# Material Properties

## Glass Fiber Filled PTFE

## Material code: 1024

Glass fiber improves the wear properties of PTFE, lowers the deformation under load at both high and low temperatures, and increases the impact resistance while leaving the electrical and chemical characteristics of PTFE essentially unchanged. It is suitable for piston rings, valve seats, shaft seals, electrical insulators, bearing pads and gaskets. This material should not be used in contact with strong alkalis and hydrofluoric acid.

| **Physical Properties** | **ASTM Method** | **Typical Values** |
|---|---|---|
| Specific Gravity | D792 | 2.23 gr/cm 3 |
| Water Absorption (24 hrs. @ 74°F) | D570 | 0.02 % |
| Color | N/A | Off White |
| | | |
| **Mechanical Properties** | | |
| Tensile Strength | D1708 | 1750 psi |
| Elongation | D1708 | |
| • At Break | | 175% |
| Flexural Strength | D790 | 200 psi |
| Flexural Modulus | D790 | 210,000 psi |
| Compressive Strength | D695 | 2600 psi |
| Compressive Modulus | D695 | 125,000 psi |
| Hardness | Shore D | 70 |
| | | |
| **Tribological Properties** | | |
| Coefficient of friction | D3702 | |
| • Static | | 0.45 |
| • Dynamic | | 0.4 |
| Wear rate (PV: 20,000 psi-fpm) | D3702 | 0.5 uin/min |
| | | |
| **Thermal Properties** | | |
| Coefficient of Linear Thermal Expansion (78-400°F) | D696 | 47 10 -6°F |
| Heat Deflection Temperature (F/C @ 264 psi) | D648 | 150°F |
| Glass Transition Temperature (Tg) | D3418 | 266°F |
| Melting Point | | 621°F |
| Continuous Service Temperature (Max @ no load) | | 500°F |
| | | |
| **Electrical Properties** | | |
| Volume Resistivity (ohm-cm) @ 50% RH | D257 | 10^16 ohm-cm |
| Dielectric Strength | D149 | KV/mm |
| Dielectric Constant | D150 | 2.5 Hz, 200°F |

**Note:** *Property values should be interpreted as typical rather than minimum value.* All technical information and recommendations are presented in good faith, and based upon laboratory and real-world tests believe to be reliable and practical. However, K.C. Seals, Inc. cannot guarantee the accuracy or completeness of this information, and it is the customers' responsibility to determine product suitability to any given application.

K.C. Seals Inc.