



THE GUND COMPANY

MANUFACTURERS & FABRICATORS OF ENGINEERED MATERIAL SOLUTIONS

PTFE - Unfilled Semi-Crystalline High-Performance Plastic

PTFE (Polytetrafluoroethylene) is commonly known as Teflon. It is one of the greatest thermoplastics invented in the 20th Century. Its high-temperature resistance (up to 300°C) and corrosion resistance rival and exceed that of the high-performance thermoplastics of the PI family, PEEK, and PES. Its low coefficient of friction and water repellence is unmatched. Mechanical properties, however, are weaker than other high-performance thermoplastics. Reinforcing substrates can improve those deficiencies. PTFE and molded grades (FEP and PFA) are affordable (considering their superior properties). They are used in most electrical and commercial applications where low-friction, long-wear, non-stick, and water resistance are necessary. Teflon, Flourosint, and Rulon are commercial names.

The Gund Company custom fabricates insulation materials to the exact specifications and drawings specified by our customers. We offer our customers the proper product for their specific application. A variety of dimensions and diameter sizes are available. Product colors vary according to material type.

| PROPERTIES | ISO/IEC* | | | ASTM* | | |
|-------------------|--|---------------|-------------------|-------------|-----------|------------------|
| | Test Method | Units | Typical Values | Test Method | Units | Typical Values |
| PHYSICAL | Specific Gravity | ISO 1183 | | ASTM D792 | | 2.13 - 2.20 |
| THERMAL | Melting Point | ISO 11357-1 | °C | ASTM D3418 | °F | 620 |
| | Minimum Service Temperature | | °C | | °F | -328 |
| | Max. Continuous Service Temperature in Air | | °C | | °F | 500 |
| | Flammability: UL94 | | | | | V-0 |
| | Flammability: Oxygen Index | ISO 4589-1/-2 | % | ASTM D2863 | % | >95 |
| | Coefficient of Linear Thermal Expansion | ISO 11359 | µm/m-°C | ASTM D696 | µin/in-°F | 65.0 |
| MECHANICAL | Ultimate Tensile Strength | ISO 527-1 | MPa | ASTM D638 | PSI | 2,900 |
| | Elongation at Break | ISO 527-1 | % | ASTM D828 | % | 280 |
| | Shore Hardness D | ISO 868 | | ASTM D2240 | | 50 - 60 |
| | Flexural Strength | ISO 178 | MPa | ASTM D790 | PSI | NB |
| | Flexural Modulus | ISO 178 | GPa | ASTM D790 | KSI | 94 |
| | IZOD Impact Strength Notched | ISO 180 | kJ/m ² | ASTM D256 | ft-lb/in | 0.48 |
| | Deformation Under Load | | | ASTM D695 | % | 10 - 13 |
| | Permanent Deformation | | | ASTM D695 | % | 6 - 7.5 |
| ELECTRICAL | Dielectric Constant at 1 MHz | IEC 60243-1 | | ASTM D150 | | 2.10 |
| | Dielectric Strength | IEC 60243-1 | kV/mm | ASTM D149 | kV/mm | 20 - 70 |
| | Volume Resistivity | IEC 60093 | Ohm-cm | ASTM D257 | Ohm-cm | 10 ¹⁸ |

The data supplied are typical values. They are not to be considered specification values. All of the information, suggestions, and recommendations about these properties and uses of the products herein are based on tests and data believed to be accurate; however, the final determination regarding the suitability of any material described herein for the contemplated application, the manner of such use, and whether the use infringes any patents is the sole responsibility of the user. There is no warranty - expressed or implied - including, without limitation, warranties of merchantability or fitness for a particular purpose. Under no circumstances shall we be liable for incidental or consequential loss or damage.