

TECASINT 6032 black in Bearbeitung - Direct Forming

Chemical Designation

PI (Polyimide)

Colour

black

Density

1.57 g/cm³

Fillers

graphite

Production process: direct forming

Main features

very good thermal stability
 very good bearing and wear properties
 good wear resistance
 low thermal expansion
 high creep resistance
 high dimensional stability
 sensitive to hydrolysis in higher thermal range

Target Industries

hot glass technology
 mechanical engineering
 aircraft and aerospace technology
 automotive industry

| Mechanical properties | parameter | value | unit | norm | comment |
|---------------------------------------|----------------------|---------|----------------------------------|----------------------|---|
| Tensile strength | 50 mm/min | 51 | MPa | DIN EN ISO 527-1 | (1) Ensinger Standard |
| Modulus of elasticity (tensile test) | 1 mm/min | 5200 | MPa | DIN EN ISO 527-1 | |
| Elongation at break (tensile test) | 50 mm/min | 1.3 | % | DIN EN ISO 527-1 | |
| Flexural strength | 10 mm/min | 70 | MPa | DIN EN ISO 178 | |
| Modulus of elasticity (flexural test) | 2 mm/min | 5500 | MPa | DIN EN ISO 178 | |
| Elongation at break (flexural test) | 10 mm/min | 1.3 | % | DIN EN ISO 178 | |
| Compression strength | 10 mm/min | 125 | MPa | EN ISO 604 | |
| Compression strength | 10mm/min, 10% strain | 120 | MPa | EN ISO 604 | |
| Compressive strain at break | 10 mm/min | 12 | % | EN ISO 604 | |
| Shore hardness | Shore D | 83 | - | - | 1) |
| Thermal properties | parameter | value | unit | norm | comment |
| Glass transition temperature | | 288 | °C | - | 1) |
| Thermal expansion (CLTE) | 50-200°C | 1.5 / - | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | 2) |
| Thermal expansion (CLTE) | 200-300°C | 2.7 / - | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | 3) |
| Specific heat | | 0.97 | J/(g*K) | - | |
| Thermal conductivity | 40°C | 1.66 | W/(K*m) | DIN EN 821 | |
| Electrical properties | parameter | value | unit | norm | comment |
| Other properties | parameter | value | unit | norm | comment |
| Water absorption | 24 h in water, 23°C | 0,3 | % | 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. |
| Flammability (UL94) | corresponding to | V0 | | DIN IEC 60695-11-10; | 1) |

Our information and statements reflect the current state of our knowledge and shall inform about our products and their applications. They do not assure or guarantee chemical resistance, quality of products and their merchantability in a legally binding way. Our products are not defined for use in medical or dental implants. Existing commercial patents have to be observed. The corresponding values and information are no minimum or maximum values, but guideline values that can be used primarily for comparison purposes for material selection. These values are within the normal tolerance range of product properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. Unless otherwise noted, these values were determined by tests at reference dimensions and machined specimen. As the properties depend on the dimensions of the semi-finished products and the orientation in the component (esp. in reinforced grades), the material may not be used without a separate testing under individual circumstances. The customer is solely responsible for the quality and suitability of products for the application and has to test usage and processing prior to use. Data sheet values are subject to periodic review, the most recent update can be found at www.ensinger-online.com. Technical changes reserved.