Technical Specification Sheets

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Chemical Designation
PI (Polyimide)

Colour
black

Density
1.47 g/cm^3

Fillers
graphite

Production process: direct forming

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

Target Industries
- mechanical engineering
- aircraft and aerospace technology
- cryogenic engineering
- vacuum technology
- automotive industry

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50 mm/min	65	MPa	DIN EN ISO 527-1	
Modulus of elasticity (tensile test)	1 mm/min	5000	MPa	DIN EN ISO 527-1	
Elongation at break (tensile test)	50 mm/min	1,7	%	DIN EN ISO 527-1	
Flexural strength	10 mm/min	100	MPa	DIN EN ISO 178	
Modulus of elasticity (flexural test)	2 mm/min	5000	MPa	DIN EN ISO 178	
Elongation at break (flexural test)	10 mm/min	2,1	%	DIN EN ISO 178	
Compression strength	10 mm/min	210	MPa	EN ISO 604	
Compression strength	10mm/min, 10% strain	155	MPa	EN ISO 604	
Compressive strain at break	10 mm/min	30	%	EN ISO 604	
Shore hardness	Shore D	86		DIN EN ISO 868	

Thermal properties	parameter	value	unit	norm		comment
Glass transition temperature		283	°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	2.4 / -	10^{-5} K^{-1}	DIN EN ISO 11359-1;2	2)	
Thermal expansion (CLTE)	200-300°C	4.4 / -	10^{-5} K^{-1}	DIN EN ISO 11359-1;2	3)	

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)	