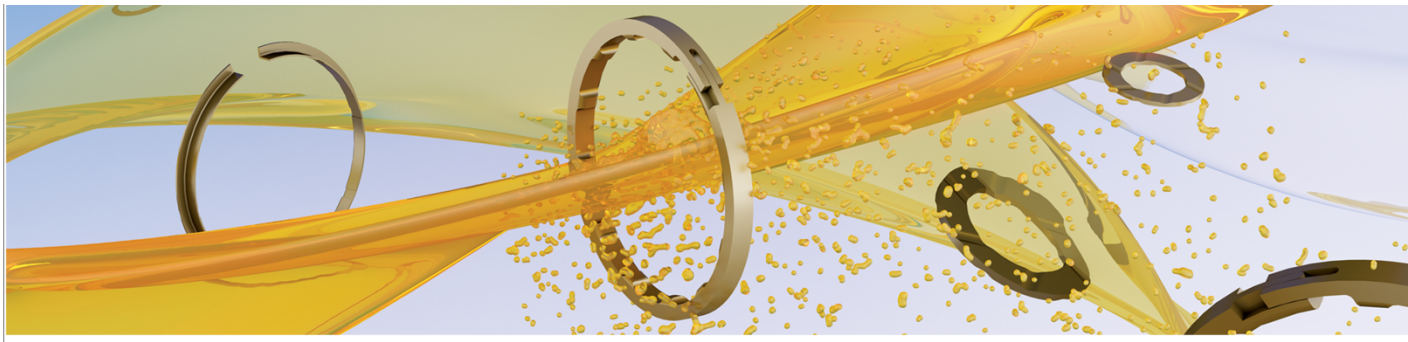
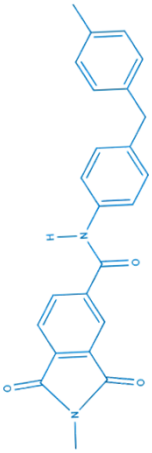
# PAI GLon™ T42*

## Technical Datasheet





PAI GLon™ T42 is an unfilled, pigmented polyamide-imide (PAI) material designed for demanding applications.
Among PAI grades, it delivers the highest impact strength and elongation, combining excellent toughness with reliable dimensional stability.
With unmatched strength and rigidity among thermoplastics up to 275 °C (525 °F), this grade also provides outstanding resistance to wear, creep, and a wide range of chemicals.
Its superior electrical insulating properties make it well-suited for precision components such as connectors, switches, and relays. Typical uses also include thrust washers, spline liners, valve seats, bushings, bearings, wear rings, cams, and other parts that must maintain high strength and wear resistance at elevated temperatures.

| Physical Properties | Typical Value | Unit | Test method |
|---|---|---|---|
| Density / Specific Gravity | 1,42 | g/cm³ | ASTM D792 |
| Water Absorption (24 h) | 0,33 | % | ASTM D570 |
| Hardness (Rockwell E) | 86 | - | ASTM D785 |
| **Mechanical Properties** | **Typical Value** | **Unit** | **Test method** |
| Tensile Modulus | 4900<br>4480 | MPa<br>MPa | ASTM D1708<br>ASTM D638 |
| Tensile Strength | 152 | MPa | ASTM D638 |
| Tensile Stress | 192 | MPa | ASTM D1708 |
| Tensile Elongation | 7,6 | % | ASTM D638 |
| Flexural Modulus<br>23°C<br>232°C | <br>5030<br>3590 | <br>MPa<br>MPa | ASTM D790 |
| Flexural Strength<br>23°C<br>232°C | <br>244<br>120 | <br>MPa<br>MPa | ASTM D790 |
| Compressive Modulus | 4000 | MPa | ASTM D695 |
| Compressive Strength | 221 | MPa | ASTM D695 |
| Coefficient of Friction<br>Various | <br>0,35 – 0,60 | <br>- | <br>ASTM D3702 |
| Impact<br>Notched Izod<br>Unnotched Izod | <br>142<br>1062 | <br>$\frac{J}{m^2}$ | <br>ASTM D256<br>ASTM D4812 |
| **Thermal Properties** | **Typical Value** | **Unit** | **Test method** |
| Heat Deflection Temperature (HDT) | 278 | °C | ASTM D648<br>1,80 MPa |
| Coefficient of Linear Thermal Expansion (CLT) | 30,6 | $10^{-6} \times K^{-1}$ | ASTM D696 |
| Thermal Conductivity | 0,26 | W/mK | ASTM D696 |

*Typical properties: Mentioned values are not to be construed as specifications. Properties of final parts may differ due to shape and process related variations. *PAI GLon™ T42 is a trademark of GAPI Technische Produkte GmbH and equivalent to Torlon® 4203L (PAI). Torlon is a registered trademark of Syensqo Specialty Polymers.*

2025