

New tools and technology for the offshore industry

→ Gore fiber used in high-stress applications

W. L. Gore & Associates, makers of Gore-Tex fabric products, has launched a product it says can increase the service life of ropes used in high-stress bending applications, such as deepwater installation of subsea hardware.

Gore Omnibend fiber acts as a dry barrier to abrasion, reducing friction and elevated temperatures normally caused by friction, the company says. The result is increased service life and reliability for synthetic rope.

In recent bend over sheave (BOS) testing, the addition of the fiber to conventional synthetic ropes increased cycles to failure (a measure of rope service life) more than three-fold in laid ropes and more than ten-fold in braided ropes, according to Gore.

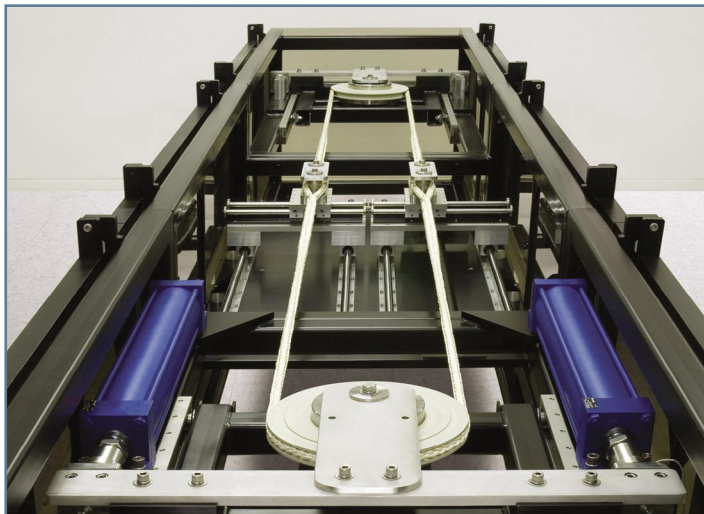
High-performance rope incorporating the fiber is ideal for applications requiring high-stress bending and lifting, such as elevators, cranes, hoists and mining. The primary application is in deepwater installation of subsea hardware, where operations have been limited by the excessive weight of wire rope and of the equipment needed to deploy it. Synthetic ropes with Gore

Omnibend Fiber offer a reliable and robust replacement for wire rope at a fraction of the weight.

Gore Omnibend fiber improves the performance of ropes fabricated from aramid, HMPE and LCP fibers,

the company says. It is not affected by UV radiation, provides for long life in harsh outdoor environments, and enhances the effect of high-performance coatings.

“Cyclic-bend-over-sheave fatigue tests of synthetic fiber ropes with Gore Omnibend fiber have produced outstanding results,” says Phil Gibson, president, TMT Labs. “The addition of GORE fiber to conventional ropes has significantly increased the number of cycles to failure for a variety of rope constructions. It is clearly a viable candidate for



Gore has developed a dedicated rope testing lab with bend over sheave (BOS) testing equipment for conducting detailed failure analysis in order to validate its performance in end-user conditions. Gore Omnibend Fiber, composed of Gore's proprietary expanded polytetrafluoroethylene, acts as a durable dry barrier to abrasion, reducing friction and elevated temperatures normally caused by friction.

use in applications requiring a lightweight rope having superior bending fatigue performance.”

“Gore has made a major commitment to the rope manufacturing industry,” says Mike Altman, Gore product specialist. “Our dedicated on-site rope testing lab employs state-of-the-art equipment to evaluate rope technology and validate its performance in specific end-use conditions. We can help our customers meet industry testing protocols and ensure them of fitness of use for both existing and new applications.” ●