



Reduce costs using light weight slings

Lindø Industrial Park saves time and manpower by replacing heavy polyester slings with lightweight Dynamica SafeLift slings manufactured in Dyneema®.

The industrial park on Funen has a great experience with the handling and shipping of large components for the offshore and heavy industry. The industrial zone in Odense is, amongst other things, a collection point and a storage depot for jackets for offshore wind turbine foundations. Jackets are 63m tall steel structures with a weight of up to 665t per piece. This figure corresponds to the weight of 27 fully loaded lorries!

A gantry crane with a capacity of 1,000 t is used several times, both to gather the jackets and then to move them around for storage or shipping. The process involves lifting of so-called 3D structures, which have a height of 55m and a weight of approx. 500t per piece, where rigging needs to be done at a height of some 50 or 60m.

A lifting sling is lowered down along the foot of a jacket, pulled underneath two stiff, and then guided back up to the beam. Lindø Industrial Park has used polyester slings for this type of lifting until very recently. In this case a standard polyester sling had a diameter of 101mm and weighed 186kg.

However, polyester has now been replaced with hi-tech lifting slings manufactured by Dynamica Ropes. More specifically, these 40mm Dynamica SafeLift slings only weigh 45kg per piece. A weight reduction of at least 140kg compared to a polyester sling.

Peter Blazejewicz, Transport Engineering Manager at Lindø Industrial Park, says: 'The weight reduction means that we save at least 45 minutes on each lifting operation. Since each lift involves a 1,000t portal

crane, a 103m truck-mounted lift and normally seven employees, the time savings are undoubtedly substantial.'

Time is saved primarily because the switch to the light slings has made it possible to reach all four rigging points without moving the gigantic 103m truck-mounted lift around. As the polyester slings were substantially heavier, the truck-mounted lift's capacity could not reach the four rigging points from one place, and the lift therefore had to be moved at least once, with corresponding rigging and de-rigging.

Peter Blazejewicz continues: 'We naturally examine both the theoretical properties and actual physical condition of new lifting gear before we use it – and we were very impressed by the properties offered by Dynamica Ropes' lifting slings. After a meticulous deliberation of the lifting task at hand with Enes Hadziefendic, Technical Consultant at Dynamica Ropes, we decided to buy SafeLift slings, and this has turned out to be a great decision.'

Dynamica Ropes has its headquarters in Taulov, which is also where it manufactures its hi-tech ropes. The niche company has been supplying customer-specific rope and lifting sling solutions designed for various different purposes such as ship mooring, storm protection projects, lifting of wind turbine parts and deep water surveys since 2004. Jørgen Sørensen, the CEO, says that the strong 12 strand braided rope is particularly interesting for the offshore industry, which often places major requirements on the weight and size of the lifting gear. Enes Hadziefendic adds: 'In the case of Lindø Industrial Park, two people must be capable of handling the lifting sling at a height of 50 to 60 metres, and the truck-mounted lift must be able to reach all four rigging points without being moved around.' This places immense requirements on the weight of the lifting equipment and simultaneously gives a priority to a small diameter because of the somewhat special rigging.'

The SafeLift sling mentioned in this case is made of 12 strand braided rope, which is made with Dyneema® fibre, the strongest man-made fibre to date. These slings are supplied with a thick woven cover with Double Shield Coating at both eyes and in the middle of the sling to ensure protection against wear. The woven covers along with proper handling during lifting operation guarantees a long service life for the lifting gear.

A last, yet also important gain made with the switch to Dynamica SafeLift slings is better working conditions for the riggers at Lindø Industrial Park. Peter Blazejewicz explains: 'Rigging with the polyester slings was physically demanding for the riggers. The switch to SafeLift slings has made this very heavy lifting easier for them.'



Cover and other types of sling protection materials

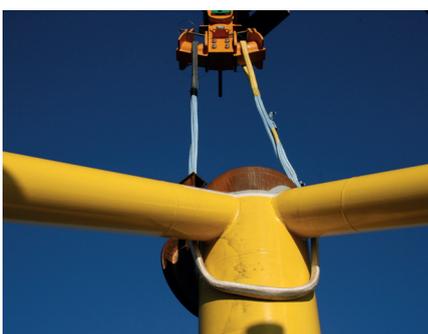
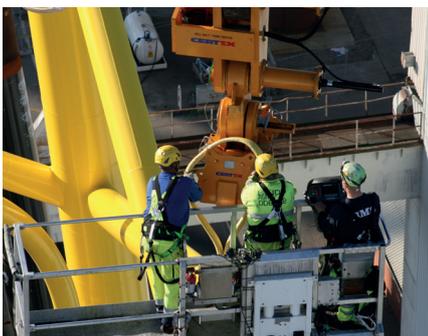
All DYNAMICA SafeLift slings are made with Dyneema® and are manufactured according to DIN EN 1492-4. Every sling is custom-made with quality and safety as a focus. The rope slings are constructed as single, double or triple sling with a variety of options when it comes to covers and extra protection against abrasion.

To secure a long lifetime of the SafeLift slings, it is often beneficial to apply a cover to protect the sling in the bearing point or against abrasion on the main body of the sling. The cover can be

added to the entire heavy lifting sling or on specific areas, which particularly are exposed to abrasion.

The most commonly used covers are made with Dyneema® or Polyester. A Dyneema® braided cover, which provides maximum protection for the rope or slings. A polyester cover will often provide enough protection.

When regular inspection of the sling is a crucial parameter DYNAMICA Dual Lock cover and DYNAMICA Woven Dyneema® sleeve are good and durable options. Both covers have an open and close function, which makes visual inspections possible.



Take proper care of Dyneema® rope slings – it pays off

Ropes made with Dyneema® fibres generally have a long lifetime. The synthetic ropes need to be handled and stored correctly. Although DYNAMICA ropes are more abrasion resistant than other synthetic fibres, special care has to be taken. Some of the most important points are:

- Dyneema® ropes lose strength when connected by a knot, when being bent over small items or when being spliced. The strength of a Dyneema® rope spliced by authorised riggers is reduced by app. 10%. In cases of

ropes connected by a knot, the loss of strength is app. 60%.

- They should only be used in connection with clean and non-rusty surfaces.
- They should not go over sharp edges.
- They lose strength when being bent. Dynamica Ropes recommend a bending radius of minimum 2 times the diameter of the rope for static end connections. For ropes running over sheaves, we recommend 5 times the diameter of the rope (preferably 10 times the rope diameter if possible).

www.dynamica-ropes.com