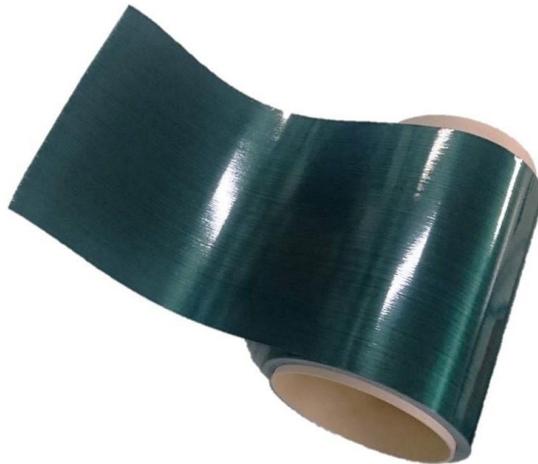


NEWS RELEASE**Toho Tenax Launches High-tensile, Highly Shock-resistant Hybrid Prepreg Combining Carbon Fiber and CNT Technology**

Tokyo, Japan, February 15, 2018 --- 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 high-tensile, highly shock-resistant prepreg that incorporates carbon fiber developed by Toho Tenax and specialized carbon nanotubes (CNT). A prepreg is a carbon fiber sheet pre-impregnated with matrix resin and used as an intermediate material for carbon fiber reinforced plastics (CFRP).



High-tensile, highly shock-resistant prepreg

Toho Tenax's new hybrid prepreg has been adopted by Mizuno Corporation in a new golf club shaft that weighs nearly 30% less than conventional shafts of the same thickness. The high-tensile prepreg enables the shaft to bend suitably as the ball is impacted and then cuts the shock of impact by more than 10% to reduce club movement on the follow-through swing.

The surface of the CNT is specially treated and its structural elements disperse equally when Toho Tenax's carbon fiber is impregnated with matrix resin containing the CNT. The hybrid combination of carbon fiber and CNT realizes a superior CFRP that offers improved tensile strength and shock resistance. The CFRP also is extra durable because the carbon fiber and matrix resin do not peel away from each other thanks to the CNT's balanced dispersion.

The Teijin Group is accelerating its development of its new high-tensile, highly shock-resistant prepreg for high-end applications in the sports and leisure fields, then eventually in aircraft fields, where weight reduction and high functionality are especially critical. Teijin also is strengthening its capabilities to provide solutions for diverse global businesses, from upstream to downstream.

Since CFRP is used in fields ranging from aircraft and automobiles to infrastructure and leisure, its prescribed properties must differ widely depending on the application. To address these specific demands, Teijin is developing technology for various combinations of carbon fiber and matrix resin and for specific processing needs.

Carbon fiber sheet and matrix resin, however, tend to peel away from each other when molded CFRP products are subjected to strong impact, leading to decreased strength and tension. Technologies have been pursued to better integrate carbon fiber and CNT, but until now the cohesiveness of CNT elements had prevented them from dispersing equally in the matrix resin, resulting in prepreps of unstable quality.

About the Teijin Group

Teijin (TSE: 3401) is a technology-driven global group offering advanced solutions in the areas of environmental value; safety, security and disaster mitigation; and demographic change and increased health consciousness. 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 170 companies and around 19,000 employees spread out over 20 countries worldwide. It posted consolidated sales of JPY 741.3 billion (USD 6.5 billion) and total assets of JPY 964.1 billion (USD 8.5 billion) in the fiscal year ending March 31, 2017.

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