



We provide more than composite

Carbon Fiber Tube

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What's the carbon fiber?

Carbon fiber is a new type of nonmetal material. It and its composites have a series of excellent seismic performance, such as a high specific strength and specific modulus, good fatigue resistance and corrosion resistance, resistance to wear, dimension stability, small coefficient of thermal expansion, self-lubrication, etc. Depending on the orientation of the fiber, the carbon fiber composite can be stronger in a certain direction or equally strong in all directions. A small piece can withstand an impact of many tons and still deform minimally.



Another important characteristic of carbon fiber is the small specific gravity. Its specific gravity is only 1.6, which is half of aluminum or one fifth of steel. Although the density of carbon fiber is small, its strength is high and it has a pretty specific strength. Its specific strength is 5 times of steel, and its stillness is very good.

How to use carbon fiber?

Carbon fiber is known alternatively as carbon fiber reinforced or carbon fiber composite, and the plastic typically used in epoxy resin. The specific strength and specific modulus of carbon fiber epoxy-reinforced composite is the highest among the existing structural materials.

What's our process?



Carbon fiber reinforced plastic (CFRP) is a kind of composite products. We design different technological process according to the different strength requirement of the products.

The technology mainly includes 3 characteristics:

- 1、Choose the fiber level according to the stress magnitude;
- 2、Design the fiber layer-direction according to the stress direction;
- 3、Define the fiber layer-quantity according to the stress size.

Step1

Conduct the stress analysis and choose corresponding reinforced fiber materials according to the performance requirements of the products.



Step2

Design process according to the characteristics and fiber-layer of the products.



Step3

Molding in Curing Oven



Step5

Take off the mould



Step4

Drill holes on milling machine, and do many micro-operations until getting the finished products.



Step6

Pressure Test for Quality Inspection



Application scope: aerospace, mechanical transmission shaft stick, accessories, medical equipment accessories and so on.

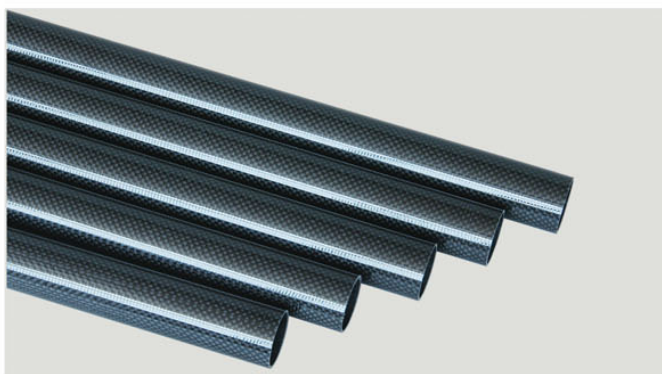
properties comparison of different materials

	Glass profile	Carbon Profile	Steel	Aluminium	PVC	Wood
Density(kg/m³)	2100	1650	7900	2700	1380	520
Flexural strength(MPa)	1000-1400	1400-2500	400-1200	180	44	150
Flexural modulus(GPa)	45-56	120-300	196	70	2,4	10
Tensile strength(MPa)	1000-1400	1400	400-1200	180	70	100
Tensile modulus(GPa)	45	140	196	70	2,4	9
Thermal conductivity(W/m.K)	0,5	1,4	47	209	0,24	0,47
Coefficient of linear thermal expansion(1/K)	10^{-5}	$-0,2 \cdot 10^{-6}$	10^{-5}	$2,3 \cdot 10^{-5}$	$3,7 \cdot 10^{-5}$	$0,2 \cdot 10^{-5}$
Specific heat capacity(J/kg.K)	1880	950	461	921	1100	1700

The Main Products

CARBON FIBER TUBES

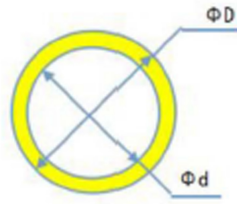
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Function and Characteristics

1. Its rigidity is up to 8–10 times and even exceeds that of ordinary steel. The high modulus elasticity is better than steel and have many good characters such as excellent fickle resistance, fine corrosion–resistance and shock–proof.
2. Light weight. Its weight is only 1/5 of steel.
3. Good durability, fine corrosion–resistance and it can be used in different corrosive environment, such as acid, alkali, salt, some organic solvent and so on.

Our Current Specifications



D (mm)	d (mm)	Length (mm)
19	17	291
19	17	358
19	17	500
30	15	1020
23.8	17	1000
31.1	27.9	1450
52	32	4500
52	32	6000
23.4/19.6	15.2/10.2	1829
23.4	19.6	1829
15.2	10.2	1829
32.5	26.5	1500
20.2	18	1200
20.2	18	420
20.2	18	565
20	18	590
20	18	645
20	18	565
18.1	14	166
25	21	400
25	21	600
23.4/19.6	15.2/10.2	1829
30	26	1000
18	20.2	745
18	20	978
18	19.3	915
14	18.1	166
18	20.2	293
31.1	27.9	1450
37	35	154
25	21	700