TECATEC PEI GF50 S296 CP/IP/OS FR V01 black - Composite Materials

Chemical Designation
PEI (Polyetherimide)

Colour
black

Density
1.9 g/cm^3

Fillers
glass fibres

Main features
- electrically insulating
- flame retardant as per FAR 25.853
- inherent flame resistance
- very good mechanical strength
- continuous service temperature up to 150 °C

Target Industries
- automotive industry
- aircraft and aerospace interiors
- aircraft and aerospace technology
- mechanical engineering
- oil and gas industry
- safety engineering
- sporting goods
- transportation

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		E glass		-		
Fibre architecture		US 7781		-		
Fibre areal weight		296	g/m²	-		
Fibre volume content		50	%	-		
Resin weight content		33.7	%	-		
Areal weight finished product		446	g/m²	-		
Material widths		1270	mm	-		
ply thickness (consolidated)		0.24	mm	-		

Mechanical properties	condition	value	unit	test method		comment
Tensile strength		450	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 (5) measured on pressed plate (6) measured on pressed plate
Modulus of elasticity (tensile test)		24000	MPa	ISO 527-4	2)	
Flexural strength		570	MPa	ISO 14125	3)	
Modulus of elasticity (flexural test)		26000	MPa	ISO 14125	4)	
Compression strength		670	MPa	ISO 14126	5)	
Compression modulus		27000	MPa	ISO 14126	6)	

Thermal properties	condition	value	unit	test method		comment
Glass transition temperature		217	°C	-		(1) approximate value
Service temperature	short term	200	°C	-		
Service temperature	long term	180	°C	-		
Thermal expansion (CLTE)	in 0° and 90° direction	10	10^{-6} K^{-1}	-	1)	

Other properties	condition	value	unit	test method		comment
Flammability		passed		-	1)	(1) compliant with CS25.853 and AITM3.0005 up to at least 0.5 mm thickness

Predrying	condition	value	unit	test method	comment
Drying temperature		150	°C	-	
Drying time		4-6	h	-	

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