

## TECAPEEK MT blue - Stock Shapes (rods, plates, tubes)

### Chemical Designation

PEEK (Polyetheretherketone)

### Colour

blue opaque

### Density

1.34 g/cm<sup>3</sup>

### Main features

- high creep resistance
- good chemical resistance
- good slide and wear properties
- resistance against high energy radiation
- very good stress cracking resistance
- hydrolysis and superheated steam resistant
- good machinability
- very good sterilisable

### Target Industries

- medical technology
- food technology
- mechanical engineering

Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	50mm/min	113	MPa	DIN EN ISO 527-2	(1) For tensile test: specimen type 1b (2) For flexural test: support span 64mm, norm specimen. (3) Specimen 10x10x10mm (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression. (5) For Charpy test: support span 64mm, norm specimen. n.b. = not broken
Modulus of elasticity (tensile test)	1mm/min	4300	MPa	DIN EN ISO 527-2	
Tensile strength at yield	50mm/min	113	MPa	DIN EN ISO 527-2	
Elongation at yield (tensile test)	50mm/min	5	%	DIN EN ISO 527-2	
Elongation at break (tensile test)	50mm/min	11	%	DIN EN ISO 527-2	
Flexural strength	2mm/min, 10 N	173	MPa	DIN EN ISO 178	2)
Modulus of elasticity (flexural test)	2mm/min, 10 N	4300	MPa	DIN EN ISO 178	
Compression strength	1% / 2% / 5% 5mm/min, 10 N	17/35/90	MPa	EN ISO 604	3)
Compression modulus	5mm/min, 10 N	3400	MPa	EN ISO 604	4)
Impact strength (Charpy)	max. 7,5J	n.b.	kJ/m <sup>2</sup>	DIN EN ISO 179-1eU	5)
Notched impact strength (Charpy)	max. 7,5J	7	kJ/m <sup>2</sup>	DIN EN ISO 179-1eA	
Shore hardness	D	89		DIN EN ISO 868	
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		151	°C	DIN EN ISO 11357	1)
Melting temperature		341	°C	DIN EN ISO 11357	
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		0.28	W/(K*m)	ISO 22007-4:2008	
Electrical properties	parameter	value	unit	norm	comment
surface resistivity		10 <sup>14</sup>	Ω	DIN EN 62631-3-1	
volume resistivity		10 <sup>14</sup>	Ω*cm	DIN EN 62631-3-1	
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)

→ TECAPEEK products are based on Victrex® PEEK polymer.

Our information and statements reflect the current state of our knowledge and shall inform about our products and their applications. They do not assure or guarantee chemical resistance, quality of products and their merchantability in a legally binding way. Our products are not defined for use in medical or dental implants. Existing commercial patents have to be observed. The corresponding values and information are no minimum or maximum values, but guideline values that can be used primarily for comparison purposes for material selection. These values are within the normal tolerance range of product properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. Unless otherwise noted, these values were determined by tests at reference dimensions (typically rods with diameter 40-60 mm according to DIN EN 15860) on extruded and machined specimen. As the properties depend on the dimensions of the semi-finished products and the orientation in the component (esp. in reinforced grades), the material may not be used without a separate testing under individual circumstances. The customer is solely responsible for the quality and suitability of products for the application and has to test usage and processing prior to use. Data sheet values are subject to periodic review, the most recent update can be found at [www.ensingerplastics.com](http://www.ensingerplastics.com). Technical changes reserved.

Manufactured by: Ensinger Group,  
a German based plastic manufacturer

Represented by:  
Ensinger Asia Holding Pte Ltd.  
(Singapore Branch)  
for Asia Pacific other than Japan+China

63 Hillview Avenue #02-03  
Lam Soon Industrial Building  
Singapore 669569  
Tel +65 65524177  
Fax +65 65525177  
[www.ensingerplastics.com/en-sg/](http://www.ensingerplastics.com/en-sg/)

Date: 2023/07/19

Version: AD