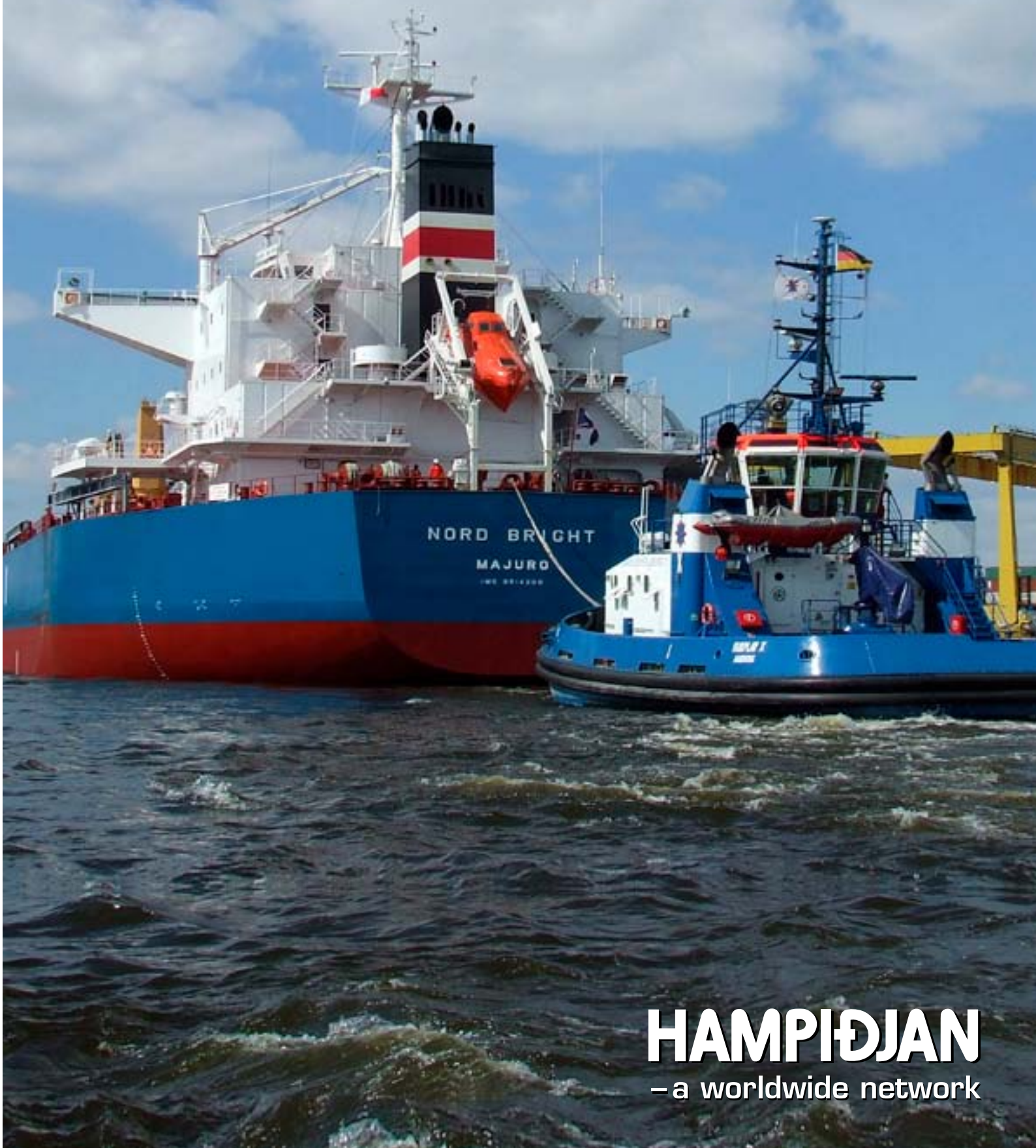


# DYNICE

## MARITIME



**HAMPIDJAN**  
– a worldwide network

# COMPANY PROFILE

In the spring of 1934, in the middle of the Great Depression, thirteen individuals gathered a small fortune to start up an industrial venture in Reykjavík, to manufacture fishing nets, ropes and fishing long lines for the local fishing fleet. The founders named their new company HAMPIDJAN.

Since then Hampidjan has become the world leader in making and servicing quality fishing gear for trawlers and purse seiners. We operate several fishing gear entities around the world with a central manufacturing facility producing ropes, netting and trawls in Lithuania.

Our brand names for fishing gear are some of the best recognised in the world's fisheries, including the GLORIA and SWAN NET self-spreading pelagic trawls.

In the last two decades we have extended our market lead to the offshore and oil industry by developing new ground-breaking products and innovative solutions with multiple variations of our Dynlce Super-Ropes, also in high demand for various commercial, leisure, yachting, mooring, military and rescue activities.



*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.





# DYNICE TUG ROPES

**Dynlce 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 Dynlce 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 Dynlce 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 Dynlce is much less than in other synthetic ropes.



# TUGGING

## Tug Pendants

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

Dynlce 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 Dynlce.

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.

Dynlce 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

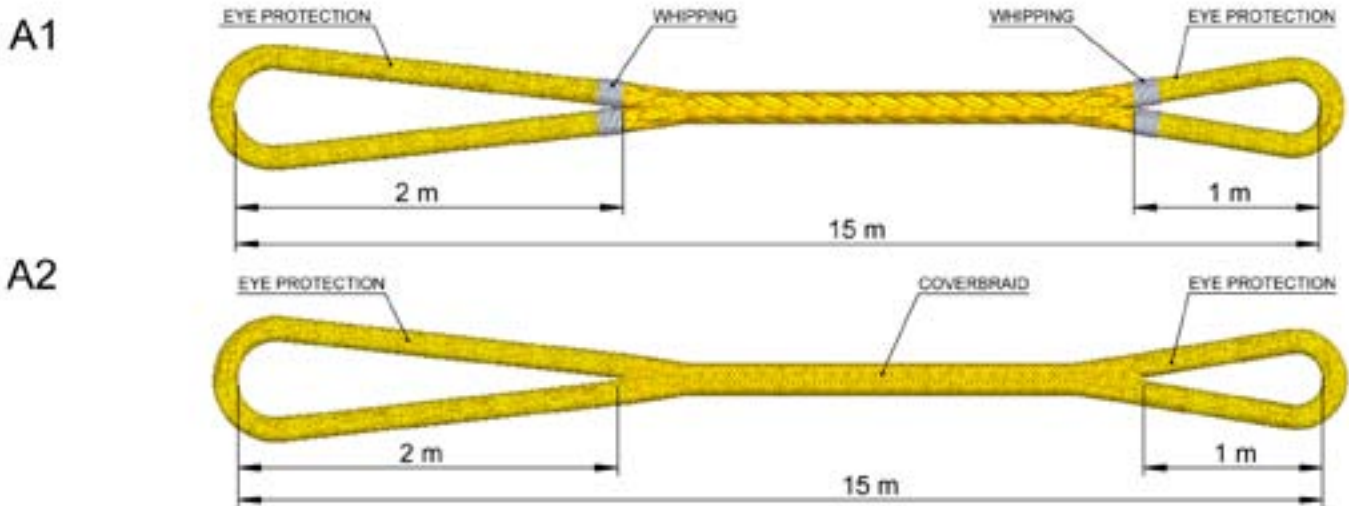
B1			
Rope diameter	Weight of 15 m pendant	Rope breaking strength ISO 2307	Pendant breaking strength spliced
mm	kg	ton	ton
24	14.6	58	104
28	19.5	74	133
32	24.4	100	180
36	29.0	120	216
40	37.3	140	252
44	48.2	165	297
48	54.2	192	346
52	62.7	221	398
56	72.0	251	452
60	82.0	282	508

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

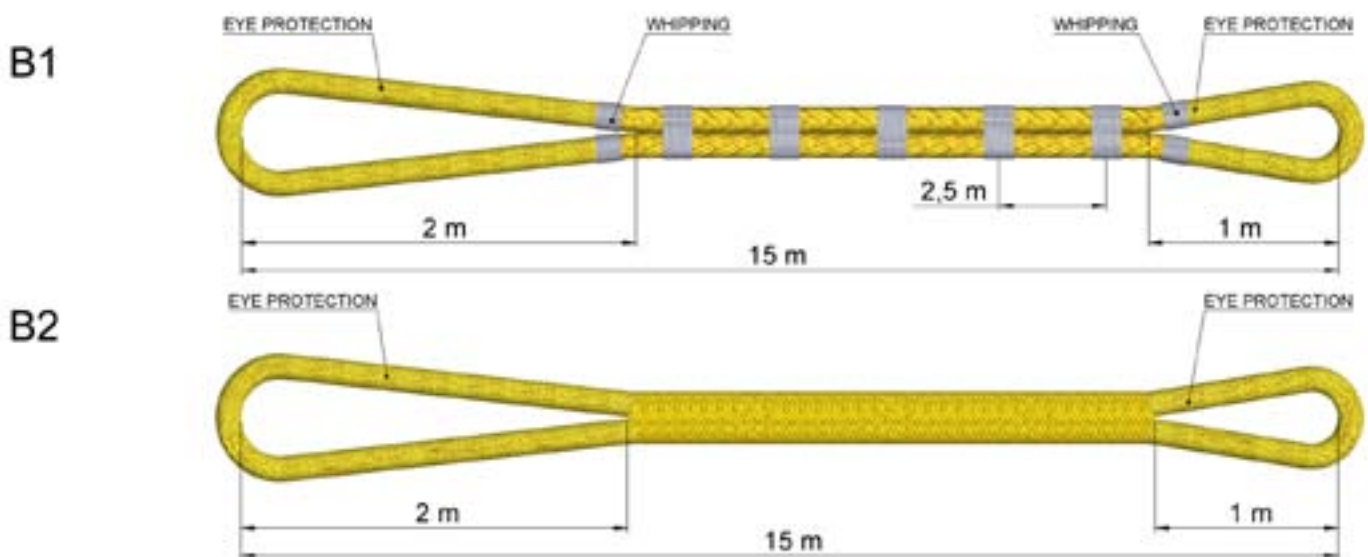
## Single Leg Pendant

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.



## Light, floating and easily manoeuvrable high performance Dynlce 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 Dynlce 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
mm	kg	ton	ton
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
mm	mm	kg	ton	ton
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
mm	kg	ton	ton
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
mm	mm	kg	ton	ton
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

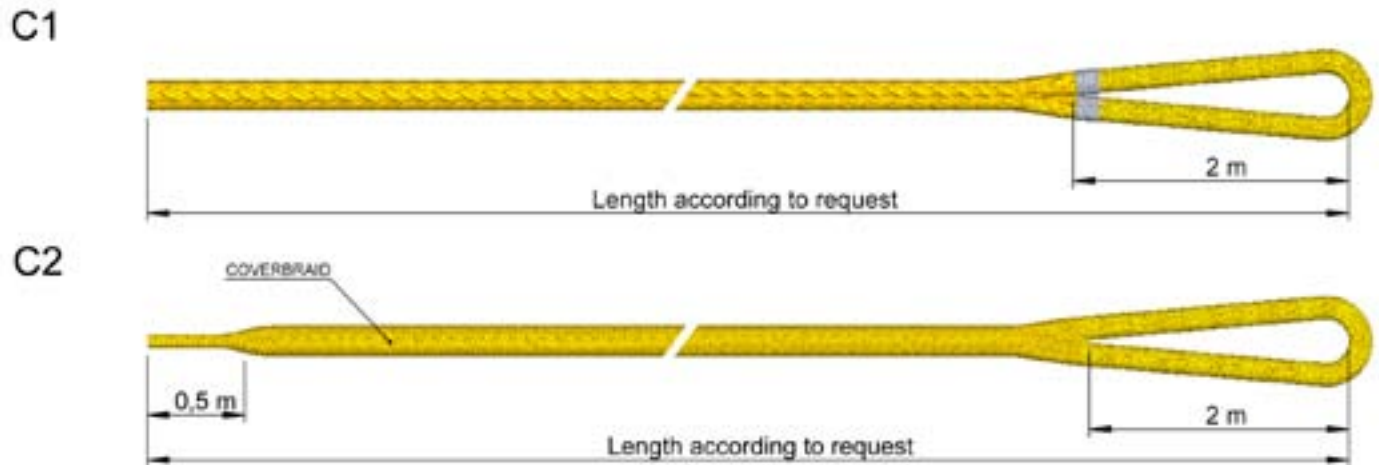
Towing lines with diameters up to 200 mm in 12 strand braid are available on request in Dynlce, Nyllex and Porex with or without coverbraid and spliced in desired lengths.  
Dynlce is made from Dyneema®, Nyllex from nylon (polyamide) and Porex from polyester.



# TOWING LINES

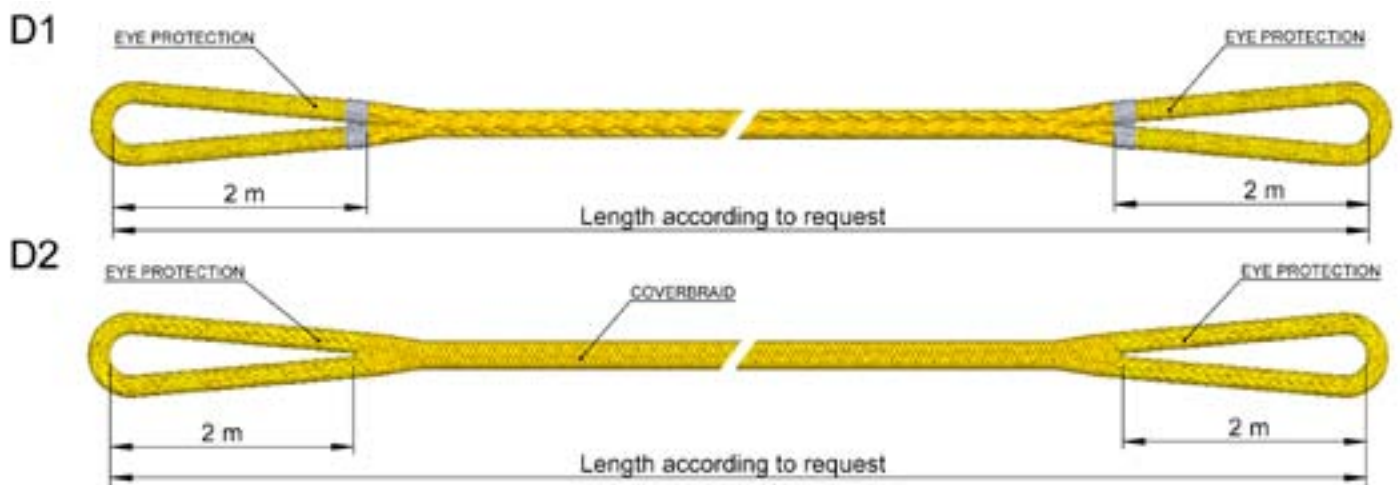
## Single eye towing line

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.

Dynlce 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
mm	kg	ton	ton
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

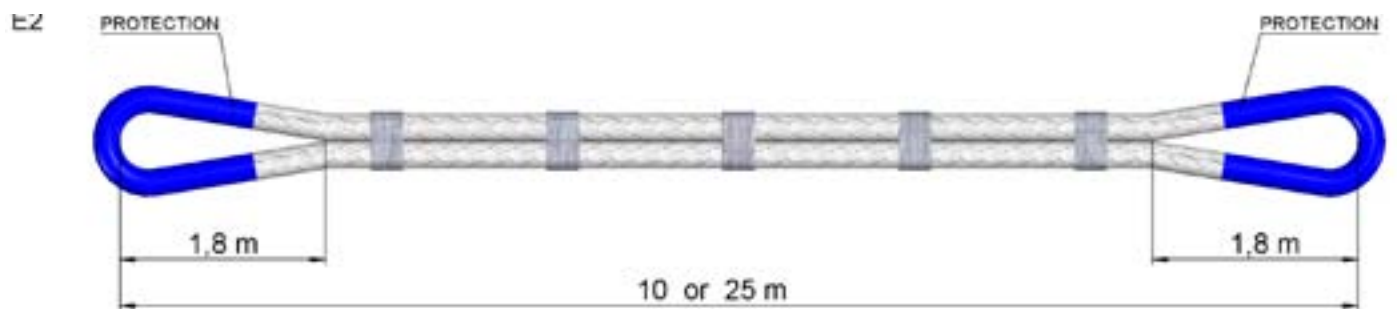
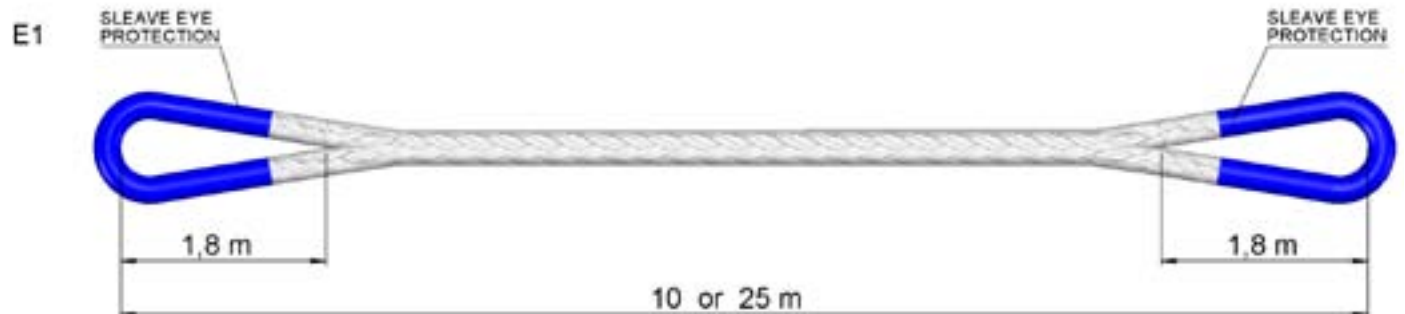
8 strand grommet E2		
Rope diameter	Weight of 100 m	Breaking strength spliced
mm	kg	ton
40	201.3	49
44	243.2	58
48	290.8	68
52	342.7	79
56	396.8	91
60	457.3	104
64	522.2	117
72	663.0	146
80	821.6	178

Double braid single E1			
Rope diameter	Weight of 100 m	Rope breaking strength ISO 2307	Breaking strength spliced
mm	kg	ton	ton
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
mm	kg	ton
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



# DYNICE DUX MOORING

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

Dynlce 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 Dynlce 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 to braiding.

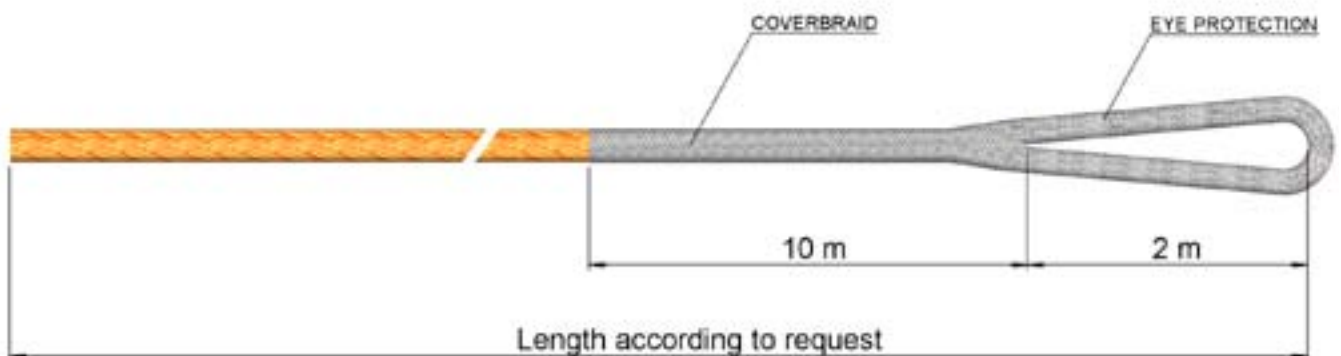
The lifetime is up to double of the wire rope if the mooring system is properly prepared by cleaning rusty abrasive contact areas and painted with durable epoxy paint. The time it takes to secure the vessel and fasten the mooring lines is greatly reduced.

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



Dynlce 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/dm3
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



# DYNICE 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.**

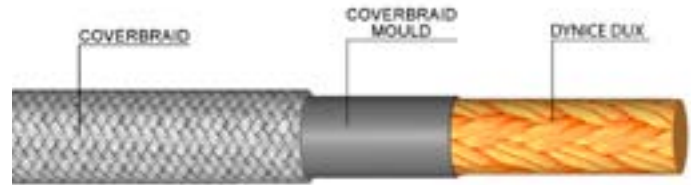
Dynlce Dux LNG Mooring ropes are specially constructed to be compact, round and suitable to use on deck mooring rope winches. They are non-conductive and will not discharge static electricity creating sparks. The lifetime is long as the ropes are not corroding and not affected by sunshine and UV rays. 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 Dynlce 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 Dynlce 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.

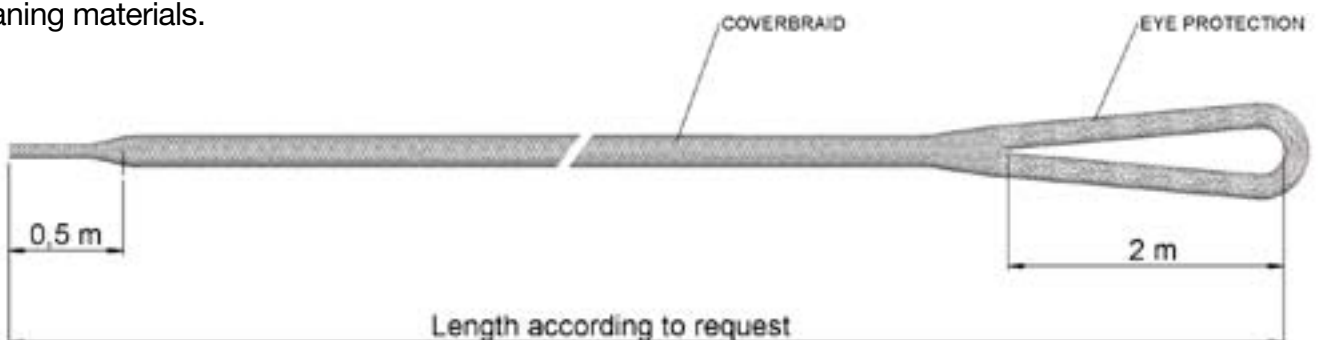
As with other Dynlce Dux ropes safety is greatly improved as there are no sharp wires sticking out, the ropes are light to carry and back-lash is low. Deck safety is enhanced as there is no oil or grease used.

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.



Dynlce 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





# NYLEX OCEAN TOWING

## High strength and elastic towing rope for open sea towing

Nylex towing ropes are made from high tenacity nylon in 2 x 12 construction with durable impregnation to withstand heavy abrasion.



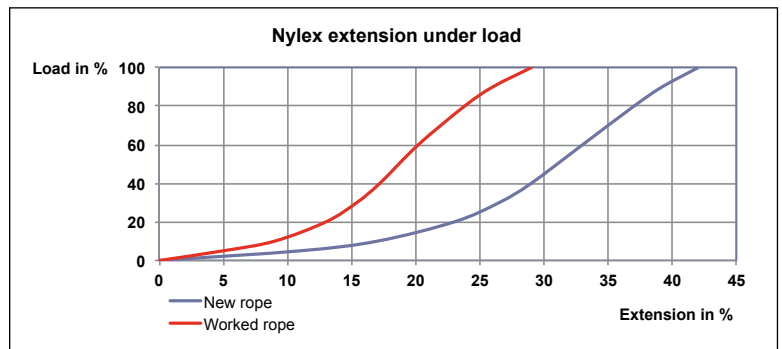
The elasticity is high or up to 16% at 1/3 of the breaking load. That gives excellent damping of peak loads in high seas. The 2 x 12 strand construction is giving more even surface compared

to conventional 1 x 12 strand construction and therefore better abrasion properties as the wearing is evenly distributed instead of damaging the top of the strand in the simpler construction.

Nylex						
Diameter under 5% load	Breaking strength unspliced	Breaking strength spliced	Weight in air	Weight in sea	Max length without strandsplice	Density
mm	ton	ton	kg/m	kg/m	m	kg/dm <sup>3</sup>
30	20.4	18.3	0.58	0.05	22,590	1.14
32	25.0	22.5	0.72	0.06	18,330	1.14
36	28.3	25.5	0.81	0.07	16,170	1.14
40	35.4	31.9	1.02	0.09	12,910	1.14
44	44.8	40.3	1.29	0.12	10,180	1.14
48	49.5	44.6	1.43	0.13	9,190	1.14
52	58.0	52.2	1.67	0.15	7,830	1.14
56	67.1	60.4	1.94	0.18	6,750	1.14
60	76.9	69.2	2.23	0.20	5,880	1.14
64	87.3	78.6	2.54	0.23	5,170	1.14
72	110	99.1	3.21	0.29	4,080	1.14
80	135	122	3.96	0.36	3,310	1.14
88	163	147	4.79	0.43	2,730	1.14
96	193	174	5.71	0.52	2,300	1.14
104	226	203	6.70	0.61	1,960	1.14
112	261	235	7.77	0.70	1,690	1.14
120	299	269	8.91	0.81	1,470	1.14
128	338	305	10.1	0.92	1,290	1.14
136	380	342	11.5	1.03	1,140	1.14
144	425	382	12.8	1.16	1,020	1.14
152	468	421	14.2	1.28	920	1.14
160	513	462	15.6	1.41	840	1.14
168	560	504	17.1	1.55	770	1.14
176	608	547	18.7	1.69	700	1.14
184	657	591	20.2	1.83	650	1.14
192	707	637	21.9	1.98	600	1.14
194	720	648	22.3	2.02	590	1.14
200	759	683	23.6	2.13	560	1.14
204	785	707	24.5	2.21	540	1.14



Nylex properties	
Material	HT Nylon 6 multifilament
Construction	2x12 strand
Cover	None
Colour	White
Marker	Blue
Density	1.14
Melting point	218°C
Torque	Fully balanced
Cold water shrinkage	< 10%
Water uptake	< 10%
UV resistance	Good
Abrasion resistance	Good



# NYLEX OCEAN TOWING

**High strength and elastic towing rope for open sea towing with durable coverbraid.**

The Nylex towing ropes with extra jacket for protection are made from high tenacity nylon in 1 x 12 construction with cover braid of nylon.

The coverbraid makes the rope more compact and protects the strength member from abrasion and damages and gives full protection for UV rays. The elasticity is high or up to 16% at 1/3 of the

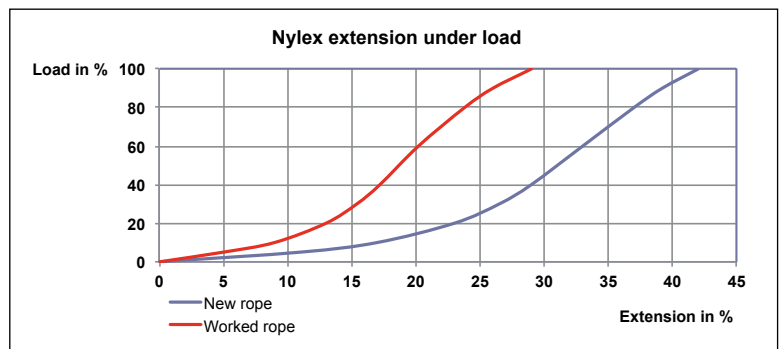


breaking load. That gives excellent damping of peak loads in high seas.

Nylex coverbraided							
Diameter under 5% load	Diameter with cover	Breaking strength unspliced	Breaking strength spliced	Weight in air	Weight in sea	Max length without strandsplice	Density
mm	mm	ton	ton	kg/m	kg/m	m	kg/dm3
30	34	23.5	21.2	0.76	0.07	22,590	1.14
32	36	28.7	25.8	0.92	0.08	18,330	1.14
36	40	32.0	28.8	1.02	0.09	16,170	1.14
40	44	39.6	35.6	1.25	0.11	12,910	1.14
44	48	49.6	44.7	1.56	0.14	10,180	1.14
48	54	56.7	51.1	1.84	0.17	9,190	1.14
52	58	65.8	59.2	2.12	0.19	7,830	1.14
56	62	75.5	68.0	2.43	0.22	6,750	1.14
60	66	85.9	77.3	2.75	0.25	5,880	1.14
64	72	100.0	90.0	3.27	0.30	5,170	1.14
72	80	124	112	4.04	0.37	4,080	1.14
80	88	151	136	4.89	0.44	3,310	1.14
88	98	185	166	6.06	0.55	2,730	1.14
96	106	217	195	7.10	0.64	2,300	1.14
104	116	256	231	8.50	0.77	1,960	1.14
112	124	294	264	9.71	0.88	1,690	1.14
120	132	334	300	11.0	0.99	1,470	1.14
128	142	382	343	12.7	1.15	1,290	1.14
136	150	426	384	14.2	1.28	1,140	1.14
144	160	480	432	16.2	1.46	1,020	1.14
152	168	526	473	17.7	1.60	920	1.14
160	176	573	516	19.3	1.74	840	1.14
168	186	630	567	21.4	1.93	770	1.14
176	194	680	612	23.1	2.09	700	1.14
184	204	740	666	25.4	2.29	650	1.14
192	212	793	714	27.2	2.46	600	1.14
194	214	807	726	27.7	2.50	590	1.14
200	220	848	763	29.1	2.63	560	1.14
204	224	875	788	30.1	2.72	540	1.14



Nylex properties	
Material	HT Nylon 6 multifilament
Construction	1x12 strand
Cover	3x32 strands
Colour	White
Marker	Blue
Density	1.14
Melting point	218°C
Torque	Fully balanced
Cold water shrinkage	< 10%
Water uptake	< 10%
UV resistance	Excellent due to cover
Abrasion resistance	Good



# POLEX OCEAN TOWING

## High strength, abrasion resistant towing rope for open sea towing

Polex towing ropes are made from high tenacity polyester in 2 x 12 construction with durable impregnation to withstand heavy abrasion.



The elasticity is moderate or about 10% at 1/3 of the breaking load. That gives good damping of peak loads in high seas but without elongating too much during towing.

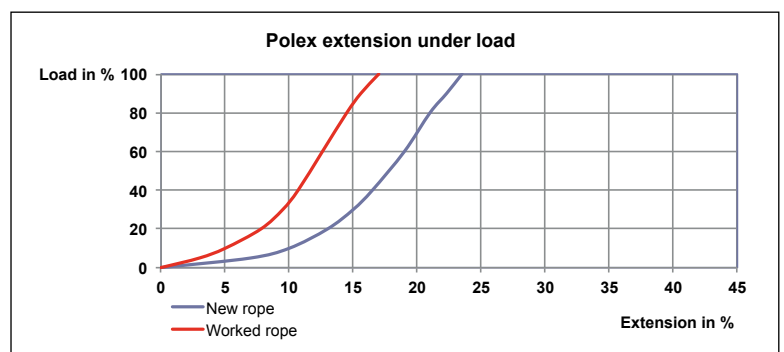
The 2 x 12 strand construction is giving more even surface compared to conventional 1 x 12

strand construction and therewith better abrasion properties as the wearing is evenly distributed instead of damaging the top of the strand in the simpler construction.

Polex						
Diameter under 5% load	Breaking strength unspliced	Breaking strength spliced	Weight in air	Weight in sea	Max length without strandsplice	Density
mm	ton	ton	kg/m	kg/m	m	kg/dm3
30	20.1	18.1	0.70	0.17	22,590	1.38
32	24.8	22.3	0.87	0.22	18,330	1.38
36	28.0	25.2	0.98	0.24	16,170	1.38
40	35.0	31.5	1.23	0.31	12,910	1.38
44	44.3	39.9	1.56	0.39	10,180	1.38
48	49.0	44.1	1.73	0.43	9,190	1.38
52	57.4	51.6	2.03	0.50	7,830	1.38
56	66.4	59.8	2.35	0.58	6,750	1.38
60	76.1	68.5	2.70	0.67	5,880	1.38
64	86.4	77.8	3.07	0.76	5,170	1.38
72	109	98.0	3.89	0.97	4,080	1.38
80	134	121	4.80	1.19	3,310	1.38
88	161	145	5.80	1.44	2,730	1.38
96	191	172	6.91	1.72	2,300	1.38
104	224	201	8.11	2.01	1,960	1.38
112	258	232	9.40	2.34	1,690	1.38
120	295	266	10.8	2.68	1,470	1.38
128	335	301	12.3	3.05	1,290	1.38
136	376	339	13.9	3.45	1,140	1.38
144	420	378	15.5	3.86	1,020	1.38
152	463	417	17.2	4.27	920	1.38
160	508	457	18.9	4.70	840	1.38
168	554	498	20.7	5.15	770	1.38
176	601	541	22.6	5.61	700	1.38
184	650	585	24.5	6.09	650	1.38
192	700	630	26.5	6.59	600	1.38
194	712	641	27.0	6.71	590	1.38
200	751	676	28.6	7.10	560	1.38
204	777	699	29.6	7.36	540	1.38



Polex properties	
Material	HT Polyester multifilament
Construction	2x12 strand
Cover	None
Colour	White
Marker	Red
Density	1.38
Melting point	255°C
Torque	Fully balanced
Cold water shrinkage	0%
Water uptake	< 1%
UV resistance	Excellent
Abrasion resistance	Very good



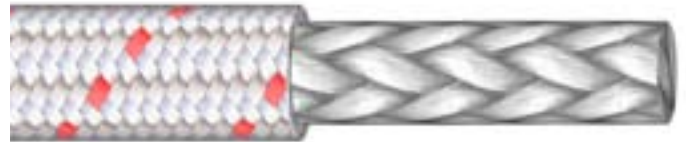


# POLEX OCEAN TOWING

## High strength towing rope for open sea towing with durable coverbraid to protect for abrasion

The Porex towing ropes with extra jacket for protection are made from high tenacity polyester in 1 x 12 construction with cover braid of polyester.

The coverbraid makes the rope more compact and protects the strength member from abrasion and damages and gives full protection for UV rays. The elasticity is high or up to 10% at 1/3 of the

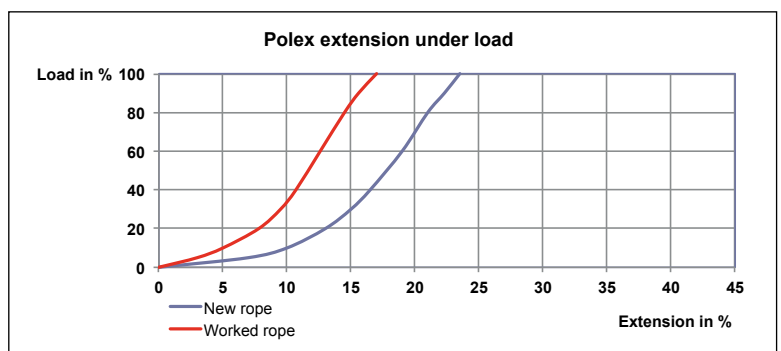


breaking load. That gives good damping of peak loads in high seas but without elongating too much during towing.

Porex coverbraided							
Diameter under 5% load	Diameter with cover	Breaking strength unspliced	Breaking strength spliced	Weight in air	Weight in sea	Max length without strandsplice	Density
mm	mm	ton	ton	kg/m	kg/m	m	kg/dm3
30	34	23.2	20.9	0.92	0.23	22,590	1.38
32	36	28.4	25.5	1.12	0.28	18,330	1.38
36	40	31.7	28.5	1.24	0.31	16,170	1.38
40	44	39.1	35.2	1.52	0.38	12,910	1.38
44	48	49.1	44.2	1.89	0.47	10,180	1.38
48	54	56.1	50.5	2.23	0.55	9,190	1.38
52	58	65.1	58.6	2.57	0.64	7,830	1.38
56	62	74.7	67.3	2.94	0.73	6,750	1.38
60	66	85.0	76.5	3.33	0.83	5,880	1.38
64	72	99.0	89.1	3.96	0.98	5,170	1.38
72	80	123	111	4.89	1.22	4,080	1.38
80	88	150	135	5.92	1.47	3,310	1.38
88	98	183	165	7.34	1.82	2,730	1.38
96	106	215	193	8.59	2.13	2,300	1.38
104	116	254	228	10.29	2.56	1,960	1.38
112	124	291	262	11.75	2.92	1,690	1.38
120	132	330	297	13.3	3.31	1,470	1.38
128	142	377	340	15.4	3.83	1,290	1.38
136	150	422	379	17.2	4.27	1,140	1.38
144	160	475	427	19.6	4.86	1,020	1.38
152	168	520	468	21.4	5.33	920	1.38
160	176	567	510	23.4	5.81	840	1.38
168	186	623	561	25.9	6.44	770	1.38
176	194	673	606	28.0	6.96	700	1.38
184	204	732	659	30.7	7.64	650	1.38
192	212	785	706	33.0	8.19	600	1.38
194	214	798	718	33.5	8.33	590	1.38
200	220	839	755	35.2	8.76	560	1.38
204	224	866	779	36.4	9.05	540	1.38



Porex properties	
Material	HT Polyester multifilament
Construction	1x12 strand
Cover	3x32 strands
Colour	White
Marker	Red
Density	1.38
Melting point	255°C
Torque	Fully balanced
Cold water shrinkage	0%
Water uptake	< 1%
UV resistance	Excellent
Abrasion resistance	Excellent



# 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.

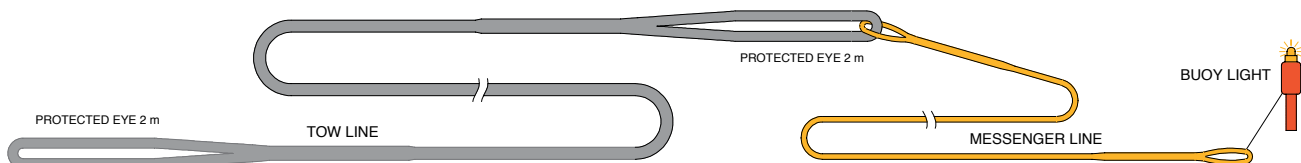
All ropes are Dynlce 75 made from Dyneema® and each part of the system is floating.

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.



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



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

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

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

# EMERGENCY TOWING SYSTEM

## Dynlce ETS

System size		500 kN	1000 kN	2000 kN	4000 kN
Vessel size			< 20.000 DWT	20.000 - 50.000 DWT	> 50.000 DWT
Floating light	Color	Orange	Orange	Orange	Orange
	Type	Self activating	Self activating	Self activating	Self activating
Messenger line	Color	Yellow	Yellow	Yellow	Yellow
	Rope type	Dynlce 75	Dynlce 75	Dynlce 75	Dynlce 75
	Material	Dyneema®SK75	Dyneema®SK75	Dyneema®SK75	Dyneema®SK75
	Diameter	8 mm	10 mm	16 mm	16 mm
	Length	122 m	122 m	122 m	122 m
	Density	Floating 0,96 g/cm3	Floating 0,96 g/cm3	Floating 0,96 g/cm3	Floating 0,96 g/cm3
	Elongation at 75% of MBL	2.3%	2.3%	2.3%	2.3%
	Breaking strength spliced	6,0 ton	9,6 ton	24,4 ton	24,4 ton
Main towing line	Color	Gray	Gray	Gray	Gray
	Rope type	Dynlce 75	Dynlce 75	Dynlce 75	Dynlce Deep 75
	Material	Dyneema®SK75	Dyneema®SK75	Dyneema®SK75	Dyneema®SK75
	Diameter	24 mm	40 mm	58 mm	74 mm
	Length	76 m	76 m	76 m	92 m
	Density	Floating 0,96 g/cm3	Floating 0,96 g/cm3	Floating 0,96 g/cm3	Floating 0,96 g/cm3
	Elongation at 75% of MBL	2.3%	2.3%	2.3%	2.3%
	Breaking strength spliced	52 ton	102 ton	204 ton	408 ton
Container	Color	Off-white	Blue	Blue	Off-white
	Dimensions L x W x H	91 x 71 x 68 cm	124 x 104 x 75 cm	124 x 104 x 75 cm	147 x 117 x 88 cm
	Lid	Yes	Yes	Yes	Yes
Total weight		73 kg	164 kg	255 kg	495 kg

## Nylex ETS

System size		500 kN	1000 kN	2000 kN	4000 kN
Vessel size			< 20.000 DWT	20.000 - 50.000 DWT	> 50.000 DWT
Floating light	Color	Orange	Orange	Orange	Orange
	Type	Self activating	Self activating	Self activating	Self activating
Messenger line	Color	Yellow	Yellow	Yellow	Yellow
	Rope type	Kraftex	Kraftex	Kraftex	Kraftex
	Material	Polysteel	Polysteel	Polysteel	Polysteel
	Diameter	18 mm	20 mm	28 mm	28 mm
	Length	122 m	122 m	122 m	122 m
	Density	Floating 0,92 g/cm3	Floating 0,92 g/cm3	Floating 0,92 g/cm3	Floating 0,92 g/cm3
	Elongation at 75% of MBL	12%	12%	12%	12%
	Breaking strength spliced	5,5 ton	9,0 ton	15,5 ton	15,5 ton
Main towing line	Color	White	White	White	White
	Rope type	Nylex	Nylex	Nylex	Nylex
	Material	Nylon	Nylon	Nylon	Nylon
	Diameter	52 mm	74 mm	106 mm	150 mm
	Length	76 m	76 m	76 m	92 m
	Density	Sinking 1,14 g/cm3	Sinking 1,14 g/cm3	Sinking 1,14 g/cm3	Sinking 1,14 g/cm3
	Elongation at 75% of MBL	25%	25%	25%	25%
	Breaking strength spliced	51 ton	102 ton	204 ton	408 ton
Container	Color	Blue	Off-white	Off-white	Off-white
	Dimensions L x W x H	124 x 104 x 75 cm	147 x 117 x 88 cm	199 x 117 x 88 cm	240 x 117 x 120 cm
	Lid	Yes	Yes	Yes	Yes
Total weight		180 kg	510 kg	895 kg	1.468 kg



# DECK ROPES

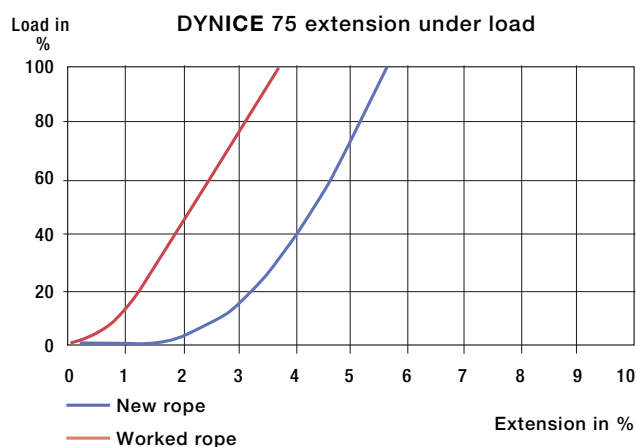
High performance ropes for various applications with high strength and durability.



## Dynlce 75

Reliable and proven 12 strand braided rope from Dyneema SK75 fibres impregnated with Duracoat for improved abrasion resistance.

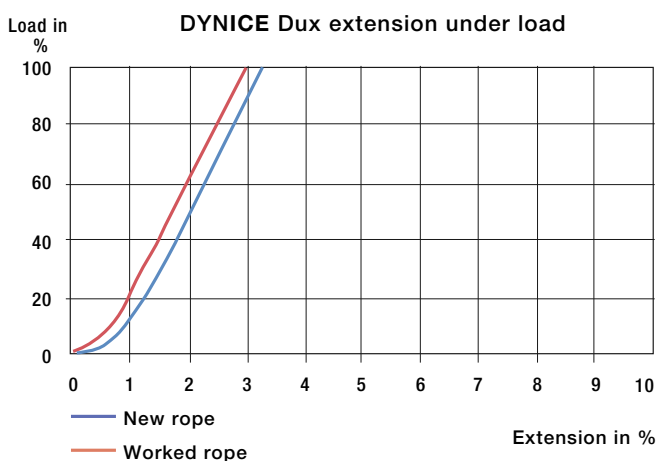
The ropes are soft and flexible and easy to splice.



## Dynlce Dux

Dynlce Dux is very firm, heatset and stretched 12 strand Dyneema SK75 rope with smooth Durapur impregnation for abrasion resistance.

The constructional elongation has been removed in the production process and stretch is extremely low.



Diameter	Breaking strength unspliced	Breaking strength with eye	Weight in air	Weight in sea (floating)	Density
mm	ton	ton	kg/100 m	kg/100 m	kg/dm <sup>3</sup>
6	4.2	3.8	2.30	-0.18	0.96
8	6.7	6.0	3.80	-0.30	0.96
10	10.7	9.6	6.10	-0.49	0.96
12	16.4	14.8	9.30	-0.75	0.96
14	21.8	19.6	12.50	-1.00	0.96
16	27.4	24.7	16.00	-1.28	0.96
18	35.0	31.5	20.70	-1.66	0.96
20	41.9	37.7	25.20	-2.02	0.96
22	50.0	45.0	30.50	-2.45	0.96
24	57.8	52.0	35.60	-2.86	0.96
26	65.7	59.1	41.00	-3.29	0.96
28	73.8	66.4	46.50	-3.73	0.96
30	80.9	72.8	51.50	-4.13	0.96
32	88.3	79.5	56.70	-4.55	0.96
34	95.7	86.1	62.00	-4.97	0.96
36	102.9	92.6	67.20	-5.39	0.96
38	110.9	99.8	73.00	-5.86	0.96
40	119.8	107.8	79.30	-6.36	0.96
42	130.8	117.7	87.20	-6.99	0.96
44	140.7	126.6	94.30	-7.56	0.96
46	151.7	136.5	102.20	-8.20	0.96
48	165.0	148.5	111.90	-8.98	0.96
50	178.7	160.8	121.90	-9.78	0.96
52	192.7	173.4	132.20	-10.60	0.96
54	206.9	186.2	142.70	-11.45	0.96

Diameter	Breaking strength unspliced	Breaking strength with eye	Weight in air	Weight in sea (floating)	Density
mm	ton	ton	kg/100 m	kg/100 m	kg/dm <sup>3</sup>
6	6.8	6.1	3.28	-0.26	0.96
8	9.9	8.9	4.92	-0.39	0.96
10	13.5	12.2	6.80	-0.55	0.96
12	18.8	16.9	9.70	-0.78	0.96
14	27.3	24.6	13.60	-1.09	0.96
16	37.2	33.5	18.60	-1.49	0.96
18	45.1	40.6	22.60	-1.81	0.96
20	54.7	49.2	27.40	-2.20	0.96
21	64.2	57.8	32.10	-2.57	0.96
23	73.6	66.2	37.00	-2.97	0.96
25	82.7	74.4	42.10	-3.38	0.96
27	90.6	81.5	46.80	-3.75	0.96
29	98.9	89.0	51.70	-4.15	0.96
31	107.1	96.4	56.70	-4.55	0.96
32	115.3	103.8	61.70	-4.95	0.96
33	124.2	111.8	67.20	-5.39	0.96
35	134.2	120.8	73.30	-5.88	0.96
37	146.1	131.5	80.80	-6.48	0.96
39	156.7	141.0	87.70	-7.03	0.96
41	168.5	151.7	95.40	-7.65	0.96
43	182.9	164.6	104.70	-8.40	0.96
45	197.5	177.8	114.40	-9.18	0.96
47	212.3	191.1	124.50	-9.99	0.96
49	227.4	204.7	134.90	-10.82	0.96
51	242.6	218.3	145.60	-11.68	0.96

# EYE PROTECTION

## Dynlce Webbing Protection

The webbing can be wrapped around splices, eyes and without any splice work needed. The Dynlce Webbing attach to itself by the means of overlapping Velcro and the layers can be one, two or three. Finally the wrapping end in each side is seized with nylon twine to secure them.

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

Dynlce Webbing Protection

Width of webbing	Thickness of webbing	Weight in air	Weight in sea (floating)	Density
mm	mm	kg/100 m	kg/100 m	kg/dm3
20	2.0	2.60	-0.21	0.96
40	2.0	5.20	-0.42	0.96
60	2.0	7.80	-0.63	0.96
80	2.0	10.40	-0.83	0.96



## Dynlce Eye Protection

The eye protection sleeves are tight braided tubes where the strands are made of pre-braided twines of Dyneema®. 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 useful as a sliding sleeve to position where high abrasion is expected like in a fairlead.

Dynlce Eye Protection

Diameter of inside rope	Weight in air	Weight in sea (floating)	Density
mm	kg/100 m	kg/100 m	kg/dm3
6 - 12	6.60	-0.53	0.96
12 - 18	13.70	-1.10	0.96
20 - 26	27.40	-2.20	0.96
28 - 40	43.70	-3.51	0.96
42 - 52	82.00	-6.58	0.96
52 - 60	83.00	-6.66	0.96



# CERTIFICATION





**HAMPIDJAN** GROUP  
[www.hampidjan.com](http://www.hampidjan.com)