TECASINT 4021 black - Stock Shapes (rods, plates, tubes)

Chemical Designation
PI (Polyimide)

Colour
anthracite

Density
1.49 g/cm^3

Fillers
15% graphite

Main features
- very high thermal and oxidative resistance
- very low water absorption
- very good slide and wear properties
- high thermal and mechanical capacity
- good chemical resistance
- high creep resistance
- resistance against high energy radiation
- sensitive to hydrolysis in higher thermal range

Target Industries
- automotive industry
- conveyor technology
- hot glass technology
- mechanical engineering
- precision engineering

Mechanical properties	parameter	value	unit	norm		comment
Tensile strength	50 mm/min	93	MPa	DIN EN ISO 527-1		(1) eU (2) eA
Modulus of elasticity (tensile test)	1 mm/min	4943	MPa	DIN EN ISO 527-1		
Elongation at break (tensile test)	50 mm/min	3	%	DIN EN ISO 527-1		
Flexural strength	10 mm/min	131	MPa	DIN EN ISO 178		
Modulus of elasticity (flexural test)	2 mm/min	4200	MPa	DIN EN ISO 178		
Elongation at break (flexural test)	10 mm/min	3.4	%	DIN EN ISO 178		
Compression strength	10 mm/min	208	MPa	EN ISO 604		
Compression strength	10mm/min, 10% strain	163	MPa	EN ISO 604		
Compressive strain at break	10 mm/min	36	%	EN ISO 604		
Compression modulus	1 mm/min	2067	MPa	EN ISO 604		
Impact strength (Charpy)	max 7.5 J	24.4	kJ/m^2	DIN EN ISO 179-1	1)	
Notched impact strength (Charpy)	max 7.5 J	3.8	kJ/m^2	DIN EN ISO 179-1	2)	
Shore hardness	Shore D	86		DIN EN ISO 868		

Thermal properties	parameter	value	unit	norm		comment
Glass transition temperature		260	°C	DIN EN ISO 11357		(1) Thermal expansion XY/Z axis (2) Thermal expansion XY/Z axis (3) Thermal expansion XY/Z axis
Thermal expansion (CLTE)	50-200°C	3.9 / 5.4	10^{-5} K^{-1}	DIN 53 752	1)	
Thermal expansion (CLTE)	200-300°C	5.3 / 7.3	10^{-5} K^{-1}	DIN 53 752	2)	
Thermal expansion (CLTE)	300-350°C	7.5 / 10.5	10^{-5} K^{-1}	DIN 53 752	3)	

Other properties	parameter	value	unit	norm		comment
Water absorption	24 h in water, 23°C	0.16	%	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.
Water absorption	24 h in water, 80°C	0.53	%	DIN EN ISO 62		
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	1)	

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