

**TIVAR H.O.T. ®**

(UHMW) Ultra High Molecular Weight Polyethylene

**plastruct polyzone***The world of plastics at your door.*Phone 905-563-0226 • Toll Free 1-800-642-7797 • Fax 905-563-0228  
www.polyzone.com**PHYSICAL PROPERTIES**

TIVAR H.O.T.® (High Operating Temperature) is superior ultra high molecular weight sheet that is extremely tough as well as having an increased heat resistance for high temperature applications. With very low co-efficient of friction, this material is best used in applications where standard virgin UHMW will not handle the higher temperatures. As with most plastics, care must be taken when machining to ensure dimensional stability is maintained. Typical applications include; most wear applications, hopper liners for 'hot' products, bearings, bushings, pipe saddles, conveyor guides and

Property	Method	Unit	Nominal Value*
Density	ASTM D-792	lbs/ft <sup>3</sup>	0.94
Tensile strength at yield	ASTM D-638	psi	3584
Tensile modulus	ASTM D-638	psi	120,000
Elongation at yield	ASTM D-638	%	13.7
Elongation at break	ASTM D-638	%	242
Tensile impact	DIN 53448	ft-lbs/in <sup>2</sup>	1050
Flexural modulus	ASTM D-790	psi	110,000
Flexural strength	ASTM D-790	psi	n/a
Izod impact	ASTM D-4020	ft-lbs/in <sup>2</sup>	29
IZOD impact notched	ASTM D-2240	ft-lbs/in <sup>2</sup>	n/a
Compressive modulus	ASTM D-695	psi	77,750
Compressive deformation	ASTM D-621	% at 1000 psi	6 to 8
Environmental stress crack resistance	ASTM D-1693	hrs.	n/a
Hardness	ASTM D-2240	Shore D	68
Static friction	ASTM D-1894	Unitless	0.15
Dynamic friction	ASTM D-1894	Unitless	0.12
Impact brittleness temperature	ASTM D-746	°F	n/a
Melting point	ASTM D-3417	°F	n/a
Coefficient of linear thermal expansion	ASTM D-696	°F-1	0.00011
Max. operating temp.		°F	275
Volume Resistivity	ASTM D-257	Ohm-cm	>10 <sup>13</sup>
Surface Resistivity	ASTM D-257	Ohm	>10 <sup>13</sup>
Water absorption 24hrs.	ASTM D-570	%	nil

\*All values are determined on specimens prepared according to ASTM 1248-84 "Standard Specifications for Polyethylene Plastic Molding and Extrusion Materials". Nominal values should not be interpreted as specifications.

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