TIVAR® 1000
(Ultra High Molecular Weight Polyethylene, UHMW-PE)

TIVAR® 1000 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.

- Reduces noise
- Self-lubricating
- No moisture absorption
- Non-toxic, low-friction surface
- Meets ASTM-D-4020-81 of 4.0 to 5.4- million molecular weight
- Meets FDA and USDA guidelines; 3-A Dairy-approved (natural)
- Chemical-, corrosion- and wear-resistant

An excellent general-purpose material, TIVAR1000 (natural) is a cost-effective solution for food handling problems, and meets FDA, USDA and 3-A Dairy guidelines for food processing and handling.

Applications:

Augers	Bearings	Chain sprockets	Chain guides
Chain tensioners	Chute liners	Deboning tables	Filter press plates
Flight wearshoes	Flights	Gears	Grain strippers
Guide rails and rollers	Hopper liners	Idlers	Mixer bushings
Mixer paddles	Plow blades	Roller chain	Scraper blades
Spiral freezers	Spreaders	Sprockets	Trough liners
Vent and filter plates	Wearstrips		

Property	Test Method	Units	TIVAR® 1000
Physical			
Density	ASTM D-792	lbs/ft^3	58.01
Water Absorption	ASTM D-570	%	nil
Mechanical			
Yield Point	ASTM D-638	psi	3,050
Elongation at Yield	A STM D-638	%	15
Tensile Break	ASTM D-638	psi	5,800
Elongation at Break	ASTM D-638	%	250
Tensile Modulus	ASTM D-638	psi	120,000
Flexural Modulus	ASTM D-790	psi	110,000
Izod Impact	ASTM D-4020	ft-lbs/in^2	34
Tensile Impact	DIN 53448	ft-lbs/in^2	1,050
Sand Wheel Wear	ASTM G-65	AR-01 Steel=100	90
Hardness	ASTM D-2240	Shore D	68
Static Friction	ASTM D-1894		0.15
Dynamic Friction	ASTM D-1894		0.12
Compressive Modulus	ASTM D-695	psi	77,750
Compressive Deformation	ASTM D-621	% at 1000 psi	6-8
Thermal			
Coefficient of Thermal Exp.	ASTM D-696	in/in/°F	0.00011
Melt Point	ASTM D-3417	°F	278-289
Maximum Operating Temp.		°F	180
Electrical			
Volume Resistivity	ASTM D-257	ohm-cm	>10^15
Surface Resistivity	ASTM D-257	ohm	>10^15

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.

7600 Anagram Drive – Eden Prairie, MN 55344 | Phone: 952-934-2303 | Toll Free: 800-776-7769 | Fax: 952-934-2314