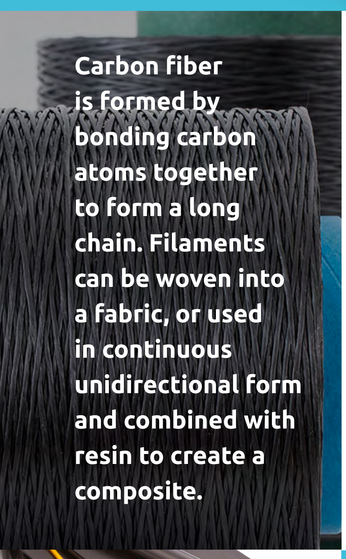
CARBON FIBER COMPOSITES

STRONG, LIGHTWEIGHT ALTERNATIVE TO METAL



Carbon fiber is formed by bonding carbon atoms together to form a long chain. Filaments can be woven into a fabric, or used in continuous unidirectional form and combined with resin to create a composite.

Thomas Edison used **carbon fiber** as light bulb filament in the late 1800s.

The **first** petroleum-based carbon fibers were invented in **1958 near Cleveland**, Ohio by Roger Bacon.

Carbon fiber was used in light bulbs on **Navy ships** until the 1960s because of its **vibration damping** properties.

FIBER + RESIN = COMPOSITE

Carbon fibers combined with **vinyl ester** or **epoxy resin** create a composite material that, like all composites, has **higher performance properties** than the individual materials alone.

MOVE OVER METAL

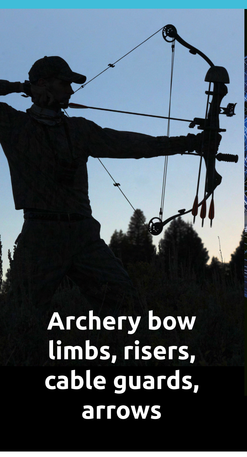
Compared to steel, carbon fiber composites are:

10X stronger

Tensile Strength
400–500 ksi

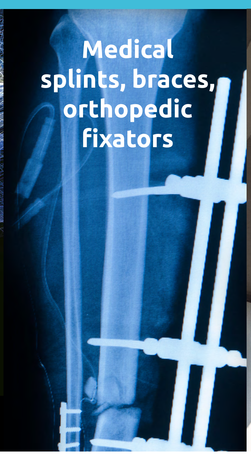
5X lighter

Density
1.55 g/cm^3



Archery bow limbs, risers, cable guards, arrows

Automotive chassis components, body panels



Medical splints, braces, orthopedic fixators

Concrete reinforcement, infrastructure repair

BUST THE RUST
Carbon fiber composites are inherently **corrosion resistant**, making them ideal for harsh outdoor applications

TAKE THE HEAT
Carbon fiber composites have excellent **dimensional stability** to withstand extreme temperatures and conditions

MEET YOUR NEEDS
Avient customizes composite materials to meet your specifications, from **specialty surface** treatments to **finishing operations**

Avient's Glasforms™ and Gordon Composites™ carbon fiber composite materials consist of thermoset continuous fiber polymer rods, bars, laminates and custom shapes used in a variety of applications that require superior technical characteristics.

For more details including technical information, download the product bulletin.

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