

# TECAPEEK ELS nano - Stock Shapes

## Chemical Designation

PEEK (Polyetheretherketone)

## Colour

black opaque

## Density

1.36 g/cm<sup>3</sup>

## Fillers

CNT

## Main features

- high dimensional stability
- continuous service temperature up to 260 °C
- high strength
- very good chemical resistance
- electrically conductive
- high thermal and mechanical capacity
- good machinability
- high toughness

## Target Industries

- mechanical engineering
- conveyor technology
- semiconductor technology
- computer technology

Mechanical properties	parameter	value	unit	norm	comment
Modulus of elasticity (tensile test)	1mm/min	4800	MPa	DIN EN ISO 527-2	1)
Tensile strength	50mm/min	106	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	106	MPa	DIN EN ISO 527-2	
Elongation at yield	50mm/min	4	%	DIN EN ISO 527-2	
Elongation at break	50mm/min	4	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	178	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	4700	MPa	DIN EN ISO 178	
Compression strength	1% / 2% 5mm/min, 10 N	27 / 47	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	3600	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	58	kJ/m <sup>2</sup>	DIN EN ISO 179-1eU	5)
Ball indentation hardness		253	MPa	ISO 2039-1	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		147	°C	DIN 53765	1)
Melting temperature		341	°C	DIN 53765	
Service temperature	short term	300	°C		2)
Service temperature	long term	260	°C		
Thermal expansion (CLTE)	23-60°C, long.	5	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	23-100°C, long.	5	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Thermal expansion (CLTE)	100-150°C, long.	7	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1;2	
Specific heat		1.1	J/(g*K)	ISO 22007-4:2008	
Thermal conductivity		0.46	W/(K*m)	ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
Specific surface resistance	Conductive rubber, 23°C, 12% r.h.	10 <sup>2</sup> - 10 <sup>4</sup>	Ω	DIN EN 61340-2-3	1)
Specific volume resistance	Conductive rubber, 23°C, 12% r.h.	10 <sup>3</sup> - 10 <sup>5</sup>	Ω*cm	DIN EN 61340-2-3	
Other properties	parameter	value	unit	norm	comment
Water absorption	24h / 96h (23°C)	0.02 / 0.03	%	DIN EN ISO 62	1)
Resistance to hot water/ bases		+	-		2)
Resistance to weathering		(+)	-		3)
Flammability (UL94)	corresponding to	V0		DIN IEC 60695-11-10;	4)

→ Made exclusively from Victrex® PEEK

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