

HARPERLITE™

Carbon Fiber Anilox Rolls & Sleeves

The lure of Carbon Fiber components and structures is primarily due to their reduced weight, increased tensile strength and deflection properties as compared to steel. Carbon fiber structures can be up to 75% lighter than steel and 10 times as strong.

Brief Carbon Fiber History

The history of Carbon Fibers dates back to the end of the 19th century when Thomas Edison and Joseph Swan invented a light bulb using carbon fiber obtained by carbonizing cotton and bamboo. This was the beginning of the history of Carbon Fibers as we know them today.

Back around 1957 scientists invented carbon fibers from cotton and Rayon.

A few years later in 1961 carbon fibers were manufactured from polyacrylonitrile (PAN) in Osaka Japan which was the beginning of “high performance” Carbon Fiber materials. It wasn’t until 1971 that small amounts of PAN Carbon Fibers were being produced for sale to industry.

By 1973 the first Carbon Fiber fishing poles and golf club shafts were being developed. By the mid 1970’s high performance Carbon Fiber yarns were being used in the aircraft industry. Many industries embraced the invention of Carbon Fiber yarns and thus fiber/epoxy components. By the early 1990’s Carbon Fiber anilox rolls were being experimented with.

Today Carbon Fibers anilox rolls made of carbon fibers and toughened epoxy resins are quite common. Carbon fiber tubes are made up of millions of individual carbon fibers that are wound over a steel mandrel while mixed with epoxy solutions which cure to form the finished Carbon Fiber tubing. The direction that the fibers are wound along with the epoxy chemistry used is critical in producing the properly specified anilox roll for a particular application. When one considers reduced weight, reduced cylinder bounce due to deflection properties and increased harmonic resonant absorption properties, Carbon Fiber rolls become very attractive. However, they come with a price and are not yet ready for all applications.

One important factor is: ALL CARBON FIBER ROLLS ARE NOT ALIKE

There are hundreds of variables in the carbon fiber tube manufacturing process and the subsequent anilox roll construction process. Thus, the reason Harper chose a scientific approach to Carbon Fiber anilox rolls by choosing only the highest quality raw materials and manufacturers for their HarperLite C/C™ anilox rolls.

HarperLite C/C™ anilox rolls are the lightest Carbon Fiber anilox rolls on the market today. They are produced with proprietary high modulus Carbon Fiber windings and a proprietary, ingenious header/journal design made up of a unique mixture of alloys and metals that is unmatched in the industry today.

Harper was not the first producer of Carbon Fiber anilox rolls but has been experimenting with them for over 10 years. Some of the attributes that these rolls were sold on in the early days just could not be proven. Therefore we decided to continue to study these new materials and introduce something different than what was already available.

HarperLite Carbon Fiber anilox rolls & sleeves are the result of 13 years of investigations and experimentation. You will be very pleased with the quality of your HarperLite anilox or sleeve.