

# 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 CF RTP(Carbon Fiber Reinforced Thermo Plastics).  
We aim for Multi Inovation by Multi Material, Multi Function, and Multi Industry.

### Spider Net CF RTP 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.

### Kumimono CF RTP Pipe

- By pairing carbon fiber with thermoplastic resin fibers, resin injection is no longer necessary.
- The axial and radial expansion and fiber crossing angle changes enable deformation into various shapes without reduction of strength and stiffness due to fiber splitting.
- Because Kumimono has a high degree of freedom of deformation, complexly shaped pipes can be formed in a short time by rough material placement in the mold and pressurization and heating.

### Recycle Carbon Fiber

- Woven continuous fibers can be supplied instead of staple fiber.
- Epoxy resin impregnated prepreg can be provided.
- CO2 emissions are reduced to 1/10 compared to new products.
- Capable of applying electroplating to new Carbon Fiber.



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



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

## 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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