



Torlon

TYPICAL PROPERTIES of TORLON® PAI

| ASTM or UL test | Property | Torlon® 4203 Elect. Grade | Torlon® 4301 Bearing Grade | Torlon® 5530 Glass-Filled |
|-------------------|---|------------------------------|-------------------------------|------------------------------|
| PHYSICAL | | | | |
| D792 | Density (lb/in ³) (g/cm ³) | 0.051 1.41 | 0.052 1.45 | 0.059 1.61 |
| D570 | Water Absorption, 24 hrs (%) | 0.4 | 0.4 | 0.3 |
| MECHANICAL | | | | |
| D638 | Tensile Strength (psi) | 18,000 | 12,000 | 15,000 |
| D638 | Tensile Modulus (psi) | 600,000 | 800,000 | 900,000 |
| D638 | Tensile Elongation at Break (%) | 10 | 3 | 3 |
| D790 | Flexural Strength (psi) | 24,000 | 23,000 | 20,000 |
| D790 | Flexural Modulus (psi) | 600,000 | 800,000 | 900,000 |
| D695 | Compressive Strength (psi) | 24,000 | 22,000 | 27,000 |
| D695 | Compressive Modulus (psi) | 700,000 | 950,000 | 600,000 |
| D785 | Hardness, Rockwell | E80(M120) | E70(M106) | E85(M125) |
| D256 | IZOD Notched Impact (ft-lb/in) | 2.0 | 0.8 | 0.7 |
| THERMAL | | | | |
| D696 | Coefficient of Linear Thermal Expansion (x 10 ⁻⁵ in./in./°F) | 1.7 | 1.4 | 2.6 |
| D648 | Heat Deflection Temp (°F / °C) at 264 psi | 532 / 278 | 534 / 279 | 520 / 271 |
| D3418 | Glass Transition Temp (°F / °C) | 527 / 275 | 527 / 275 | 527 / 275 |
| - | Max Operating Temp (°F / °C) | 500 / 260 | 500 / 260 | 500 / 260 |
| C177 | Thermal Conductivity (BTU-in/ft ² -hr-°F) (x 10 ⁻⁴ cal/cm-sec-°C) | 1.80 6.20 | 3.70 12.8 | 2.50 8.61 |
| UL94 | Flammability Rating | V-0 | V-0 | V-0 |
| ELECTRICAL | | | | |
| D149 | Dielectric Strength (V/mil) short time, 1/8" thick | 580 | - | 700 |
| D150 | Dielectric Constant at 1 MHz | 4.2 | 6.0 | 6.3 |
| D150 | Dissipation Factor at 1 MHz | 0.026 | 0.037 | 0.022 |
| D257 | Volume Resistivity (ohm-cm) at 50% RH | > 10 ¹⁶ | > 10 ¹³ | > 10 ¹³ |

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets.

All values at 73°F (23°C) unless otherwise noted.