TECACOMP PEEK 450 ID blue 1014884 - Compounds

Chemical Designation
PEEK (Polyetheretherketone)

Colour
blue

Density
1.48 g/cm^3

Fillers
detectable filler

Main features
- detectable via metal detector
- x-ray detectable
- Explanation of food contact according to FDA and EU 10/2011 on request
- good chemical resistance
- high creep resistance
- inherent flame retardant
- good heat deflection temperature
- hydrolysis and superheated steam resistant

Target Industries
- food technology

Mechanical properties	condition	value	unit	test method	comment
Tensile strength		97	MPa	DIN EN ISO 527-1	
Modulus of elasticity (tensile test)		4200	MPa	DIN EN ISO 527-1	
Elongation at break (tensile test)		18	%	DIN EN ISO 527-1	
Impact strength (Charpy)		n.B.	kJ/m^2	DIN EN ISO 179-1eU	
Notched impact strength (Charpy)		6	kJ/m^2	DIN EN ISO 179-1eA	

Thermal properties	condition	value	unit	test method		comment
Glass transition temperature		143	°C	-	1)	(1) literature value (2) literature value (3) literature value (4) literature value
Melting temperature		343	°C	-	2)	
Service temperature	short term	300	°C	-	3)	
Service temperature	long term	260	°C	-	4)	

Electrical properties	condition	value	unit	test method	comment
surface resistivity		10^{12}	Ω	DIN EN 61340-2-3	
volume resistivity		10^{12}	Ω*cm	DIN EN 61340-2-3	

Other properties	condition	value	unit	test method		comment
Detectability	4 x 4 x 4 mm	2,2	mm Al	-	1)	(1) metal detectable (2) 23 °C / 50 % relative humidity up to saturation (3) x-ray detectable
Water absorption		0,03	%	DIN EN ISO 62	2)	
Detectability	4 x 4 x 4 mm	2,5	mm Al	-	3)	
Molding shrinkage	longitudinal	1,8	%	DIN EN ISO 294-4		
Molding shrinkage	transverse	1,8	%	DIN EN ISO 294-4		

Processing parameter	condition	value	unit	test method	comment
processing temperatures		360 - 410	°C	-	
Mould temperature		170 - 210	°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.

Predrying	condition	value	unit	test method	comment
Permissible residual moisture content		0,02	%	-	
Drying temperature		150 - 160	°C	-	
Drying time		2 - 4	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 sorely 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 Inc. Headquarters 365 Meadowlands Boulevard Washington, PA 15301, USA
Phone 800-243-3221 Sales Phone 800-869-4029
Technical Fax 724-746-9209
sales@ensingerusa.com
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