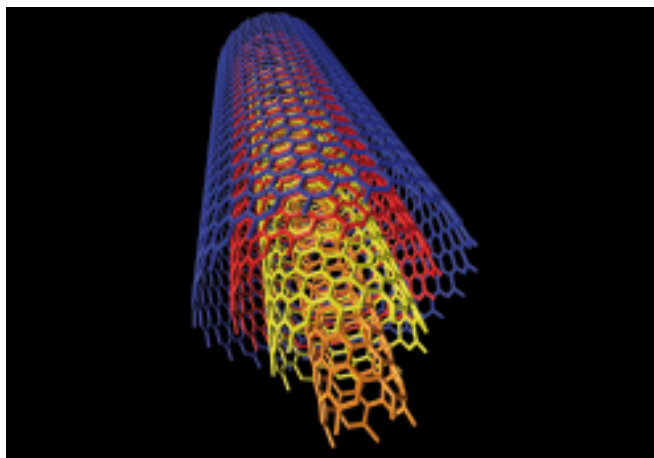


TECAPEEK ELS nano Electrical conductivity based on nano technology



TECAPEEK ELS nano is an electrically conductive, ATEX approved plastic with high thermal and chemical resistance, giving maximum safety in processes and equipment.

The material is based on TECAPEEK (PEEK) modified with nano technology:

The functional filler material used - carbon nanotubes - has a very high electrical conductivity thanks to its graphite like surface structure and thus approaches close to the conductivity properties of a metal.

Due to the high specific surface, only small amounts of additives are required to adjust the electrical conductivity. Thus TECAPEEK ELS nano shows similar characteristics to PEEK regarding high toughness and strength. This makes the further processing of the material distinctly easier. All proven properties such as excellent chemical and thermal resistance remain unchanged.



Properties

- | High electrical conductivity
- | Tight resistance band thanks to the uniform distribution of the additive
- | Density similar to TECAPEEK natural
- | Good durability
- | Good machinability
- | Very low distortion tendency
- | High thermal resistance
- | Good dimensional stability
- | Good surface quality

Preferred fields

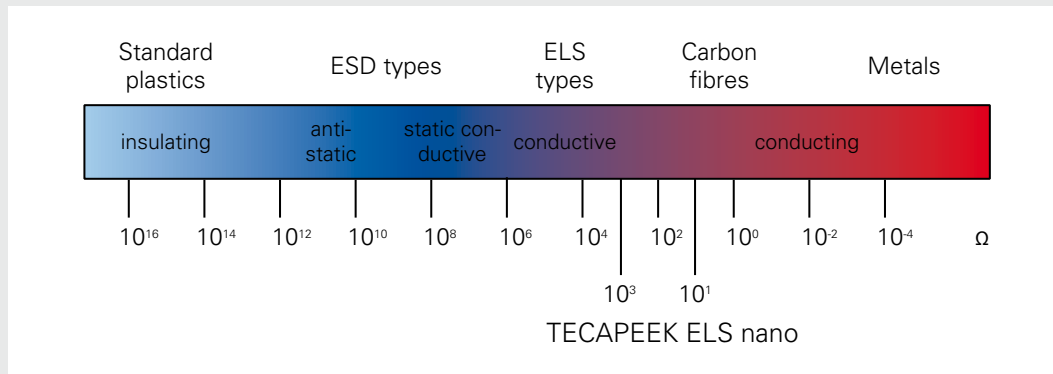
Safety technology, semicon industry, mechanical engineering, computer technology, packaging and paper machines, transport and chemical engineering, vacuum technology, aerospace applications

Applications

Components in explosion-proof plants, chip handling, heat exchangers, chemical purifier systems, pump housings, robotics adapter

The highly innovative TECAPEEK ELS nano, which is based on nano technology, is particularly suitable for applications in semicon industry.

Surface resistance TECAPEEK ELS nano: $10^1 - 10^3 \Omega$



Technical Properties

		TECAPEEK ELS nano
DIN abbreviation		PEEK
Density (ASTM D 792, DIN 53 479)	ρ g/cm ³	1,34
Tensile strength at break (DIN EN ISO 527)	σ_R MPa	100
Elongation at break (DIN EN ISO 527)	ϵ_R %	15
Modulus of elasticity after tensile test (DIN EN ISO 527)	E_z MPa	4100
Impact resistance (DIN EN ISO 179 (Charpy))	a_n kJ/m ²	50
Glass transition temperature (DIN 53 765)	°C	143
Service temperature short term	°C	300
Service temperature long term	°C	260
Specific volume resistance (DIN IEC 60093)	ρ_D Ωcm	$10^2 \cdot 10^{4(1)}$
Surface resistance (DIN IEC 60093)	R_o Ω	$10^1 \cdot 10^3(1)$
Water absorption at saturation 23 °C/50 % rel. humidity (DIN EN ISO 62)	W_s %	0,1
Flammability acc. to UL-Standard 94		V0

(1) Testing on semi-finished products
The information corresponds to current knowledge, and indicates our products and possible applications. We cannot give you a legally binding guarantee of the physical properties or the suitability for a specific application. Existing commercial patents are to be taken into account. A definite quality guarantee is given in our general conditions of sale.

Available on request

Other dimensions are available on request.

Rods



	Tolerance to DIN (mm)	TECAPEEK ELS nano
DIN-Abbreviation		PEEK
Density (g/cm ³)		1,34
Diameter Ø (mm)		kg/m
20	+ 0,2 + 1,1	0,458

Plates



	Tolerance to DIN (mm)	TECAPEEK ELS nano
DIN-Abbreviation		PEEK
Density (g/cm ³)		1,34
Diameter (mm)		kg/m
20 x 500	+ 0,3 + 1,5	14,71

Information concerning the exclusion of liability and Terms and Conditions of Delivery can be found in our Semi-finished products catalogue or under www.ensinger-online.com.