

TECASINT 6012 natural - Direct Forming

Chemical Designation

PI (Polyimide)

Colour

brown-beige

Density

1.35 g/cm³

Production process: direct forming

Main features

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

Target Industries

- semiconductor technology
- electrical engineering
- electronics
- mechanical engineering
- vacuum technology
- cryogenic engineering
- automotive industry

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Tensile strength	50 mm/min	115	MPa	DIN EN ISO 527-1	
Modulus of elasticity (tensile test)	1 mm/min	4100	MPa	DIN EN ISO 527-1	
Elongation at break (tensile test)	50 mm/min	4.2	%	DIN EN ISO 527-1	
Flexural strength	10 mm/min	175	MPa	DIN EN ISO 178	
Modulus of elasticity (flexural test)	2 mm/min	4100	MPa	DIN EN ISO 178	
Elongation at break (flexural test)	10 mm/min	5.4	%	DIN EN ISO 178	
Compression strength	10 mm/min	410	MPa	EN ISO 604	
Compression strength	10mm/min, 10% strain	165	MPa	EN ISO 604	
Compressive strain at break	10 mm/min	54	%	EN ISO 604	
Shore hardness	Shore D	88		DIN EN ISO 868	
<i>Thermal properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Glass transition temperature		285	°C	-	1) (1) DMA, maximum loss factor tan d
Thermal expansion (CLTE)	50-200°C	3,2 / -	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	2) (2) Thermal expansion XY/Z axis
Thermal expansion (CLTE)	200-300°C	4,6 / -	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	3) (3) Thermal expansion XY/Z axis
<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Water absorption	24 h in water, 23°C	0,8	%	DIN EN ISO 62	
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	1) (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.

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