|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Material: | Supplier Data - Polyetheretherketone ( PEEK ) ( Goodfellow ) | | | | | | |
| Composition: | (O-(C6H4)-O-(C6H4)-C(O)-(C6H4))n | | | | | | |
| **Property** | | **Minimum Value (S.I.)** | **Maximum Value (S.I.)** | **Units (S.I.)** | **Minimum Value (Imp.)** | **Maximum Value (Imp.)** | **Units (Imp.)** | |
| Atomic Volume (average) | | 0.006 | 0.007 | m3/kmol | 366.142 | 427.166 | in3/kmol | |
| Density | | 1.3 | 1.32 | Mg/m3 | 81.1564 | 82.405 | lb/ft3 | |
| Energy Content | | 100 | 120 | MJ/kg | 10833.9 | 13000.6 | kcal/lb | |
| Bulk Modulus | | 5.475 | 5.749 | GPa | 0.794081 | 0.833821 | 106 psi | |
| Compressive Strength | | 118 | 130 | MPa | 17.1145 | 18.8549 | ksi | |
| Ductility | | 0.3 | 1.5 |  | 0.3 | 1.5 | NULL | |
| Elastic Limit | | 87 | 95 | MPa | 12.6183 | 13.7786 | ksi | |
| Endurance Limit | | 28.12 | 41.2 | MPa | 4.07846 | 5.97555 | ksi | |
| Fracture Toughness | | 2.733 | 4.296 | MPa.m1/2 | 2.48716 | 3.90956 | ksi.in1/2 | |
| Hardness | | 261 | 285 | MPa | 37.8549 | 41.3358 | ksi | |
| Loss Coefficient | | 0.0101 | 0.0106 |  | 0.0101 | 0.0106 | NULL | |
| Modulus of Rupture | | 105 | 116 | MPa | 15.229 | 16.8244 | ksi | |
| Poisson's Ratio | | 0.3779 | 0.3931 |  | 0.3779 | 0.3931 | NULL | |
| Shear Modulus | | 1.357 | 1.425 | GPa | 0.196816 | 0.206679 | 106 psi | |
| Tensile Strength | | 70.3 | 103 | MPa | 10.1962 | 14.9389 | ksi | |
| Young's Modulus | | 3.76 | 3.95 | GPa | 0.545342 | 0.572899 | 106 psi | |
| Glass Temperature | | 416 | 472 | K | 289.13 | 389.93 | °F | |
| Latent Heat of Fusion | |  |  | kJ/kg |  |  | BTU/lb | |
| Maximum Service Temperature | | 512 | 533 | K | 461.93 | 499.73 | °F | |
| Melting Point | | 595 | 619 | K | 611.33 | 654.53 | °F | |
| Minimum Service Temperature | | 150 | 200 | K | -189.67 | -99.67 | °F | |
| Specific Heat | | 1443 | 1501 | J/kg.K | 1.11668 | 1.16156 | BTU/lb.F | |
| Thermal Conductivity | | 0.24 | 0.26 | W/m.K | 0.449288 | 0.486729 | BTU.ft/h.ft2.F | |
| Thermal Expansion | | 72 | 194.4 | 10-6/K | 129.6 | 349.92 | 10-6/°F | |
| Breakdown Potential | | 16.65 | 19.98 | MV/m | 422.91 | 507.492 | V/mil | |
| Dielectric Constant | | 3.1 | 3.3 |  | 3.1 | 3.3 | NULL | |
| Resistivity | | 3.3e+021 | 3e+022 | 10-8 ohm.m | 3.3e+021 | 3e+022 | 10-8 ohm.m | |