

## Advanced Composites

The physical characteristics of advanced fibre materials encased in a matrix offer extensive scope to the creative design engineer.

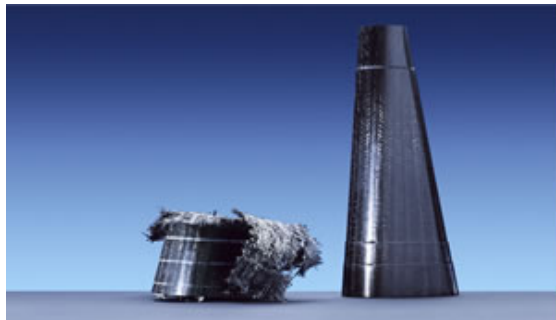
**In robotised machinery** for example, where accuracy and precision operation are essential in high speed operations.

The strength and stiffness at low weight, plus the stability that advanced fibres bring to a component promote long and reliable life.

**Healthcare** in another area where advanced fibres can play a role in orthosis and prothesis. The inert advanced fibres can be successfully implanted as replacement ligaments for example.

And when combined with other composites they can be used in a wide variety of other implants. From hip joints to heart valves.

The **automotive industry** too is increasingly realising that advanced fibre materials can bring. Through their stiffness, strength and light weight and from the high corrosion resistance properties that they offer. All of which means advanced fibre composites are suitable for a wide range of applications. The current fuel economy and CO2 emissions will push the composites boundaries further to advanced composite structures. A successful application is the braided crashcones inside a GT car. Due to the triaxial braided structure the energy absorption is constant and tunable.



Braided crashcone for a large series GT sportscar.



Body in black with assembled crashcones.

In **aerospace**, the advantages of weight reduction, plus good torsional strength can contribute in places like wing spars, landing gear components and many more structural components. The Airbus A380 and Boeing 777 are good examples of a airplanes with high composites content.



Braided Landing gear for NH-90 helicopter

And in **military** applications the remarkable strength and impact resistance that advanced fibres add to composites makes them high performers in armoured applications. They also have characteristics which make them ideal for use in applications like radomes, because they are transparent to radar signals.



Braided propellers on A-400M military airplane

In **sporting** arenas all over the world, fibre reinforced products are also enhancing performances. Indoors or outdoors. Summer and winter. Wherever there is a need for equipment that combines strength and stiffness with light weight, there is a need for materials that include advanced fibre products from Eurocarbon.



This Corima bike is a good example of sporting product made of carbon fibre.