

CFT[™]

Carbon Fiber Tow



Building
&
Transportation



Oil, Gas
&
Industrial



Offshore
&
Onshore



Water
&
Wastewater



PRODUCT DESCRIPTION

CTech-LLC[®] CFT[™] Carbon Fiber Tow is a high strength, medium modulus carbon fiber tow, also referred to as a ribbon, loosely bonded together with an epoxy sizing to hold the fibers for handling and bonding purposes.

CTech-LLC[®] CFT[™] Carbon Fiber Tow is ideal for fabricating small, high strength, low weight structures and can be used to filament wind tubes or for compression molding applications. It is suitable for use in wet layup, vacuum bagging and resin infusion manufacturing. CTech-LLC[®] CFT[™] Carbon Fiber Tow is compatible with polyester, vinyl-ester and epoxy resins and wets out easily.

ADVANTAGES

- Lightweight, flexible, high-strength fiber.
- Chemical and corrosion resistant.
- Compatible with different materials and standard adhesive resins.
- Easy to impregnate using wet or dry lay-up methods.
- Low aesthetic impact.

TYPICAL USES

CTech-LLC[®] CFT[™] Carbon Fiber Tow are available in the following product forms: woven fabrics, scrim fabrics, carbonized yarns, high twist rovings, carbonized felts.

Continuous carbon fiber tows are heavy tows with many filaments. Each of our heavy tows have outstanding mechanical properties that can be transferred to the finished products and components. The fibers can be chosen to match specific requirements, for example by prioritizing stiffness or strength.

Continuous carbon fiber tows form the basis of many composite applications and are used in numerous industries. For high-tech applications requiring high strength and stiffness combined with light weight, continuous carbon fiber tows are indispensable. They form the basis for carbon fiber-reinforced plastics (CFRP), are suitable for a wide variety of processing technologies, and open up new possibilities in the serial production of CFRP components.

It is no wonder, then, that our continuous carbon fiber tows have consistently proven their value over many years: for example, in the automotive industry, the aerospace industry, the energy sector, and

many other industrial applications.

heavy tows used in optimized processes offer time and cost advantages without compromising quality. To ensure trouble-free, gentle processing of fibers, only a couple of differences in fiber guidance from processing other fibers need to be considered. Fiber guidance is crucial for optimally realizing the properties of the carbon fibers in the laminate. Generally speaking, the deflection angle, material surfaces, radii, fiber tension values, and type of fiber guide element are important for carbon fibers. In the case of heavy tows with filaments, the unwinding angle and spacing between deflection points are also factors that need to be taken into account to avoid tow faults during processing. Problems such as folds, filament breakages, abrasion or varying tow widths can be avoided from the outset by optimized fiber guidance.

APPLICATION

- Strengthen for increasing load capacity.
- Retrofit for seismic, wind or blast.
- Restore strength of structural elements damaged by fire or vehicle impact.
- Restore strength to deteriorated and corroded members.
- Strengthen for design or construction defects.
- Unidirectional and multiaxial fabric/prepreg production.
- Pultrusion
- Braiding and filament winding processes
- TowPreg production
- Use for C-SMC

- Production of thermoplastic composite materials

TECHNICAL DATA

| | Unit | CFT™ |
|-------------------------|---------|----------|
| Tensile Strength | MPa | 4900 |
| Tensile Modulus | GPa | 240 |
| Electrical Conductivity | Ohm-Cm | 0.00155 |
| Density | g/cc | 1.81 |
| Fiber Diameter | microns | 7.2 |
| Carbon Content | percent | 95 |
| Yield | m/Kg | 270 |
| Spool Weight | Kg | 1-4 |
| Spool Length | m | 300-1200 |

* Temperature at 25°C

STORAGE & SHELF LIFE

CTech-LLC[®] CFT™ Carbon Fiber Tow should be stored at +10°C to +40°C and should not be exposed to direct sunlight. Keep the CTech-LLC[®] CFT™ in a dry place.

CAUTION

Carbon fiber is conductive. Implement dust-proof measures to prevent electrical equipment from shorting, malfunctioning, etc., due to fibers scattering and flying around in the work area.

- No cases of health problems due to carbon fiber have been reported, but short fibers may attach to the skin or viscous membrane to cause itchiness or inflammation. When handling carbon fiber, wear a mask, gloves and other protective equipment to prevent carbon fiber from being inhaled or attaching to the skin.
- Incinerating waste material of carbon fiber or carbon fiber composite material may cause fibers to scatter and fly around and cause electrical failures. It is appropriate to bury such material as industrial waste.

CTech-LLC[®]

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IMPORTANT NOTE:

Before using any CTech-LLC[®] product, the user must review the most recent version of the product's technical data sheet, material safety data sheet and other applicable documents, available at www.ctech-llc.com.

WARANTY:

CTech-LLC[®] warrants its products to be free from manufacturing defects. Buyer determines suitability of product for use and assumes all risks. Buyer's sole remedy shall be limited to replacement of product. Any claim for breach of this warranty must be brought within one month of the date of purchase. CTech-LLC[®] shall not be liable for any consequential or special damages of any kind, resulting from any claim or breach of warranty, breach of contract, negligence or any legal theory. The Buyer, by accepting the products described herein, agrees to be responsible for thoroughly testing any application to determine its suitability before utilizing.