

Toho Tenax Develops High-efficiency Thermoset CFRP Production Technology

Tokyo, Japan, October 29, 2014 --- [Toho Tenax Co., Ltd.](#), the core company of the Teijin Group's carbon fibers and composites business, announced today that it has developed a new technology, *TENAX* Part via Preform (PvP), for highly efficient production of thermoset carbon fiber-reinforced plastic (CFRP).



The technology is based on a one-step “carbon fiber bobbin to preform” concept, utilizing *TENAX* Binder Yarn, which combines carbon fibers with a binder resin. The yarn can be processed by random fiber placement for isotropic behavior, and by aligned fiber placement in those areas, where higher mechanical performance is required. Both technologies - random and aligned fiber placement - can be combined to meet specific mechanical and/or cost needs.

TENAX PvP enables automated manufacturing to any desired geometry or form for load-conforming and weight-optimized preforms. Expensive intermediate steps are not necessary. Also, the technology helps to considerably reduce both carbon-fiber waste and manual labor compared to conventional preform production. The result is an automated, cost-effective solution for optimized manufacturing of CFRP components, with particularly attractive applications in the automotive industry.

Resin transfer molding (RTM) is one of the favored processes used in manufacturing CFRP for automotive applications. Toho Tenax has demonstrated the use of *TENAX* PvP technology in advanced high- and low-pressure RTM processes for typical both structural and visual automotive parts. Toho Tenax is now working with automakers worldwide to develop commercial applications for *TENAX* PvP.

Teijin also offers *Sereebo*, the world's first mass-production technology for thermoplastic CFRP, which raises production efficiency by significantly reducing molding time. Taking advantage of the characteristics of *TENAX* PvP and *Sereebo*, the Teijin Group aims to provide innovative solutions combining thermoset and thermoplastic CFRP solutions to respond to demands for increased efficiency and mass production.

About the Teijin Group

Teijin (TSE: 3401) is a technology-driven global group offering advanced solutions in the areas of sustainable transportation, information and electronics, safety and protection, environment and energy, and healthcare. Its main fields of operation are high-performance fibers such as aramid, carbon fibers & composites, healthcare, films, resin & plastic processing, polyester fibers, products converting and IT. The group has some 150 companies and around 16,000 employees spread out over 20 countries worldwide. It posted consolidated sales of JPY784.4 billion (USD 7.7 billion) and total assets of JPY 768.4 billion (USD 7.5 billion) in the fiscal year ending March 31, 2014.

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It is subject to change without prior notice.

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