

TECASINT 1041

Chemical Designation: Polyimide
 DIN-Abbreviation: PI M 30
 Colours, fillers: black, 30% Molybdändisulfide

Main features

- | | |
|---------------------------------------|---|
| high thermal and mechanical capacity | very creep resistant |
| good radiation-resistance | good slid and wear properties |
| low outgassing | broad chemical compatibility |
| flame retardant according to UL94 V-0 | good electrical insulating |
| easily machined | sensitive to hydrolysis in higher thermal ran |

Applications

- | | |
|----------------------------------|-----------------------|
| mechanical engineering | precision engineering |
| vacuum engineering | cryogenics |
| aircraft an aerospace industries | |

Preferred Fields

Vacuum seal, valve seating, skid rails, chain guides, piston rings, bearings, washers,

Properties

Material data sheet

TECASINT 1041

Mechanical	data	temperature	unit	test method
Tensile strength	82	23°C	MPa	EN ISO 527
Tensile elongation at break	2,8	23°C	%	EN ISO 527
Tensile modulus	4340	23°C	MPa	EN ISO 527
Flexural strength	126	23°C	MPa	EN ISO 178
Flexural elongation	3,7	23°C	%	EN ISO 178
Flexural modulus	4330	23°C	MPa	EN ISO 178
Flexural modulus	-	250°C	MPa	EN ISO 178
Flexural modulus	-	300°C	MPa	EN ISO 178
Compressive strength	204	23°C	MPa	EN ISO 604
Compression at break	64	23°C	%	EN ISO 604
Compressive stress at 10 % strain	-	23°C	MPa	EN ISO 604
Compressive modulus	-	23°C	MPa	EN ISO 604

Material Data Sheet

status: February 2009

Mechanical	data	temperature	unit	test method
Impact strength notched	2,8	23°C	J / m	ASTM D256 Izod A
Impact strength	29,65	23°C	kJ / m ²	EN ISO 179 Charpy
Hardness Shore D	89	23°C	D	DIN 53 505

Material data sheet

TECASINT 1041

Thermal	data	temperature	unit	test method
Heat Deflection Temperature 1,85 MPa	-	-	° C	DIN 53 461
Coefficient of thermal Expansion	65 /-*	50 – 200°C	10 ⁻⁶ .K ⁻¹	DIN 53 752
Coefficient of thermal Expansion	-	200 – 300°C	10 ⁻⁶ .K ⁻¹	DIN 53 752
Thermal conductivity	-	40°C	W/(K · m)	ISO 8302
Specific heat	-	-	J.g ⁻¹ .K ⁻¹	
Glass transition temperature	330	-	°C	DMTA

*Thermal Expansion XY / Z axis

Material data sheet

TECASINT 1041

Electrical	data	temperature	unit	test method
Electric strength DC	-	23°C	kV.mm ⁻¹	ISO 60243-1
Dielectric constant 100 Hz	-	23°C	-	IEC 60250
Dielectric constant 1kHz	-	23°C	-	IEC 60250
Dielectric constant 10kHz	-	23°C	-	IEC 60250
Dielectric constant 100kHz	-	23°C	-	IEC 60250
Dielectric constant 26,5 – 40 GHz	-	23°C	-	IEC 60250
Dissipation factor 50 Hz	-	23°C	-	DIN 53 483
Dissipation factor 27 MHz	-	23°C	-	DIN 53 483
Specific Volume Resistance	-	23°C	Ω *cm	IEC 60093
Surface Resistivity	-	23°C	Ω	IEC 60093

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TECASINT 1041

Miscellaneous	data	temperature	unit	test method
Density	1,67	23°C	g / cm ³	DIN 53 479
Water absorption, 24 hours	0,72	23°C	%	EN ISO 62
Water absorption, 24 hours	-	80°C	%	EN ISO 62
Water absorption, 3 week (saturation)	-	80°C	%	EN ISO 62

Testing of semi-finished products

The above information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of chemical resistance, of certain properties and the suitability of our products and their applications. Our products are not destined for use in medical and dental implants. Existing commercial patents must be observed. Unless otherwise stated, these values represent averages taken from compression moulded samples. We reserve the right to make technical alterations.