

## TECATEC PEEK MT CW50 black - Composite Materials

### Chemical Designation

PEEK (Polyetheretherketone)

### Colour

black opaque

### Density

1.52 g/cm<sup>3</sup>

### Fillers

carbon fibres

production process: compression moulding

### Main features

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

### Target Industries

- medical technology

General material information	parameter	value	unit	norm	comment
Fibre type		carbon HT 3k		-	
Fibre architecture		atlas 5HS		-	
Fibre orientation		0-90°		-	
Mechanical properties	parameter	value	unit	norm	comment
Tensile strength	0.25 mm/min	713	MPa	ISO 527-4	1)
Modulus of elasticity (tensile test)		59000	MPa	ISO 527-4	
Flexural strength	10 mm/min	866	MPa	ISO 14125	2)
Modulus of elasticity (flexural test)		55000	MPa	ISO 14125	
Compression strength	1 mm/min	645	MPa	ISO 14126	3)
Impact strength (Charpy)	unnotched	65.5	kJ/m <sup>2</sup>	DIN EN ISO 179-1eA	4)
Interplanar shear strength	10 mm/min	137	MPa	ISO 14125	5)
Interlaminar shear strength	5 mm/min	65	MPa	ISO 14130	6)
Thermal properties	parameter	value	unit	norm	comment
Glass transition temperature		143	°C	-	1)
Melting temperature		343	°C	DIN EN ISO 11357	
Service temperature	short term	300	°C	-	
Service temperature	long term	260	°C	-	
Thermal expansion (CLTE)	in 0° and 90° direction 0 - 300°C	5	10 <sup>-6</sup> K <sup>-1</sup>	DIN EN ISO 11359-1:2	
Other properties	parameter	value	unit	norm	comment
Water absorption	48h, 80°C	0.15	%	DIN EN ISO 62	
Resistance to hot water/ bases		+		-	1)
Resistance to weathering		-		-	2)
Flammability (UL94)	corresponding to	V0		-	3)
Predrying	parameter	value	unit	norm	comment
Drying temperature		150	°C	-	
Drying time		3	h	-	

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