

TIVAR CERAM P®

Ultra High Molecular Weight Polyethylene (UHMW)

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 Ceram P® is an outstanding performer in applications marked by high load, high speed and severe sliding abrasion. Composed of virgin ultra high molecular weight (UHMW) polyethylene and premium ceramic and other additives that combine to create a shatter-resistant alternative to sintered ceramics.

| Property | Method | Unit | Nominal Value* |
|---|-------------|------------------------|-------------------|
| Density | ASTM D-792 | g/cm ³ | 0.964 |
| Tensile strength at yield | ASTM D-638 | psi | 2800 |
| Tensile modulus | ASTM D-638 | psi | 130,970 |
| Elongation at yield | ASTM D-638 | % | n/a |
| Elongation at break | ASTM D-638 | % | 300 |
| Tensile impact | DIN 53448 | ft-lbs/in ² | 750 |
| Flexural modulus | ASTM D-790 | psi | 99,933 |
| Flexural strength | ASTM D-790 | psi | n/a |
| Izod impact | ASTM D-4020 | ft-lbs/in ² | no break |
| Compressive modulus | ASTM D-695 | psi | 94,390 |
| Compressive deformation | ASTM D-621 | % at 1000 psi | 4 |
| Environmental stress crack resistance | ASTM D-1693 | hrs. | n |
| Hardness | ASTM D-2240 | Shore D | 70 |
| Static friction | ASTM D-1894 | Unitless | 0.18 |
| Dynamic friction | ASTM D-1894 | Unitless | 0.12 |
| Impact brittleness temperature | ASTM D-746 | °F | n/a |
| Melting point | ASTM D-3417 | °F | 280 |
| Coefficient of linear thermal expansion | ASTM D-696 | °F-1 | 0.00011 |
| Max. operating temp. | | °F | 180 |
| Volume Resistivity | ASTM D-257 | Ohm-cm | >10 ¹⁵ |
| Surface Resistivity | ASTM D-257 | Ohm | >10 ¹⁵ |
| 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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