



TIVAR 88 (with BurnGuard)

Flame retardant UHMW lining material

| Physical Properties | Metric | English | Comments |
|---|------------------|---------------------------|-------------------------------|
| Specific Gravity | 1 g/cc | 0.0361 lb/in ³ | ASTM D792 |
| Water Absorption | Max 0.01 % | Max 0.01 % | Immersion, 24hr; ASTM D570(2) |
| Water Absorption at Saturation | Max 0.01 % | Max 0.01 % | Immersion; ASTM D570(2) |
| Mechanical Properties | | | |
| Hardness, Shore D | 64 | 64 | ASTM D2240 |
| Tensile Strength, Ultimate | 24.8 MPa | 3600 psi | ASTM D638 |
| Elongation at Break | 120 % | 120 % | ASTM D638 |
| Tensile Modulus | 0.641 GPa | 93 ksi | ASTM D638 |
| Flexural Modulus | 0.641 GPa | 93 ksi | ASTM D790 |
| Flexural Yield Strength | 19.3 MPa | 2800 psi | ASTM D790 |
| Compressive Strength | 19.3 MPa | 2800 psi | 10% Def., 73°F; ASTM D695 |
| Compressive Modulus | 0.448 GPa | 65 ksi | ASTM D695 |
| Coefficient of Friction | 0.09 | 0.09 | Dry vs. Steel; QTM55007 |
| Limiting Pressure Velocity | 0.0701 MPa-m/sec | 2000 psi-ft/min | 4:1 safety factor; QTM 55007 |
| Izod Impact, Notched | NB | NB | ASTM D256 Type A |
| Electrical Properties | | | |
| Surface Resistivity per Square | Min 1e+012 ohm | Min 1e+012 ohm | ASTM D257 |
| Thermal Properties | | | |
| CTE, linear 68°F | 288 µm/m-°C | 160 µin/in-°F | (-40°F to 300°F); ASTM E831 |
| Melting Point | 135 °C | 275 °F | Crystalline, Peak; ASTM D3418 |
| Maximum Service Temperature, Air | 82.2 °C | 180 °F | Long Term |
| Deflection Temperature at 1.8 MPa (264 psi) | 46.7 °C | 116 °F | ASTM D648 |
| Flammability, UL94 (Estimated Rating) | V-0 | V-0 | 1/8 inch |
| Qualitative Processing Properties | | | |
| Compliance - FDA | Not Compliant | | |
| Machinability | 3 | 1-10, 1=Easier to Machine | |
| Service in Alcohols | Acceptable | | |
| Service in Aliphatic Hydrocarbons | Acceptable | | |
| Service in Aromatic Hydrocarbons | Unacceptable | | |
| Service in Chlorinated Solvents | Acceptable | | |
| Service in Ethers | Limited | | |
| Service in Ketones | Limited | | |
| Service in Strong Acids | Limited | | |
| Service in Strong Alkalies | Acceptable | | |
| Service in Sunlight | Limited | | |
| Service in Weak Acids | Acceptable | | |
| Service in Weak Alkalies | Acceptable | | |

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