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# HexTow® Carbon Fiber Manufacture

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HexTow® carbon fiber from Hexcel are produced in a continuous operation in which polyacrylonitrile (PAN) precursor undergoes a series of precisely controlled processes. Exposure to extremely high temperature changes the precursor, yielding high strength-to-weight and high stiffness-to-weight properties through oxidation and carbonization. The successive surface treatment and sizing steps improve bonding and handle ability of the fiber. The resulting carbon fiber is stronger than steel, lighter than aluminium, and as stiff as titanium.

HexTow® carbon fiber is manufactured in a 2-step proprietary process that confers the resultant carbon fiber with their high strength and modulus.

Step 1: PAN precursor is manufactured by polymerization of acrylonitrile, which is subsequently spun to produce an acrylic fiber by Hexcel in Decatur, Alabama, USA.

Step 2: Precursor undergoes oxidation and carbonization through heat and stretching with subsequent surface treatment and sizing in Salt Lake City, UT, USA and Illescas, Spain.

### WHY CARBON FIBER?

Carbon Fiber is selected for its high strength, lightweight, superior stiffness, electrical conductivity, low thermal expansion, high thermal conductivity and corrosion resistance.

Carbon fiber is stiffer, stronger, and lighter than other fibers.

