

TECASINT 5111 natural - halvfabrikat

Kemisk beteckning

PI (polyimid)

Färg

Svart

Densitet

1.33 g/cm³

Huvud egenskaper

- mycket bra elektrisk isolering
- hög termisk och mekanisk kapacitet
- Bra slitstyrka
- högt krypmotstånd
- motstånd mot hög energi strålning
- känslig för hydrolys i högre termiska intervall

Målindustrier

- halvledarteknik
- elektroteknik
- flygplan och rymdteknik
- kryogenteknik
- maskinteknik
- kärn- och vakuumteknik

Mekaniska Egenskaper	parameter	värde	enhet	norm	anmärkning
Draghållfasthet	50 mm/min	140	MPa	DIN EN ISO 527-1	(1) eU
Elasticitetsmodul (dragprov)	1 mm/min	3800	MPa	DIN EN ISO 527-1	
Brottförlängning	50 mm/min	5.3	%	DIN EN ISO 527-1	
Böjghållfasthet	10 mm/min	205	MPa	DIN EN ISO 178	
Elasticitetsmodul (böjningstest)	2 mm/min	3600	MPa	DIN EN ISO 178	
Kompressionsstyrka	10 mm/min	440	MPa	EN ISO 604	
tryckhållfasthet vid brott	10 mm/min	48	%	EN ISO 604	
slagstyrka (charpy)	max 7.5 J	70	kJ/m ²	DIN EN ISO 179-1	1)
Shore hårdhet	Shore D	91		DIN EN ISO 868	
Värmeledningsförmåga	parameter	värde	enhet	norm	anmärkning
Glasövergångstemperatur		330	°C	-	1)
värmeförvrängningstemperatur	1,8 MPa	335	°C	DIN 53 461	(1) DMA, maximum loss factor tan δ (2) Thermal expansion XY/Z axis
termisk expansion	50-200 °C	4.6 / -	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	2)
termisk expansion	100-150 °C	4.5 / -	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	3)
termisk expansion	23-100°C	4.1 / -	10 ⁻⁵ K ⁻¹	DIN EN ISO 11359-1;2	4)
Specifik värme		1.116	J/(g*K)	DIN EN 821	(3) Thermal expansion XY/Z axis (4) Thermal expansion XY/Z axis
Värmeledningsförmåga		0.215	W/(K*m)	DIN EN 821	
Elektriska egenskaper	parameter	värde	enhet	norm	anmärkning
Specifikt ytmotstånd	23°C	> 10 ¹⁵	Ω	DIN IEC 60093	
Specifikt volymresistans	23°C	> 10 ¹⁴	Ω*cm	DIN IEC 60093	
Övriga egenskaper	parameter	värde	enhet	norm	anmärkning
Vattenabsorption	24 h in water, 23°C	0.82	%	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.
Brandklassning (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	1)

→ TECASINT 5000 series show significant water uptake. Parts have to be pre-dried before fast heating to above 200 °C (drying process: 2 h per 3 mm wall thickness at 150 °C).

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.