

TECASON E

Chemical Designation :
 DIN–Abbreviation:
 Colours, fillers:

Polyethersulfone
 PES
 transparent, slightly yellowish

Main features

- | high thermal and mechanical capacity
- | inherently flame retardant (UL94 V–O)
- | high hardness and rigidity
- | high heat deflection temperature
- | good electrical insulation
- | good weldability
- | high dimensional stability
- | FDA–compliant

Preferred Fields

- | food technology
- | electrical engineering
- | automotive engineering
- | chemical engineering
- | transport and conveyor technology
- | medical technology
- | mechanical engineering
- | vacuum technology
- | pumps and instrument manufacture
- | precision engineering

Applications

Metering apparatus, surgical instruments, sterilization tanks, light sockets, catalyst support, flanges, coil formers, switch parts, insulators, valve bodies, sensor housings, sight glasses

Properties

Mechanical	dry / moist	standard
Tensile strength at yield	90 MPa	DIN EN ISO 527
Elongation at yield	6 %	DIN EN ISO 527

Tensile strength at break		MPa	
Elongation at break	40	%	DIN EN ISO 527
Modulus of elasticity in tension	2700	MPa	DIN EN ISO 527
Modulus of elasticity after flexural test		MPa	
Hardness	148		DIN 53 456 (Kugeldruckhärte)
Impact strength 23° C (Charpy)	n.b.	KJ/m ²	DIN EN ISO 179 (Charpy)
Creep rupture strength after 1000 h with static load		MPa	
Time yield limit for 1% elongation after 1000 h	20	MPa	
Co-efficient of friction p = 0,05 N/mm ² v=0,6 m/s on steel, hardened and ground			
Wear p = 0,05 N/mm ² v=0,6 m/s on steel, hardened and ground		µm/km	

Thermal	dry / moist		standard
Crystalline melting point		°C	
Glass transition temperature	225	°C	DIN 53 765
Heat distortion temperature HDT, Method A	204	°C	ISO-R 75 Verfahren A (DIN 53 461)
Heat distortion temperature HDT, Method B	214	°C	ISO-R 75 Verfahren B (DIN 53 461)
Max. service temperature			
short term	220	°C	
long term	180	°C	
Thermal conductivity (23° C)	0,18	W/(K·m)	
Specific heat (23° C)	1,12	J/g·K	
Coefficient of thermal expansion (23–55°C)	5,5	10 ⁻⁵ /K	DIN 53 752

Properties

Electrical	dry / moist		standard
Dielectric constant (10^6 Hz)	3,5		DIN 53 483, IEC-250
Dielectric loss factor (10^6 Hz)	0,005		DIN 53 483, IEC-250
Specific volume resistance	10^{16}	$\Omega \cdot \text{cm}$	DIN IEC 60093
Surface resistance	10^{14}	Ω	DIN IEC 60093
Dielectric strength	40	kV/mm	DIN 53 481, IEC-243, VDE 0303 Teil 2
Resistance to tracking			

Miscellaneous	dry / moist		standard
Density	1,37	g/cm^3	DIN 53 479
Moisture absorption (23°C/50RH)	0,7	%	DIN EN ISO 62
Water absorption to equilibrium	2,1	%	DIN 53 495
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.
