TECASINT 2011 natural - halvfabrikat

Kemisk beteckning
PI (polyimid)

Färg
Brun

Densitet
1.38 g/cm^3

Huvud egenskaper
- mycket god termisk stabilitet
- hög termisk och mekanisk kapacitet
- mycket bra elektrisk isolering
- motstånd mot hög energi strålning
- bra kemisk resistans
- högt krypmotstånd
- känslig för hydrolys i högre termiska intervall

Målindustrier
- maskinteknik
- precisions teknik
- flygplan och rymdknik
- kryogenteknik
- elektronik
- elektroteknik
- halvledarteknik
- vakuumteknik

Mekaniska Egenskaper	parameter	värde	enhet	norm		anmärkning
Draghållfasthet	50 mm/min	130	MPa	DIN EN ISO 527-1		(1) eU (2) eA (3) Specimen in 4mm thickness
Elasticitetsmodul (dragprov)	1 mm/min	3600	MPa	DIN EN ISO 527-1		
Brottförlängning	50 mm/min	8	%	DIN EN ISO 527-1		
Böjhållfasthet	10 mm/min	177	MPa	DIN EN ISO 178		
Elasticitetsmodul (böjningstest)	2 mm/min	3600	MPa	DIN EN ISO 178		
Kompressionsstyrka	10 mm/min	470	MPa	EN ISO 604		
Kompressionsstyrka	10mm/min, 10% strain	170	MPa	EN ISO 604		
Kompressionsmodul	1 mm/min	3430	MPa	EN ISO 604		
tryckhållfasthet vid brott	10 mm/min	55	%	EN ISO 604		
slagstyrka (charpy)	max 7.5 J	87.9	kJ/m^2	DIN EN ISO 179-1	1)	
Skårslahseghet (Charpy)	max 7.5 J	9.3	kJ/m^2	DIN EN ISO 179-1	2)	
Shore hårdhet	Shore D	90		DIN EN ISO 868		
Kultrycks hårdhet		260	MPa	ISO 2039-1	3)	

Värmeledningsförmåga	parameter	värde	enhet	norm		anmärkning
Glasövergångstemperatur		352	°C	-	1)	(1) DMA, maximum loss factor tan d (2) Thermal expansion XY/Z axis (3) Thermal expansion XY/Z axis
värmeförvrängning stemperatur	1.80 MPa	319	°C	DIN 53 461		
termisk expansion	50-200°C	4.4 / 4.3	10^{-5} K^{-1}	DIN 53 752	2)	
termisk expansion	200-300°C	5.1 / 5.1	10^{-5} K^{-1}	DIN 53 752	3)	
Specifik värme		0.925	J/(g*K)	-		
Värmeledningsförmåga	40°C	0.22	W/(K*m)	ISO 8302		

Elektriska egenskaper	parameter	värde	enhet	norm	anmärkning
Specifikt ytmotstånd	23°C	10^{15}	Ω	DIN IEC 60093	
Specifik volymr esistans	23°C	10^{15}	Ω*cm	DIN IEC 60093	
Elektrisk styrka DC	23°C	34.3	kV*mm^{-1}	ISO 60243-1	
Dielektrisk konstant	100 Hz	3.5		DIN VDE 0303	
Dielektrisk konstant	1 kHz	3.5		DIN VDE 0303	
Dielektrisk konstant	10 kHz	3.4		DIN VDE 0303	
Dielektrisk konstant	100 kHz	3.4		DIN VDE 0303	

Övriga egenskaper	parameter	värde	enhet	norm		anmärkning
Vatten absorption	24 h in water, 23°C	0.47	%	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.
Vatten absorption	24 h in water, 80°C	1.65	%	DIN EN ISO 62		
Outgassing in high vacuum		passed		ECSS-Q-70-02		
Brandklassning (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	1)	

- TECASINT 2000 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).

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