



LANKHORST ENGINEERED PRODUCTS

Recycled Plastic Deck Covers for ALP STRIKER

With the naming ceremony and christening of the ALP STRIKER at the Niigata Shipyard in Niigata (Japan) on the 13th of May ALP Maritime Services reached a milestone. It concerned the first of a series of four state-of-the-art SX-157 Ulstein Design ultra-long distance towing and anchor handling vessels with a bollard pull 300+ tons. The ALP STRIKER is the first offshore vessel in the world with KLP® Deck Covers instead of a traditional hardwood work deck.

Lankhorst offer high quality products and by using recycled plastic instead of wood, Lankhorst indirectly contributes to supporting the environment. The use of KLP® Deck Covers instead of a traditional wooden deck together with installing KLP® in both chain lockers saves around 35 m³ tropical hardwood for this vessel with a deck space of approximately 350 m².

Whether it's for a new build vessel or a ship deck renovation project, KLP® Deck Covers offer

a sustainable and effective solution to protect your vessel during towing and anchor handling operations. The Lankhorst products neither rot nor splinter, are resistant to most chemicals, oil, solvents, UV, (salt) water, weather conditions and will last significantly longer than any type of wood, and they are fully recyclable. Not only do KLP® Deck Covers offer a sustainable, effective and save alternative to hardwood, they also contribute to a safer work environment for the crew.

KLP® Deck Covers



KLP® Plastic used in chain locker

Practical tests have proven that, due to the higher friction, especially in wet conditions, KLP® plastics have anti slip properties up to twice as good as hardwood.

Advantages of KLP®

- No rotting, no splintering
- High friction in wet conditions
- Stiff and maintenance free
- UV, water and weather resistant
- Safe and easy to process
- Environmentally friendly and recyclable
- Stable material and product properties
- Lower weight than hard wood



Management of ALP and Niigata Shipyard, and guests in front of the ALP STRIKER, including Mark Heising from Lankhorst

NAME GIVING CEREMONY
 HULL No. 94-0001
"ALP STRIKER"
 OWNER
 ALP STRIKER B.V.
 BUILDER
 NIIGATA SHIPBUILDING REPAIR, INC.
 13TH MAY, 2016





Plastic sleepers of Lankhorst successfully installed by Trafikverket in test track Sweden

The recessed version of the KLP® Hybrid Plastic Sleeper is one of the innovations developed and produced by Lankhorst Engineered Products in the Netherlands. Trafikverket has chosen the plastic main track sleepers of Lankhorst for the selective replacement of timber sleepers in a test track in Kalmar (Sweden). The Lankhorst products were selected because of their low Life Cycle Costs, good damping characteristics and at the same time high strength properties.

KLP® Hybrid Plastic Sleepers have the same damping characteristics as timber sleepers, and they provide continuous track stiffness which makes them suitable for one-on-one replacement of timber sleepers in a track. The hybrid plastic sleepers are reinforced with two steel bars, a unique production process developed and patented by Lankhorst, to achieve the required rigidity and strength. Due to the long

design lifetime of KLP® Hybrid Plastic Sleepers the total Life Cycle Costs are lower than the Life Cycle Costs of timber sleepers.

The installation of the test track in Kalmar was done overnight on the 28th of April 2016. The section is already successfully in service. Trafikverket installed Lankhorst's KLP® Hybrid Plastic Sleepers, and five other alternative sleepers.

Early 2006 Lankhorst Engineered Products presented the hybrid plastic sleeper to the railway industry, a European debut. The ban on creosote and restricted availability of hardwood were the main drivers for them to develop a plastic sleeper which is manufactured out of 100% recycled plastics as a sustainable and maintenance free alternative to timber sleepers. Since the introduction Lankhorst has supplied various types of hybrid plastic sleepers to several projects in the Netherlands, France, Germany and now in Sweden. KLP® Hybrid Plastic Sleepers are available in various types which include main track sleepers, bridge sleepers or transoms and switch sleepers or bearers.

Watch KLP® Hybrid Plastic Sleeper Installation video.

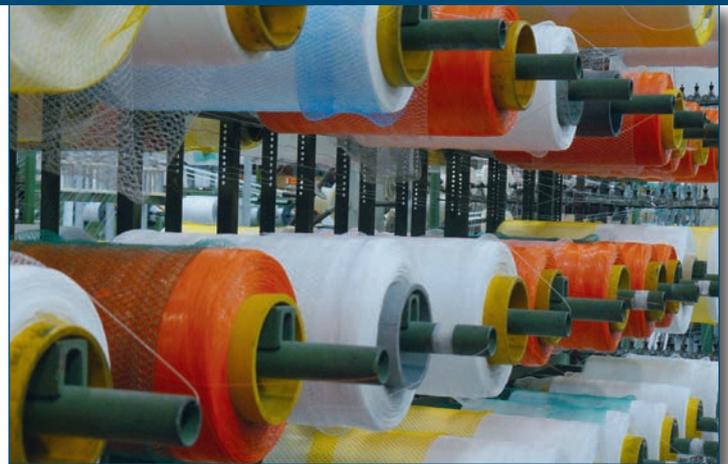
LANKHORST YARNS

A glance at Lankhorst Yarns

2016 has already proven to become a volatile year. But although Lankhorst Yarns started slowly and a lot still needs to be done, it looks rather promising.

This year started with the sales of our Pure® commercial activities. Pure®, being a different activity and process than usual within Royal Lankhorst Euronete group, is at the right place now with our distributor DIT Weaving. We are convinced that all parties involved will gain from this move.

Our activities in the past to find new customers in the fencing market are starting to pay off. We have full production in our Murça plant (Portugal) for twines, braided ropes and woven tapes. The fencing market is very competitive and although we have some good positions with our customers,



our goal is to be out more in the fencing world in order to increase our knowledge of this market. We will increase our exposure not only to find even better business opportunities, but also to increase existing business with our customers.

also regained business with an existing customer who has secured orders with our yarn. That business is expected to grow during the year too.

For Geotextiles, which is a big potential, we have managed to become an approved supplier for a big customer in Germany. This process took several years and now we are on the verge to start doing business which will give us an upside in a business where volumes were lost over the last few years. We

There are also new developments in the Horti market (Greenhouses). We won new customers and regained some "old" customers as well. Our PLA compostable yarns will become more important in the coming years. In order to grow in that area we need to develop other markets for which we see big opportunities. There are some good and interesting new projects at hand already.



LANKHORST ROPES



Lankhorst Ropes enhances global network of stock points

With the opening of a new stockpoint at the Spanish port of Algeciras and enhancing its Panama stockpoint ahead of the completion of the expanded Panama Canal, Lankhorst Ropes has extended and improved its stockpoint network.

Lankhorst has signed an agreement with a Spanish leading provider of ship services to stock Lankhorst ropes. The Algeciras stockpoint will initially stock Lankhorst's Eurofloat® Premium; the ideal rope for modern tanker fleets due to its balance of strength and ease of handling.

Commenting on Lankhorst's growing global network of stockpoints, Hans-Pieter Baaij, Lankhorst Ropes' commercial director – maritime: "The Port of Algeciras is ranked as one of the busiest ports in Europe for container, general, and wet

cargo transhipments making it an excellent location for a stockpoint to serve our valued customers in the Mediterranean and North Africa. Adding this stockpoint to Lankhorst's existing strategic worldwide network enables our customers to obtain the same ropes all over the globe, thus avoiding mixed moorings, and increasing safety. We look forward to welcoming our customers to the new stockpoint this summer."

Hans-Pieter Baaij continues on the Panama Canal's expansion and Lankhorst's Panama stockpoint: "At Lankhorst we



Expansion Panama Canal



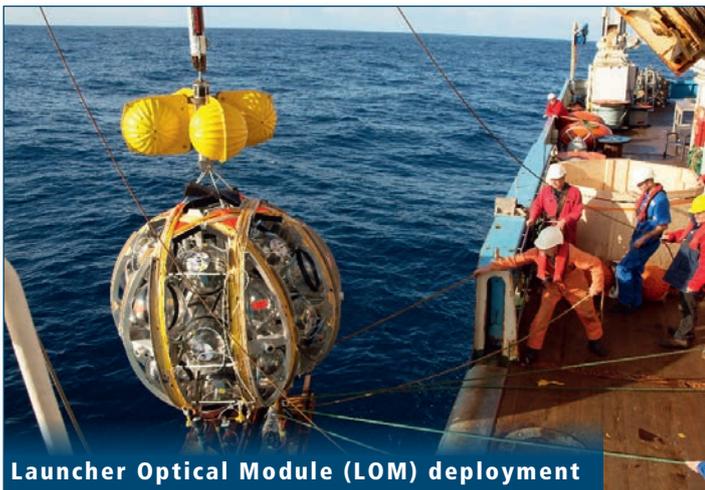
Port of Algeciras

constantly aim to improve our service to our customers. The expanded Panama Canal will double its capacity which will allow larger sized (container) vessels to travel through the

canal's locks. For the opening of the expanded Panama Canal this summer, the Panama stockpoint will conduct a suitable range of ropes for these vessels."

Lanko®force Helps Hunt for Neutrinos

Lankhorst Ropes' Lanko®force fibre rope is being utilised in the hunt for one of the Universe's most elusive particles, the Neutrino. Arranged in an array tethered to the seabed, Lanko®force ropes will hold hundreds of spherical modules to form the KM3NeT (Cubic Kilometre Neutrino Telescope), which, once completed, will be the largest neutrino detector in the Northern Hemisphere. KM3NeT aims to provide a greater understanding of the fundamental properties of cosmic neutrinos, and thereby map the cataclysmic events across the Universe that produce them.



Launcher Optical Module (LOM) deployment

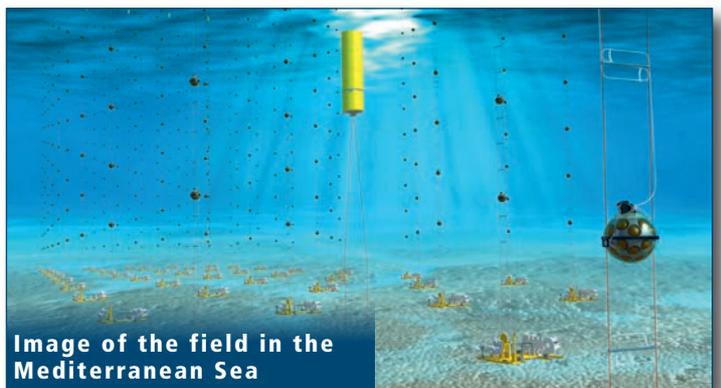


Image of the field in the Mediterranean Sea

Located 3500m below the surface of the Mediterranean Sea off the coast of Sicily, the environmental conditions are ideal for the telescope. However, once installed the detector system must operate for 15 years without maintenance. To ensure the performance required by the telescope several modifications have been made to the Lanko®force, including a black coating to avoid reflecting any light that is present.

Commenting on the KM3NeT, Lankhorst commercial director Hans Pieter Baaij: "The Cubic Kilometre Neutrino Telescope is designed to operate at depth while under constant tension for a longer period. When ropes are exposed like that, creep can become an issue. In order to deal with this phenomenon, Lankhorst Ropes has used DSM Dyneema's DM 20 technology to ensure rope performance over the 15 year project life."

Lankhorst Ropes, with Deep Tek AS and DSM Dyneema, wins OTC Award for Lanko® deep rope used in Soft Rope System

Advances in Lankhorst fiber rope technology for deep water deployment and recovery have been recognized with an OTC Spotlight on New Technology Award for Lankhorst Ropes' Lanko® deep rope, used in the Soft Rope System, at OTC 2016 in Houston.

Lanko® deep fiber rope is a key enabling technology in the Soft Rope System - a joint development comprising Lanko® deep rope, DM20XBO fiber from DSM Dyneema, and an Active Heave Compensation (AHC) drum winch system from Deep Tek.

The Soft Rope System extends the reach of subsea lowering systems and their ability to handle heavier loads by replacing steel wire rope with Lanko® deep fiber rope. It effectively doubles crane capacity allowing an 88 m vessel to be competitive against much larger ships with 200 T steel wire rope

cranes. Earlier this year, the Soft Rope System also received a Subsea Innovation Award at the Offshore Support Journal Conference in London.

Lanko® deep – Rope Innovation

Lanko® deep is based on Dyneema® DM20 XBO synthetic filament optimized for cyclic bending with a proprietary rope coating technology. It features 12 strands where each strand is a 3-strand rope. This construction, combined with the DM20's XBO coating, helps reduce the tension required to bed-in the rope, as well as reducing internal heating and abrasion. In addition, the rope



(L to R) Jorn Boesten, Segment Manager Offshore, DSM Dyneema; Sérgio Leite, Sales Director, Lankhorst Ropes Offshore; Rui Faria, Senior Vice President Global Oil & Gas Synthetics, WireCo WorldGroup and Moya Crawford, Chairman and Director of Technology Implementation, Deep Tek

can be inspected and is also repairable.

Rui Faria, Senior Vice President Global Oil & Gas-Synthetics for WireCo WorldGroup, adds: "Taking an integrated approach has allowed us to combine three elements as a single system: rope yarn, rope construction and winch technology. It allows the efficient spooling of long lengths of fiber rope without the risk of rope cutting into lower spooled layers causing handling and abrasion issues that, until now, have limited the use of fiber rope in deep water deployments."

"The Soft Rope System is an outstanding example of the integration of world-leading technologies from along the supply chain, and only to be achieved by strong partnership. Lanko® deep ropes made with Dyneema® have outstanding potential in deepsea environments, and we are very happy to work together with Lankhorst Ropes and Deep Tek to maximize this potential," says Jorn Boesten, Segment Manager Offshore at DSM Dyneema.

Deep Tek – Winch Innovation

Commenting on its 100t in air/110t @ 3000m drum winch cassette system, Deep Tek's Chairman and Director of Technology Implementation, Moya Crawford: "This technology with significantly lower costs, is less complex than current technologies that use synthetic rope for lowering and lifting objects subsea. And it comes with DNVGL certification to its groundbreaking standard, DNVGL-ST-E407.

Particularly in this market, with the emphasis on cutting the cost of both vessel and subsea operation, we see the upgrade of existing crane capacity from steel wire rope to soft rope as being a cost attractive proposition for vessel owners. They can simply change out one drum winch system for another, reducing above deck weight, whilst the footprint is virtually the same. With the development of Lanko® deep, Lankhorst is well placed to meet the needs of an oil and gas industry working at greater depths beyond the scope of steel wire ropes."

EXHIBITIONS 2016

LANKHORST ROPES

6 – 9 September	SMM Hamburg (DE)
25 – 26 October	Offshore Energy Amsterdam (NL)
31 Oct. – 2 Nov.	Seatrade Middle East Maritime Dubai (UAE)
7 – 10 November	ADIPEC Abu Dhabi (UAE)
30 Nov. – 2 Dec.	International Workboat Show New Orleans (USA)

LANKHORST ENGINEERED PRODUCTS

14 – 16 September	OTC Brazil, Rio de Janeiro (BR)
20 – 23 September	Innotrans 2016, Berlin (DE)
21 – 22 September	Kunststoffenbeurs Veldhoven (NL)
29 Sept. – 1 Oct.	Ankiros Istanbul (TUR)
13 October	Water in de openbare ruimte, Houten (NL)
21 – 25 October	Euroblech Hannover (DE)
25 – 26 October	Offshore Energy Amsterdam (NL)
7 – 10 November	ADIPEC Abu Dhabi (UAE)
16 – 18 November	Metalform / Fabtech Las Vegas (USA)

LANKHORST EURONETE PORTUGAL

16 – 19 August	Norfishing 2016 Thondheim (NO)
31 Aug. – 2 Sept.	National Tuna Congress, General Santos (PH)
7 – 8 October	Holland Fisheries Exhibition, Urk (NL)
22 – 25 October	Aqua Sur, Puerto Montt (Chile)

FROM THE EDITORS

The next edition of Lankhorst Euronete News will be published in November 2016.

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