

# DYNEX™

## MARITIME



### HAMPIÐJAN

– a worldwide network

# COMPANY PROFILE

In the spring of 1934, midst in the Great Depression, 13 individuals gathered a small fortune to start up an industrial company to manufacture fishing nets, ropes and fishing long lines for the Icelandic fishing fleet.

Hampidjan has since evolved to become one of the largest fishing gear and high tech ropes manufacturer of the world, having 14 entities in 4 continents with over 500 employees.

We have made relentless product development the essence of our being. We do that so our customers know that if they are with Hampidjan, using advanced Dynex and Dynex Dux ultra high performance ropes for towing or tugging – they are using products that are at the cutting edge of known technology.



*The Hampidjan Group headquarters are located at the waterfront of the main harbor of Reykjavik Iceland in a new 6.500 m2 building.*



*The main production facility is Hampidjan Baltic in Lithuania. The production range is from filaments to the most advanced tailor made fishing gear available as well as high performance ropes. The production equipment is state of the art and on floor area of 21.500 m2*



Hampidjan is ISO 9001 certified for quality assurance, ISO 14001 certified for environment issues and OSHAS ISO 18001 certified for health and safety of the employees. Certification is from DNV – Det Norske Veritas.



# DYNEX TUG ROPES

**Dynex tug ropes are lightweight and long lasting tugging ropes for fast harbour towing operations. They are far stronger than conventional synthetic tug ropes stronger than steel and made from Dyneema®.**

**Therefore they are an excellent choice to replace steel wire ropes.**

Tugboats equipped with Dynex Tug ropes can perform tugging operations faster than those using steel wire or polyester ropes due to the lightness and easy handling of the ropes.

The Dynex Tug rope floats on water and light to pull up through the fairlead and attach on the bollard. The lightness speeds up the operation and each tug can take more towing's over the day. Less crew is needed on-board due to the lightness and flexibility of the rope.

The lifetime exceeds many times the lifetime of the steel wire and polyester and degradation due to corrosion is none.

The surface is soft and will not damage painted areas on the tug boat itself or the vessel.

Special rope construction is used with two parallel strands in a 12 strand braid. This gives very even surface and the abrasion properties are better than in conventional 8 or 12 strand ropes where the strands are giving uneven surface and the top of the strands will take all the chafing.

Safety is improved as there are no broken wires sticking out from the rope and backlash in Dynex is much less than in other synthetic ropes.



# TUGGING

## Tug Pendants

The pendants are available in Dynex with low elasticity and high strength or, Nylex with high elasticity and excellent shock absorbing properties.

Dynex has density of 0,96 and floats on water while Nylex has density of 1,14 and sinks slowly. For same strength the Nylex is about 5 times heavier and the diameter is double compared with Dynex.

Nylex is made from high tenacity polyamide also known as nylon.

It is recommended to have eye protection in all eyes to avoid abrasion and extend the lifetime of the pendants.

Dynex ropes are also offered coverbraided with Dyneema® cover as it outperforms all other synthetic materials when it comes to chafing. While the cover is intact the rope inside is in perfect condition.

Nylex ropes can have Dyneema eye protection if requested but normally they are coverbraided with high performance polyester.



A1			
Rope diameter	Weight of 15 m pendant	Rope breaking strength ISO 2307	Pendant breaking strength spliced
mm	kg	ton	ton
32	16.3	100	90
36	19.5	120	108
40	25.0	140	126
44	33.1	165	149
48	37.2	192	173
52	43.1	221	199
56	49.5	251	226
60	56.5	282	254
64	67.1	314	283
68	75.4	348	313
72	84.4	383	345
76	94.0	419	377
80	104.4	456	410

A2				
Rope diameter	Overall diameter with cover	Weight of 15 m pendant	Rope breaking strength ISO 2307	Pendant breaking strength spliced
mm	mm	kg	ton	ton
32	36	18.7	100	90
36	40	22.3	120	108
40	44	28.1	140	126
44	48	36.5	165	149
48	52	41.1	192	173
52	56	47.7	221	199
56	60	54.8	251	226
60	66	62.5	282	254
64	70	73.8	314	283
68	74	83.0	348	313
72	78	92.8	383	345
76	82	103.3	419	377
80	86	114.7	456	410

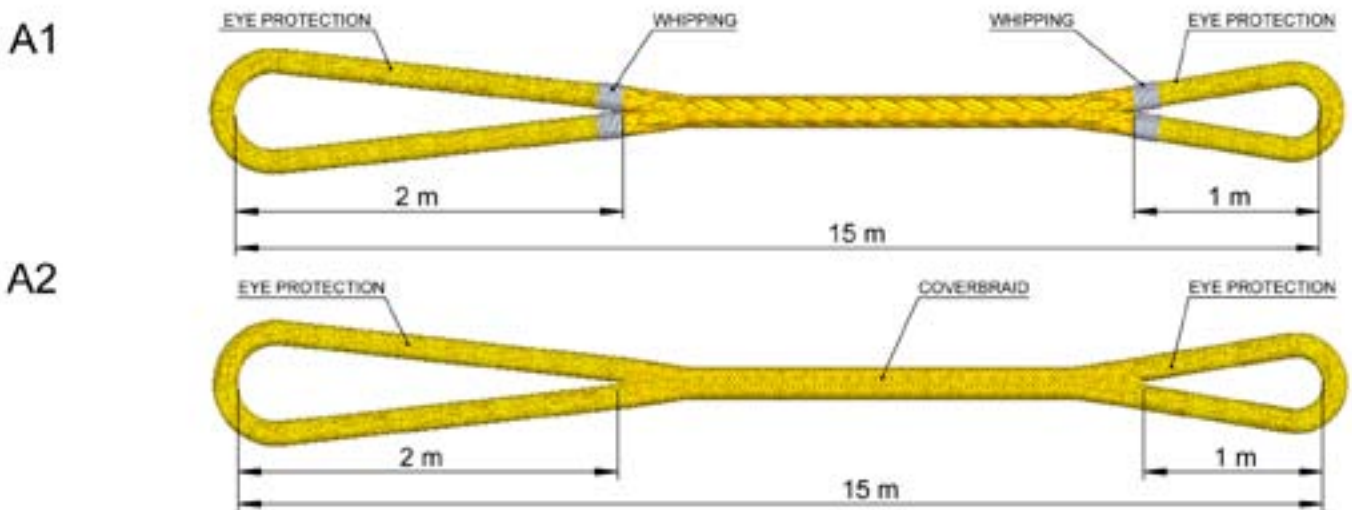
B1			
Rope diameter	Weight of 15 m pendant	Rope breaking strength ISO 2307	Pendant breaking strength spliced
mm	kg	ton	ton
24	14.6	58	104
28	19.5	74	133
32	24.4	100	180
36	29.0	120	216
40	37.3	140	252
44	48.2	165	297
48	54.2	192	346
52	62.7	221	398
56	72.0	251	452
60	82.0	282	508

B2				
Rope diameter	Overall diameter with cover	Weight of 15 m pendant	Rope breaking strength ISO 2307	Pendant breaking strength spliced
mm	mm	kg	ton	ton
24	28	16.8	58	104
28	32	22.6	74	133
32	36	28.5	100	180
36	40	34.2	120	216
40	44	43.0	140	252
44	48	54.5	165	297
48	52	61.4	192	346
52	56	71.2	221	398
56	60	81.8	251	452
60	66	93.3	282	508

# TUG PENDANTS

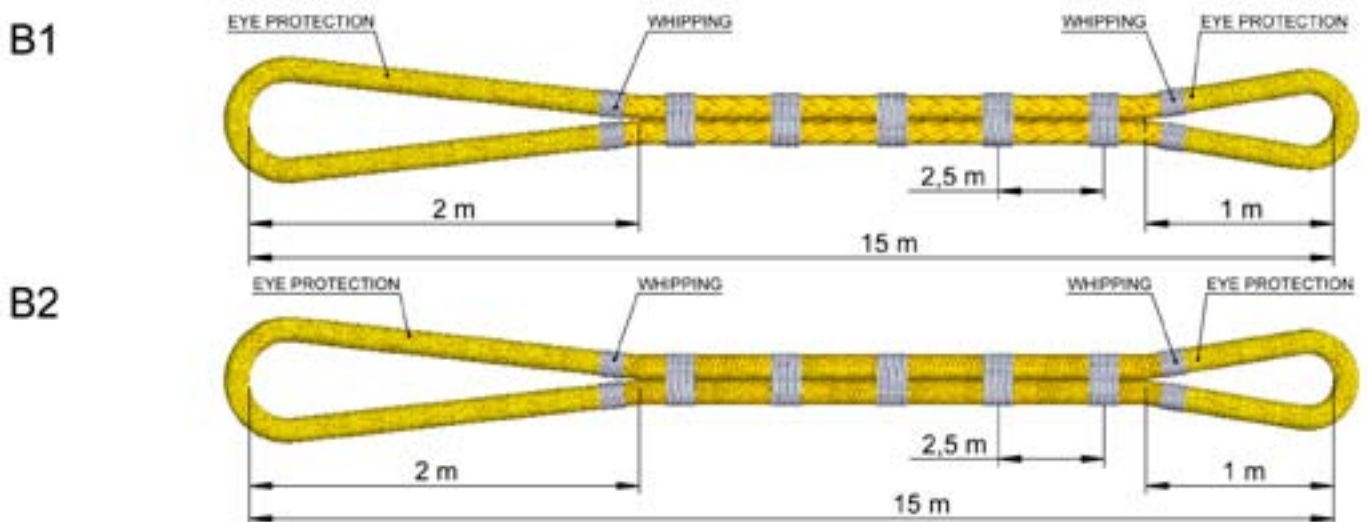
## Single Leg Pendant

The single leg pendants are made with one leg and spliced in both ends with or without protective coverbraid. Eye protection in both eyes.



## Grommet pendant

The grommet pendant is made with two legs and one splice. The advantage of the two parallel legs is that chafing area is double when going through fairlead.



# DYNEX TOWING

**Light, floating and easily manoeuvrable high performance  
Dynex towing line system  
for long distance or open sea towing's.**

The towing line is easily transferred to the towed vessel and fixed to strongpoint by hand.  
To compensate for low elasticity a pendant of nylon rope of double diameter compared to Dynex is used as damper to lower or eliminate peak loads.

Extensions are easily combined to the main towing line and pendants can be of larger diameters and higher strength to compensate for possible abrasion.



C1			
Rope diameter	Weight of 100 m towing line	Rope breaking strength ISO 2307	Pendant breaking strength spliced
<i>mm</i>	<i>kg</i>	<i>ton</i>	<i>ton</i>
32	64.3	100	90
36	77.5	120	108
40	101.0	140	126
44	126.2	165	149
48	142.0	192	173
52	164.8	221	199
56	189.1	251	226
60	215.1	282	254
64	244.7	314	283
68	274.3	348	313
72	305.6	383	345
76	338.7	419	377
80	373.6	456	410

C2				
Rope diameter	Overall diameter with cover	Weight of 100 m towing line	Rope breaking strength ISO 2307	Pendant breaking strength spliced
<i>mm</i>	<i>mm</i>	<i>kg</i>	<i>ton</i>	<i>ton</i>
32	36	83.1	100	90
36	40	100.2	120	108
40	44	126.0	140	126
44	48	153.5	165	149
48	52	173.1	192	173
52	56	200.9	221	199
56	60	230.6	251	226
60	66	262.3	282	254
64	70	298.0	314	283
68	74	334.0	348	313
72	78	372.2	383	345
76	82	412.4	419	377
80	86	455.0	456	410

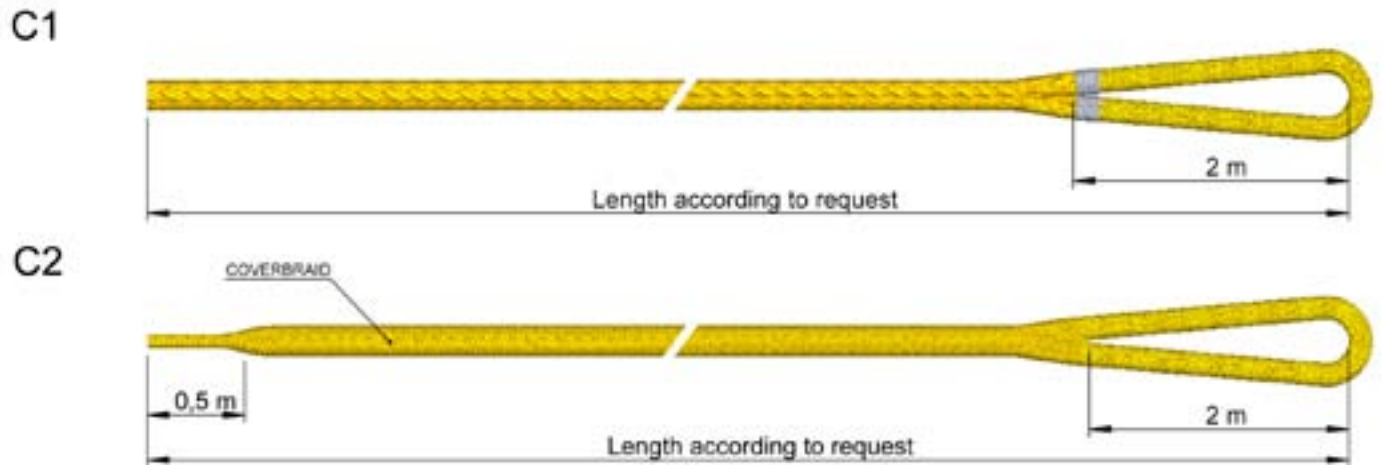
D1			
Rope diameter	Weight of 100 m towing line	Rope breaking strength ISO 2307	Pendant breaking strength spliced
<i>mm</i>	<i>kg</i>	<i>ton</i>	<i>ton</i>
32	67.5	100	90
36	81.2	120	108
40	105.9	140	126
44	133.1	165	149
48	149.8	192	173
52	174.0	221	199
56	199.8	251	226
60	227.5	282	254
64	260.0	314	283
68	291.7	348	313
72	325.3	383	345
76	360.9	419	377
80	398.7	456	410

D2				
Rope diameter	Overall diameter with cover	Weight of 100 m towing line	Rope breaking strength ISO 2307	Pendant breaking strength spliced
<i>mm</i>	<i>mm</i>	<i>kg</i>	<i>ton</i>	<i>ton</i>
32	36	86.3	100	90
36	40	104.0	120	108
40	44	130.9	140	126
44	48	160.4	165	149
48	52	180.9	192	173
52	56	210.1	221	199
56	60	241.3	251	226
60	66	274.7	282	254
64	70	313.2	314	283
68	74	351.4	348	313
72	78	391.9	383	345
76	82	434.6	419	377
80	86	480.0	456	410

# TOWING LINES

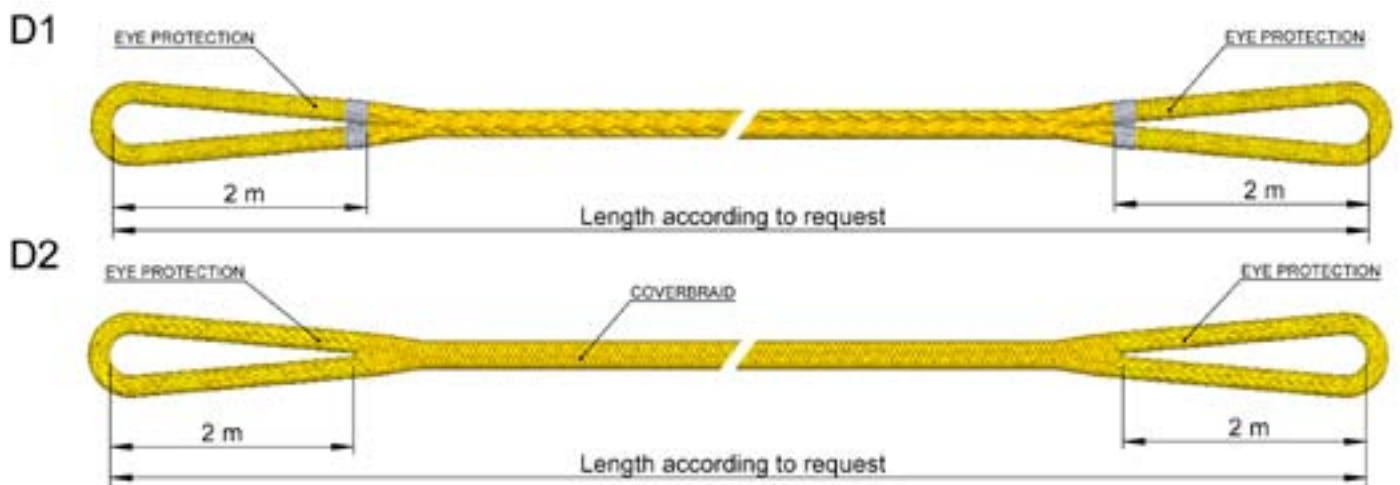
## Single eye towing line

The single leg pendants are made with one leg and spliced in both ends with or without protective coverbraid. Eye protection in both eyes.



## Double eye towing line

If the towing line is long and stored on the deck it needs to be flexible and then the rope without coverbraid is perhaps more suitable choice. Coverbraided line will be more stiff but well protected against abrasion and chafing and the lifetime will be far longer.



# NYLEX SHOCK ASORBER

## Elastic nylon rope for limiting peek load in towing operations.

Dynex is similar to steel wire with regard to elasticity as both have very little stretch. In towing and some tugging operations there is need to dampen the peak loads due to vessel movements and waves.

For that purpose a section of nylon ropes is inserted in the towing line as nylon has the highest elasticity of the synthetic fibres used in maritime ropes.

Typically the length is either 10 or 25 meters and then as single leg or grommet depending on the breaking strength needed. According to DNV rules the breaking strength of nylon shock absorber needs to be 1,5 times the breaking strength of the main towing line.

There are two rope constructions available and that is conventional 8 strand rope and then double braided 32 strand rope.



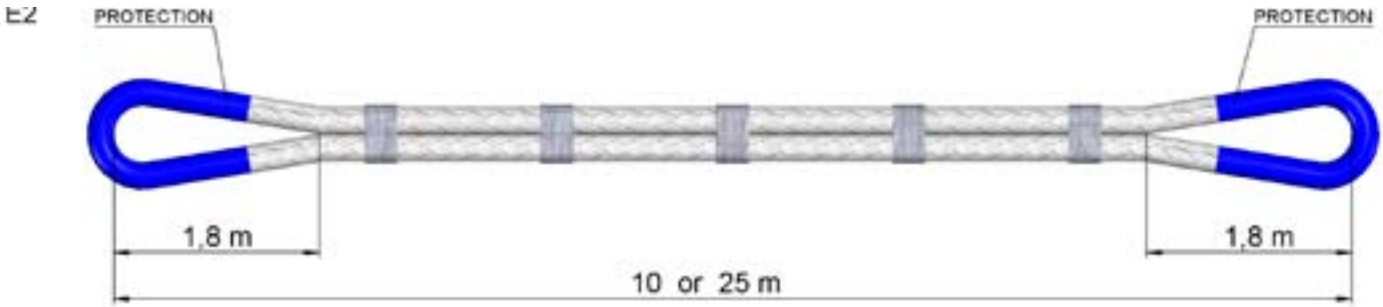
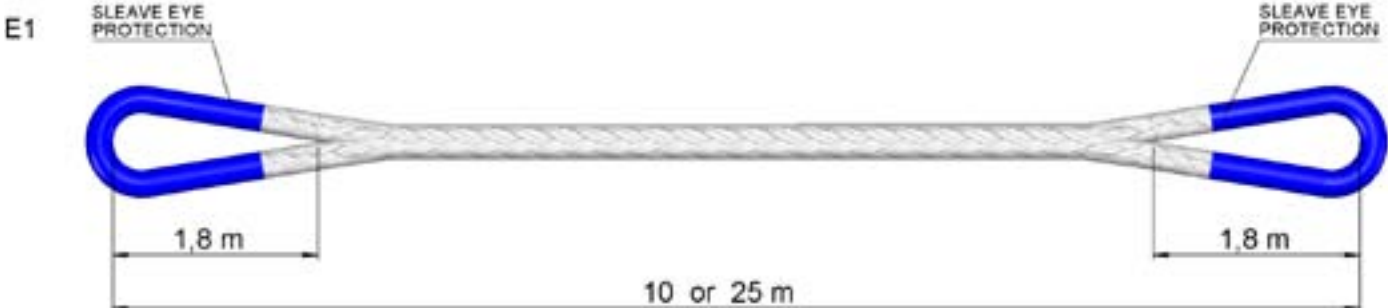
8 strand single		E1	
Rope diameter	Weight of 100 m	Rope breaking strength ISO 2307	Breaking strength spliced
<i>mm</i>	<i>kg</i>	<i>ton</i>	<i>ton</i>
40	98.7	30	27
44	119.0	36	32
48	142.0	42	38
52	167.0	49	44
56	193.0	56	50
60	222.0	64	58
64	253.0	72	65
72	320.0	90	81
80	395.0	110	99

8 strand grommet		E2
Rope diameter	Weight of 100 m	Breaking strength spliced
<i>mm</i>	<i>kg</i>	<i>ton</i>
40	201.3	49
44	243.2	58
48	290.8	68
52	342.7	79
56	396.8	91
60	457.3	104
64	522.2	117
72	663.0	146
80	821.6	178

Double braid single		E1	
Rope diameter	Weight of 100 m	Rope breaking strength ISO 2307	Breaking strength spliced
<i>mm</i>	<i>kg</i>	<i>ton</i>	<i>ton</i>
40	99.5	35	31
44	120.0	42	38
48	143.0	50	45
52	166.0	59	53
56	195.0	68	61
60	224.0	78	70
64	255.0	88	80
72	322.0	112	101
80	398.0	138	124

Double braid grommet		E2
Rope diameter	Weight of 100 m	Breaking strength spliced
<i>mm</i>	<i>kg</i>	<i>ton</i>
40	203.0	56
44	245.3	68
48	292.9	81
52	340.6	95
56	400.9	110
60	461.4	126
64	526.3	143
72	667.2	182
80	827.8	223

# NYLEX SHOCK ASORBER



# DYNEX DUX MOORING

**Long lasting high performance mooring ropes for wire replacement.**

Dynex Dux mooring ropes are significantly easier to use compared to steel wire ropes as they are light and easy to handle. They don't rust and damage deck or fairleads and will not soil the deck area with grease and dirt.



Safety is greatly improved due to the lower weight and problems with wires sticking out, so called meat hooks, are totally absent.

If wire breaks under high load it will recoil with extreme energy and sweep the area next to it with the untwisting strands at high speed.

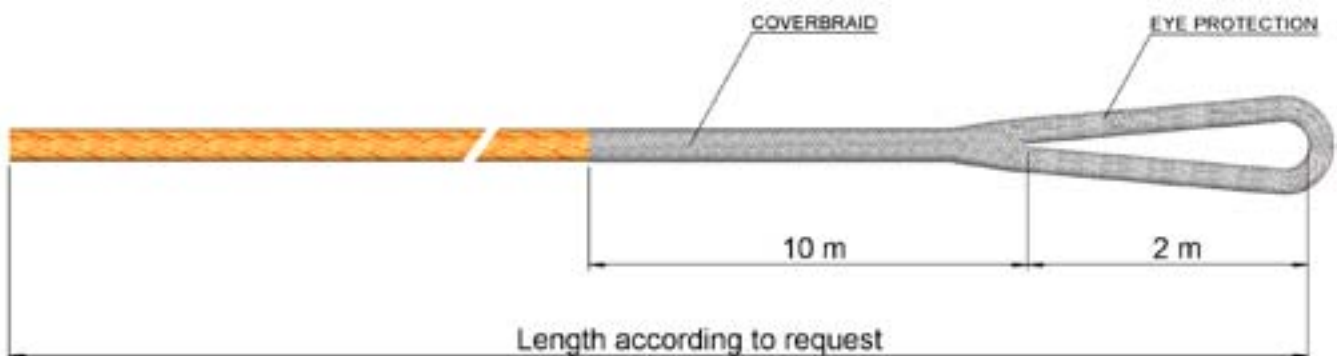
The Dynex has low lash-back as is non-elastic and lightweight. It will not untwist during breakage as the strands are internally torque balanced by the braiding.

The lifetime is up to double of the wire rope if the mooring system is properly prepared by cleaning rusty abrasive contact areas and painted with durable epoxy paint. The time it takes to secure the vessel and fasten the mooring lines is greatly reduced.

The Dynex Dux mooring ropes are available in 12 strand braided version with heavy duty eye protection or fully overbraided for better abrasion resistance.

Dynex Dux					
Overall diameter	Breaking strength unspliced	Breaking strength with eye	Weight in air	Weight in sea (floating)	Density
mm	ton	ton	kg/m	kg/m	kg/dm <sup>3</sup>
20	56.0	50.4	0.27	-0.01	0.96
21	64.8	58.3	0.32	-0.01	0.96
23	73.6	66.2	0.37	-0.02	0.96
25	82.7	74.4	0.42	-0.02	0.96
27	90.6	81.5	0.46	-0.02	0.96
29	98.9	89.0	0.52	-0.03	0.96
31	107.1	96.4	0.57	-0.03	0.96
32	115.3	103.8	0.62	-0.04	0.96
33	124.2	111.8	0.67	-0.04	0.96
35	134.2	120.8	0.73	-0.05	0.96
37	146.1	131.5	0.81	-0.05	0.96
39	156.7	141.0	0.88	-0.06	0.96
41	168.5	151.7	0.95	-0.07	0.96
43	182.9	164.6	1.05	-0.07	0.96
45	197.5	177.8	1.14	-0.07	0.96
47	212.3	191.1	1.25	-0.08	0.96
49	227.4	204.7	1.35	-0.08	0.96
51	242.6	218.3	1.46	-0.09	0.96

F1



# DYNEX DUX LNG MOORING

**Easy and lightweight mooring winch ropes for LNG tankers which are increasing safety at work, reducing mooring time, deck cleaning and maintenance.**

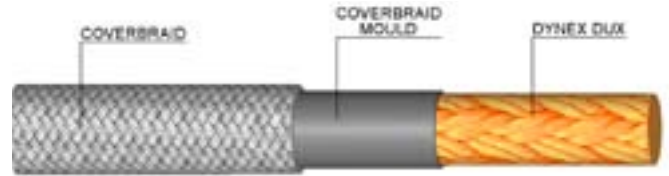
Dynex Dux LNG Mooring ropes are specially constructed to be compact, round and suitable to use on deck mooring rope winches. They are non-conductive and will not discharge static electricity creating sparks. The lifetime is long as the ropes are not corroding and not affected by sunshine and UV rays. Handling is very easy due to the low weight of the rope and the absence of shackles and hardware and the rope is floating. With Dynex Dux LNG Mooring ropes the mooring time is reduced to at least half of what was needed before.

A main disadvantage in the present LNG high performance mooring ropes used today is the lacking connection between the cover and the main rope. If the protective cover is worn or cut it will gradually tear off and leave the strength member without protection.

This has been effectively solved in Dynex Dux LNG Mooring ropes by patent pending method. The cover is moulded on the rope with intermediate layer of synthetic rubber providing excellent binding between the two rope components. This ensures maintenance free mooring rope and long lifetime.

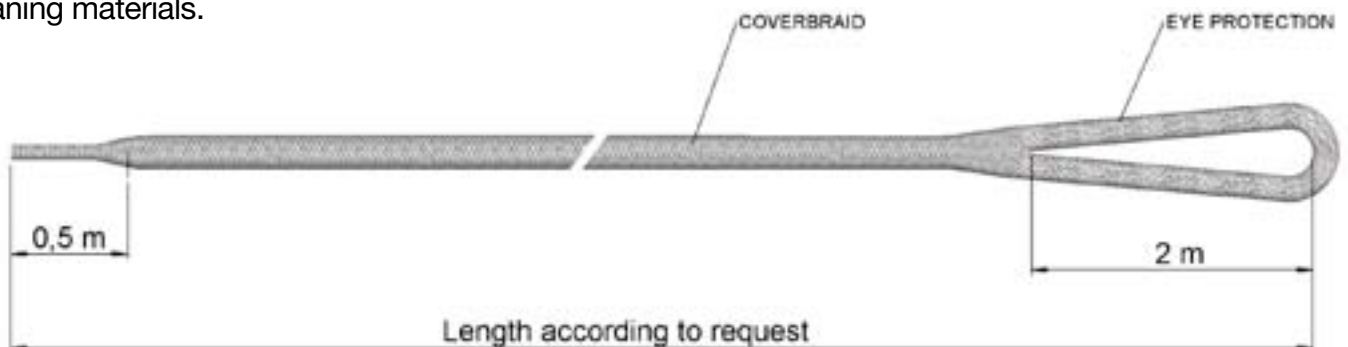
As with other Dynex Dux ropes safety is greatly improved as there are no sharp wires sticking out, the ropes are light to carry and back-lash is low. Deck safety is enhanced as there is no oil or grease used.

With wire there is constant problems with grease and oil on the deck winch can make it slippery. Then a thorough and time consuming cleaning is needed with expensive environmental friendly cleaning materials.



Dynex Dux Coverbraided					
Overall diameter	Breaking strength unspliced	Breaking strength with eye	Weight in air	Weight in sea (floating)	Density
mm	ton	ton	kg/m	kg/m	kg/dm3
24	56.0	50.4	0.39	-0.01	0.96
25	64.8	58.3	0.45	-0.01	0.96
27	73.6	66.2	0.51	-0.02	0.96
29	82.7	74.4	0.57	-0.02	0.96
31	90.6	81.5	0.61	-0.02	0.96
33	98.9	89.0	0.67	-0.03	0.96
35	107.1	96.4	0.72	-0.03	0.96
36	115.3	103.8	0.78	-0.04	0.96
37	124.2	111.8	0.84	-0.04	0.96
39	134.2	120.8	0.91	-0.05	0.96
42	146.1	131.5	1.04	-0.05	0.96
44	156.7	141.0	1.12	-0.06	0.96
46	168.5	151.7	1.20	-0.07	0.96
48	182.9	164.6	1.30	-0.07	0.96
51	197.5	177.8	1.47	-0.07	0.96
53	212.3	191.1	1.58	-0.08	0.96
55	227.4	204.7	1.70	-0.08	0.96
57	242.6	218.3	1.82	-0.09	0.96

G1

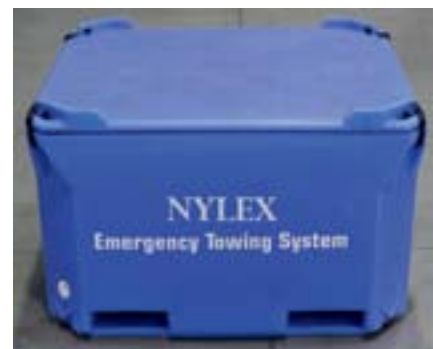
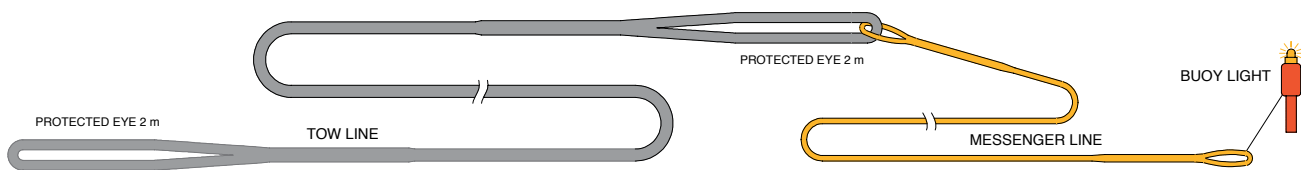


# EMERGENCY TOWING SYSTEM

**Complete Emergency Towing systems for vessels 20-50.000 DWT and over 50.000 DWT. These kits are in full compliance with resolution MSC.35(63) of the 1994 SOLAS convention and the amendments in MSC.256(84).**

The system consists of light buoy attached to highly visible yellow messenger line. The messenger line is connected to the main towing line. The main towing line has large eyes in each end with thick and durable eye protection sleeve. All ropes are Dyneema® and each part of the system is floating.

The ETS system is stored in heavy duty polyethylene container with strong top cover which is easily and securely closed with rubber straps. The container is prepared for easy bolting on deck. The systems ropes are tested and certified by DNV and approved according to SOLAS regulations.



# EMERGENCY TOWING SYSTEM

## **Dynex ETS – 1000**

### **For vessels under 20.000 DWT**

- Floating light attached to messenger line
- Dynex SK75 – 10mm 122m long messenger line in bright yellow color with MBL of 9,6 tons in spliced rope.
- Dynex SK75 – 40mm 76m long towing line in gray color with MBL 1000 kN (102 ton) in spliced rope.
- Durable blue plastic container with lid, size in cm: L 124 x W 104 x H 75
- Total weight 164 kg

## **Dynex ETS – 2000**

### **For vessels 20.000 - 50.000 DWT**

- Floating light attached to messenger line
- Dynex SK75 – 16mm 122m long messenger line in bright yellow color with MBL of 200kN (24,4 tons) in spliced rope.
- Dynex SK75 – 58mm 76m long towing line in gray color with MBL 2000 kN (204 ton) in spliced rope.
- Durable blue plastic container with lid, size in cm: L 124 x W 104 x H 75
- Total weight 255 kg

## **Dynex ETS – 4000**

### **For vessels over 50.000 DWT**

- Floating light attached to messenger line
- Dynex SK75 – 16mm 122m long messenger line in bright yellow color with MBL of 200kN (24,4 tons) in spliced rope.
- Dynex SK75 – 84mm 92m long towing line in gray color with MBL 4000 kN (408 ton) in spliced rope.
- Durable blue plastic container with lid, size in cm: L 147 x W 117 x H 88
- Total weight 495 kg

## **Nylex ETS – 1000**

### **For vessels under 20.000 DWT**

- Floating light attached to messenger line
- Kraftex – 20mm 122m long messenger line in bright color with MBL of 9 tons in spliced rope.
- Nylex – 80mm 76m long towing line in white color with MBL 1000 kN (102 ton) in spliced rope.
- Durable blue plastic container with lid, size in cm: L 147 x W 117 x H 88
- Total weight 510 kg

## **Nylex ETS – 2000**

### **For vessels 20-50.000 DWT**

- Floating light attached to messenger line
- Kraftex – 28mm 122m long messenger line in bright color with MBL of 15,5 tons in spliced rope.
- Nylex – 112mm 76m long towing line in white color with MBL 2000 kN (204 ton) in spliced rope.
- Durable blue plastic container with lid, size in cm: L 199 x W 117 x H 87
- Total weight 895 kg

Nylex ropes are made from Polyamide and the ropes are impregnated with Duracoat to improve abrasion and endurance.

Dynex SK75 ropes are made from DSM Dyneema® and the ropes are impregnated with Duracoat to improve abrasion and endurance.

Dynex ropes are floating which makes handling and transfer between vessels easier

**The system numbers 2000 and 4000 represent the MBL required breaking strength of the towline in kN according to SOLAS convention.**

# DYNEX EYE PROTECTION

**Dynex eye protection sleeves gives very durable and long lasting protection for tug ropes and mooring ropes.**



The eye protection sleeves are tight braided tubes where the strands are made of pre-braided twines of either Dyneema or polyester. This combination gives both thick and strong protection layer for the tug rope eyes where most protection is needed and will ensure long service time of the rope. Where special extra protection is needed the sleeve layers can be two or even three on

top of each other. Still the eye is soft but with enough stiffness to keep it suitably open for bollards and hooks.

The eye protection is also very useful as sliding sleeve to position where high abrasion is expected like in fairlead and other places where abrasive contact is expected.



If eye protection is needed for damaged protection it can be cumbersome to open up the splice, thread in new eye protection and re-splice. It might also be needed for the remake of the eye splice to remove coverbraid of the splice and main leg and that will limit the remaining lifetime of the tug or towing rope.

An alternative is a Dynex Webbing which can be wrapped around the eye without any splice work needed.

The Dynex Webbing attach to it self by the means of overlapping Velcro and the layers can be one, two or three and finally the wrapping end in each side are seized with nylon twine to secure them and prevent that they become loose.

Same kind of Dynex Webbing can be wrapped around a rope to make a sleeve to protect from abrasive areas which the rope can touch during towing.

# CERTIFICATION



# DYNEX<sup>®</sup>

Hi-Tech Ropes are supplied by Hampidjan Group  
Worldwide.

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## Castletownbere

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## Skibbereen

028-22388 086-8241321 ( After Hours )

## Rossaveal

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