

## DYNEX 75 .. for harbour towing

The DYNEX 75 rope is made of *Dyneema*\* SK75 fibre. DYNEX towing ropes with comparable size and strength to wire ropes but with only a fraction of the weight are ideal to use for harbour towing. The use of Dyneema ropes started in harbour towing and since then has moved on to escort, rescue and open-sea towing.



- **Low weight.** The rope deployment and recovery time is typically halved and it is possible for just one person to handle the rope. Less crew is needed to attend the tow line. If necessary, the rope can be laid down on the deck.
- **Neutral buoyancy.** Only the part on the deck has to be lifted, as the rest floats. In an emergency, a zodiac can be used to transfer the DYNEX line to the ship to be towed.
- **Good fatigue life.** Both tension and bending fatigue of the DYNEX rope are excellent. This allows a safety factor comparable to wire (2-3). Normal lifecycle is significantly longer, or 2-3 times that of other materials.
- **Increased safety.** Because of the low energy storage in the rope there is less risk of accidents if the rope fails. Hand injuries because of broken wires have disappeared and the low handling weight of DYNEX rope reduces back injuries.

The longevity of the rope in terms of number of tows depends on a few important factors. In order to increase number of tows, the safety factor may be increased from the minimum of 2. The method of application also plays an important role. Sharp edges should be avoided and damage on fairleads, bollards, etc. repaired and painted before the DYNEX rope is put to use. Sudden jerks resulting in very high shock loading may lead to premature failure. Manoeuvring the tug with ease and using short spring line will help prevent such failure.



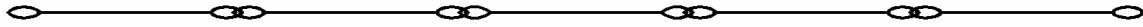
\*) DSM's registered trademark

## Construction of a Tow Line

A common construction of a tow line is a DYNEX rope with a breaking strength of 80 to 150 tons, 60 to 100 m long. A tow line can be with or without a stretching section depending on the manoeuvring characteristics of the tug

boat. One or both end sections have additional protection against wear and tear.

One version of an 85 metre tug rope with a stretching section is shown below. By adding or removing 20 metres, a suitable length can be obtained for each application. Some parts of the rope wear faster than others and then they can easily be replaced.



The first 15 m of Dynex which are fastened to the ship are protected to minimise abrasion

20 m Dynex rope. Eyes are spliced on each end and then connected together

10 m nylon spring, 2 x diameter of Dynex

20 m Dynex rope

20 m protected Dynex rope to the tug boat

## Rope Dimensions

A typical rope has a breaking strength of 80 to 150 tons. For DYNEX this means diameters in the range of 30–46 mm. Weights and breaking strength of DYNEX and wire ropes are shown in the table.

## DYNEX Rope Constructions

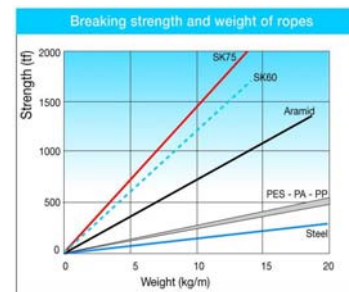
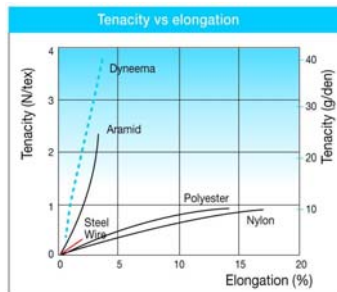
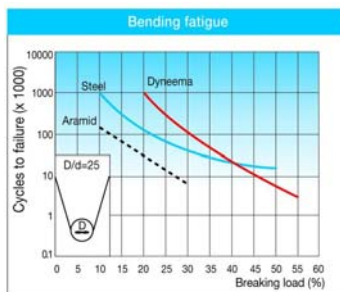


		DYNEX 75		IWRC	
mm	inch	kg/100m	MBL ton	kg/100m	MBL ton
28	3.5	47	74	305	45
32	4	57	88	398	59
36	4.5	67	103	504	75
40	5	79	120	622	93
44	5.5	94	141	753	112
48	6	112	165	896	133
52	6,5	132	193	1051	156

Hampidjan's 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



# HAMPIÐJAN

Bíldshofdi 9, P.O.Box 12422, 132 Reykjavík, Iceland  
Tel. + 354 530 3300 Fax + 354 530 3309  
www.hampidjan.is