

# TECASINT 1061

Chemical Designation: Polyimide  
 DIN-Abbreviation: PI CS15 TF10  
 Colours, fillers: black gleamy, 15% Grafit, 10% PTFE

## Main features

- | high thermal and mechanical capacity
- | good radiation-resistance
- | low outgassing
- | easily machined to tight tolerances
- | flame retardant according to UL94 V-0
- | very creep resistant
- | good sliding properties
- | broad chemical compatibility
- | sensitive to hydrolysis in higher thermal range

## Applications

- | mechanical engineering
- | materials handling equipment
- | aircraft an aerospace industries
- | precision engineering
- | automotive industry
- | nuclear and vacuum technology
- | textile industry

## Preferred Fields

Valve seating, switch parts, chain guides, piston rings, guide piece, thrust washer, bearings

## Properties

Material data sheet

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<b>Mechanical</b>	<b>data</b>	<b>temperature</b>	<b>unit</b>	<b>test method</b>
Tensile strength	77	23°C	MPa	EN ISO 527
Tensile elongation at break	2,9	23°C	%	EN ISO 527
Tensile modulus	-	23°C	MPa	EN ISO 527
Flexural strength	120	23°C	MPa	EN ISO 178
Flexural elongation	3,6	23°C	%	EN ISO 178
Flexural modulus	-	23°C	MPa	EN ISO 178
Flexural modulus	-	250°C	MPa	EN ISO 178
Flexural modulus	-	300°C	MPa	EN ISO 178
Compressive strength	227	23°C	MPa	EN ISO 604
Compression at break	-	23°C	%	EN ISO 604
Compressive stress at 10 % strain	227	23°C	MPa	EN ISO 604
Compressive modulus	-	23°C	MPa	EN ISO 604

**Material Data Sheet**

status: February 2009

<b>Mechanical</b>	<b>data</b>	<b>temperature</b>	<b>unit</b>	<b>test method</b>
Notch impact strength	27	23°C	KJ / m <sup>2</sup>	ASTM D256 Izod A
Impact strength	-	23°C	KJ / m <sup>2</sup>	EN ISO 179 Charpy
Hardness Shore D	85	23°C	D	DIN 53 505

Material data sheet

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<b>Thermal</b>	<b>data</b>	<b>temperature</b>	<b>unit</b>	<b>test method</b>
Heat Deflection Temperature 1,85 MPa	-	-	° C	DIN 53 461
Coefficient of thermal Expansion	51 /-*	50 – 200°C	10 <sup>-6</sup> .K <sup>-1</sup>	DIN 53 752
Coefficient of thermal Expansion	-	200 – 300°C	10 <sup>-6</sup> .K <sup>-1</sup>	DIN 53 752
Thermal conductivity	-	40°C	W/(K · m)	ISO 8302
Specific heat	-	-	J.g <sup>-1</sup> .K <sup>-1</sup>	
Glass transition temperature	330	-	°C	DMTA

\*Thermal Expansion XY / Z axis

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<b>Electrical</b>	<b>data</b>	<b>temperature</b>	<b>unit</b>	<b>test method</b>
Electric strength DC	-	23°C	kV.mm <sup>-1</sup>	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

Material data sheet

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<b>Miscellaneous</b>	<b>data</b>	<b>temperature</b>	<b>unit</b>	<b>test method</b>
Density	1,48	23°C	g / cm <sup>3</sup>	DIN 53 479
Water absorption, 24 hours	-	23°C	%	EN ISO 62
Water absorption, 24 hours	-	80°C	%	EN ISO 62
Water absorption, 3 week (saturation)	2,3	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.