TECASINT 6032 black - Direct Forming

Chemical Designation
PI (Polyimide)

Colour
black

Density
1.57 g/cm^3

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 (2) Thermal expansion XY/Z axis (3) Thermal expansion XY/Z axis
Thermal expansion (CLTE)	50-200°C	1.5 / -	10^{-5} K^{-1}	DIN EN ISO 11359-1;2	2)	
Thermal expansion (CLTE)	200-300°C	2.7 / -	10^{-5} K^{-1}	DIN EN ISO 11359-1;2	3)	
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)	

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