

DYNEX 75

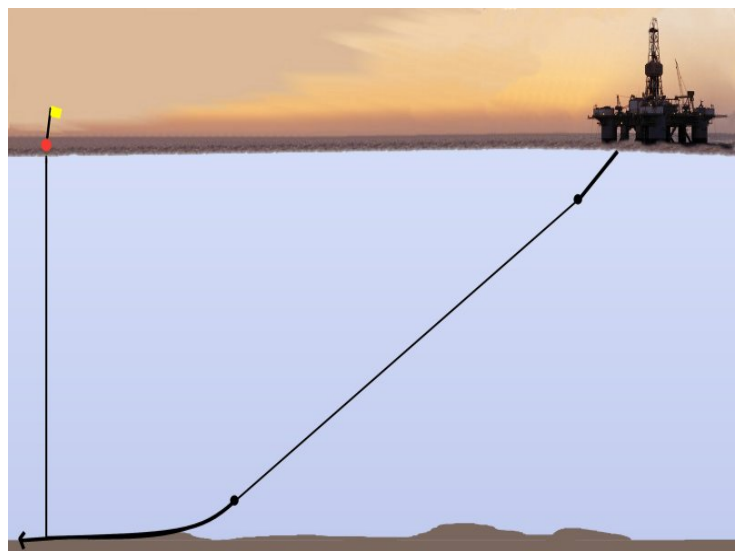
.. as buoy ropes & pennants

DYNEX ropes are ideally suited for deep-water applications. As an anchor to buoy rope the advantages against steel wire or other synthetic ropes are obvious. DYNEX ropes have neutral buoyancy and low diameter to strength ratio. This will minimize the effects of tide currents allowing for smaller buoys. Thus the rope can be used to retrieve the anchor directly. DYNEX ropes have excellent winding characteristics.

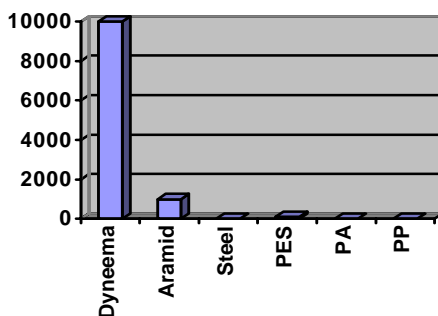
As a mooring rope for semi-submersible rigs, its lightness reduces the vertical load on the rig.

Furthermore, because the inserts are linear with a stiffness comparable with wire, the accuracy of positioning is improved.

The DYNEX rope lifts one or more shackles of the chain off the seabed, thus preventing damage to the rope and to other installations or pipelines on the bottom.



Tension fatigue: Cycles x 1000 at safety factor 2



Tension fatigue is second to none. The figure shows tension fatigue using safety factor 2 corresponding to 50% of breaking load.

Bending fatigue is determined by the fibre but the impact of construction (braided or laid) is low. It is recommended that DYNEX ropes are used with a ratio of sheave/rope diameter greater than 10. This will help ensure a very long service life which at normal working loads will be at least as long as that of wire ropes.

DYNEX Rope Constructions

Hampidjan's DYNEX 75 ropes are made from *Dyneema** SK75 fibres. The main focus is on the 12-strand braided ropes which have proven very popular for their roundness and smooth surface. Termination is easy through splicing where up to 90% of linear strength is retained.

Three basic types are being offered:

- **DYNEX 75 12-strand braided rope**
- **DYNEX 75 with braided cover**
- **DYNEX 75 Cable Rope**

Dyneema SK75 Fibre Properties

Density	0.97 g/cm ³
Tenacity	3.5 N/tex
Modulus	120 N/tex
Elongation	3.7%
Melting point	144-152°C
Resistance to chemicals	Excellent
UV resistance	Good
Flexibility	Good

Insert & Mooring Lines

The unique qualities of DYNEX 75 rope make it an excellent choice as an insert line in a mooring system. High strength combined with low density and flexibility allow for easy handling.

Mooring in shallow water near to existing structures can be a problem. A wire or chain may easily damage pipes or well heads. With a DYNEX 75 rope insert this is avoided. When tension is removed the rope floats up. Applications include drilling rigs, constructions and pipe-laying barges.

*) DSM's registered trademark for High Performance Polyethylene Fibre

In deeper water, DYNEX ropes are used to improve the restoring characteristics. Shallow water rigs may be deployed in deeper waters without modifications to their riser system. As a mooring rope for semi-submersible rigs, the lightness of the rope reduces the vertical load on the rig. Thus, payload does not reduce in deeper waters.

Anchor Pennant

DYNEX anchor pennants are particularly suitable for use in water depth over 500 m. When used as a permanent pennant, the low diameter and light rope allows a small buoy. This results in easy handling and quick retrieval, even with smaller tugs.

For use in a chaser system, the small diameter of the rope means that no additional features are required on the winch. Spooling can be done on the tug.

Other applications in oil fields

Pipe-pulling takes good advantage of the DYNEX characteristics. When pulling a pipe over sub-sea structures or coral reef, the main advantages are in handling and the lack of catenary. Secondly, when pulling a pipe on shore the low weight and floating properties of the rope only require limited equipment and get the job done quickly.

In sub-sea systems the DYNEX rope is used to make the first connection between the template and the well. In a diverless system a floating rope requires little force to manoeuvre and limited space in the pull-in tool dictates the use of low diameter and high strength rope.

For FPSO, submerged turrets are becoming a standard. A specially adapted tanker stays in place and functions as an intermediate. On return the tanker is reconnected to the turret with the floating rope, which is used to pull the turret into the ship.

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