

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

Chemical Designation

PI (Polyimide)

Colour

black

Density

1.57 g/cm³

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

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>	
Tensile strength	50 mm/min	58	MPa	DIN EN ISO 527-1	(1) eU (2) eA	
Modulus of elasticity (tensile test)	50 mm/min	6200	MPa	DIN EN ISO 527-1		
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 ²	DIN EN ISO 179-1	1)	
Notched impact strength (Charpy)	max 7.5 J	3.6	kJ/m ²	DIN EN ISO 179-1	2)	
Shore hardness	Shore D	84		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
Thermal expansion (CLTE)	50-200°C	2.1 /	10 ⁻⁵ K ⁻¹	DIN 53 752	2)	(2) Thermal Expansion XYZ axis
Thermal expansion (CLTE)	200-300°C	2.7 /	10 ⁻⁵ K ⁻¹	DIN 53 752	3)	(3) Thermal expansion XYZ axis
<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	0.6	%	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)	

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.ensingerplastics.com. Technical changes reserved.