

TECASINT 2391 - Stock Shapes

Chemical Designation

PI (Polyimide)

Colour

black

Density

1.54 g/cm³

Fillers

15% molybdenum disulfide (MoS₂)

Main features

- high thermal and mechanical capacity
- very good slide and wear properties
- low outgassing
- very good thermal stability
- good chemical resistance
- high creep resistance
- resistance against high energy radiation
- sensitive to hydrolysis in higher thermal range

Target Industries

- aircraft and aerospace technology
- cryogenic engineering
- precision engineering
- vacuum technology

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1 mm/min, 23°C	4400	MPa	DIN EN ISO 527-1	(1) Specimen in 4mm thickness
Tensile strength	50 mm/min, 23°C	95	MPa	DIN EN ISO 527-1	
Elongation at break	50 mm/min, 23°C	2.9	%	DIN EN ISO 527-1	
Elongation at break	10 mm/min, 23°C	3.6	%	DIN EN ISO 178	
Flexural strength	10 mm/min, 23°C	137	MPa	DIN EN ISO 178	
Modulus of elasticity (flexural test)	2 mm/min, 23°C	4136	MPa	DIN EN ISO 178	
Compression strength	10 mm/min, 23°C	253	MPa	EN ISO 604	
Compression strength	10mm/min, 10% strain, 23°C	180	MPa	EN ISO 604	
Compressive strain at break	10 mm/min, 23°C	35.6	%	EN ISO 604	
Compression modulus	1 mm/min, 23°C	2200	MPa	EN ISO 604	
Shore hardness	Shore D, 23°C	90	D	DIN 53505	
Ball indentation hardness		265	MPa	ISO 2039-1	1)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		370	°C	-	1)
Thermal expansion (CLTE)	200-300°C	5.0 / 5.7	10 ⁻⁵ K ⁻¹	DIN 53 752	2)
Thermal expansion (CLTE)	50-200°C	4.0 / 4.7	10 ⁻⁵ K ⁻¹	DIN 53 752	3)
Other properties	parameter	value	unit	norm	comment
Water absorption	24 h in water, 23°C	0.53	%	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	1.58	%	DIN EN ISO 62	
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	1)

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