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

Chemical Designation
PI (Polyimide)

Colour
black

Density
1.57 g/cm^3

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 (2) Thermal Expansion XY/Z axis (3) Thermal expansion XY/Z axis
Thermal expansion (CLTE)	50-200°C	2.1 /	10^{-5} K^{-1}	DIN 53 752	2)	
Thermal expansion (CLTE)	200-300°C	2.7 /	10^{-5} K^{-1}	DIN 53 752	3)	

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). 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)	

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