TECATEC PEEK CW50 PL V01 natural - Composite Materials

Chemical Designation
PEEK (Polyetheretherketone)

Colour
natural

Density
1.52 g/cm^3

Fillers
carbon fibres

Main features
- excellent chemical resistance
- low coefficient of thermal expansion
- continuous service temperature up to 260 °C
- very high stiffness
- very high strength

Target Industries
- automotive industry
- mechanical engineering
- oil and gas industry
- safety engineering
- sporting goods

The material is in the phase of further development. The characteristic values of this product may change.

General material information	condition	value	unit	test method	comment
Fibre type		carbon HT 3k		-	
Fibre architecture		atlas 5HS		-	
Fibre areal weight		280	g/m²	-	
Fibre volume content		50	%	-	
Resin weight content		41.9	%	-	
Areal weight finished product		482	g/m²	-	
Material widths		625x525	mm	others on request	
thickness		1-95	mm	-	
Fibre orientation		0-90°		others on request	

Mechanical properties	condition	value	unit	test method	comment
Tensile strength		713	MPa	ISO 527-4	
Modulus of elasticity (tensile test)		59000	MPa	ISO 527-4	
Flexural strength		866	MPa	ISO 14125	
Modulus of elasticity (flexural test)		55000	MPa	ISO 14125	
Compression strength		645	MPa	ISO 14126	
Impact strength (Charpy)		65.5	kJ/m^2	-	
in-plane shear strength		137	MPa	ISO 14129	
Interlaminar shear strength		65	MPa	ISO 14130	

Thermal properties	condition	value	unit	test method	comment
Glass transition temperature		143	°C	-	(1) approximate value
Melting temperature		343	°C	-	
Service temperature	short term	300	°C	-	
Service temperature	long term	260	°C	-	
Thermal expansion (CLTE)	in 0° and 90° direction	5	10^{-6} K^{-1}	- 1)	

Predrying	condition	value	unit	test method	comment
Drying temperature		150	°C	-	
Drying time		3	h	-	

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