

TECASINT 6032 black - Direct Forming

Chemical Designation

PI (Polyimide)

Colour

black

Density

1.57 g/cm³

Fillers

graphite

Production process: direct forming

Main features

- very good thermal stability
- very good bearing and wear properties
- good wear resistance
- low thermal expansion
- high creep resistance
- high dimensional stability
- sensitive to hydrolysis in higher thermal range

Target Industries

- hot glass technology
- mechanical engineering
- aircraft and aerospace technology
- automotive industry

Mechanical properties	parameter	value	unit	norm	comment	
Tensile strength	50 mm/min	51	MPa	DIN EN ISO 527-1		
Modulus of elasticity (tensile test)	1 mm/min	5200	MPa	DIN EN ISO 527-1		
Elongation at break (tensile test)	50 mm/min	1.3	%	DIN EN ISO 527-1		
Flexural strength	10 mm/min	70	MPa	DIN EN ISO 178		
Modulus of elasticity (flexural test)	2 mm/min	5500	MPa	DIN EN ISO 178		
Elongation at break (flexural test)	10 mm/min	1.3	%	DIN EN ISO 178		
Compression strength	10 mm/min	125	MPa	EN ISO 604		
Compression strength	10mm/min, 10% strain	120	MPa	EN ISO 604		
Compressive strain at break	10 mm/min	12	%	EN ISO 604		
Shore hardness	Shore D	83		DIN EN ISO 868		
Thermal properties	parameter	value	unit	norm	comment	
Glass transition temperature		288	°C	-	1)	(1) DMA, maximum loss factor tan d
Thermal expansion (CLTE)	50-200°C	1.5 / -	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	2)	(2) Thermal expansion XY/Z axis
Thermal expansion (CLTE)	200-300°C	2.7 / -	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	3)	(3) Thermal expansion XY/Z axis
Specific heat		0.97	J/(g*K)	-		
Thermal conductivity	40°C	1.66	W/(K*m)	DIN EN 821		
Other properties	parameter	value	unit	norm	comment	
Water absorption	24 h in water, 23°C	0,3	%	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.