

## TECAPEI

Chemical Designation :  
 DIN–Abbreviation:  
 Colours, fillers:

Polyrtherimide  
 PEI  
 transparent, amber

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### Main features

- | high thermal and mechanical capacity
  - | high dimensional stability
  - | good radiation resistance
  - | continuous service temperature up to 170°C
  - | FDA–compliant
  - | inherently flame retardant (UL94 V–O)
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### Preferred Fields

- | Semiconductor technology
  - | food technology
  - | aircraft and aerospace industries
  - | medical technology
  - | automotive engineering
  - | vacuum technology
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### Applications

Mikrowave dishes, surgical equipment, connectors

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### Properties

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<b>Mechanical</b>	<b>dry / moist</b>	<b>standard</b>
Tensile strength at yield	105 MPa	DIN EN ISO 527
Elongation at yield	6 %	DIN EN ISO 527
Tensile strength at break	MPa	
Elongation at break	> 50 %	DIN EN ISO 527
Modulus of elasticity in tension	3200 MPa	DIN EN ISO 527

Modulus of elasticity after flexural test	3300	MPa	DIN EN ISO 178
Hardness	140		DIN 53 456 (Kugeldruckhärte)
Impact strength 23° C (Charpy)	4	KJ/m <sup>2</sup>	DIN EN ISO 179 (Charpy)
Creep rupture strength after 1000 h with static load		MPa	
Time yield limit for 1% elongation after 1000 h		MPa	
Co-efficient of friction p = 0,05 N/mm <sup>2</sup> v=0,6 m/s on steel, hardened and ground			
Wear p = 0,05 N/mm <sup>2</sup> v=0,6 m/s on steel, hardened and ground		µm/km	

**Thermal**

	dry / moist		standard
Crystalline melting point		°C	
Glass transition temperature	217	°C	DIN 53 765
Heat distortion temperature HDT, Method A	180	°C	ISO-R 75 Verfahren A (DIN 53 461)
Heat distortion temperature HDT, Method B	200	°C	ISO-R 75 Verfahren B (DIN 53 461)
Max. service temperature			
short term	200	°C	
long term	170	°C	
Thermal conductivity (23° C)	0,22	W/(K·m)	
Specific heat (23° C)		J/g.K	
Coefficient of thermal expansion (23–55°C)	5	10 <sup>-5</sup> /K	DIN 53 752

## Properties

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<b>Electrical</b>	<b>dry / moist</b>		<b>standard</b>
Dielectric constant ( $10^6$ Hz)	3,15		DIN 53 483, IEC-250
Dielectric loss factor ( $10^6$ Hz)	0,001		DIN 53 483, IEC-250
Specific volume resistance	$10^{15}$	$\Omega \cdot \text{cm}$	DIN IEC 60093
Surface resistance	$10^{15}$	$\Omega$	DIN IEC 60093
Dielectric strength	33	kV/mm	DIN 53 481, IEC-243, VDE 0303 Teil 2
Resistance to tracking			

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<b>Miscellaneous</b>	<b>dry / moist</b>		<b>standard</b>
Density	1,27	$\text{g/cm}^3$	DIN 53 479
Moisture absorption (23°C/50RH)	0,7	%	DIN EN ISO 62
Water absorption to equilibrium	1,25	%	DIN EN ISO 62
Flammability acc. to UL standard 94	V0		

(1) 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 injection moulding samples, dry as moulded. We reserve the right to make technical alterations.

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