



**Technical Products, Inc.**

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## PEEK Unfilled Material Specifications

PEEK grades are recognized as having superior balance of chemical and hydrolysis resistance similar to PPS, but can operate at higher temperatures.

| Physical Properties          | Units                                   | Test | Unfilled      |
|------------------------------|---|------|---------------|
| Density                      | lb/in <sup>3</sup><br>g/cm <sup>3</sup> | D792 | 0.047<br>1.31 |
| Water Absorption, 24 hrs.    | %                                       | D570 | 0.10          |
| Water Absorption, Saturation | %                                       | D570 | -             |

| Mechanical Properties       | Units    | Test | Unfilled    |
|-----------------------------|----------|------|-------------|
| Tensile Strength            | psi      | D638 | 16,000      |
| Tensile Modules             | psi      | D638 | 500,000     |
| Tensile Elongation at Break | %        | D638 | 20          |
| Flexural Strength           | psi      | D790 | 25,000      |
| Flexural Modulus            | psi      | D790 | 600,000     |
| Compressive Strength        | psi      | D695 | 20,000      |
| Compressive Modulus         | psi      | D695 | 500,000     |
| Hardness Rockwell           | -        | D785 | M100 (R126) |
| Izod Impact Notched         | ft-lb/in | D256 | 1.0         |

| Thermal Properties                      | Units   | Test  | Unfilled     |
|---|---|-------|--------------|
| Coefficient of Linear Thermal Expansion | X 10 <sup>-5</sup> in./in./°F                                       | D696  | 2.6          |
| Heat Deflection Temperature             | @264 psi °F/°C  | D648  | 320 / 160    |
| Melting Temperature                     | °F/°C   | D3418 | 644 / 340    |
| Max. Operating Temperature              | °F/°C   | -     | 480 / 249    |
| Thermal Conductivity                    | BTU- in/ft <sup>2</sup> -hr.-°F<br>x 10 <sup>-4</sup> cal/cm-sec-°C | C177  | 1.75<br>6.03 |
| Flammability Rating                     | -   | UL94  | V - 0        |

| Electrical Properties | Units                          | Test | Unfilled               |
|-----------------------|--------------------------------|------|------------------------|
| Dielectric Strength   | (V/mil) short time, 1/8" thick | D149 | 480                    |
| Dielectric Constant   | @1 MHz / @1 KHz                | D150 | 3.30 / -               |
| Dissipation Factor    | @1 MHz / @1 KHz                | D150 | 0.003 / -              |
| Volume Resistivity    | Ohm-cm @50% RH                 | -    | 4.9 X 10 <sup>16</sup> |

\*\*The information provided in this table is a compilation of publicly available data. This information is provided for comparison purposes only, and is not intended to be warrantable. Further, *Technical Products, Inc.* disclaims any and all liability from errors, in accuracies, or omissions.