



Materials Data Sheet



| Property Description | Degrees | Units | Aerospace Grade | Performance Bearing Materials | | | Insulating |
|-------------------------------|---------------|---------|------------------------|-------------------------------|------------------------|------------------------|-------------------------|
| | | | HyComp® 310 | WearComp® | WearComp® 200 | FibreComp® | HyComp® 320 |
| Raw Material Type | | | SMC | SMC | SMC | BMC | SMC |
| Specific Gravity | | g/cm | 1.55 | 1.55 | 1.59 | 1.50 | 1.88 |
| Mechanical Properties | | | | | | | |
| Tensile Strength | 23 °C | MPa | 338 | 220 | 138 | 83 | 234 |
| | 260 °C | Mpa | 283 | 186 | 117 | 55 | 179 |
| Tensile Modulus | 23 °C | Mpa | 39300 | 33784 | 29648 | 15858 | 18616 |
| | 260 °C | MPa | 35853 | 32405 | 27580 | 11032 | 13100 |
| Flexural Strength | 23 °C | MPa | 552 | 345 | 209 | 103 | 434 |
| | 260 °C | MPa | 517 | 310 | 172 | 83 | 372 |
| Flexural Modulus | 23 °C | MPa | 38611 | 33784 | 28407 | 14479 | 21374 |
| | 260 °C | MPa | 35853 | 32405 | 27028 | 10342 | 19305 |
| Compressive Strength | 23 °C | MPa | 717 | 517 | 296 | 248 | 331 |
| | 260 °C | MPa | 476 | 345 | 193 | 172 | 228 |
| Izod Impact, Notched | 23 °C | J/m | 640.00 | 640.00 | 320.00 | 160.00 | 1333.00 |
| Thermal Properties | | | | | | | |
| Thermal Expansion | Perpendicular | m/m/°C | 27 X 10 ⁻⁶ | 27 X 10 ⁻⁶ | 27 X 10 ⁻⁶ | 18 X 10 ⁻⁶ | 43.2 X 10 ⁻⁶ |
| | Parallel | m/m/°C | 3.6 X 10 ⁻⁶ | 3.6 X 10 ⁻⁶ | 3.6 X 10 ⁻⁶ | 18 X 10 ⁻⁶ | 14.4 X 10 ⁻⁶ |
| Temperature Range | | | 315 °C | 315 °C | 315 °C | 315 °C | 315 °C |
| Wear Characteristics | | | | | | | |
| Co-efficient of Friction | | | 0.15-0.20 | 0.15-0.20 | 0.15-0.20 | 0.10-0.20 | N/A |
| Limiting PV (unlubricated) | | MPa-m/s | 2.8 | 2.8 | 3.5 | 4.2 | N/A |
| General | | | | | | | |
| Reinforcing Materials | | | Carbon Fiber | Carbon Fiber | Carbon Fiber/ Graphite | Carbon Fiber/ Graphite | Glass Fiber |
| Resin Matrix | | | Polyimide | Polyimide | Polyimide | Polyimide | Polyimide |
| Chemical Compatibility | | | | | | | |
| Sea Water | | | Recommended | Recommended | Recommended | Recommended | Recommended |
| Dilute Acids | | | Recommended | Recommended | Recommended | Recommended | Recommended |
| Weak Bases | | | Recommended | Recommended | Recommended | Recommended | Recommended |
| Alcohol | | | Recommended | Recommended | Recommended | Recommended | Recommended |
| Hydrocarbons | | | Recommended | Recommended | Recommended | Recommended | Recommended |
| Strong Bases (ph>10) | | | Not Recommended | Not Recommended | Not Recommended | Not Recommended | Not Recommended |
| Water Absorption | | % by Wt | <0.5% | <0.5% | <0.5% | <0.5% | <0.5% |

Measured by standard ASTM on machined, compression-molded test specimens.
Registered trademark of HyComp Inc. – Patents issued and pending.

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