

## TECAFIL PEEK EV CF30 black - Filament

### Chemical Designation

PEEK (Poly etheretherketone)

### Colour

black

### Density

1.41 g/cm<sup>3</sup> (\*2)

### Fillers

30% carbon fibres

### Target Industries

- oil and gas industry
- automotive industry
- chemical technology
- mechanical engineering
- aircraft and aerospace technology

General material information					
parameter	value	unit	norm	comment	
Diameter	1,75 +/- 0,05	mm	-	(1) standard spool body	
Spool Measurements holder	Ø 52	mm	-	(2) do not dry spool >120°C	
Spool Measurements outer diameter	Ø 200	mm	-	(3) Ø 1,75mm	
Spool Measurements width	55	mm	-	1)	
Spool Material	Polycarbonate	-	-	2)	
Filament Load per Spool	500	g	-	3)	
Filament Length per Spool	141	m	-		
Mechanical properties					
parameter	value	unit	norm	comment	
Tensile strength 50 mm/min	204	MPa	DIN EN ISO 527-1	1) (*1)	
Modulus of elasticity (tensile test) 50 mm/min	19400	MPa	DIN EN ISO 527-1	2) (*1)	
Elongation at break (tensile test) 50 mm/min	3,2	%	DIN EN ISO 527-1	3) (*1)	
Flexural strength 2 mm/min, 10 N	-	MPa	DIN EN ISO 178	4) (*1)	
Modulus of elasticity (flexural test) 2 mm/min, 10 N	-	MPa	DIN EN ISO 178	5) (*1)	
Elongation at break (flexural test) 2 mm/min, 10 N	-	%	DIN EN ISO 178	6) (*1)	
Impact strength (Charpy) max 7,5J - 23°C	55	kJ/m <sup>2</sup>	DIN EN ISO 179-1eU	7) (*1)	
Notched impact strength (Charpy) max 7,5J - 23°C	-	kJ/m <sup>2</sup>	DIN EN ISO 179-1eA	8) (*1)	
Thermal properties					
parameter	value	unit	norm	comment	
Glass transition temperature	143	°C	ASTM D 3418	1) (*2)	
Melting temperature	343	°C	DIN EN ISO 11357	2) (*2)	
Deflection temperature HDT-A	155	°C	ISO-R 75 Method A	3) (*2)	
Service temperature long term	260	°C	-	4) (*2)	
Service temperature short term	300	°C	-	5) (*2)	
Thermal expansion (CLTE)	6	10 <sup>-5</sup> K <sup>-1</sup>	DIN EN ISO 11359-1,2	6) (*2)	
Other properties					
parameter	value	unit	norm	comment	
Moisture absorption	0,5	%	DIN EN ISO 62	1) (*2)	
MVR 380°C / 5kg	12	cm <sup>3</sup> /10 min	DIN EN ISO 1133	2) (*2)	
Processing parameter					
parameter	value	unit	norm	comment	
Nozzle temperature	400 - 440	°C	-	(1) required	
Max. melt temperature	450	°C	-		
Print bed temperature	130 - 160	°C	-		
Build chamber temperature	230 - 250	°C	-	1)	
Nozzle diameter	0,4 - 0,6	mm	-		
Print speed	20 - 30	mm/s	-		
Fan speed	0	%	-		
Predrying					
parameter	value	unit	norm	comment	
Drying temperature	120	°C	-	1) (*4)	
Drying time	8	h	-		

→ To achieve optimum mechanical properties, it is recommended to pre-dry the material with the above mentioned parameters.

- (\*1) Values measured on injection moulded test specimens
- (\*2) Values measured on the raw material
- (\*3) The exact parameters depend on the printer used.
- (\*4) Do not exceed maximum drying temperature of 120°C
- (\*5) Properties tested on printed specimens
- (\*6) Specimens printed on Minifactory Ultra

→ The filament should preferably be stored in dry, normal temperature rooms and protected from direct sunlight.

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