handle wide temperature ranges making it ideal for use on freezing lines or on lines with intermittent temperatures up to 212oF (100oC). From intricate wear components to large-scale installations, a TIVAR® product can fit the application.

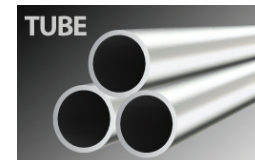
Benefits

Meets FDA and USDA guidelines;
 3-A Dairy-approved (natural)
 Reduces noise
 Self-lubricating
 Chemical-, corrosion- and wear-resistant
 No moisture absorption
 Non-toxic, low-friction surface
 Meets ASTM-D-4020-05 of 3.1 to 6.2-million molecular weight

Applications

Augers
 Bearings and bushings
 Chain guides, sprockets and tensioners
 Chute and hopper liners
 Deboning tables
 Flights and gears
 Guide rails and rollers
 Mixer bushings and paddles

SHAPES AVAILABLE



SEE NEXT PAGE FOR ADDITIONAL INFORMATION

TYPICAL PROPERTIES of Tivar® 1000 UHMW

ASTM or UL test	Property	Tivar® 1000 ESD	Tivar® 1000 EC
PHYSICAL			
D792	Density (lb/in ³) (g/cm ³)	0.034 0.94	0.034 0.94
D570	Water Absorption, 24 hrs (%)	< 0.01	< 0.01
D570	Water Absorption, at saturation (%)	< 0.01	< 0.01
MECHANICAL			
D638	Tensile Strength at Break (psi)	5,800	5,800
D638	Tensile Modulus (psi)	87,000	101,000
D638	Tensile Elongation at Break (%)	300	300
D790	Flexural Strength (psi)	3,700	3,200
D790	Flexural Modulus (psi)	87,000	101,000
D695	Compressive Strength (psi)	3,300	3,300
D695	Compressive Modulus (psi)	100,000	100,000
D732	Shear Strength (psi)	4,800	4,800
D785	Hardness, Shore D	66	66
D256	IZOD Notched Impact (ft-lb/in)	No Break	No Break
THERMAL			
D696	Coefficient of Linear Thermal Expansion (x 10 ⁻⁵ in./in./°F) (x 10 ⁻⁵ in./in./°C)	11 20	11 20
D648	Heat Deflection Temp (°F / °C) at 264 psi	116 / 47	116 / 47
D3418	Melting Temperature (°F / °C)	275 / 135	260 / 127
-	Max Operating Temp (°F / °C)	180 / 82	180 / 82
C177	Thermal Conductivity (BTU-in/ft ² -hr-°F) (x 10 ⁻⁴ cal/cm-sec-°C)	- -	- -
UL94	Flammability Rating	HB	HB
ELECTRICAL			
D257	Surface Resistivity (ohms/sq)	10 ⁵ - 10 ⁹	< 10 ⁵
D257	Volume Resistivity (ohm-cm)	10 ⁵ - 10 ⁹	< 10 ⁵

Tivar® is a registered trademark of Quadrant EPP

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets. All values at 73°F (23°C) unless otherwise noted.