

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

Mechanical properties	parameter	value	unit	norm	comment	
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		
Thermal properties	parameter	value	unit	norm	comment	
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
Other properties	parameter	value	unit	norm	comment	
Water absorption	24 h in water, 23°C	0.6	%	DIN EN ISO 62		
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	1)	(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.

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