

# WIRECO SYNTHETICS LANKHORST EURONETE NEWS



19 - 2016

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### Ultra-Deep Water Polyester Mooring Ropes for Petrobras FPSO

Ultra-Deep Water Polyester Mooring Ropes for Petrobras FPSO  
Lankhorst Euronete Brasil has completed the delivery of another important project for polyester deep-water mooring ropes in the Brazilian market. The 74, 1,000m long, Cabral 512® polyester ropes segments with MBS 1250 MT, together with 148 sets of accessories thimble and shackles, will be part of the mooring system Petrobras P66 FPSO.

The FPSO will be moored by twenty-four, semi-taut-leg mooring lines composed of chain and polyester rope segments, arranged in four groups of six legs (three rope segments each leg) at each corner of the FPSO. Moored in 2,150 m water depth at Lula Sul Field in the Santos Basin, offshore Brazil, Petrobras P66 FPSO is designed for long-term (25 years) production operation. The American

Bureau of Shipping (ABS) has classified the polyester ropes and accessories.

In total, it took around 6 months to manufacture the ropes in the modern facilities of Lankhorst Euronete Brasil in Queimados – RJ - Brazil. Delivery was carried out over two weeks using special trucks, each carrying one bobbin, two shackles and two roulette thimbles; the 74 sets totaled more than 2,000 tons of goods.



Heavy lift slings produced by Lankhorst Euronete Brasil

### Rapid Response Manufacture of Heavy Lift Slings

Design and manufacture of heavy lift slings to meet tight project deadlines has allowed Lankhorst Euronete Brasil to deliver several HMPE sling sets with CGBL (Calculated Breaking Strength) of 384, 1350, 1800 and 3700 MT, and with different lengths, for a heavy lifting project, offshore Brazil.

*"These are bespoke slings designed and manufactured in about 30 days, demonstrating the agility of our production resources to meet specific customer requirements, and the*

*need for special project delivery schedules,"* says Rui Faria, Senior Vice President Global Oil & Gas Synthetics, Lankhorst Euronete Brasil. The slings are to be used for the deployment and installation of subsea equipment at water depths greater than 2,000 meters, and will remain attached to the equipment for recovery in the future.

The slings have been designed and manufactured according to the customer's and standard specifications including several specific requirements such as a filtering system to prevent particles entering the rope during contact with the seabed, restricted space for assembly, enhanced protection against abrasion, and an anti-rotation line and handle to allow manipulation by ROV (Remotely Operated Vehicle).



Reels waiting for shipment



## LANKHORST EURONETE PORTUGAL

### Technology Road Mapping at Lankhorst Euronete Portugal

In October, the kick off of the Technology Road Mapping (TRM) initiative for the fishing division of Lankhorst Euronete Portugal S.A., took place with a one day workshop in Maia (Portugal), focused on the trawling market.

The TRM technique is used in order to develop sustainable new product development decisions, based on the evolution of tangible market and technical drivers. The process consists of four stages. The first stage is a workshop session where both market and technological developments are gathered and filed in a chronological way in order to identify the brightest business opportunities that could be supported by a technology development strategy. Once the drivers were identified

by the team members, the team was split up in three groups, focussing on specific applications, namely Bottom trawling, Pelagic trawling and Purse Seine (Tuna). Next, all groups started evaluating how the identified drivers affected the application market they should focus on. Furthermore, in this first stage, they evaluate the different features and product possibilities, either made possible by technological development (technology push) or changes in the



Workshop stage of the Technology Road Mapping (TRM)

market (market pull). These, in turn, allowed the group to identify product opportunities and preview technology and development needs.

The second stage is focused on the valuation of each identified initiative in order to guarantee the maximum return of our R&D investment. The final stages are focused on developing and maintaining the plan, using current processes for its implementation and market or technological beacons to review it as necessary.

This workshop also proved to be a great opportunity to hear the experience of our customers, brought in by our dedicated commercial team, and discuss market trends together with the latest innovations in processes and materials.

The TRM Fishing – Trawling was the second TRM initiative with our company. This initiative followed the steps of the first TRM program for Lankhorst Ropes maritime which started in February this year and is already in the third stage.

## LANKHORST ROPES

### BigRoll Shipping to use Lankhorst Mooring Ropes for MC Class vessels

Leading maritime ropes supplier, Lankhorst Ropes, has supplied Dutch onshore and offshore heavy marine transportation solutions provider, BigRoll Shipping, with Lanko®force and Euroflex® mooring ropes.

The ropes will be used on BigRoll's MC Class vessels, specifically designed to deliver modules and equipment for large projects: BigRoll Bering, BigRoll Barentsz, BigRoll Baffin and the BigRoll Beaufort. The latter two will come into service in late 2016. A spokesman for BigRoll Shipping said "BigRoll's MC Class vessels are specifically designed for the marine transportation of major modules and equipment for large energy projects to some of the most remote and inaccessible areas on the planet,

such as the Arctic region. The vessels have Finnish Swedish 1A Ice Class and a very high ballast capacity as well in order to reduce loading and discharge times, thereby also increasing safety levels during these operations. Lankhorst's Lanko®force provides the qualities needed to perform with both extremely heavy loads and challenging environmental conditions." Maritime Commercial Director of Lankhorst Ropes, Hans-Pieter Baaij noted "Utilising Dyneema® SK78 fibers of DSM Dyneema,



One of the BigRoll's MC Class vessels moored by Euroflex® of Lankhorst Ropes

Lanko®force's 12 strand braided design sets the benchmark for HMPE rope performance in mooring, towing, salvage and lifting. The yarn has a maximum strength rating of 35 cN/dtex compared with other HMPE yarns offering up to 30 cN/dtex, producing a stronger rope and making Lanko®force the ideal mooring rope for heavy marine transportation."

**Lanko®force – Strong as steel, easier to handle**  
Lanko®force is well-proven in maritime applications demanding high strength and provides an excellent alternative to heavy and cumbersome steel wire ropes where manual handling of the rope is required. The strength of Lanko®force is comparable to that of conventional steel wire rope, while weighing 7 times less making it an easier rope to handle.

## Lankhorst welcomes new DNV GL test facility

With increasing demands on deepwater moorings with regard to economics, water depth and longevity of service, Lankhorst Ropes took the opportunity to attend the recent opening of DNV GL's new Bergen offices and test facilities. Neil Schulz, Sales Director Deepwater Mooring, welcomed the new facility, which brings all DNV's test machines suitable for offshore mooring and lifting ropes under one roof.

Close to Bergen city centre, the DNV GL offices include the Technology Centre for Offshore Mooring and Lifting, and a Materials and Corrosion Technology Centre. "Lankhorst has led the way in mooring rope design, testing and simulation of tethering scenarios," says Neil Schulz. "We've worked closely with DNV on qualification and verification testing of fibre ropes for a number of deepwater mooring projects."

With the decision to upgrade the static and dynamic testing load capacity from 2,500 ton (24,517 kN) to 2,900 ton (28,500 kN), and extend the test bed by five meters to enable samples up to 20 meters length allowing better equalisation of length differences between sub-ropes, DNV is bringing its testing capability in line with industry trends. To expand the large scale-testing capability, DNV GL is now also



Neil Schulz – Sales Director, Deepwater Mooring, Lankhorst Ropes (second right) with members of the DNV GL's Technology Centre for Offshore Mooring and Lifting (L to R) Kurt Eide – Group Leader, Hans-Jørgen Haugland - Senior Engineer, and Hans-Erik Berge - Business Lead

defining and setting up a test rig for analysing the effects that ropes are experiencing when running over sheave (cyclic bending over sheave) as in heave compensation for subsea lifting. This capability is expected to be operational in 2017. Neil Schulz again: "Developments such as Lanko®Deep AHC rope

and the Soft Rope System are already leading the way in showing the advantages of fibre rope in subsea deployment and construction. The new DNV test facility is a welcome addition to qualify the growing array of enabling technologies that will underpin the wider use of fibre rope systems."



Lanko®force used for the tow-out of a rig

## Lanko®force for Offshore Energy

Lankhorst Ropes's Lanko®force fibre rope is being applied to an ever wider range of demanding offshore energy applications. Recently the rope was used for the tow-out of a rig involving both river and offshore tow. The 12 strand braided rope, made of Dyneema® yarns, is an excellent alternative for heavy and cumbersome steel wire ropes in situations requiring manual handling of the rope.

During tow-out, adverse weather meant the rig had to be kept on station in the river for many days. Although there was a great deal of chafing during the delay, the protection offered by a rope's

Dyneema® jacket at chafe points meant the rope was undamaged; and when the rig reached open water, the ropes could be stored and used as emergency tow lines. Once offshore, the tugs

were repositioned for offshore tow configuration. Rigging in open water was significantly easier with the lightweight Lanko®force compared with handling steel wire. Moreover, the high visibility of the rigging lines was an unexpected benefit.

Other applications for Lanko®force include offshore wind turbine component handling and lifting and deep water subsea equipment deployment.

## LANKHORST YARNS



## The diversity of Lankhorst Yarns

The markets in which Lankhorst Yarns operates, are very diverse, so consequently it's a rather stable business. However, as we mostly deal with markets with seasonal influences, they are not constant. We therefore have to anticipate high and low seasons; sufficient stocks need to be produced in the low seasons in order to be able to supply in the high seasons.

Examples of markets with seasonal influences are the fencing and horti culture markets in which demand is not always synchronous with the capacity or availability of the resources.

Another growing market is the Flexible Intermediate Bulk Container (FIBC), the so-called big bags market. For this market we are developing new types of yarns. Further we operate in

the re-inforcement market, for special construction projects. And then there is also the cable industry. We supply our yarns to companies that produce electrical cables for underwater usage, for example for windmills offshore.

An interesting development in the horti culture market is the PLA horti twine – a compostable twine that is very efficient to growers. A leading greenhouse in Australia that uses our compostable twines for tomatoes, is very satisfied with our PLA horti twine. An excellent reference which gives us confidence that we are on the right track with our PLA horti twine developments.



PLA horti twine in Australian greenhouse

## LANKHORST ENGINEERED PRODUCTS

### ProRail and Lankhorst exchange knowledge

On Tuesday, 30th of August, Pier Eringa and Rolf Dollevoet from ProRail visited Lankhorst Engineered Products to talk about the application of innovative products and the possibilities of plastic sleepers to support ProRail's objectives.

Besides transparency regarding performance and responsiveness in the case of breakdowns ProRail's top priority is reliability and track safety.

Pier Eringa (CEO ProRail) and Prof. Dr. Ir. Rolf Dollevoet (Professor of Railway Engineering

at the Delft University of Technology and Policy Advisor Innovation & Development at ProRail) find that an increasing number of these core tasks go well, thus creating room for further innovation and sustainability from a long-term vision.



ProRail and Lankhorst exchange knowledge

Pier Eringa: "The number of passengers that we carry is impressive and still growing. Although we are an organization that is often being criticized, we are continuously improving – something we should demonstrate more often. The more goes well, the more space there is for sustainable initiatives focusing on the future, including cooperation with industries and companies."

the possibilities of the plastic sleepers and to exchange knowledge with Lankhorst."

Also TU Delft Railway Engineering is seeking more and more cooperation with business communities to test new innovations and to put them into practice together with ProRail.

Prof. Dr. Ir. Rolf Dollevoet: "After this initial orientation, we want a number of employees of ProRail to further explore

In 2006 Lankhorst Engineered Products presented the crossbar from recycled plastics to the rail infrastructure market – a European first. Ever since several projects in the Netherlands, France, Austria and Sweden are equipped with various types of sleepers. Hybrid Plastic sleepers have good sound and vibration absorption characteristics and at the same time optimal stiffness due to the elasticity of the plastic material combined with the strength of steel reinforcements. The expected lifetime is 50 years. KLP® Hybrid Plastic Beams are available in various designs, such as sleepers for main roads, bridge girders and sleepers.

## EXHIBITIONS 2016

### LANKHORST ROPES

30 Nov. – 2 Dec. International Workboat Show New Orleans (USA)



Lankhorst Ropes @SMM Hamburg 2016

## FROM THE EDITORS

The next edition of Lankhorst Euronete News will be published in February 2017.

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