

# NPS Carbon Fiber Products

We offer a variety of carbon fiber products - chopped, milled, paper, and felt – which are processed from completely graphitized PAN-based carbon fiber.

## Chopped carbon fiber

### Features

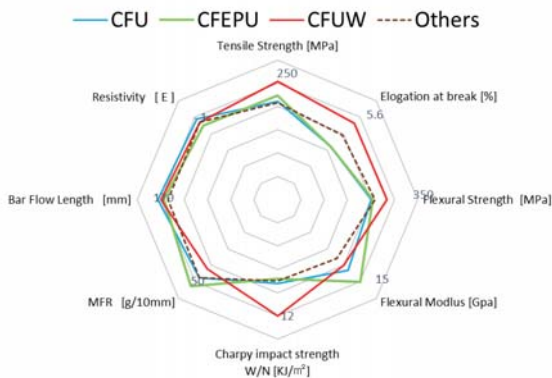
- Highest quality PAN-based raw materials
- Variety of sizing agents, customized for each base polymer
- Flexibility of sizing content, from 1.5% to 5.0%
- Standard length of 6mm, can be customized



### Choice of sizing agent

- |                                  |                         |
|----------------------------------|-------------------------|
| ▪ CFU (Urethane base)            | for PA, and others      |
| ▪ CFOF (Olefin base)             | for PP                  |
| ▪ CFEPU (Epoxy & urethane base)  | for POM, PBT, PC, PPO   |
| ▪ CFUW (Special urethane base)   | for PA, PPA, and others |
| ▪ CFAU (Acrylic & urethane base) | for PC, PA              |
| ▪ CFEX1 (Special epoxy base)     | for PPS                 |
| ▪ CFV3 (High heat resistance)    | for PEEK, PEI           |

### Comparative properties with different sizing agents



Base polymer : PA66  
CF content : 20%



## Milled Carbon Fiber

### Features

- Highest quality PAN-based raw materials
- Variety of milled length, from 40µm to 150µm

# NPS Carbon Fiber Products

## Carbon fiber paper & felt

### Features

- Highest quality PAN-based raw materials
- Random orientation
- Available with thermoplastic fibers
- Competitively priced



### Type of CF Paper & Felt

- CF paper (30g~400g/m<sup>2</sup>)
- CF felt (500g~1000g/m<sup>2</sup>)
- Composite CF paper or CF felt with thermoplastic fibers (PP, PA, and PPS)



Grade	Material	Weight (g/m <sup>2</sup> )	Thickness (mm)	Width and Length (m)
CFF-500	CF80% + Rayon20%	500	5	1mW x 50mL/roll
CFF-1000	CF80% + Rayon20%	1000	10	1mW x 50mL/roll
CFF-2000	CF80% + Rayon20%	2000	20	1mW x 50mL/roll

### Applications

- CFRTP (Carbon Fiber Reinforced Thermoplastics)
- Outer appearance layer of CFRP bicycle
- Structural material for bath unit & toilet
- Insulating material for vacuum furnaces



### Reference data of carbon fiber

Tensile Strength (Mpa)	Tensile Modulus (Gpa)	Fiber Diameter (μm)	Density (g/m <sup>3</sup> )
3,400 - 4,900	230 - 240	6.9 - 7.5	1.76