Shanghai provides perfect location for testing slings made with Dyneema®

Shanghai, situated on the East China Sea and Hangzhou Bay, is home to China's largest deep-sea port. This port lies at the mouth of the Yangtze River, the Huangpu River (which enters the Yangtze River), and Qiantang River, making it one of the country's most important gateways for foreign trade. The Shanghai International Port (Group) Co., Ltd (SIPG) is situated here, and operates 125 berths over a quay length of around 20 kilometers, with 82 of the berths being able to accommodate vessels over 10,000 dwt. This location provided the perfect back-drop for DSM Dyneema to conduct a series of tests on a lifting sling made with Dyneema® fiber.

DSM Dyneema chose SIPG's Jungong Road Branch Ltd to put the sling made with Dyneema® through a gruelling series of tests. The SIPG Jungong Road Branch Ltd is situated within the deep-draft channel area of the Huangpu River and specializes in handling bulk and break-bulk cargoes of foreign trade. Its principal cargo includes iron, steel, pulp, vehicles, bulk items and equipment, and containers, which is offloaded along a 743-meter quay equipped with eight gantry cranes and 154 handling machines of various types.

Early 2007, SIPG used the sling made with Dyneema® to unload over 1,000 steel coils of various weights, ranging from 20 to 30 tons. These weights were well within the 5-meter round sling's capabilities, whose specifications include an SWL (Safe Working Load) of 20 tons (linear/vertical) and MBL (Minimum Breaking Load) of 140 tons.

Previously they used steel wire, as well as polyester round slings. Problem with polyester is that this was easily cut, so there was a need for protective pads, which again is troublesome to put in the right place. Steel wire rope problems: heavy (at least a 42 mm steel wire rope, weighing 8 kg/m), plus the need for protection to avoid damage to the coil. Using products with Dyneema® did cut away a factor of 7 in weight compared to steel wire rope.

Crew safety never in doubt

Captain Yu Baogen, representing the Shandong team of SIPG's Jungong Road branch Company, was very impressed with the performance of the sling made with Dyneema®. “The exceptional properties of Dyneema® made it possible for us to perform over 1000 lift jobs with confidence. At no time were we in doubt over the safety of the operators who were working with this sling.”
Lightweight and fast to handle
One of the big advantages of Dyneema® is its light weight, and this made the sling very easy for the operators to handle when compared to hauling heavy steel wire slings and bulky polyester slings. This sling also had a protective cover made from Dyneema®, and this provided repeated lifts.

"Using this sling and protective cover made with Dyneema® enabled us to lift the coils without having to place additional protection pads", continues Captain Yu Baogen. “The fact that we didn’t have to manually place protective pads helped us to save time and improve workers’ safety."

A good investment
Captain Yu Baogen also noted that “during the test we observed an increase in lifting efficiency of at least 30% when comparing the sling made with Dyneema® to a steel wire sling. The long life time, the easy handling and especially the improved safety make this sling a good investment choice, and we are happy to keep on using slings made with Dyneema® for our future lifting jobs.”