

# New technology aiming for world's first !

## PCM method for high-mix low-volume production

Utilizing the CFRP(Carbon Fiber Reinforced Plastics) technology, started technical development of CFRTP(Carbon Fiber Reinforced Thermo Plastics). We aim for Multi Innovation by Multi Material, Multi Function, and Multi Industry.

### Spider Net CFRTP Plate

- Carbon fiber and thermoplastic resin fibers are preformed by the TFP process, eliminating the need for resin injection.
- Enables a high degree of freedom in fiber placement that is not possible with prepreg.
- Heat press enables forming in a short time.



Spider Net CFRTP

Materials provided by :  
**Mitsubishi Gas Chemical**  
**Toray**



Kumimono CFRTP Pipe

Materials provided by :  
**Mitsubishi Gas Chemical**  
**Siltex**  
**Toray**

### Recycle Carbon Fiber

- Woven continuous fibers can be supplied instead of staple fiber.
- Epoxy resin impregnated prepreg can be provided.
- CO<sub>2</sub> emissions are reduced to 1/10 compared to new products.
- Capable of applying electroplating to new Carbon Fiber.

### JHI Co.,Ltd.

Compact and lightweight high-pressure piping systems, special hoses and actuators, development of special hoses and piping systems for component manufacturing, small-lot production, development, manufacturing and sales of piping for heat exchangers, CAE analysis, machining and sales, design,

-Head Office : Fukoku Seimei Bldg. 2F, 2-2-2 Uchisaiwaicho, Chiyoda-ku, Tokyo 100-0011, Japan

-Ebina Office : 5-14-5, Nakashinden, Ebina-shi, Kanagawa-ken, 243-0422, Japan



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