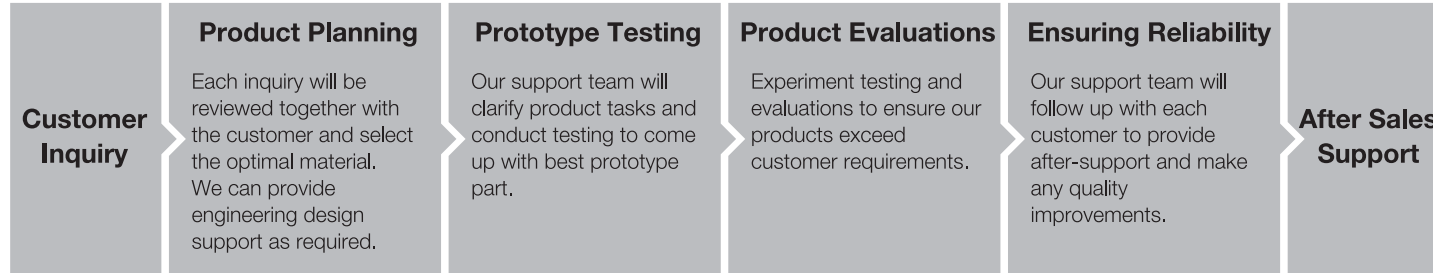


Solutions & Support System

CFC Design Inc. specializes in the manufacturing technology of C/C Composite. With our unique know-how experiences, we fulfill each customer needs and able to offer highest quality products with outstanding characteristics of C/C Composite.

- With our innovated new manufacturing method (Preformed Yarn), we are able to offer products with reduced production time and cost.
- We offer the best solutions for every situation with the wide-range of characteristics that C/C Composite materials can provide.



Company Profile

Company Philosophy

At CFC Design Inc., we aim to form a company that contributes to the world by providing goods and services that meets the needs of customers around the world and promoting innovative materials through the development of carbon composite technology.

Company Name	CFC Design Inc.
Company Established	November 9, 2011
Business Summary	Production and Sales of Inorganic Fiber-reinforced Carbon matrix materials Production and Sales of Fiber-reinforced Plastics Production and Sales of Special Bonded Materials Testing, Research, and Development of Materials
Parent Company	TMT Machinery, Inc.
Corporate Office/Plant	1-4-11 Funatsu Sabae, Fukui 916-0054 Japan Phone: +81-778-42-5624 Fax: +81-778-42-5625
West Japan Sales Office	1-4-11 Funatsu Sabae, Fukui 916-0054 Japan Phone: +81-778-42-5629 Fax: +81-778-51-2220
East Japan Sales Office	1-49-1 Itabashi 4th Floor Itabashi, Tokyo 173-0004 Japan Phone: +81-3-6909-6084 Fax: +81-3-6909-6085
US Office	1480 Beachey Place, Carson CA 90746 U.S.A. Phone: +1-310-635-3555 Fax: +1-310-635-9171

Contact Details



CFC Design Inc.

Phone: +81-778-42-5624 Fax: +81-778-42-5625 <http://www.cfc-design.co.jp>
Business Hours: Monday through Friday 8:30 -17:00 Closed on Saturday, Sunday and Holidays

CFC0002A 14-2-500



COMPANY PROFILE



What's C/C Composite?

C/C Composite is a new advanced material in which both the reinforcement and matrix materials are made from carbon. Their excellent characteristics include high strengths, high modulus, and lightweight, and can withstand high temperatures over 2000°C (3600°F) without any loss in performance.

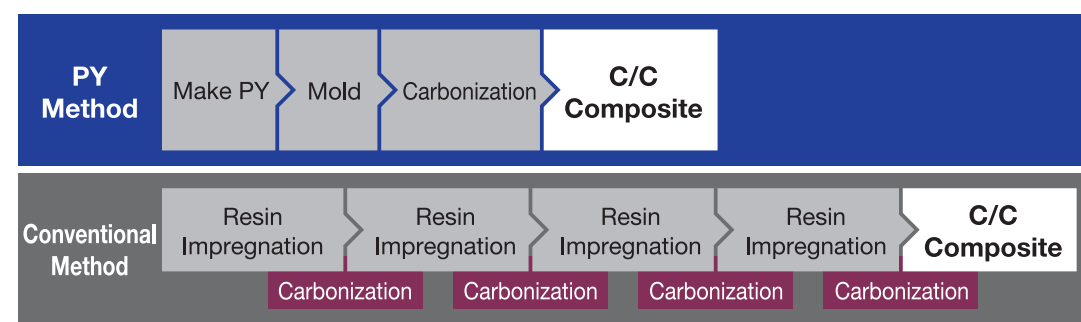
Material Property Comparison

Material	Properties	C/C Composite
Metals	High Heat Resistance Low Thermal Expansion Lightweight (1/5 of Metal) Does not Bond Excellent Resistance to Corrosion and Radiation	High Heat Resistance Low Thermal Expansion Lightweight (1/5 of Metal) Does not Bond Excellent Resistance to Corrosion and Radiation
Graphite	High Strength and Rigidity High Resistance to Fracture	High Strength and Rigidity High Resistance to Fracture
Ceramics	High Resistance to Fracture High heat Shock Resistance Can be machined into Complex Shape	High Resistance to Fracture High heat Shock Resistance Can be machined into Complex Shape
Polymer	High Heat Resistance Excellent Resistance to Corrosion and Radiation High Wear Resistance	High Heat Resistance Excellent Resistance to Corrosion and Radiation High Wear Resistance

Uniqueness of CFC Design

Drastic Improvement in Manufacturing Technology

Conventional C/C composite manufacturing used to be expensive and time consuming due to its complicated processing method such as CVD (Chemical Vapor Deposition) and CVI (Chemical Vapor Infiltration). We have simplified the manufacturing process by using a new patented method called PY (preformed carbon fiber yarn) method, resulting in great reduction in time and cost.



Variety Products of Carbon Fiber Directional Arrangements

By controlling the directional arrangement and the length of carbon fiber reinforcement that supports the carbon matrix, we are able to change the characteristics of the C/C Composite so that it can be used for different kinds of application.

Improved Performance with Combination of Different Metals

One of the unique characteristics of C/C Composite is its porous structure within the carbon matrix. By introducing metal into the carbon matrix, we are able to transform the characteristics of the C/C Composites. With the addition of metal to the main structure of C/C composite, the new material brings out effectively the best functions of each element so that it can be used for different kinds of application.

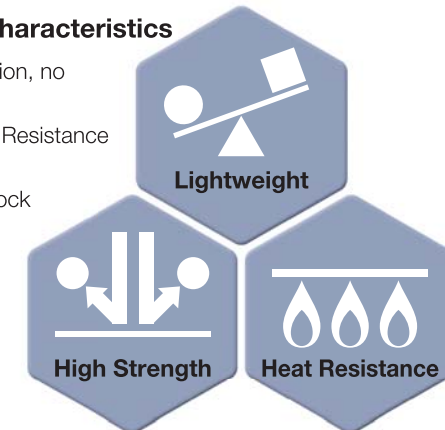
Feature & Application



With its high thermal resistance and lightweight carbon fiber technology, we bring you our products that contribute to manufacturing efficiency and are especially well-suited for high heat applications such as industrial furnace and oven parts used in industries such as metal heat treating.

C/C Composite Characteristics

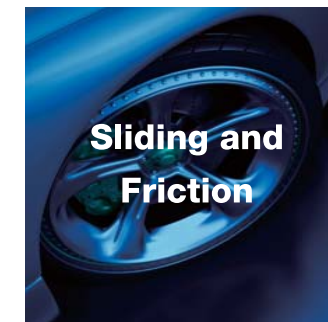
- No thermal deformation, no reduction in strength
- High Thermal Shock Resistance
- Ultra-Lightweight
- High Rigidity and Shock Resistance



Fan for heat treatment furnace



Heater



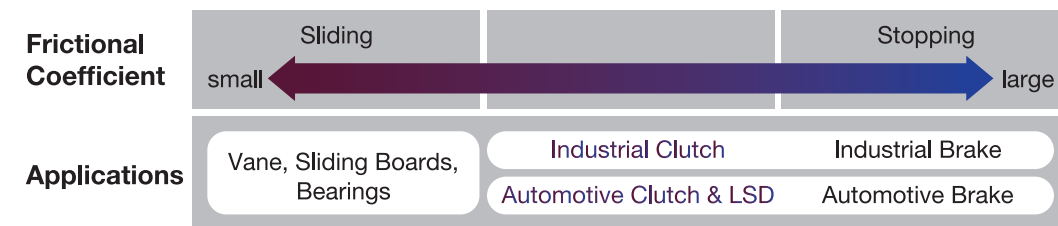
Our C/C Composites are optimal for many areas of frictional material application such as Clutches, Brakes, and Sliding-Boards for Pantographs, etc., from sliding to stopping by means of controlling the frictional coefficient.

Characteristics of C/C Sliding and Friction

- Extreme Heat Resistance: Heat Resistance of 100% carbon material
- Greater Stability in Relation to Size: Coefficient of Thermal Expansion in range of (x 10⁻⁶/°C)
- Reduces Friction without Lubricant: The Self-lubricating characteristics of carbon
- Resistance against Wear: Designs for each Frictional Circumstance
- Light Weight: Density is 1.7 g/cm³
- High Rigidity: Reinforced by Carbon Fiber



Sliding Board for Pantographs



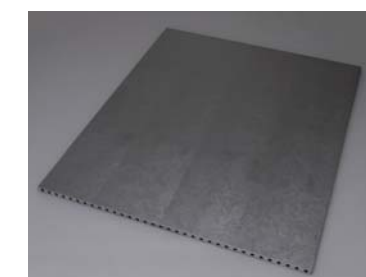
Friction Materials for Automobiles



We offer excellent characteristics of C/C Composite and C/CMC (Carbon-Carbon Metal composites) such as light weight, heat resistance, low thermal expansion, high rigidity, and high flexibility. We meet the various needs and specifications for the many industries around the world.

Characteristics of Advanced C/C Material

- Light Weight
- Heat Resistance
- Low Thermal Expansion
- High Strength
- High Elasticity
- Excellent Thermal Conductivity



Hot Plate for Display Manufacturing



Robot Arm for Display Manufacturing