

## TECASINT 1031 black - Stock Shapes (rods, plates, tubes)

### Chemical Designation

PI (Polyimide)

### Colour

black

### Density

1.57 g/cm<sup>3</sup>

### Fillers

40% graphite

### Main features

- very good slide and wear properties
- very good thermal stability
- very high creep resistant
- good wear resistance
- high thermal and mechanical capacity
- resistance against high energy radiation
- low thermal expansion
- sensitive to hydrolysis in higher thermal range

### Target Industries

- automotive industry
- aircraft and aerospace technology
- cryogenic engineering
- conveyor technology
- hot glass technology
- mechanical engineering
- precision engineering
- textile industry

| Mechanical properties                 | condition           | value | unit                             | test method          | comment   |
|---------------------------------------|---------------------|-------|----------------------------------|----------------------|---|
| Tensile strength                      | 50 mm/min           | 58    | MPa                              | DIN EN ISO 527-1     | (1) eU  |
| Modulus of elasticity (tensile test)  | 50 mm/min           | 6200  | MPa                              | DIN EN ISO 527-1     | (2) eA  |
| Elongation at break (tensile test)    | 50 mm/min           | 1.6   | %                                | DIN EN ISO 527-1     |   |
| Flexural strength                     | 10 mm/min           | 83    | MPa                              | DIN EN ISO 178       |   |
| Modulus of elasticity (flexural test) | 10 mm/min           | 5900  | MPa                              | DIN EN ISO 178       |   |
| Elongation at break (flexural test)   | 10 mm/min           | 1.4   | %                                | DIN EN ISO 178       |   |
| Compression strength                  | 10 mm/min           | 126   | MPa                              | EN ISO 604           |   |
| Compression modulus                   | 10 mm/min           | 2700  | MPa                              | EN ISO 604           |   |
| Impact strength (Charpy)              | max 7.5 J           | 16.5  | kJ/m <sup>2</sup>                | DIN EN ISO 179-1     | 1)  |
| Notched impact strength (Charpy)      | max 7.5 J           | 3.6   | kJ/m <sup>2</sup>                | DIN EN ISO 179-1     | 2)  |
| Shore hardness                        | Shore D             | 84    |                                  | DIN EN ISO 868       |   |
| Thermal properties                    | condition           | value | unit                             | test method          | comment   |
| Glass transition temperature          |                     | 667   | °F                               | -                    | 1)  |
| Thermal expansion (CLTE)              | 122-392°F           | 21 /  | 10 <sup>-6</sup> K <sup>-1</sup> | DIN 53 752           | 2)  |
| Thermal expansion (CLTE)              | 392-572°F           | 27 /  | 10 <sup>-6</sup> K <sup>-1</sup> | DIN 53 752           | 3)  |
| Other properties                      | condition           | value | unit                             | test method          | comment   |
| Water absorption                      | 24 h in water, 73°F | 0.6   | %                                | 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)  |

→ TECASINT 1000 series show significant water uptake. Parts have to be pre-dried before fast heating to above 200 °C (drying process: 2 h per 3 mm wall thickness at 150 °C).

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