

## 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	parameter	value	unit	norm	comment
Tensile strength	50 mm/min, 23°C	58	MPa	DIN EN ISO 527-1	(1) eU
Modulus of elasticity (tensile test)	50 mm/min, 23°C	6200	MPa	DIN EN ISO 527-1	(2) eA (3) Ensinger Standard
Elongation at break (tensile test)	50 mm/min, 23°C	1.6	%	DIN EN ISO 527-1	
Elongation at break (tensile test)	10 mm/min, 23°C	1.4	%	DIN EN ISO 178	
Flexural strength	10 mm/min, 23°C	83	MPa	DIN EN ISO 178	
Modulus of elasticity (flexural test)	10 mm/min, 23°C	5900	MPa	DIN EN ISO 178	
Compression strength	10 mm/min, 23°C	126	MPa	EN ISO 604	
Compression modulus	10 mm/min, 23°C	2700	MPa	EN ISO 604	
Impact strength (Charpy)	max 7.5 J, 23°C	16.5	kJ/m <sup>2</sup>	DIN EN ISO 179-1	1)
Notched impact strength (Charpy)	max 7.5 J, 23°C	3.6	kJ/m <sup>2</sup>	DIN EN ISO 179-1	2)
Shore hardness	Shore D, 23°C	84	-	-	3)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		353	°C	-	1)
Service temperature	long-term	-	°C	-	2)
Thermal expansion (CLTE)	50-200°C	2.1 /	10 <sup>-5</sup> K <sup>-1</sup>	DIN 53 752	3)
Thermal expansion (CLTE)	200-300°C	2.7 /	10 <sup>-5</sup> K <sup>-1</sup>	DIN 53 752	4)
Other properties	parameter	value	unit	norm	comment
Water absorption	24 h in water, 23°C	0.6	%	DIN EN ISO 62	(1) Corresponding means no listing at UL (yellow card).
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	1) The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory.

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