

Chemical Designation

PI (Polyimide)

Colour

black

Density

1.48 g/cm³

Fillers

15% graphite, 10% PTFE

Main features

- very good slide and wear properties
- high thermal and mechanical capacity
- good wear resistance
- resistance against high energy radiation
- good chemical resistance
- sensitive to hydrolysis in higher thermal range

Target Industries

- automotive industry
- aircraft and aerospace technology
- conveyor technology
- mechanical engineering
- precision engineering
- textile industry
- vacuum technology

| <i>Mechanical properties</i> | <i>parameter</i> | <i>value</i> | <i>unit</i> | <i>norm</i> | <i>comment</i> |
|---------------------------------------|---------------------|--------------|-------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tensile strength | 50 mm/min | 77 | MPa | DIN EN ISO 527-1 | (1) eU (2) eA |
| Modulus of elasticity (tensile test) | 50 mm/min | 4400 | MPa | DIN EN ISO 527-1 | |
| Elongation at break (tensile test) | 50 mm/min | 2.9 | % | DIN EN ISO 527-1 | |
| Flexural strength | 10 mm/min | 120 | MPa | DIN EN ISO 178 | |
| Modulus of elasticity (flexural test) | 10 mm/min | 4000 | MPa | DIN EN ISO 178 | |
| Elongation at break (flexural test) | 10 mm/min | 3.6 | % | DIN EN ISO 178 | |
| Compression strength | 10 mm/min | 170 | MPa | EN ISO 604 | |
| Impact strength (Charpy) | max 7.5 J | 25.8 | kJ/m ² | DIN EN ISO 179-1 | 1) |
| Notched impact strength (Charpy) | max 7.5 J | 3.9 | kJ/m ² | DIN EN ISO 179-1 | 2) |
| Shore hardness | Shore D | 85 | | DIN EN ISO 868 | |
| <i>Thermal properties</i> | <i>parameter</i> | <i>value</i> | <i>unit</i> | <i>norm</i> | <i>comment</i> |
| Glass transition temperature | | 353 | °C | - | 1) (1) DMA, maximum loss factor tan d |
| <i>Other properties</i> | <i>parameter</i> | <i>value</i> | <i>unit</i> | <i>norm</i> | <i>comment</i> |
| Water absorption | 24 h in water, 23°C | 0.64 | % | DIN EN ISO 62 | (1) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory. |
| Water absorption | 24 h in water, 80°C | 1.82 | % | DIN EN ISO 62 | |
| Flammability (UL94) | corresponding to | V0 | | DIN IEC 60695-11-10; | |

