



QUADRANT

TIVAR® CERAM P®

Engineering Innovative Solutions for Bulk Material Handling

Product Profile:

- High load, High-speed, abrasive applications
- Reduces noise
- Self-lubricating
- Wear-resistant
- Corrosion-resistant
- No moisture absorption



For high load, high speed and severe sliding abrasion applications, TIVAR® Ceram P® should be THE material of choice. Its high tensile strength and wear resistance have been successful in the lumber, paper, steel and agricultural industries. Composed of virgin polymer and premium additives, TIVAR® Ceram P® is a shatter-resistant alternative to sintered ceramics, reducing parts wear and machine maintenance downtime.

Easily recognizable by the lime-green color, TIVAR® Ceram P® is available in 48" x 120" sheets with gauge sizes ranging from 1/16" to 2". It is also available in gauge sizes 3/4" to 3" in 20' lengths. TIVAR® Ceram P® does not meet FDA or USDA guidelines for food handling/processing.

Industries	Applications
Agriculture Lumber processing Material handling Pulp & paper mills Steel mills	Bearing pads Bushings CAMS for fruit pitting machines <u>Conveyor components—bearings, belt guides, chain guides, curves, guide rails, wearstrips</u> Pump impellers Rollers Telescoping boom pads Wear ring in Sulser pump Wire belt pulleys

Dallas, Texas (Corporate Offices)
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Brandon, Mississippi

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Data Sheet No: 10524
Revision: 00
Effective Date: 7/14/06
Page 1 of 2

DATA SHEET			
TIVAR® CERAM P – Premium Microsphere Filled UHMW-PE			
Property	Units	Test Method	Typical Average Values
Mechanical			
Specific Gravity, 73° F	-	ASTM D792	.96
Tensile Strength, 73° F	psi	ASTM D638	5600
Tensile Modulus of Elasticity, 73° F	psi	ASTM D638	102000
Tensile Elongation (at break), 73° F	%	ASTM D638	300
Flexural Strength, 73° F	psi	ASTM D790	3300
Flexural Modulus of Elasticity, 73° F	psi	ASTM D790	109000
Shear Strength, 73° F	psi	ASTM D732	
Compressive Strength, 10% Deformation, 73° F	psi	ASTM D695	3000
Compressive Modulus of Elasticity, 73° F	psi	ASTM D695	94000
Hardness, Rockwell, Scale as noted, 73° F	-	ASTM D785	N/A
Hardness, Durometer, Shore "D" Scale, 73° F	-	ASTM D2240	68
Izod Impact (notched), 73° F	ft.lb./in.	ASTM D256 Type "A"	No Break
Coefficient of Friction (Dry vs. Steel) Dynamic	-	QTM 55007	.12
Limiting PV (with 4:1 safety factor applied)	ft.lbs.in. ² min.	QTM 55007	2000
Sand Slurry Abrasion	1018 Steel = 100.	ASTM D4020	8.5
Thermal			
Coefficient of Linear Thermal Expansion (-40°F to 300°F)	in./in./°F	ASTM E-831 (TMA)	1.1 x 10 ⁻⁴
Heat Deflection Temperature 264 psi	°F	ASTM D648	116
Tg-Glass Transition (amorphous)	°F	ASTM D3418	N/A
Melting Point (crystalline) peak	°F	ASTM D3418	275
Continuous Service Temperature in Air (Max.)(1)	°F	-	180
Thermal Conductivity	BTU in./(hr.ft. ² °F)	-	2.84

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DATA SHEET			
TIVAR® CERAM P – Premium Microsphere Filled UHMW-PE			
Property	Units	Test Method	Typical Average Values
Electrical			
Dielectric Strength, Short Term	KV/CM	ASTM D149	900
Surface Resistivity	ohms/square	ASTM D257	>10 ¹⁰
Dielectric Constant, 10 ⁶ Hz	-	ASTM D150	2.3
Dissipation Factor, 10 ⁶ Hz	-	ASTM D150	<0.5 x 10 ⁻³
Flammability @ 3.1 mm (1/8 in.) (3)	-	UL94	HB
Miscellaneous			
Water Absorption Immersion, 24 Hours	% by wt.	ASTM D570(2)	< 0.01
Water Absorption Immersion, Saturation	% by wt.	ASTM D570(2)	< 0.01

- (1) Data represent Quadrant's estimated maximum long-term service temperature based on practical field experience.
- (2) Specimens: 1/8" thick x 2" diameter or square.
- (3) **Estimated rating based on available data.** The UL 94 Test is a laboratory test and does not relate to actual fire hazard. Contact Quadrant for specific UL "Yellow Card" recognition number.

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