Heavy gauge CFRTP prepreg
by SEKISUI original technology of carbon fiber spreading

1. Carbon fiber spreading technology

Process

<table>
<thead>
<tr>
<th>Commercially available carbon fiber</th>
<th>Sekisui original liquid</th>
<th>Carbon ball</th>
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</thead>
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Carbon ball makes a gap and keep it during resin impregnation process.

Advantages

- Easy and faster impregnation
- Enable to use high viscosity resins
- Improved CFRP properties compared with the non-spread CF
- Adaptable to UD, 3K and 12K fabric ⇒ Cost reduced prepreg

Comparison of resin impregnation rate (CFRP cross-section pictures)

- Conventional carbon fiber:
  - No space between fibers and it prevents resins from being impregnated.

- Sekisui spread carbon fiber:
  - Carbon balls keep the gap between fibers and it helps easy impregnation.

Condition CF:3K twill Weave (0, 90° aligned), resin:Polypropylene, 200°C, 2 mins after heating, No pressure

2. CF prepreg production

- Advantages:
  - Continuous process
  - Higher production rate

3. CFRTP continuous molding

- Advantages:
  - Continuous process with High viscosity resins
  - Cost reduced CFRTP prepreg

- Extraision molding
- Continuous press-molding

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