TECATEC PA12 CF50 T200 CP/IP/OS V01 natural - Composite Materials

Chemical Designation
PA 12 (Polyamide 12)

Colour
natural

Density
1.39 g/cm^3

Fillers
carbon fibres

Main features
- very good abrasion resistance
- very good mechanical strength
- low moisture absorption

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		Twill 2/2		-		
Fibre areal weight		200	g/m²	-		
Fibre volume content		50	%	-		
Resin weight content		36.7	%	-		
Areal weight finished product		316	g/m²	-		
Material widths		1270	mm	-		
ply thickness (consolidated)		0.23	mm	-		

Mechanical properties	condition	value	unit	test method		comment
Tensile strength		642	MPa	ISO 527-4	1)	(1) measured on pressed plate (2) measured on pressed plate (3) measured on pressed plate (4) measured on pressed plate
Modulus of elasticity (tensile test)		53000	MPa	ISO 527-4	2)	
Flexural strength		660	MPa	ISO 14125	3)	
Modulus of elasticity (flexural test)		56000	MPa	ISO 14125	4)	

Thermal properties	condition	value	unit	test method		comment
Glass transition temperature		37	°C	DIN EN ISO 11357		(1) approximate value
Melting temperature		180	°C	DIN EN ISO 11357		
Service temperature	short term	150	°C	-		
Service temperature	long term	110	°C	-		
Thermal expansion (CLTE)	in 0° and 90° direction	3	10^{-6} K^{-1}	-	1)	

Predrying	condition	value	unit	test method	comment
Drying temperature		80	°C	-	
Drying time		6-8	h	-	

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