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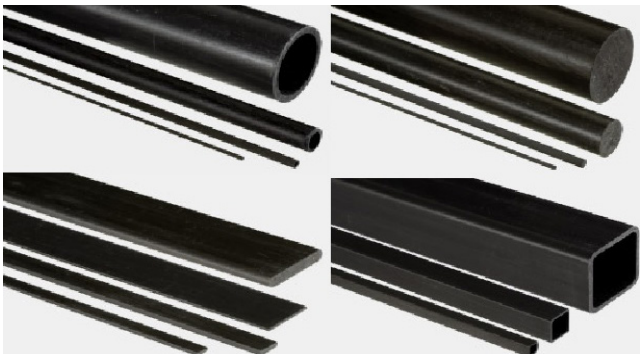
Carbon Fibre Pultrusions



Product Description

High performance pultruded carbon fibre sections manufactured using 100% unidirectional carbon fibre. Pultruded carbon fibre sections are used in a wide range of applications requiring tubes, strips, rods or box sections of very high strength to weight ratio. The most common applications are UAVs (unmanned air vehicles), radio controlled models, robotics and recreational/sporting equipment.

Pultruded carbon fibre is also a high resistance electrical conductor and so suitable for use for radio aerials and for electrostatic discharge.

These pultrusions offers excellent mechanical performance as well as excellent water and chemical resistance making the sections suitable for use in harsh environments or within other substrates (as composite 'rebars' or plaster reinforcement).

Typical Uses

- Lightweight Structural/Engineering Projects
- UAVs, quadcopters, muticopters
- Radio controlled models (planes, boats etc.)
- Engineering & automation
- Recreational equipment (tripods, sporting goods)
- Construction & restoration (concrete/plaster rebar)

Specification

The mechanical data following applies to the following types and size of pultrusion.

Carbon Fibre Tube - Round & Hexagonal

2mm(1mm), 3mm(2mm), 4mm(3mm), 5mm(3mm), 6mm(4mm), 7mm(5mm), 8mm(6mm), 10mm(8mm), 12mm(10mm)

Carbon Fibre Rod - Round & Square

0.5mm, 0.8mm, 1mm, 1.2mm, 1.5mm, 2mm, 2.5mm, 3mm, 4mm, 5mm, 6mm, 8mm, 10mm, 12mm

Key Features

- All fibres down length of the pultrusion
- 80C Maximum Service Temperature
- UD fibre satin finish

Carbon Fibre Strip

0.5mmx3mm, 0.8mmx3mm, 1mmx3mm, 1mmx4mm, 1mmx6mm, 0.5mmx10mm, 2mmx12mm

Carbon Fibre Box Section

8mm(7mm), 10mm(8mm),20mm(17mm)

Mechanical Properties

The Following Data is representative of a typical pultrusionl.

Property	Units	Value
Tensile Strength Lengthways	MPa	400 - 500
Tensile Strength Widthways	MPa	18 - 30
Tensile Modulus Lengthways	GPa	28 - 40
Tensile Modulus Widthways	GPa	8 - 12
Flexural Strength Lengthways	MPa	250 - 400
Flexural Strength Widthways	MPa	80 - 150
Flexural Modulus Lengthways	GPa	20 - 30
Flexural Modulus Widthways	GPa	10 - 15
Compressive Strength Lengthways	MPa	200 - 320
Compressive Strength Widthways	MPa	60 - 100
Compressive Modulus Lengthways	GPa	10 - 20
Compressive Modulus Widthways	GPa	8 - 20
Short Beam Shear Strength	MPA	30 - 40
Maximum Service Temperature	°C	80
Barcol Hardness	-	25 - 45
Density	g/cm ^{3}	1.30 - 1.50

Disclaimer

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