



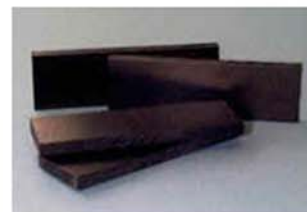
QUADRANT

TIVAR® ESD (Electro Static Dissipative)

Engineering Innovative Solutions for Bulk Material Handling

Product Profile:

- Protects against electrical charge build-up
- Reduces noise
- Self-lubricating
- Corrosion-resistant
- No moisture absorption



If static electricity poses a significant problem in your manufacturing environment, take action by choosing TIVAR® ESD or TIVAR® EC.

With a surface resistivity range of 10^5 to 10^9 (ohms/sq) TIVAR® ESD handles tough conditions where dust and static electricity can cause problems.

TIVAR® ESD is an ideal material to use when potentially volatile conditions exist, such as those in grain elevators and munitions plants, effectively safeguarding against static discharges. In addition, it resists heat and protects robotics and other products that are sensitive to dust accumulation and electrical charge buildup. Where you need the material to be conductive, TIVAR® EC provides a surface resistivity of <10.5 .

Both Black TIVAR® ESD and TIVAR® EC are available in two standard sheet sizes: 48" x 120" sheets with gauge sizes ranging from 1/16" to 6"; 60" x 120" sheets with gauge sizes ranging from 3/8" to 1". They are also available in rod, board, tube, tape and profiles.

Industries	Applications
Chemicals - explosives, munitions	Assembly conveyor components
Electronics	Bearings
Grain Handling	Chain guides
Package Handling	Chute liners
	Conveyor components
	Discharge spout liners
	Flights
	Guide rails
	Robotics parts
	Slide liners
	Table surfaces
	Transfer plates
	Trough liners
	Wearstrips

Dallas, Texas (Corporate Offices)
 Houston, Texas
 Brandon, Mississippi

phone 800-782-1836 / 214-239-3870
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Data Sheet No: 10522
Revision: 00
Effective Date: 7/14/06
Page 1 of 2

DATA SHEET			
TIVAR® 1000 ESD (Electro Static Dissipative) UHMW			
Property	Units	Test Method	Typical Average Values
Mechanical			
Specific Gravity, 73° F	-	ASTM D792	.94
Tensile Strength, 73° F	psi	ASTM D638	5800
Tensile Modulus of Elasticity, 73° F	psi	ASTM D638	116000
Tensile Elongation (at break), 73° F	%	ASTM D638	300
Flexural Strength, 73° F	psi	ASTM D790	3800
Flexural Modulus of Elasticity, 73° F	psi	ASTM D790	116000
Shear Strength, 73° F	psi	ASTM D732	
Compressive Strength, 10% Deformation, 73° F	psi	ASTM D695	3300
Compressive Modulus of Elasticity, 73° F	psi	ASTM D695	100000
Hardness, Rockwell, Scale as noted, 73° F	-	ASTM D785	N/A
Hardness, Durometer, Shore "D" Scale, 73° F	-	ASTM D2240	66
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	10
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)	-	

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DATA SHEET			
TIVAR® 1000 ESD (Electro Static Dissipative) UHMW			
Property	Units	Test Method	Typical Average Values
Electrical			
Dielectric Strength, Short Term	Volts/mil	ASTM D149	N/A
Surface Resistivity	ohms/square	ASTM D257	10 ⁵ - 10 ⁹
Dielectric Constant, 10 ⁶ Hz	-	ASTM D150	N/A/
Dissipation Factor, 10 ⁶ Hz	-	ASTM D150	N/A
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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