

## ► Main features

It has thermal and mechanical characteristics and properties similar to natural PEEK. It's made of Natural Peek + % Carbon fiber + Teflon + Graphite; this composition ensures excellent sliding performance with friction and, In addition, it raises the operating temperature to 260 C. It has a lower coefficient of linear thermal expansion to 23 C and lower coefficient of friction.

## ► Applications

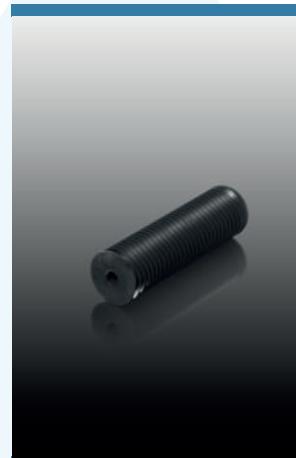
Bearings  
Blades  
Spacers  
Structural components  
Gears and mechanics details in general

## ► Application sectors

Power Plant, Offshore, Oil & Gas  
Medical and Pharmaceutical  
Chemical  
Aerospace  
Electric and of Semiconductors  
Industrial automation  
Mechanic

## ► FDA Compatibility NO

## ► Available colours



PHYSICAL PROPERTIES	REGULATIONS	UM	PEEK
<b>PHYSICAL PROPERTIES</b>			
Density	DIN53479	g/cm <sup>3</sup>	1.48
Water absorption (50% at 23° C)	**DIN53495	%	0.1
Maximum temp. for use in the air for short duration	-	°C	300
Maximum temperature of use in continuous air	-	°C	260
Minimum temperature of use in continuous air	-	°C	-40
<b>MECHANICAL PROPERTIES</b>			
Yield stress/tensile strength ( $\sigma_s$ )	ISO527	N/mm <sup>2</sup>	84
Elongation at break ( $\epsilon_s$ )	DIN53455	%	4
Breaking load ( $\sigma_r$ )	DIN53455	N/mm <sup>2</sup>	118
Elongation at break ( $\epsilon_r$ )	ISO527	%	3
Impact resistance	*DIN53453	kJ/m <sup>2</sup>	25
Impact resistance, notched test	ISO179	kJ/m <sup>2</sup>	5
Rockwell hardness	DIN53465	Scala M	M85
Compression test, load 1% deform. nominal	*DIN53454 <sup>(3)</sup>	N/mm <sup>2</sup>	150
Elasticity module	*DIN53457 <sup>(5)</sup>	N/mm <sup>2</sup>	5900
<b>THERMIC PROPERTIES</b>			
Melting temperature	-	°C	340
VICAT softening temperature	DIN53460	°C	-
Deformation temperature under bending load	DIN53461	°C	277
Coefficient of linear thermal expansion ( $\alpha$ )	DIN53752	K <sup>-1</sup> X10 <sup>-4</sup>	0.30
Thermal conductivity at 23°	DIN52612	W/(Kxm)	0.24
<b>ELECTRICAL PROPERTIES</b>			
Volume resistivity	**DIN53482	Ω/cm	10 <sup>7</sup> -10 <sup>12</sup>
Surface resistivity	**DIN53482	Ω	10 <sup>4</sup> -10 <sup>12</sup>
Dielectric constant at 10 <sup>3</sup> Hz (on thickness of 1 mm.)	**DIN53483	-	-
Dielectric dissipation factor ( $\tan \delta$ ) a 10 <sup>3</sup> Hz	**DIN53483	-	-
Dielectric strength (on thickness of 1 mm.)	**DIN53481	kV/mm	24
Electrical leakage resistivity	112/030TI	-	-
<b>OTHER PROPERTIES</b>			
Possibility of gluing	-	-	Limitata
Absence of physiological risks	FDA	-	No
Dry friction coefficient on steel	DIN53375	-	0.11
Flammability	UL94	-	V-0
UV stability	-	-	Si

\* : MEASUREMENTS ON TEST TUBES IN ANHYDROUS STATE  
\*\* : MEASUREMENTS ON EQUILIBRIUM TUBES  
WITH U.R. 50% AT A TEMPERATURE OF 23° C

(3): ON CYLINDERS Ø 12X30 MM  
(5): TRACTION SPEED 1 MM / MIN

(4): TRACTION SPEED 5 MM/MIN  
(6): TRACTION SPEED 20 MM/MIN