Composite Highway Convention 2024

JHI Technical Information (Including patent pending technology)

2025/1/16

COMPOSITES UNITED MEMBER

HP X Instagram

Company Profile

In addition to designing, analyzing, and manufacturing CFRP parts, we are developing CFRTP parts with low water-absorbing PA, PI, and PPS matrix. (Includes patent pending technology)
We will propose applications that take advantage of the characteristics of thematerial, such as flame retardancy and high heat resistance, thin and lightweight, high strength and rigidity, high energy absorption, large deformation, complex shapes, and high cycle manufacturing.

□ Company name: JHI Corporation
(formerly Japan Hydro Systems Industry Co., Ltd.)
□ Established: July 1, 2015
□Capital: 10 million yen
□ Head Office: Fukoku Seimei Bldg. 2F, 2-2-2 Uchisaiwai-cho, Chiyoda-ku, Tokyo
□ President/Representative Director: Izumi Miyashita

Ebina Office
5-14-5, Nakashinden, Ebina-shi, Kanagawa-ken,Japan

TEL +81-46-200-7035

ISO 9001

COMPOSITES UNITED MEMBER

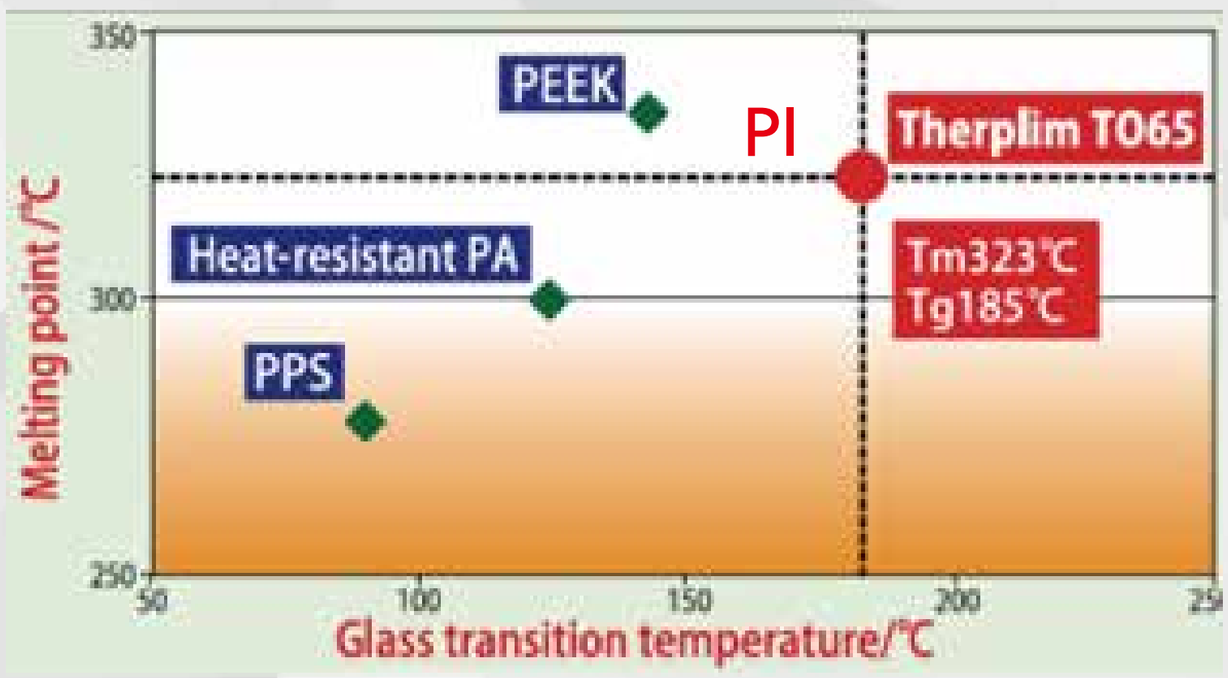
Flame-Retardant Pipe

Features

Flame-retardant, high heat-resistant pipe that is expected to have V-0(3mmt) equivalent.

Specifications

CFRTP pipe with PI and PPS matrix.



MITSUBISHI GAS CHEMICAL COMPANY, INC.

Applications

Pipes and structural parts that require high safety and heat resistance.
Example: Cooling pipe,Hydraulic pipe, Frame, Arm, Shaft,Battery case

High Rigidity Pipe

Features

High rigidity pipe with continuous fiber, twice as rigid as steel.

Specifications

CFRTP and CFRP pipe using PITCH carbon fiber.
Under development.

Applications

Pipes and structural parts that require high rigidity.
Example: Hydraulic pipe, High pressure pipe,
Frame,Arm,Shaft

Thin-Walled Pipe

Features

Thin-walled pipe with continuous fiber.

Specifications

CFRTP and CFRP pipe using 3k carbon fiber.

Samples to be displayed

Applications

Pipes and structural parts where weight reduction is required.
Example: Cooling pipe, Frame, Arm, Shaft

Sealed Joint Pipe

Features

Multimaterial pipe with continuous fiber, which is expected to have joint sealing properties.

Specifications

CFRTP and CFRP pipes with rubber molded at the same time.

Samples to be displayed

Applications

Pipes and structural parts that require weight reduction, including joint bands.
Example: Cooling pipe,Hydraulic pipe

High Strength&High Rigidity Pipe

Features

Pipe with continuous fiber, which is expected to have high strength, high rigidity and lightweight.

Specifications

CFRTP and CFRP pipe with carbon fiber orientation angle aligned with the principal stress direction.

Torsion pipe

Applications

Structural parts that require weight reduction.
Example: Hydraulic pipe, Frame,Arm,Shaft

COMPOSITES UNITED | MEMBER

Complex Shaped Pipe

Features

Complex shaped pipe with continuous fiber that expected to have be molded as one piece.

Specifications

CFRTP and CFRP pipe with carbon fiber orientation angle of ±45°.

Radiator pipe

MITSUBISHI GAS CHEMICAL COMPANY, INC.

Applications

Pipes and structural parts that require weight reduction.
Example: Cooling pipe,Hydraulic pipe, Frame

Branch Pipe

Features

Branch pipe expected to have be molded as one piece.

Specifications

CFRTP and CFRP. Under development.

Applications

Pipes and structural parts that require weight reduction.
Example: Cooling pipe, Hydraulic pipe, Frame, Arm

High Energy Absorption Parts

Features

Stable energy absorption is expected without fiber breakage or scattering.

Specifications

Please contact us
for qualitative experimental values.

Existing Parts

Developed Parts
(Patent Pending)

Applications

Energy absorption and spring parts that require weight reduction.
Example: EA parts,Spring parts

COMPOSITES UNITED | MEMBER

Rubber&CF&Resin

Features

Pipe and plate that expected to have large deformation.

Specifications

CFRTP and CFRP pipe and plate with rubber molded at the same time.

Non-mechanical hinge

Heat distortion absorber

Applications

Large deformation parts that require weight reduction.

Example: Cooling pipe,Flexible pipe, Heat distortion, absorber, Non-mechanical hinge

COMPOSITES UNITED | MEMBER

3D Preform Structure - 1

Features

Structure that is expected to be high strength and rigidity without using core material.

Specifications

CFRTP and CFRP structures using 3D preform.

Reinforcing&
stiffening parts
(Patent Pending)

Applications

Structural parts that require weight reduction.
Example: Frame

COMPOSITES UNITED | MEMBER

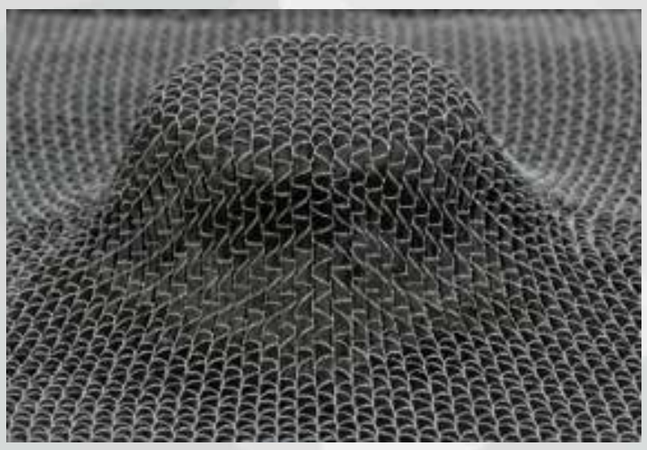
3D Preform Structure - 2

Features

Reducing fiber breaking points is expected to reduce the source of leaks.

Specifications

CFRTP and CFRP structures using 3D preform.
Under development.



Gustav Gerster GmbH & Co. KG

Applications

Airtight container parts that require weight reduction.
Example: Battery case,Fuel tank,Oil tank

COMPOSITES UNITED | MEMBER

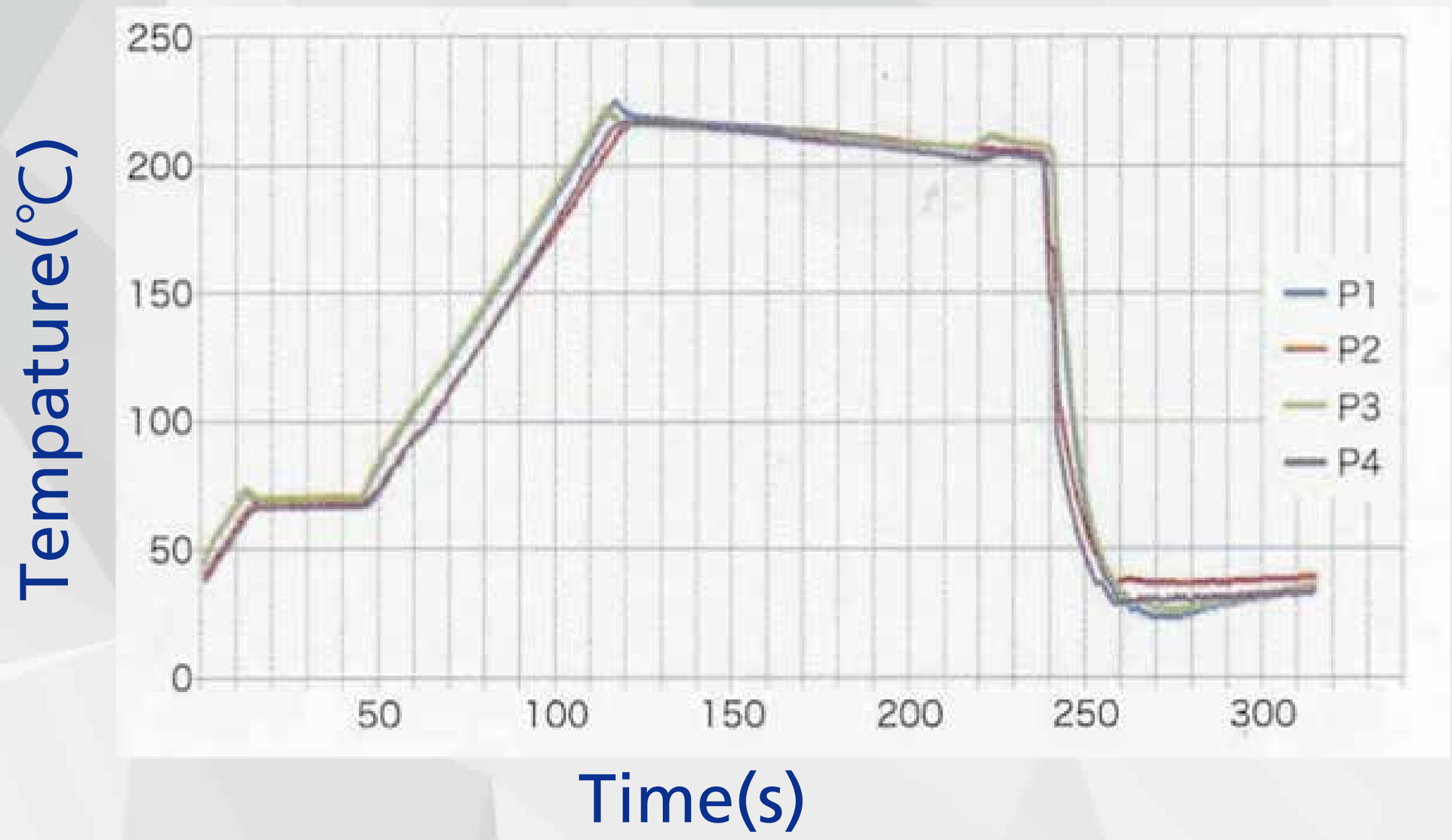
High Cycle Manufacturing

Features

From cutting out the material to demolding takes about 15 minutes.
(Pipe: φ35L200mm)

Specifications

CFRTP pipe with matrix as Low water absorption and bio-based PA.



Applications

CFRTP parts.

COMPOSITES UNITED | MEMBER

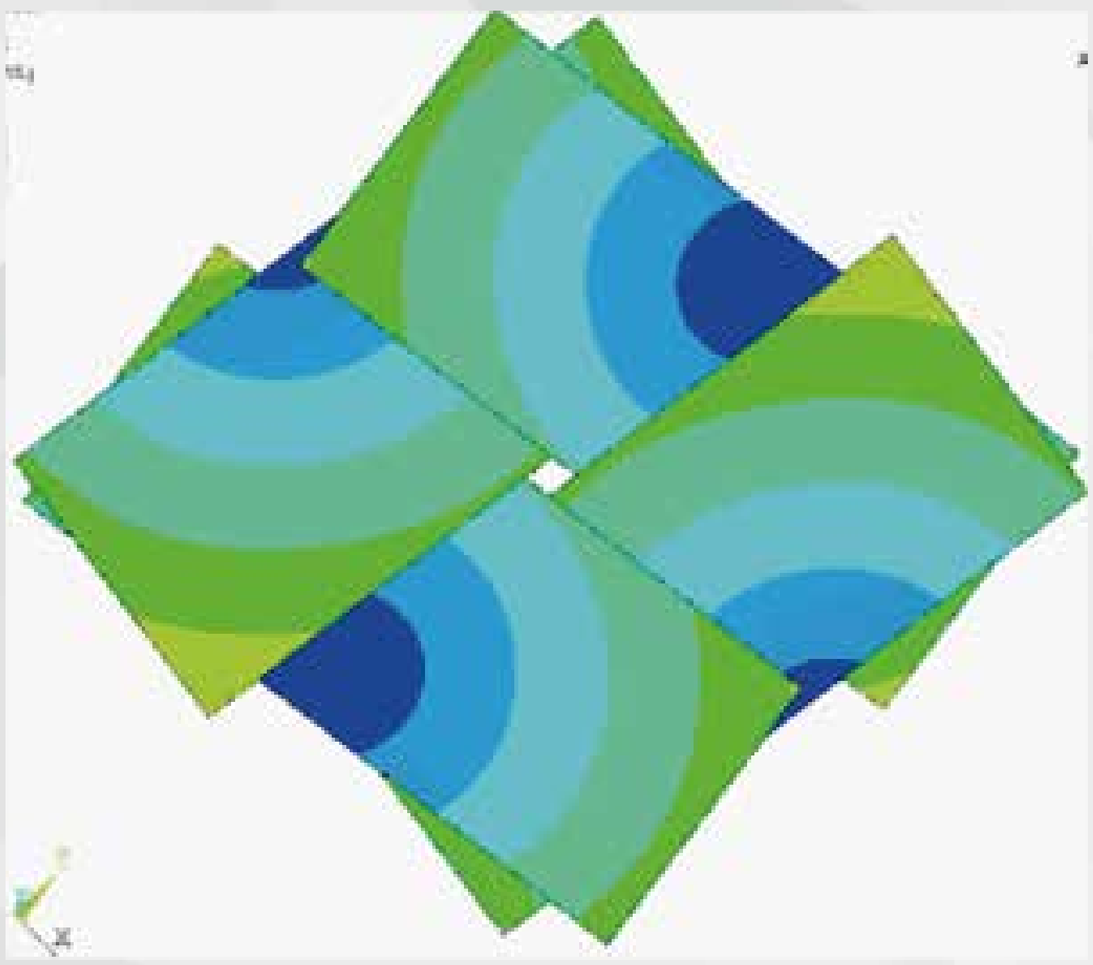
Analysis For Parts

Features

Fiber following property evaluation.
(feasibility of design shape)
Fiber direction after molding.
(strength and stiffness)

Specifications

Simulation-based prediction. Under development.



Cybernet Systems Co., Ltd.

Applications

CFRTP and CFRP parts.

COMPOSITES UNITED | MEMBER

Thank you !

JHI Co.,Ltd.

Contact: takaishi.arata@tr-d.co.jp

COMPOSITES UNITED | MEMBER