

TECACOMP PEEK 450 CMF white 1014868 - Compounds

Chemical Designation

PEEK (Polyetheretherketone)

Colour

white

Density

1.63 g/cm³

Fillers

ceramic

<i>Mechanical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Tensile strength	50 mm/min	100	MPa	DIN EN ISO 527-1	
Modulus of elasticity (tensile test)	50 mm/min	5000	MPa	DIN EN ISO 527-1	
Elongation at break (tensile test)	50 mm/min	12	%	DIN EN ISO 527-1	
<i>Thermal properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Glass transition temperature		143	°C	DIN 53765	
Melting temperature		343	°C	DIN 53765	
Service temperature	long term	260	°C	-	
Service temperature	short term	300	°C	-	
<i>Electrical properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
surface resistivity		3,53 x 10 ¹⁵	Ω	DIN EN ISO 3915	
volume resistivity		2,71 x 10 ¹⁵	Ω*cm	DIN EN ISO 3915	
Dielectric strength		15,8	kV/mm	ISO 60243-1	
Dielectric loss factor	Messfrequenz: 1 GHz	4,1 * 10 ⁻³		DIN 53 481	
Dielectric loss factor	Messfrequenz: 2 GHz	3,9 * 10 ⁻³		DIN 53 481	
Dielectric loss factor	Messfrequenz: 3 GHz	2,87 * 10 ⁻³		DIN 53 481	
Dielectric loss factor	Messfrequenz: 4 GHz	2,81 * 10 ⁻³		DIN 53 481	
Dielectric loss factor	Messfrequenz: 5 GHz	2,9 * 10 ⁻³		DIN 53 481	
Dielectric loss factor	Messfrequenz: 10 GHz	3,43 * 10 ⁻³		DIN 53 481	
Dielectric constant	Messfrequenz: 1 GHz	4,89		DIN 53 481	
Dielectric constant	Messfrequenz: 2 GHz	4,88		DIN 53 481	
Dielectric constant	Messfrequenz: 3 GHz	5,01		DIN 53 481	
Dielectric constant	Messfrequenz: 4 GHz	4,98		DIN 53 481	
Dielectric constant	Messfrequenz: 5 GHz	5,09		DIN 53 481	
Dielectric constant	Messfrequenz: 10 GHz	4,76		DIN 53 481	
Resistance to tracking (CTI)		175	V	DIN EN 60112	
<i>Other properties</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Bulk density		0,87	g/cm ³	EN ISO 60	
<i>Processing parameter</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Cylinder/processing temperature		360 - 400	°C	-	
Mould temperature		160 - 210	°C	-	
Material temperature		390 - 400	°C	-	

→ This material can be processed as a thermoplastic taking the normal technical provisions into account. The above mentioned information refers exclusively to the injection moulding process.

→ Back pressure and injection rate should be adjusted to the component geometry accordingly. The optimum processing temperature depends upon the respective geometry of the moulded part and can be different from machine to machine.

<i>Predrying</i>	<i>parameter</i>	<i>value</i>	<i>unit</i>	<i>norm</i>	<i>comment</i>
Permissible residual moisture content		< 0,1	%	-	
Drying temperature		140 - 160	°C	-	
Drying time		4 - 6	h	-	

→ To achieve optimum mechanical properties, it is recommended to pre-dry the material with the above mentioned parameters.

→ Information on storage and shelf life: The granules must be stored in dry, normally tempered rooms and in closed containers. For moisture-sensitive materials, the granules must be sealed airtight. Protection against direct sunlight must be guaranteed. The granules are usually subject to the requirements of no shelf life limitation. Shelf Life may be limited by some additives.

Our information and statements reflect to current state of our knowledge and shall inform about the 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 the 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 on injection moulded samples, dry as moulded. 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 ensingerplastics.com. Technical changes reserved.

Ensinger GmbH
Rudolf-Diesel Str. 8
71154 Nufringen - Deutschland

Tel +49 7032 819 0
Fax +49 7032 819 100
ensingerplastics.com

Date: 2021/08/18

Version: AH