Serving the commercial Shipping, Yachting & Offshore Upstream Markets for 5 generations in a row, our leading rope and wire-rope Manufacturers with HQ's in Greece guarantee top quality products. We provide efficient distribution with transportation by sea, air or by ground worldwide.

-Stockists of Anchors

-Anchor Chains

-Any type & size of Marine Ropes

-Any type & size of Marine Wire-Ropes

-Custom Wire-Ropes for Cranes, Towing & Drilling Rigs/ MODU's Applications

-Accessories

-Electric or Hydraulic driven Anchor Winches - designed for extreme conditions

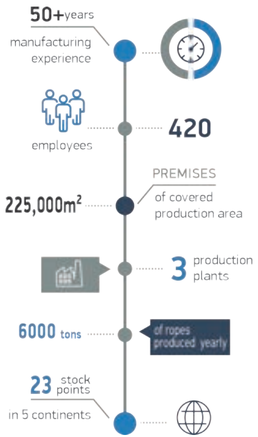
-Electric or Hydraulic driven Tugger Winches, including highly specialized Offshore Diving, Drilling Wirelines Spoolers/ Cabling/ Tensioning Systems and Anchor Handling applications, enabling safe mobility and positioning of high-valued Stack/ Riser, ROV, AUV, Seismic Equipment/ Systems on board of Vessels & Offshore Drilling Rigs.

Our high-quality tested Marine Ropes and Wire-Ropes last longer - saving our clients cost, time & resources.

The Leading Rope and Wire Rope Manufacturer

ABOUT US

Our OEM IS THE LEADING COMPANY IN THE MANUFACTURING OF ROPES AND WIRE ROPES WORLDWIDE.



We are a group of companies active in the field of rope and wire rope manufacturing, electric cable production and netting industries. Continuous innovation and focus on customer care has led the company to become one of the largest producers and suppliers in the **Shipping, Offshore, Oil and Gas, Drilling and Towing, Yachting and Sailing, Fishing and Aquaculture Industries**.

Since the very beginning, .A., has been driven by a spirit of innovation in both management and product development.

- CUSTOMIZED PRODUCTION
- LR TYPE APPROVED
- QUALITY CONTROL
- CERTIFICATION
- REPAIR & MAINTENANCE
- R&D
- TRAINING
- WORLDWIDE DISTRIBUTION
- DELIVERY 24/7

RENEWABLE ENERGY
- Complete led technology facilities
- 30% power saving through solar panels
- Recycling processes

HELMEPA MEMBER • **HEMEXPO** MEMBER • **WIMA** MEMBER

ISSA MEMBER • **IMPA** MEMBER

MIT ENTERPRISE FORUM MEMBER

ADOPT A SHIP SUPPORTER

ISO 9001:2015 COMPANY

ISO 14001:2015 COMPANY

“THE MISSION STATEMENT OF THE COMPANY IS “TO FOCUS ON CUSTOMER SATISFACTION, WORLDWIDE COVERAGE, CUSTOM-MADE DESIGN AND DEVELOPMENT OF UNIQUE PRODUCTS.”

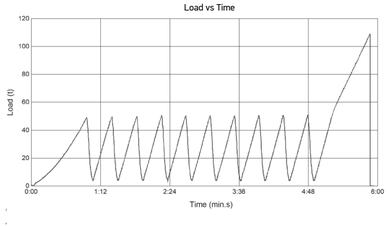
Quality Control

LOOKING INTO NEW CHALLENGES AND EQUIPPED WITH MACHINERY OF LATEST TECHNOLOGY.

Our OEM has focused on top quality materials and cutting edge technology to meet the most demanding safety standards, ensure products' maximum service lifetime and respect all environmental requirements.

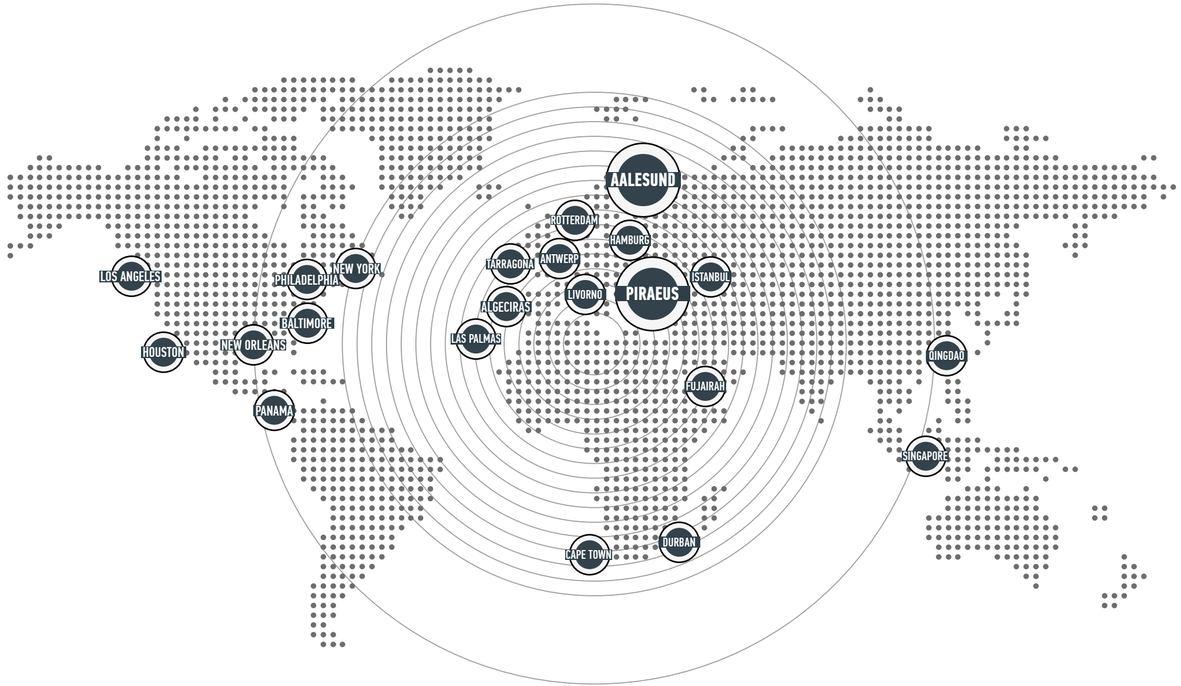
Strict quality control is implemented in every production stage as the factory is equipped with the biggest Test Benches available in southern Europe, pulling capacity 500 tons and 600 tons accordingly, fully compliant with the latest OCIMF MEG4 regulations. The 600 tons Test Bench not only upscales existing testing capacity but further to its conventional use has the potential to be simulated in extreme real-life working conditions due to its innovative construction and assembling. This feature makes this testing bench one of a kind.

COMMITED TO SAFETY



Stock Points Worldwide

Our company has created a strong network of depots at the biggest ports worldwide in order to be able to respond 24/7 to our customer's needs.



- PIRAEUS HEADQUARTERS
- THIVA FACTORY
- XANTHI PERFORMANCE CABLES
- HELNET FACTORY
- AALESUND NORWAY OFFICES

KAPANEEMA-12 / NEEMA-8

VERY STRONG ROPES FOR SPECIAL PURPOSES.
A FLOATING WIRE ROPE ALTERNATIVE

KAPANEEMA is a torque-free 12 strand single braid construction, made of UHMWPE fibers (Dyneema SK75, SK78 etc.) Very strong yet very light, it is an ideal wire rope replacement offering same breaking force and weighting 1/7 of a conventional steel wire rope. KapaNeema Ropes have been sustained to special treatment process which ensures protection against abrasion, sand and salt penetration while they are UV-resistant.

Neema 8 & KapaNeema 12 strand ropes are easy to handle, easily spliced and offer safety on board.

Due to low elongation characteristics, it is necessary on mooring operations to be connect with the appropriate mooring tails.

APPLICATIONS

- Vessel mooring
- Offshore mooring
- lifting
- Towing
- Pick up lines / messenger lines
- Oceanographic cables
- Fish farming
- Industrial fishing
- Wind farm lines

APPROVALS

Certificate No: LR2006553TA

OCIMF MEG 4

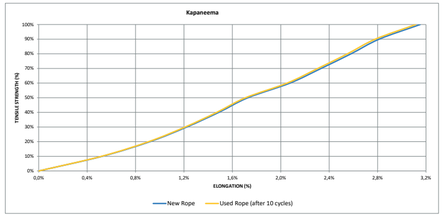
Lloyd's Register

KAPANEEMA 12 - NEEMA 8

KEY FEATURES

CONSTRUCTION	12-8 STRANDS
SPECIFIC GRAVITY	0,97
UV-RESISTANCE	VERY GOOD
ABRASION RESISTANCE	EXCELLENT
CHEMICAL RESISTANCE	GOOD
ELONGATION	3.2% NEW ROPE 2.5% USED ROPE
MELTING POINT	150°C
WATER ABSORPTION	NONE
COLOR	WHITE, BLACK, BLUE, YELLOW, ORANGE, SILVER

LOAD ELONGATION CURVE



a. The diameter corresponds to the approximate diameter in millimeters.
b. The linear density is under reference tension and is measured as specified in CI 1500:2015.
c. The linear density tolerance is ±5%.

SIZE		KAPANEEMA 12 - NEEMA 8		
DIAM.	CIRC.	WEIGHT		L.D.B.F
(MM)	INCH	KGS/ 100M	KGS/ 220M	TONNES
6	¾"	2.30	5.10	3.60
8	1"	3.90	8.60	6.10
10	1 ¼"	5.80	12.70	9.00
12	1 ½"	8.30	18.20	13.00
14	1 ¾"	11.30	24.80	17.60
16	2"	14.70	32.40	23.10
18	2 ¼"	18.60	41.00	29.20
20	2 ½"	23.00	50.60	36.00
22	2 ¾"	27.80	61.20	43.60
24	3"	33.20	73.10	52.00
26	3 ¼"	39.00	85.80	61.10
28	3 ½"	45.20	99.40	70.80
30	3 ¾"	51.90	114.10	81.20
32	4"	59.00	129.80	92.40
34	4 ¼"	63.90	140.60	100.10
36	4 ½"	71.40	157.10	111.80
38	4 ¾"	79.90	175.70	125.10
40	5"	88.20	194.10	138.20
42	5 ¼"	97.50	214.40	152.60
44	5 ½"	106.70	234.70	167.10
46	5 ¾"	116.60	256.50	182.60
48	6"	126.50	278.30	198.10
50	6 ¾"	131.80	289.90	206.40
52	6 ½"	142.80	314.20	223.60
54	6 ¾"	153.80	338.40	240.90
56	7"	164.90	362.70	258.20
60	7 ½"	189.00	415.80	277.60
64	8"	215.30	473.60	296.40
68	8 ½"	244.10	537.10	336.20
72	9"	273.00	600.60	359.20
76	9 ½"	305.00	671.10	401.80
80	10"	337.00	741.40	443.90
84	10 ½"	372.20	818.90	467.00
88	11"	407.40	896.30	498.70
92	11 ½"	450.00	990.00	550.50
96	12"	492.10	1,082.50	602.30

KAPANEEMA PLUS

VERY STRONG ROPES FOR SPECIAL PURPOSES.
A FLOATING WIRE ROPE ALTERNATIVE

KAPANEEMA PLUS Kapaneema Plus is a round robust rope construction made of UHMPE braided core (Dyneema SK 75 or SK 78 etc) and a jacket that comes in different types :

- hi tenacity polyester jacket
- UHMWPE reinforced composite jacket
- UHMWPE jacket

Depending on application and jacket formulation the final rope can be floating or sinking. The durable jacket is designed to minimize movement over the core while at same time jacket and core work in absolute harmony. Kapaneema Plus ropes are light and easy to handle thus they drastically reduce time of mooring/ demooring, cost of standby of the vessel, maintenance and operational costs. The special jacket improves service life, protects against abrasion, sand and salt penetration and offers UV protection. A big advantage is the possibility of repairing and/ or replacement of the jacket in our premises increasing the life expectancy of the lines to the maximum. This firm construction works extremely well on winch drums.
A standard cover repair kit is available and easy to use by the fleet crew on site.

APPLICATIONS

- primary mooring lines
- winch lines
- offshore lines
- anchor lines
- lifting sings
- towing lines
- permanent mooring lines
- sailing ropes
- fishing & nets

APPROVALS

Certificate No: LR2006554TA

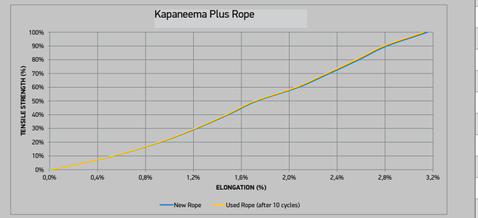
OCIMF MEG 4

Lloyd's Register

KAPANEEMA PLUS KEY FEATURES

SPECIFIC GRAVITY	0.97-1.10
UV-RESISTANCE	EXCELLENT
ABRASION RESISTANCE	EXCELLENT
CHEMICAL RESISTANCE	GOOD
ELONGATION	3.5% NEW ROPE 2.4% USED ROPE
MELTING POINT	170°C-270°C
WATER ABSORPTION	NONE
COLOR	WHITE, BLACK, BLUE YELLOW, ORANGE, SILVER

LOAD ELONGATION CURVE



a. The diameter corresponds to the approximate diameter in millimeters.
b. The linear density is under reference tension and is measured as specified in CI 1500:2015.
c. The linear density tolerance is ±5%.

SIZE		KAPANEEMA WITH HIGH TENACITY POLYESTER JACKET			KAPANEEMA WITH UHMWPE REINFORCED COMPOSITE JACKET			KAPANEEMA WITH DYNEEMA OR UHMWPE JACKET		
DIAM.	CIRC.	WEIGHT		L.D.B.F	WEIGHT		L.D.B.F	WEIGHT		L.D.B.F
(MM)	INCH	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES
6	¾"	3.84	8.45	3.10	2.72	5.98	3.10	2.35	5.16	3.10
8	1"	5.04	11.09	5.48	3.92	8.62	5.48	3.55	7.80	5.48
10	1 ¼"	7.56	16.63	8.21	6.44	14.17	8.21	5.69	12.53	8.21
12	1 ½"	10.58	23.28	11.86	9.46	20.81	11.86	8.34	18.35	11.86
14	1 ¾"	15.22	33.48	16.43	14.10	31.02	16.43	12.23	26.91	16.43
16	2"	20.88	45.94	20.99	19.20	42.24	20.99	16.40	36.08	20.99
18	2 ¼"	24.70	54.34	27.01	22.90	50.38	27.01	19.90	43.78	27.01
20	2 ½"	30.34	66.75	32.86	28.10	61.82	32.86	24.37	53.61	32.86
22	2 ¾"	35.10	77.22	40.16	32.70	71.94	40.16	28.70	63.14	40.16
24	3"	42.32	93.10	47.46	40.08	88.18	47.46	34.85	76.68	47.46
26	3 ¼"	48.86	107.49	55.67	46.62	102.56	55.67	40.65	89.42	55.67
28	3 ½"	57.29	126.05	64.80	54.31	119.47	64.80	46.84	103.05	64.80
30	3 ¾"	65.41	143.89	73.93	61.99	136.39	73.93	54.53	119.96	73.93
32	4"	73.33	161.32	79.40	69.91	153.81	79.40	60.10	132.22	79.40
34	4 ¼"	81.60	179.52	83.97	79.20	174.24	83.97	68.80	151.36	83.97
36	4 ½"	92.60	203.72	95.83	87.80	193.16	95.83	78.41	172.51	95.83
38	4 ¾"	100.60	221.32	106.78	95.80	210.76	106.78	87.64	192.81	106.78
40	5"	109.60	241.12	119.56	103.20	227.04	119.56	91.18	200.60	119.56
42	5 ¼"	131.70	289.74	131.38	125.30	275.66	131.38	108.66	239.05	131.38
44	5 ½"	142.90	314.38	146.94	136.50	300.30	146.94	118.94	261.66	146.94
46	5 ¾"	161.60	355.52	164.99	155.20	341.44	164.99	135.79	298.73	164.99
48	6"	173.80	382.36	181.86	164.20	361.24	181.86	144.79	318.53	181.86
50	6 ¾"	185.60	408.32	195.00	176.00	387.20	195.00	155.20	341.44	195.00
52	6 ½"	195.10	429.22	212.79	185.50	408.10	212.79	164.70	362.34	212.79
54	6 ¾"	211.60	465.52	228.70	203.07	446.75	228.70	177.73	391.01	228.70
56	7"	226.87	499.11	249.49	218.33	480.33	249.49	191.67	421.67	249.49
60	7 ½"	248.67	547.07	266.22	240.13	528.29	266.22	209.47	460.83	266.22
64	8"	277.00	609.40	305.54	265.00	583.00	305.54	235.53	518.17	305.54
68	8 ½"	305.00	671.00	357.77	293.00	644.60	357.77	261.80	575.96	357.77
72	9"	336.00	739.20	379.53	324.00	712.80	379.53	291.07	640.35	379.53
76	9 ½"	366.00	805.20	423.05	354.00	778.80	423.05	319.33	702.53	423.05
80	10"	424.00	932.80	477.02	408.00	897.60	477.02	360.00	792.00	477.02
84	10 ½"	458.00	1,007.60	524.03	442.00	972.40	524.03	391.33	860.93	524.03
88	11"	497.50	1,094.50	581.48	481.50	1,059.30	581.48	428.17	941.97	581.48
92	11 ½"	535.00	1,177.00	634.58	519.00	1,141.80	634.58	463.00	1,018.60	634.58
96	12"	613.00	1,348.60	696.38	589.00	1,295.80	696.38	521.00	1,146.20	696.38

KAPA KORONA PLUS

TAILOR MADE FOR EXTREMELY DEMANDING AND HIGH TEMPERATURE APPLICATIONS

Kapa Korona Plus is a high performance mooring rope consisting of specialized Para - aramid load bearing core and a robust jacket.

The biggest advantage of this rope is that it offers reliability at high temperatures due to its lack of creep. It is fatigue and abrasion resistant, with the ability to absorb dynamic loads for long periods of time.

The jacket of this construction can be repaired / replaced to offer even longer service lifetime.

The operational lifetime of Kapa Korona Plus is more than 20.000 hours.

APPLICATIONS

-mooring lines
-winch lines
-lifting lines
-Offshore lines

APPROVALS

Certificate No: LR2015692TA

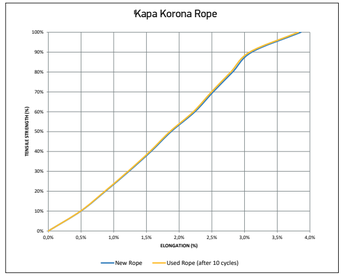
OCIMF MEG 4

Lloyd's Register

KAPA KORONA PLUS KEY FEATURES

SPECIFIC GRAVITY	1.15 -1.40
UV-RESISTANCE	VERY GOOD
ABRASION RESISTANCE	EXCELLENT
CHEMICAL RESISTANCE	GOOD
ELONGATION	3.8% NEW ROPE-2.5% USED ROPE
MELTING POINT	CORE IS NOT MELTING TILL 500ºC POLYESTER JACKET AT 270ºC
WATER ABSORPTION	NONE
COLOR	WHITE, BLACK, BLUE, ORANGE, SILVER

LOAD ELONGATION CURVE



a. The diameter corresponds to the approximate diameter in millimeters.
b. The linear density is under reference tension and is measured as specified in CI 1500:2015.
c. The linear density tolerance is ±5%.

SIZE		KAPA KORONA PLUS		
DIAM.	CIRC.	WEIGHT		L.D.B.F
(MM)	INCH	KGS/ 100M	KGS/ 220M	TONNES
6	¾"	3.33	7.33	3.20
8	1"	5.02	11.04	5.64
10	1 ¼"	8.09	17.80	8.46
12	1 ½"	11.81	25.98	12.22
14	1 ¾"	17.30	38.06	16.92
16	2"	23.35	51.37	21.62
18	2 ¼"	28.24	62.13	27.83
20	2 ½"	34.60	76.12	33.84
22	2 ¾"	41.00	90.20	41.94
24	3"	49.48	108.86	48.89
26	3 ¼"	57.57	126.65	57.35
28	3 ½"	67.06	147.52	66.75
30	3 ¾"	76.54	168.40	76.15
32	4"	85.56	188.24	81.79
34	4 ¼"	95.80	210.76	86.49
36	4 ½"	106.65	234.63	98.71
38	4 ¾"	116.85	257.07	109.99
40	5"	126.75	278.85	123.16
42	5 ¼"	151.20	332.64	135.38
44	5 ½"	162.23	356.91	146.70
46	5 ¾"	178.08	391.78	152.85
48	6"	189.42	416.72	168.49
50	6 ¾"	203.04	446.69	180.64
52	6 ½"	215.01	473.02	193.91
54	6 ¾"	234.79	516.53	204.96
56	7"	252.91	556.41	223.44
60	7 ½"	277.05	609.52	238.56
64	8"	307.38	676.24	264.56
68	8 ½"	341.10	750.42	300.27
72	9"	378.60	832.92	340.84
76	9 ½"	414.84	912.65	366.47
80	10"	476.64	1,048.61	413.45
84	10 ½"	517.40	1,138.28	454.17
88	11"	565.09	1,243.20	503.50
92	11 ½"	610.26	1,342.57	549.70
96	12"	689.10	1,516.02	602.95

KAPA DUAL

THE " DUAL " FORCE ROPE

Kapa Dual is a revolutionary 12x12 construction which offers significantly advanced mechanical properties.

Each strand of the rope made of UHMWPE fibers consists of a 12 strand braided rope and thus offers high strength, superior cyclic fatigue performance and resistance in creeping.
A big advantage is that although this construction is considered a braided one,it is easy spliced and offers comfortable handling.
The second big advantage is that all the used fibers are visible which means that 100% of the fibers are inspected easily by crew ensuring safety at all times on board.
The third advantage that makes this rope a unique construction is that the individual strands may be used as independent ropes after the discard of the line.

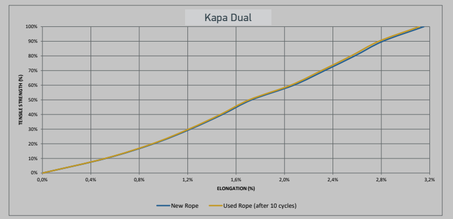
APPLICATIONS

- Mooring lines
- Yachting ropes
- Special applications
- Offshore lines

KAPA DUAL KEY FEATURES

CONSTRUCTION	8 OR 12 STRANDS
SPECIFIC GRAVITY	0.97 IF UHMPE JACKET, 0.99 IF FLOAT JACKET, 1-1.4 IF PES / MIXED JACKET
UV-RESISTANCE	EXCELLENT
ABRASION RESISTANCE	EXCELLENT
CHEMICAL RESISTANCE	GOOD
ELONGATION	3.2% NEW ROPE 2.4% USED ROPE
MELTING POINT	170°C-270°C
WATER ABSORPTION	NONE
COLOR	WHITE, BLACK, BLUE YELLOW, ORANGE, SILVER

LOAD ELONGATION CURVE



SIZE		KAPA DUAL WITH UHMPE JACKETED STRANDS			KAPA DUAL WITH HT POLYESTER JACKETED STRANDS		
DIAM.	CIRC.	WEIGHT		M.B.L.	WEIGHT		M.B.L.
(MM)	INCH	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES
6	¾"	2.53	5.57	3.60	2.76	6.07	3.60
8	1"	4.29	9.44	6.10	4.68	10.30	6.10
10	1 ¼"	6.38	14.04	9.00	6.96	15.31	9.00
12	1 ½"	9.13	20.09	13.00	9.96	21.91	13.00
14	1 ¾"	12.43	27.35	17.60	13.56	29.83	17.60
16	2"	16.17	35.57	23.10	17.64	38.81	23.10
18	2 ¼"	20.46	45.01	29.20	22.32	49.10	29.20
20	2 ½"	25.30	55.66	36.00	27.60	60.72	36.00
22	2 ¾"	30.58	67.28	43.60	33.36	73.39	43.60
24	3"	36.52	80.34	52.00	39.84	87.65	52.00
26	3 ¼"	42.90	94.38	61.10	46.80	102.96	61.10
28	3 ½"	49.72	109.38	70.80	54.24	119.33	70.80
30	3 ¾"	57.09	125.60	81.20	62.28	137.02	81.20
32	4"	64.90	142.78	92.40	70.80	155.76	92.40
34	4 ¼"	70.29	154.64	100.10	76.68	168.70	100.10
36	4 ½"	78.54	172.79	111.80	85.68	188.50	111.80
38	4 ¾"	87.89	193.36	125.10	95.88	210.94	125.10
40	5"	97.02	213.44	138.20	105.84	232.85	138.20
42	5 ¼"	107.25	235.95	152.60	117.00	257.40	152.60
44	5 ½"	117.37	258.21	167.10	128.04	281.69	167.10
46	5 ¾"	128.26	282.17	182.60	139.92	307.82	182.60
48	6"	139.15	306.13	198.10	151.80	333.96	198.10
50	6 ¾"	144.98	318.96	206.40	158.16	347.95	206.40
52	6 ½"	157.08	345.58	223.60	171.36	376.99	223.60
54	6 ¾"	169.18	372.20	240.90	184.56	406.03	240.90
56	7"	181.39	399.06	258.20	197.88	435.34	258.20
60	7 ½"	207.90	457.38	277.60	226.80	498.96	277.60
64	8"	236.83	521.03	296.40	258.36	568.39	296.40
68	8 ½"	268.51	590.72	336.20	292.92	644.42	336.20
72	9"	300.30	660.66	359.20	327.60	720.72	359.20
76	9 ½"	335.50	738.10	401.80	366.00	805.20	401.80
80	10"	370.70	815.54	443.90	404.40	889.68	443.90
84	10 ½"	409.42	900.72	467.00	446.64	982.61	467.00
88	11"	448.14	985.91	498.70	488.88	1,075.54	498.70
92	11 ½"	494.73	1,088.40	550.50	539.70	1,187.34	550.50
96	12"	541.31	1,190.88	602.30	590.52	1,299.14	602.30

KAPA MOORING ROPES

THE ULTIMATE MOORING CONSTRUCTION
A ROPE CONSTRUCTION INVENTED BY .A.

"KAPA" the ultimate round rope construction was invented to combine the advantages of 8 strand and Double Braided ropes. Safe and easy spliced, offer comfortable handling and remain flexible even after extensive mooring use. Their high resistance to abrasion renders them ideal for auto winches and drums. Produced in accordance with international standards and in compliance with the latest OCIMF regulations.

APPROVALS

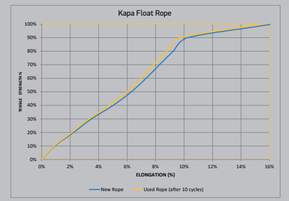
Certificate No: LR21128592TA-01

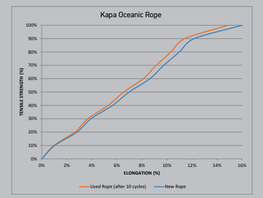
KEY FEATURES

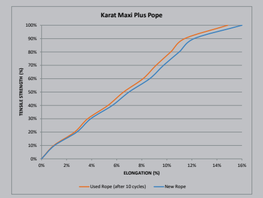
	KAPA FLOAT 25 % PER WEIGHT POLYESTER	KAPA OCEANIC PURE OLEFIN	KAPA KARAT	KAPA PELAGOS
CONSTRUCTION	12 OR 24 STRANDS	12 OR 24 STRANDS	12 OR 24 STRANDS	12 OR 24 STRANDS
SPECIFIC GRAVITY	0.99	0.98	**0.99**	**1.10**
UV-RESISTANCE	VERY GOOD	VERY GOOD	**VERY GOOD**	**VERY GOOD**
ABRASION RESISTANCE	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT
CHEMICAL RESISTANCE	GOOD	GOOD	GOOD	GOOD
ELONGATION	14%-16%	14%-16%	14%-16%	14%-16%
MELTING POINT	160°C-270°C	APPROX. 170°C	185°C	160°C-270°C
WATER ABSORPTION	NONE	NONE	NONE	MAX 1%
COLOR	WHITE WITH BLUE TRACER	BLUE	**ORANGE WITH BLUE TRACER**	**BLACK**

SIZE		KAPA FLOAT			KAPA OCEANIC			KAPA KARAT			KAPA PELAGOS		
DIAM.	CIRC.	WEIGHT		L.D.B.F.	WEIGHT		M.B.L.	WEIGHT		L.D.B.F.	WEIGHT		M.B.L.
(MM)	(INCH)	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES
32	4"	49.00	108.00	22.00	46.00	101.00	18.00	52.00	117.00	22.50	56.00	122.00	20.00
36	4 ½"	63.00	138.00	27.00	59.00	129.00	21.00	66.00	149.00	28.30	71.00	156.00	25.00
40	5"	80.00	177.00	32.00	71.00	157.00	29.00	80.00	183.00	35.10	89.00	194.00	30.00
44	5 ½"	98.00	215.00	39.00	88.00	193.00	35.00	97.00	219.00	41.90	108.00	237.00	36.00
48	6"	116.00	256.00	46.00	104.00	229.00	42.00	115.00	260.00	49.20	128.00	282.00	42.00
52	6 ½"	137.00	302.00	53.00	123.00	271.00	47.00	136.00	300.00	57.10	151.00	333.00	48.00
56	7"	159.00	349.00	61.00	142.00	312.00	55.00	157.00	355.00	65.60	174.00	383.00	56.00
60	7 ½"	183.00	402.00	70.00	164.00	360.00	62.00	181.00	408.00	74.50	201.00	442.00	64.00
64	8"	207.00	455.00	79.00	185.00	407.00	70.00	206.00	464.00	84.30	227.00	500.00	72.00
68	8 ½"	235.00	518.00	88.00	210.00	461.00	80.00	232.00	524.00	94.50	259.00	570.00	81.00
72	9"	262.00	576.00	98.00	234.00	515.00	89.00	260.00	585.00	105.30	288.00	646.00	90.00
76	9 ½"	289.00	635.00	109.00	262.00	576.00	98.00	291.00	641.00	116.00	323.00	711.00	100.00
80	10"	324.00	713.00	120.00	290.00	638.00	108.00	321.00	725.00	126.70	357.00	785.00	110.00
84	10 ½ "	358.00	788.00	132.00	320.00	704.00	118.00	355.00	781.00	133.90	391.00	862.00	121.00
88	11"	394.00	866.00	144.00	351.00	772.00	126.00	389.00	856.00	141.10	433.00	953.00	131.00
96	12"	467.00	1,028.00	169.00	417.00	917.00	150.00	463.00	1,019.00	166.90	514.00	1,131.00	154.00
104	13"	548.00	1,206.00	198.00	498.00	1,096.00	172.00	544.00	1,197.00	187.00	603.00	1,326.00	182.00
112	14"	634.00	1,394.00	228.00	576.00	1,267.00	200.00	630.00	1,386.00	215.00	697.00	1,533.00	210.00
120	15"	725.00	1,595.00	262.00	659.00	1,450.00	221.00	724.00	1,593.00	246.00	797.00	1,754.00	240.00
128	16"	830.00	1,826.00	298.00	750.00	1,650.00	244.00	823.00	1,811.00	280.00	908.00	1,997.00	271.00
136	17"	950.00	2,091.00	339.00	858.00	1,888.00	277.00	929.00	2,044.00	316.00	1,038.00	2,284.00	306.00
144	18"	1,061.00	2,336.00	378.00	959.00	2,110.00	306.00	1,150.00	2,530.00	391.00	1,160.00	2,553.00	342.00

LOAD ELONGATION CURVES







a. The diameter corresponds to the approximate diameter in millimeters.
b. The linear density is under reference tension and is measured as specified in CI 1500:2015.
c. The linear density tolerance is ±5%.

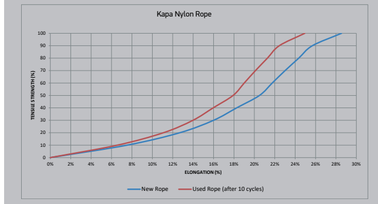
KAPA MOORING ROPES

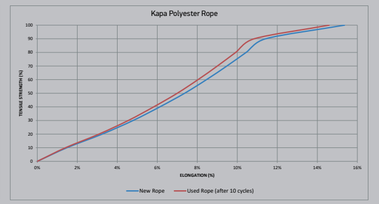
PRODUCTION AND TESTING ACCORDING TO LATEST EUROPEAN NORMS

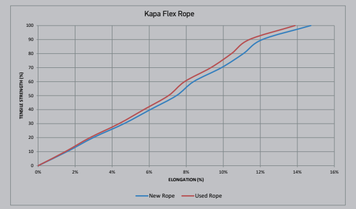
KEY FEATURES

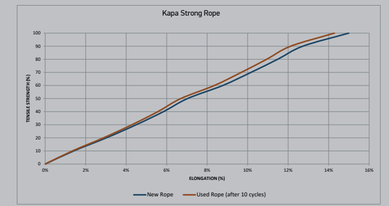
	KAPA NYLON	KAPA POLYESTER	KAPA FLEX 40% PER WEIGHT POLYESTER	KAPA STRONG 50% PER WEIGHT POLYESTER
CONSTRUCTION	12 OR 24 STRANDS	12 OR 24 STRANDS	12 OR 24 STRANDS	12 OR 24 STRANDS
SPECIFIC GRAVITY	1.14	1.40	1.10	1.14
UV-RESISTANCE	VERY GOOD	VERY GOOD	VERY GOOD	VERY GOOD
ABRASION RESISTANCE	EXCELLENT WHEN DRY GOOD WHEN WET	EXCELLENT WHEN DRY GOOD WHEN WET	EXCELLENT	EXCELLENT
CHEMICAL RESISTANCE	GOOD	GOOD	GOOD	GOOD
ELONGATION	23%-26%	14%-16%	14%-16%	14%-16%
MELTING POINT	APPROX. 270°C	APPROX. 270°C	180°-270°C	180°-270°C
WATER ABSORPTION	APPROX. 4%	APPROX. 4%	MAX 1%	MAX 1%
COLOR	WHITE, BLACK, SILVER. OTHER COLORS AVAIL-ABLE UPON CUSTOMER'S REQUEST	WHITE, BLACK, SILVER. OTHER COLORS AVAIL-ABLE UPON CUSTOMER'S REQUEST	WHITE WITH BLACK TRACER	WHITE WITH BLACK TRACER

SIZE		KAPA NYLON			KAPA POLYESTER			KAPA FLEX			KAPA STRONG		
DIAM.	CIRC.	WEIGHT		L.D.B.F.	WEIGHT		L.D.B.F	WEIGHT		L.D.B.F.	WEIGHT		L.D.B.F
(MM)	(INCH)	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES
32	4"	65.10	143.00	26.00	81.00	179.00	24.00	55.00	120.00	24.00	62.00	136.00	28.00
36	4 ½"	82.40	182.00	33.00	103.00	227.00	30.00	71.00	156.00	30.00	79.00	173.00	36.00
40	5"	101.70	224.00	41.00	127.00	280.00	37.00	89.00	195.00	36.00	98.00	216.00	44.00
44	5 ½"	122.60	270.00	50.00	155.00	340.00	45.00	105.00	232.00	41.00	119.00	262.00	53.00
48	6"	146.30	322.00	59.00	184.00	404.00	54.00	127.00	280.00	49.00	141.00	310.00	60.00
52	6 ½"	172.00	379.00	70.00	215.00	474.00	63.00	150.00	330.00	57.00	166.00	365.00	72.00
56	7"	198.80	438.00	81.00	250.00	550.00	74.00	172.00	378.00	64.00	192.00	423.00	84.00
60	7 ½"	228.70	503.00	93.00	287.00	631.00	84.00	199.00	438.00	74.00	221.00	486.00	96.00
64	8"	260.60	574.00	106.00	325.00	716.00	96.00	223.00	490.00	82.00	251.00	552.00	108.00
68	8 ½"	295.60	650.00	120.00	370.00	813.00	109.00	252.00	554.00	92.00	283.00	623.00	120.00
72	9"	329.60	725.00	134.00	413.00	908.00	117.00	287.00	632.00	105.00	318.00	699.00	132.00
76	9 ½"	368.70	812.00	149.00	462.00	1,016.00	130.00	321.00	706.00	117.00	354.00	779.00	150.00
80	10"	406.90	895.00	165.00	509.00	1,120.00	144.00	355.00	780.00	129.00	392.00	863.00	167.00
84	10 ½ "	450.10	990.00	182.00	565.00	1,243.00	160.00	391.00	860.00	140.00	433.00	953.00	176.00
88	11"	492.30	1,083.00	200.00	616.00	1,356.00	174.00	427.00	940.00	152.00	470.00	1,034.00	195.00
96	12"	586.10	1,290.00	228.00	734.00	1,615.00	207.00	512.00	1,127.00	183.00	565.00	1,243.00	226.00
104	13"	687.00	1,512.00	255.00	863.00	1,899.00	215.00	605.00	1,330.00	209.00	663.00	1,458.00	264.00
112	14"	797.20	1,755.00	296.00	999.00	2,197.00	249.00	698.00	1,535.00	238.00	769.00	1,691.00	305.00
120	15"	914.60	2,015.00	340.00	1,145.00	2,518.00	285.00	800.00	1,760.00	270.00	883.00	1,942.00	351.00
128	16"	1,040.30	2,290.00	387.00	1,302.00	2,864.00	324.00	915.00	2,013.00	308.00	1,030.00	2,266.00	408.00
136	17"	1,174.20	2,585.00	436.00	1,470.00	3,234.00	366.00	1,047.00	2,303.00	351.00	1,180.00	2,596.00	450.00
144	18"	1,318.40	2,900.00	490.00	1,649.00	3,627.00	411.00	1,170.00	2,572.00	392.00	1,318.00	2,900.00	493.00









a. The diameter corresponds to the approximate diameter in millimeters.
b. The linear density is under reference tension and is measured as specified in CI 1500:2015.
c. The linear density tolerance is ±5%.

KAPA SBA

SAFETY – INNOVATION – HIGH TECHNOLOGY

The Kapa SBA is a revolutionary and safe solution for mooring applications.

Its technology allows fleet members, passengers and personnel to be safe and protected – keeping the advantages of a round 12 strand construction rope (easy handling, flexible, torque free properties etc).

It is an ideal rope for winches and drums.

Kapa SBA ropes are certified by LLOYD's and are in compliance with OCIMF MEG4.

- SBA KAPANEEMA

- SBA KAPA FLEX

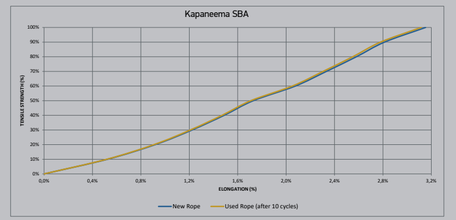
- SBA KAPA FLOAT

- SBA KARAT MAXI

KAPANEEMA SBA KEY FEATURES

CONSTRUCTION	12 STRANDS
SPECIFIC GRAVITY	0.97
UV-RESISTANCE	VERY GOOD
ABRASION RESISTANCE	EXCELLENT
CHEMICAL RESISTANCE	GOOD
ELONGATION	3.2% NEW ROPE-2.5% USED ROPE
MELTING POINT	150°C
WATER ABSORPTION	NONE
COLOR	WHITE, BLACK, BLUE, YELLOW, RED, SILVER

LOAD ELONGATION CURVE



KAPANEEMA SBA				
SIZE		WEIGHT		L.D.B.F
DIAM. (MM)	CIRC. (INCH)	KGS/ 100M	KGS/ 220M	TONNES
28	3 ½"	50.20	110.50	70.80
30	4/1 3"	56.90	125.20	81.20
32	4"	64.00	140.80	92.40
34	4/1 4"	68.90	151.60	100.10
36	4 ½"	76.40	168.10	111.80
38	4/3 4"	84.90	186.80	125.10
40	5"	93.20	205.00	138.20
42	4/1 5"	102.50	225.50	152.60
44	5 ½"	111.70	245.80	167.10
46	4/3 5"	121.60	267.60	182.60
48	6"	131.50	289.30	198.10
50	4/1 6"	136.80	301.00	206.40
52	6 ½"	147.80	325.20	226.60
54	4/3 6"	158.80	349.40	240.90
56	7"	169.90	373.80	258.20
60	7 ½"	194.00	426.80	277.60
64	8"	225.30	495.70	296.40
68	8 ½"	254.10	559.00	336.20
72	9"	283.00	622.60	359.20
76	9 ½"	315.00	693.00	401.80
80	10"	347.00	763.40	443.90
84	10 ½"	382.20	840.80	467.00
88	11"	420.40	924.90	498.70
96	12"	551.00	1,212.20	602.30

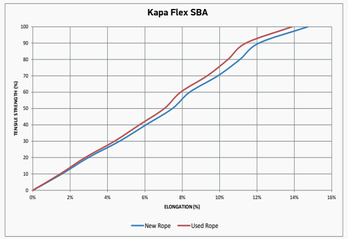
a. The diameter corresponds to the approximate diameter in millimeters.
b. The linear density is under reference tension and is measured as specified in CI 1500:2015.
c. The linear density tolerance is ±5%.

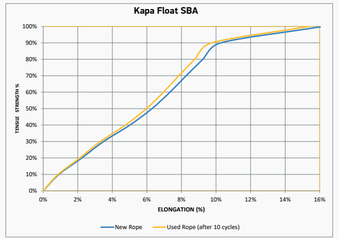
Certificate No: PRJ11100308130/1

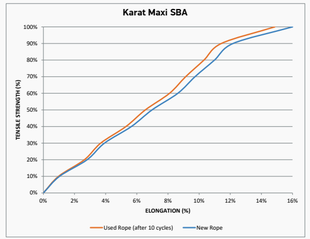
KAPA SBA KEY FEATURES

	KAPA FLEX SBA	KAPA FLOAT SBA	KARAT MAXI SBA
CONSTRUCTION	12 STRANDS	12 STRANDS	12 STRANDS
SPECIFIC GRAVITY	1.10	0.99	0.99
UV-RESISTANCE	VERY GOOD	VERY GOOD	VERY GOOD
ABRASION RESISTANCE	EXCELLENT	EXCELLENT	EXCELLENT
CHEMICAL RESISTANCE	GOOD	GOOD	GOOD
ELONGATION	14%-16%	14%-16%	14%-16%
MELTING POINT	160°C-270°C	160°C-270°C	185°C
WATER ABSORPTION	MAX 1%	NONE	NONE
COLOR	WHITE WITH BLACK TRACER	WHITE WITH BLUE TRACER	ORANGE WITH BLUE TRACER

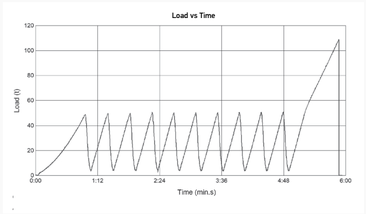
LOAD ELONGATION CURVES







BREAK TEST + WARNING TIME



APPROVALS

KAPA FLEX SBA Certificate No: PRJ11100308130/2

KAPA FLOAT SBA Certificate No: PRJ11100308130/3

KARAT MAXI SBA Certificate No: PRJ11100308130/4

KAPA SBA

SAFETY – INNOVATION – HIGH TECHNOLOGY

SIZE		KAPA SBA FLEX			KAPA SBA FLOAT			KARAT MAXI SBA		
DIAM.	CIRC.	WEIGHT		L.D.B.F.	WEIGHT		L.D.B.F	WEIGHT		L.D.B.F.
(MM)	(INCH)	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES
32	4"	60.00	132.00	24.00	54.00	119.00	22.00	57.00	128.00	22.50
36	4 ½"	76.00	167.20	30.00	68.00	149.00	27.00	71.00	160.00	28.30
40	5"	94.00	206.80	36.00	85.00	188.00	32.00	85.00	194.00	35.10
44	5 ½"	110.00	242.00	41.00	103.00	226.00	39.00	102.00	230.00	41.90
48	6"	132.00	290.40	49.00	121.00	267.00	46.00	120.00	271.00	49.20
52	6 ½"	155.00	341.00	57.00	142.00	313.00	53.00	141.00	311.00	57.10
56	7"	177.00	389.40	64.00	164.00	360.00	61.00	162.00	366.00	65.60
60	7 ½"	204.00	448.80	74.00	188.00	413.00	70.00	186.00	419.00	74.50
64	8"	230.00	506.00	82.00	217.00	477.00	79.00	216.00	486.00	84.30
68	8 ½"	262.00	576.40	92.00	245.00	540.00	88.00	242.00	546.00	94.50
72	9"	297.00	653.40	105.00	272.00	598.00	98.00	270,00	607.00	105.30
76	9 ½"	331.00	728.20	117.00	299.00	657.00	109.00	301.00	663.00	116.00
80	10"	365.00	803.00	129.00	334.00	735.00	120.00	331.00	747.00	126.70
84	10 ½ "	401.00	882.20	140.00	368.00	810.00	132.00	367.00	808.00	133.90
88	11"	440.00	968.00	152.00	407.00	895.00	144.00	402.00	885.00	141.10
96	12"	525.00	1,155.00	183.00	480.00	1,060.00	169.00	476.00	1,048.00	166.90
104	13"	618.00	1,359.60	209.00	561.00	1,240.00	198.00	557.00	1,226.00	187.00
112	14"	711.00	1,564.20	238.00	647.00	1,420.00	228.00	643.00	1,415.00	215.00
120	15"	813.00	1,788.60	270.00	738.00	1,620.00	262.00	737,00	1,622.00	246.00
128	16"	928.00	2,041.60	308.00	843.00	1,860.00	298.00	836.00	1,840.00	280.00
136	17"	1,060.00	2,332.00	351.00	963.00	2,120.00	339.00	942.00	2,073.00	316.00
144	18"	1,183.00	2,602.60	392.00	1.070.00	2,370.00	378.00	1,163.00	2,560.00	391.00

8 STRAND ROPES

MIXED FIBER ROPES THAT FULLY MEET OCIMF GUIDELINES

The 8 strand constructions are plaited ropes made to eliminate the tendency of twisted ropes to rotate under weight/load.

They are produced on machines containing 8 carriers in group of 2 “twills” revolving around each other in pairs to form the 8 strand plaited construction.

Depending on the use and on the elongation and floatation requirements a combination of materials can be used such as polyester and polyolefin mixture, nylon etc.

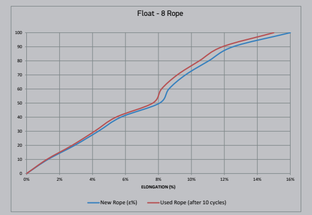
KEY FEATURES

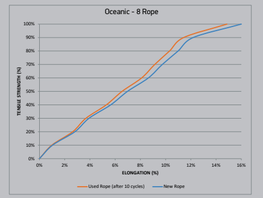
	FLOAT 8 25 % PER WEIGHT POLYESTER	OCEANIC 8 PURE OLEFIN	KARAT MAXI PLUS 8
CONSTRUCTION	8 STRANDS	8 STRANDS	8 STRANDS
SPECIFIC GRAVITY	0.99	0.98	0.99
UV-RESISTANCE	VERY GOOD	VERY GOOD	VERY GOOD
ABRASION RESISTANCE	GOOD	VERY GOOD	VERY GOOD
CHEMICAL RESISTANCE	GOOD	GOOD	GOOD
ELONGATION	14%-16%	14%-16%	14%-16%
MELTING POINT	160°C-270°C	APPROX. 170°C	APPROX. 185°C
WATER ABSORPTION	NONE	NONE	NONE
COLOR	WHITE WITH BLUE TRACER	BLUE	ORANGE WITH BLUE TRACER

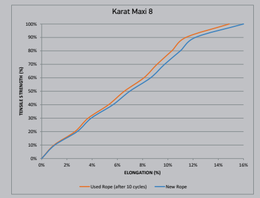
SIZE		FLOAT 8			OCEANIC 8			KARAT MAXI PLUS 8		
DIAM.	CIRC.	WEIGHT		L.D.B.F.	WEIGHT		M.B.L.	WEIGHT		L.D.B.F.
(MM)	(INCH)	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES
32	4"	49.00	108.00	21.00	46.00	101.00	18.00	52.00	117.00	22.50
36	4 ½"	63.00	138.00	24.00	59.00	129.00	23.00	66.00	149.00	28.30
40	5"	76.00	168.00	31.00	71.00	157.00	27.00	80.00	183.00	35.10
44	5 ½"	93.00	204.00	38.00	88.00	193.00	34.00	97.00	219.00	41.90
48	6"	110.00	243.00	44.00	104.00	229.00	40.00	115.00	260.00	49.20
52	6 ½"	131.00	288.00	51.00	123.00	271.00	45.00	136.00	300.00	57.10
56	7"	151.00	332.00	59.00	142.00	312.00	53.00	157.00	355.00	65.60
60	7 ½"	178.00	392.00	66.00	163.00	360.00	59.00	181.00	408.00	74.50
64	8"	196.00	432.00	75.00	185.00	407.00	67.00	206.00	464.00	84.30
68	8 ½"	224.00	492.00	84.00	210.00	461.00	76.00	232.00	524.00	94.50
72	9"	249.00	547.00	94.00	234.00	515.00	85.00	260.00	585.00	105.30
76	9 ½"	274.00	603.00	104.00	262.00	576.00	94.00	291.00	641.00	116.00
80	10"	308.00	677.00	115.00	290.00	638.00	103.00	321.00	725.00	126.70
84	10 ½ "	340.00	749.00	126.00	320.00	704.00	112.00	335.00	791.00	133.90
88	11"	390.00	858.00	137.00	351.00	772.00	122.00	389.00	856.00	141.10
96	12"	467.00	1,028.00	161.00	417.00	917.00	144.00	463.00	1,019.00	166.90
104	13"	548.00	1,206.00	189.00	490.00	1,078.00	164.00	544.00	1,197.00	187.00
112	14"	634.00	1,394.00	218.00	568.00	1,250.00	191.00	630.00	1,386.00	215.00
120	15"	725.00	1,595.00	250.00	650.00	1,430.00	211.00	724.00	1,593.00	246.00
128	16"	830.00	1,826.00	287.00	750.00	1,650.00	240.00	823.00	1,811.00	280.00
136	17"	950.00	2,091.00	330.00	850.00	1,870.00	265.00	929.00	2,044.00	316.00
144	18"	1,054.00	2,320.00	366.00	950.00	2,090.00	292.00	1,150.00	2,530.00	391.00

a. The diameter corresponds to the approximate diameter in millimeters.
b. The linear density is under reference tension and is measured as specified in CI 1500:2015.
c. The linear density tolerance is ±5%.

LOAD ELONGATION CURVES







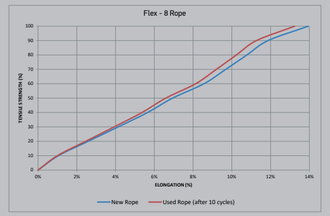
8 STRAND ROPES

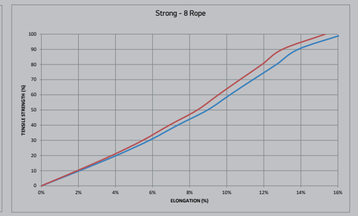
MIXED FIBER ROPES THAT FULLY MEET OCIMF GUIDELINES

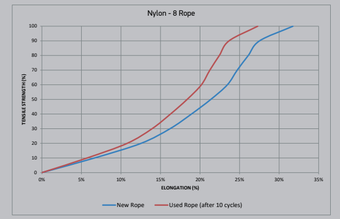
KEY FEATURES

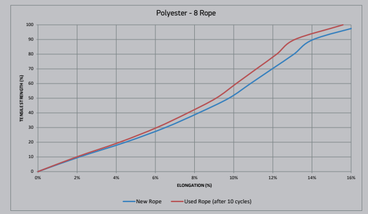
CONSTRUCTION	FLEX 8 40% PER WEIGHT POLYESTER	STRONG 8 50% PER WEIGHT POLYESTER	NYLON 8	POLYESTER 8
CONSTRUCTION	8 STRANDS	8 STRANDS	8 STRANDS	8 STRANDS
SPECIFIC GRAVITY	1.10	1.10	1.14	1.40
UV-RESISTANCE	VERY GOOD	VERY GOOD	VERY GOOD	VERY GOOD
ABRASION RESISTANCE	VERY GOOD	VERY GOOD	VERY GOOD	VERY GOOD
CHEMICAL RESISTANCE	GOOD	GOOD	GOOD	GOOD
ELONGATION	14%-16%	14%-16%	26%-30%	14%-16%
MELTING POINT	180°C-270°C	180°C-270°C	APPROX. 270°C	APPROX. 270°C
WATER ABSORPTION	MAX 1%	MAX 1%	APPROX 4%	APPROX 4%
COLOR	WHITE WITH BLACK TRACER	WHITE WITH BACK TRACER	WHITE, BLACK, SILVER. OTHER COLORS AVAILABLE UPON CUSTOMER'S REQUEST	WHITE, BLACK, SILVER. OTHER COLORS AVAILABLE UPON CUSTOMER'S REQUEST

LOAD ELONGATION CURVES









SIZE		FLEX 8			STRONG 8			NYLON 8			POLYESTER 8		
DIAM.	CIRC.	WEIGHT		L.D.B.F.	WEIGHT		L.D.B.F..	WEIGHT		L.D.B.F.	WEIGHT		L.D.B.F.
(MM)	(INCH)	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES
32	4"	58.00	120.00	24.00	62.00	136.00	28.00	63.00	139.00	24.00	78.00	171.00	23.00
36	4 ½"	71.00	156.00	29.00	79.00	173.00	36.00	80.00	176.00	30.00	98.00	216.00	29.00
40	5"	81.00	179.00	33.00	98.00	216.00	43.00	99.00	217.00	35.80	121.00	266.00	36.00
44	5 ½"	97.00	213.00	39.00	119.00	262.00	51.00	119.00	262.00	43.40	147.00	323.00	43.00
48	6"	117.00	257.00	46.00	141.00	310.00	58.00	142.00	312.00	51.60	175.00	385.00	52.00
52	6 ½"	138.00	304.00	54.00	166.00	365.00	69.00	167.00	367.00	60.90	205.00	451.00	60.00
56	7"	158.00	348.00	61.00	192.00	423.00	80.00	193.00	425.00	69.20	238.00	524.00	70.00
60	7 ½"	183.00	403.00	70.00	221.00	486.00	92.00	222.00	488.00	79.40	273.00	601.00	80.00
64	8"	205.00	451.00	79.00	251.00	552.00	104.00	253.00	557.00	90.30	310.00	682.00	91.00
68	8 ½"	232.00	510.00	88.00	283.00	623.00	115.00	287.00	631.00	100.10	352.00	774.00	104.00
72	9"	264.00	581.00	98.00	318.00	699.00	126.00	320.00	704.00	111.80	393.00	865.00	111.00
76	9 ½"	295.00	649.00	109.00	354.00	779.00	144.00	358.00	788.00	122.30	440.00	968.00	124.00
80	10"	326.00	717.00	120.00	392.00	863.00	160.00	395.00	869.00	134.40	485.00	1,067.00	137.00
84	10 ½"	360.00	791.00	132.00	433.00	953.00	173.00	437.00	961.00	148.80	538.00	1,184.00	152.00
88	11"	405.00	891.00	144.00	474.00	1,073.00	191.00	478.00	1,052.00	158.60	587.00	1,291.00	166.00
96	12"	512.00	1,127.00	169.00	565.00	1,243.00	223.00	569.00	1,252.00	185.60	699.00	1,538.00	197.00
104	13"	605.00	1,330.00	198.00	663.00	1,458.00	258.00	667.00	1,467.00	217.70	822.00	1,808.00	205.00
112	14"	698.00	1,535.00	228.00	769.00	1,691.00	300.00	774.00	1,703.00	251.10	951.00	2,092.00	237.00
120	15"	800.00	1,760.00	262.00	883.00	1,942.00	346.00	888.00	1,954.00	286.20	1,090.00	2,398.00	272.00
128	16"	915.00	2,013.00	298.00	1,030.00	2,266.00	388.00	1,010.00	222.00	323.40	1,240.00	2,728.00	309.00
136	17"	1,047.00	2,303.00	339.00	1,180.00	2,596.00	433.00	1,140.00	2,508.00	362.60	1,400.00	3,080.00	349.00
144	18"	1,161.00	2,554.00	376.00	1,309.00	2,881.00	480.00	1,280.00	2,816.00	404.40	1,570.00	3,454.00	391.00

a. The diameter corresponds to the approximate diameter in millimeters.
b. The linear density is under reference tension and is measured as specified in CI 1500:2015.
c. The linear density tolerance is ±5%.

MOORING TAILS

HIGH ELASTICITY - SAFE – ABRASION RESISTANT

Mooring Tails are important safety components for an unelastic mooring system as they offer high elasticity. Tails are normally requested in lengths of 11 or 22 meters but other lengths are also available upon request.

There are two basic types of mooring tails:

The single leg tails

The grommet tails

And there are different materials and constructions:

- NYLON 8 AND KAPA NYLON 12 + 24 STRANDS
- POLYESTER 8 AND KAPA POLYESTER 12 + 24 STRANDS
- STRONG 8 AND KAPA STRONG 12 + 24 STRANDS

As well as floating versions:

- FLEX 8 AND KAPA FLEX 12 + 24 STRANDS
- KARAT MAXI PLUS

MOORING TAILS KEY FEATURES

FEATURES	NYLON 8 AND KAPA NYLON	POLYESTER 8 AND KAPA POLYESTER	STRONG 8 AND KAPA STRONG	FLEX 8 AND KAPA FLEX	KARAT MAXI PLUS
CONSTRUCTION	8,12,24 STRANDS	8,12,24 STRANDS	8,12,24 STRANDS	8,12,24 STRANDS	8,12,24 STRANDS
SPECIFIC GRAVITY	1.14	1.40	1.14	1.10	0.99
UV-RESISTANCE	VERY GOOD	VERY GOOD	VERY GOOD	VERY GOOD	VERY GOOD
ABRASION RESISTANCE	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT
CHEMICAL RESISTANCE	GOOD	GOOD	GOOD	GOOD	GOOD
ELONGATION	23%-30%	14%-16%	14%-16%	14%-16%	14%-16%
MELTING POINT	APPROX. 270°C	APPROX. 270°C	180°C-270°C	180°C-270°C	185°C
WATER ABSORPTION	APPROX. 4%	APPROX. 4%	MAX. 1%	MAX. 1%	NONE
COLOR	WHITE, BLACK, SILVER. OTHER COLORS AVAILABLE UPON CUSTOMER'S REQUEST	WHITE, BLACK, SILVER. OTHER COLORS AVAILABLE UPON CUSTOMER'S REQUEST	WHITE WITH BLACK TRACER	WHITE WITH BLACK TRACER	ORANGE WITH BLUE TRACER

TYPICAL COW-HITCH CONNECTION

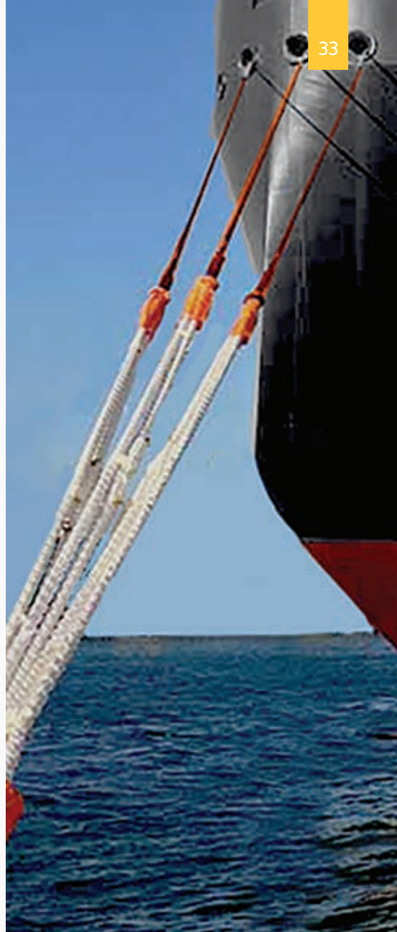
APPROVALS

Certificate No: LR2021443TA
Certificate No: LR21143396TA

MOORING TAILS											
SIZE		KAPA NYLON		NYLON 8		KARAT MAXI PLUS		KAPA STRONG		STRONG 8	
DIAM		WEIGHT		WEIGHT		WEIGHT		WEIGHT		WEIGHT	
(MM)	(INCH)	KGS/100M	TDBF (TN)	KGS/100M	TDBF (TN)	KGS/100M	TDBF (TN)	KGS/100M	TDBF (TN)	KGS/100M	TDBF (TN)
32	4"	67.20	23.00	70.20	24.00	52.00	22.50	62.00	28.00	62.00	28.00
36	4 ½"	85.10	29.00	88.00	30.00	66.00	28.30	79.00	36.00	79.00	36.00
40	5"	105.00	36.00	105.00	36.00	80.00	35.10	98.00	44.00	98.00	43.00
44	5 ½"	126.60	44.00	127.10	44.00	97.00	41.90	119.00	53.00	119.00	51.00
48	6"	151.10	52.00	151.20	52.00	115.00	49.20	141.00	60.00	141.00	58.00
52	6 ½"	177.70	61.00	178.50	61.00	136.00	57.10	166.00	72.00	166.00	69.00
56	7"	205.40	69.00	206.90	69.00	157.00	65.60	192.00	84.00	192.00	80.00
60	7 ½"	236.20	80.00	237.30	79.00	181.00	74.50	221.00	96.00	221.00	92.00
64	8"	269.20	91.00	269.90	90.00	206.00	84.30	251.00	108.00	251.00	104.00
68	8 ½"	305.40	101.00	305.60	100.00	232.00	94.50	283.00	120.00	283.00	115.00
72	9"	340.50	113.00	341.30	112.00	260.00	105.30	318.00	132.00	318.00	126.00
76	9 ½"	380.90	124.00	381.20	122.00	291.00	116.00	354.00	150.00	354.00	144.00
80	10"	420.30	136.00	421.10	134.00	321.00	126.70	392.00	167.00	392.00	160.00
84	10 ½ "	465.00	151.00	466.20	149.00	355.00	133.90	433.00	176.00	433.00	173.00
88	11"	508.60	162.00	510.30	159.00	389.00	141.10	470.00	195.00	474.00	191.00
96	12"	605.40	186.00	606.90	186.00	463.00	166.90	565.00	226.00	565.00	223.00
104	13"	709.70	218.00	711.90	218.00	544.00	187.00	663.00	264.00	663.00	258.00
112	14"	823.50	253.00	826.10	251.00	630.00	215.00	769.00	305.00	769.00	300.00
120	15"	944.80	284.00	947.80	286.00	724.00	246.00	883.00	351.00	883.00	346.00
128	16"	1,074.60	316.00	1,078.00	323.00	823.00	280.00	1,030.00	408.00	1,030.00	388.00
136	17"	1,213.00	357.00	1,216.70	363.00	929.00	316.00	1,180.00	450.00	1,180.00	433.00
144	18"	1,361.90	400.00	1,366.20	404.00	1,150.00	391.00	1,318.00	493.00	1,309.00	480.00

a. The diameter corresponds to the approximate diameter in millimeters.
b. The linear density is under reference tension and is measured as specified in CI 1500:2015.
c. The linear density tolerance is ±5%.

MOORING TAILS									
SIZE		KAPA POLYESTER		POLYESTER 8		KAPA FLEX		FLEX 8	
DIAM		WEIGHT		WEIGHT		WEIGHT		WEIGHT	
(MM)	(INCH)	KGS/100M	TDBF (TN)	KGS/100M	TDBF (TN)	KGS/100M	TDBF (TN)	KGS/100M	TDBF (TN))
32	4"	81.00	24.00	78.00	23.00	55.00	24.00	58.00	24.00
36	4 ½"	103.00	30.00	98.00	29.00	71.00	30.00	71.00	29.00
40	5"	127.00	37.00	121.00	36.00	89.00	36.00	81.00	33.00
44	5 ½"	155.00	45.00	147.00	43.00	105.00	41.00	97.00	39.00
48	6"	184.00	54.00	175.00	52.00	127.00	49.00	117.00	46.00
52	6 ½"	215.00	63.00	205.00	60.00	150.00	57.00	138.00	54.00
56	7"	250.00	74.00	238.00	70.00	172.00	64.00	158.00	61.00
60	7 ½"	287.00	84.00	273.00	80.00	199.00	74.00	183.00	70.00
64	8"	325.00	96.00	310.00	91.00	223.00	82.00	205.00	79.00
68	8 ½"	370.00	109.00	352.00	104.00	252.00	92.00	232.00	88.00
72	9"	413.00	117.00	393.00	111.00	287.00	105.00	264.00	98.00
76	9 ½"	462.00	130.00	440.00	124.00	321.00	117.00	295.00	109.00
80	10"	509.00	144.00	485.00	137.00	355.00	129.00	326.00	120.00
84	10 ½ "	565.00	160.00	538.00	152.00	391.00	140.00	360.00	132.00
88	11"	616.00	174.00	587.00	166.00	427.00	152.00	405.00	144.00
96	12"	734.00	207.00	699.00	197.00	512.00	183.00	512.00	169.00
104	13"	863.00	215.00	822.00	205.00	605.00	209.00	605.00	198.00
112	14"	999.00	249.00	951.00	237.00	698.00	238.00	698.00	228.00
120	15"	1,145.00	285.00	1,090.00	272.00	800.00	270.00	800.00	262.00
128	16"	1,302.00	324.00	1,240.00	309.00	915.00	308.00	915.00	298.00
136	17"	1,470.00	366.00	1,400.00	349.00	1,047.00	351.00	1,047.00	339.00
144	18"	1,649.00	411.00	1,570.00	391.00	1,170.00	392.00	1,161.00	376.00



KAPA NYLON PLUS - KAPA POLYESTER PLUS

A construction made of conventional fibers offering maximum B.L. at a minimum diameter.

These ropes have been designed to give solution when space is valuable. They consist of a robust jacket that protects the ropes from wear and abrasion and a parallel core or a braided core that ensure a high tenacity rope performance.

A major advantage of using Kapa Nylon Plus or Kapa Polyester Plus is that there is no need to use mooring tails. The production and texting of these ropes is according to latest European Norms ISO 9554:2010 & ISO 2307: 2010 and Type approved by Lloyd's Register.

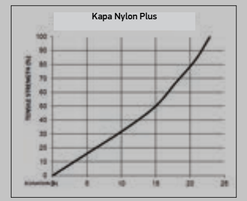
KAPA NYLON PLUS
Dimensions from 32mm to 96mm are Type Approved Cert.No 12/00005 (E1)

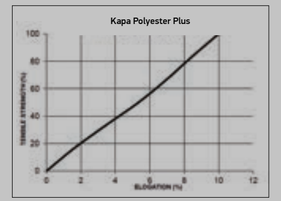
KAPA POLYESTER PLUS
Dimensions from 28mm to 120mm are Type Approved Cert. No 00006/12 (E1)

KAPA NYLON PLUS - KAPA POLYESTER PLUS KEY FEATURES

	KAPA POLYESTER PLUS	KAPA NYLON PLUS
SPECIFIC GRAVITY	1.10 TO 1.40 DEPENDS ON JACKET	1.05 TO 1.25 DEPENDS ON JACKET
UV-RESISTANCE	EXCELLENT	EXCELLENT
ABRASION RESISTANCE	VERY GOOD	VERY GOOD
CHEMICAL RESISTANCE	GOOD	GOOD
ELONGATION	8%-10%	23%-26%
WATER ABSORPTION	APPROX. 4%	APPROX. 4%
MELTING POINT	APPROX. 270ºC	APPROX. 270ºC
COLOR	WHITE, BLACK, SILVER. OTHER COLORS AVAILABLE UPON CUSTOMER'S REQUEST	WHITE, BLACK, SILVER. OTHER COLORS AVAILABLE UPON CUSTOMER'S REQUEST

LOAD ELONGATION CURVES





SIZE		KAPA POLYESTER PLUS			KAPA NYLON PLUS		
DIAM.	CIRC.	WEIGHT		M.B.L.	WEIGHT		M.B.L.
(MM)	(INCH)	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES
28	3 ½"	67.00	147.00	30.00	55.00	121.00	23.00
32	4"	81.70	180.00	39.00	71.00	156.00	30.00
36	4 ½"	98.40	217.00	50.00	84.00	184.00	38.00
40	5"	117.00	257.00	61.00	99.00	218.00	46.00
44	5 ½"	144.30	318.00	75.00	122.00	268.00	56.00
48	6"	167.00	368.00	89.00	141.00	310.00	67.00
52	6 ½"	191.00	421.00	104.00	161.00	355.00	79.00
56	7"	231.00	508.00	121.00	195.00	428.00	91.00
60	7 ½"	259.00	570.00	139.00	219.00	481.00	104.00
64	8"	289.30	637.00	157.00	244.00	537.00	119.00
68	8 ½"	326.00	717.00	171.00	274.00	603.00	135.00
72	9"	359.00	790.00	191.00	301.00	663.00	150.00
76	9 ½"	417.00	917.00	201.00	352.00	774.00	158.00
80	10"	454.00	998.00	208.00	382.00	841.00	170.00
84	10 ½"	536.00	1,179.00	224.00	455.00	1,001.00	176.00
88	11"	575.00	1,266.00	244.00	489.00	1,075.00	193.00
96	12"	667.00	1,467.00	291.00	564.00	1,240.00	230.00
104	13"	845.00	1,860.00	342.00	695.00	1,529.00	256.00
112	14"	950.00	2,091.00	396.00	779.00	1,713.00	297.00
120	15"	1,064.00	2,340.00	454.00	868.00	1,909.00	341.00

a. The diameter corresponds to the approximate diameter in millimeters.
b. The linear density is under reference tension and is measured as specified in CI 1500:2015.
c. The linear density tolerance is ±5%.

DOUBLE BRAIDED

TWO ROPES PERFORMING AS A SINGLE
INTEGRATED AND SHIELDED FROM ABRASION

Double Braided : In this combination, both elements, core and jacket, must be almost equal to each other in weight, about 50%-50%.

The aberration can only limit to a 45%-55% analogy in any case.

The linear density corresponds to the net mass per length of the rope expressed in grams/meter or kilograms/thousand meters. The linear density is measured under tension as specified in EN 2307.

There are other material combinations that can be used such as polypropylene, polyester, oceanic, nylon, etc. Apart from what is shown on the table across, any other raw material combination can be manufactured upon our customers› request.

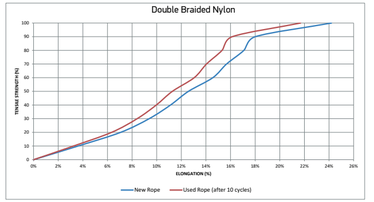
These ropes are produced and tested in accordance with ISO 9554, ISO 2307, 14684 and EN 14685.

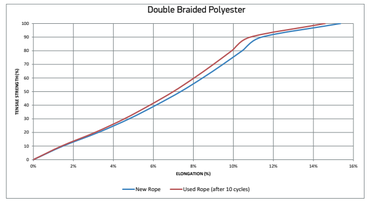
DOUBLE BRAIDED KEY FEATURES

	KAPA D/B POLYESTER	KAPA D/B NYLON
CONSTRUCTION	THE CORE 8,12 OR 24 STR. SHEATH 4,32,40,48,64,80,96 STR DEPENDS ON DIMENSION AND USAGE OF THE ROPE	THE CORE 8,12 OR 24 STR. SHEATH 24, 32, 40, 64, 80, 96, 128 STR
SPECIFIC GRAVITY	1.40	1.14
UV-RESISTANCE	EXCELLENT	EXCELLENT
ABRASION RESISTANCE	EXCELLENT WHEN DRY GOOD WHEN WET	EXCELLENT WHEN DRY GOOD WHEN WET
CHEMICAL RESISTANCE	GOOD	GOOD
ELONGATION	14% NEW ROPE 16% USED ROPE	21% NEW ROPE 26% USED ROPE
WATER ABSORPTION	APPROX. 4%	APPROX. 4%
MELTING POINT	APPROX. 270ºC	APPROX. 270ºC
COLOR	WHITE, BLACK, SILVER. OTHER COLORS AVAILABLE UPON CUSTOMER'S REQUEST	WHITE, BLACK, SILVER. OTHER COLORS AVAILABLE UPON CUSTOMER'S REQUEST

SIZE		DOUBLE BRAIDED POLYESTER ® POLYESTER			DOUBLE BRAIDED NYLON ® NYLON		
DIAM.	CIRC.	WEIGHT		M.B.L.	WEIGHT		M.B.L.
(MM)	(INCH)	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES
32	4"	82.00	180.00	21.00	64.00	140.00	22.00
36	4½"	103.00	227.00	27.00	81.00	177.00	28.00
40	5"	128.00	282.00	33.00	99.50	219.00	35.00
44	5½"	154.00	339.00	40.00	120.00	264.00	42.00
48	6"	184.00	405.00	47.00	143.00	315.00	50.00
52	6½"	216.00	475.00	55.00	168.00	370.00	59.00
56	7"	250.00	550.00	63.00	195.00	429.00	68.00
60	7½"	287.00	631.00	72.00	224.00	493.00	78.00
64	8"	326.00	717.00	82.00	255.00	561.00	88.00
72	9"	413.00	909.00	102.00	322.00	708.00	112.00
80	10"	510.00	1,122.00	125.00	398.00	876.00	138.00
88	11"	617.00	1,357.00	151.00	482.00	1,060.00	166.00
96	12"	735.00	1,617.00	178.00	573.00	1,261.00	198.00
104	13"	862.00	1,896.00	208.00	673.00	1,481.00	231.00
112	14"	1,000.00	2,200.00	240.00	780.00	1,716.00	268.00
120	15"	1,150.00	2,530.00	274.00	896.00	1,976.00	308.00
128	16"	1,310.00	2,882.00	310.00	1,020.00	2,244.00	350.00
144	18"	1,650.00	3,630.00	388.00	1,290.00	2,838.00	442.00

LOAD ELONGATION CURVES





a. The diameter corresponds to the approximate diameter in millimeters.
b. The linear density is under reference tension and is measured as specified in CI 1500:2015.
c. The linear density tolerance is ±5%.

KAPA WINCHLINE

ONE OF THE SAFEST ROPES IN THE MARKET
WORKS PERFECTLY ON DRUMS AND WINCHES

Kapa Winchline ropes have a round, firm, double braided construction.

The core in these constructions is the load bearing part of the ropes, while the jacket plays the role of the abrasion resisting element, made to protect the core against UV radiation, sand and salt penetration.

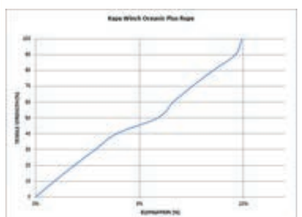
These ropes are ideal for rescue lines and mooring lines.

They work perfectly on drums and winches.

KAPA WINCHLINE KEY FEATURES

	CORE OCEANIC/ SEATH OCEANIC	CORE OCEANIC/ SEATH NYLON	CORE OCEANIC/ SEATH FLEX	CORE OCEANIC/ SEATH POLYESTER
SPECIFIC GRAVITY	0.93	0.97	0.97	1.02
MELTING POINT	185ºC	260ºC	260ºC	260ºC
UV RESISTANCE	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT
ABRASION RESISTANCE	EXCELLENT	EXCELLENT	EXCELLENT	EXCELLENT
CHEMICAL RESISTANCE	VERY GOOD	VERY GOOD	VERY GOOD	VERY GOOD

LOAD ELONGATION CURVE



KAPA WINCHLINES													
SIZE		KAPA WINCH OCEANIC PLUS			KAPA WINCH NYLON			KAPA WINCH FLEX			KAPA WINCH POLYESTER		
		WEIGHT		MBL	WEIGHT		MBL	WEIGHT		MBL	WEIGHT		MBL
DIAM. (MM)	CIRC. (INCH)	KGS/100M	KGS/220M	TONNES	KGS/100M	KGS/220M	TONNES	KGS/100M	KGS/220M	TONNES	KGS/100M	KGS/220M	TONNES
28	3 ½ "	43.40	95.50	12.60	45.57	100.25	12.60	45.57	100.25	12.60	47.74	105.03	12.60
32	4"	56.60	124.50	19.30	59.43	130.75	19.30	59.43	130.75	19.30	62.26	136.97	19.30
36	4 ½ "	71.70	157.70	23.80	75.29	165.63	23.80	75.29	165.63	23.80	78.87	173.51	23.80
40	5"	88.50	194.70	32.20	92.93	204.44	32.20	92.93	204.44	32.20	97.35	214.17	32.20
44	5 ½ "	107.00	235.40	41.40	112.35	247.17	41.40	112.35	247.17	41.40	117.70	258.94	41.40
48	6"	127.00	279.40	45.40	133.35	293.37	45.40	133.35	293.37	45.40	139.70	307.34	45.40
50	6 ¾ "	138.30	304.30	51.00	145.22	319.47	51.00	145.22	319.47	51.00	152.13	334.69	51.00
52	6 ½»	150.00	330.00	56.90	157.50	346.50	56.90	157.50	346.50	56.90	165.00	363.00	56.90
56	7"	173.00	380.60	66.30	181.65	399.63	66.30	181.65	399.63	66.30	190.30	418.66	66.30
60	7 ½ "	199.00	437.80	78.20	208.95	459.69	78.20	208.95	459.69	78.20	218.90	481.58	78.20
64	8"	227.00	499.40	92.30	238.35	524.37	92.30	238.35	524.37	92.30	249.70	549.34	92.30
68	8 ½ "	256.00	563.20	99.30	268.80	591.36	99.30	268.80	591.36	99.30	281.60	619.52	99.30
72	9"	287.00	631.40	111.60	301.35	662.97	111.60	301.35	662.97	111.60	315.70	694.54	111.60
76	9 ½ "	320.50	705.10	128.40	336.53	740.36	128.40	336.53	740.36	128.40	352.55	775.61	128.40
80	10"	354.00	778.80	138.70	371.70	817.74	138.70	371.70	817.74	138.70	389.40	856.68	138.70
84	10 ½ "	391.00	860.20	147.60	410.55	903.21	147.60	410.55	903.21	147.60	430.10	946.22	147.60
88	11"	428.00	941.60	166.20	449.40	988.68	166.20	449.40	988.68	166.20	470.80	1,035.76	166.20
96	12"	510.00	1,122.00	191.20	535.50	1,178.10	191.20	535.50	1,178.10	191.20	561.00	1,234.20	191.20
104	13"	600.00	1,320.00	204.20	630.00	1,386.00	204.20	630.00	1,386.00	204.20	660.00	1,452.00	204.20
112	14"	690.00	1,518.00	249.20	724.50	1,593.90	249.20	724.50	1,593.90	249.20	759.00	1,669.80	249.20
120	15"	796.00	1,751.20	302.30	835.80	1,838.76	302.30	835.80	1,838.76	302.30	875.60	1,926.32	302.30

6 STRAND ROPES

AJAX ROPE is a twisted synthetic fiber rope formed by 100% Polyamide monofilament fibers combined with polyamide multifilament, forming the well-known robust construction.

It has a greater tendency to elongate than steel ropes and therefore is less susceptible to breakage from shock tension strain.

Also, compared to steel wire ropes, it requires much less maintenance and is considerably lighter and easier to handle, facilitating rapid mooring.

This rope has excellent resistance to abrasion and will become more flexible and easier to handle with extensive use.

It comes in floating version named Ajax Float.

APPLICATIONS

- mooring lines
- winch lines

AJAX AND AJAX FLOAT KEY FEATURES

	AJAX	AJAX FLOAT
CONSTRUCTION	6 STRAND WIRE-LAY CONSTRUCTION	6 STRAND WIRE-LAY CONSTRUCTION
SPECIFIC GRAVITY	1.14	0.99
UV-RESISTANCE	VERY GOOD	VERY GOOD
ABRASION RESISTANCE	GOOD	GOOD
CHEMICAL RESISTANCE	GOOD	GOOD
ELONGATION	26% NEW ROPE	21% NEW ROPE
MELTING POINT	APPROX. 250ºC	APPROX. 245ºC
WATER ABSORPTION	APPROX. 2%	APPROX. 2%
COLOR	WHITE	WHITE

a. The diameter corresponds to the approximate diameter in millimeters.
b. The linear density is under reference tension and is measured as specified in CI 1500:2015.
c. The linear density tolerance is ±5%.

SIZE		AJAX		
DIAM.	CIRC.	WEIGHT		M.B.L.
MM	INCH	KGS/100M	KGS/220 M	TONNES
40	5"	106.00	233.00	34.00
44	5 ½"	123.00	272.00	43.00
48	6"	147.00	323.00	52.00
52	6 ½"	162.00	356.00	56.00
56	7"	201.00	442.00	69.00
60	7 ½"	220.00	484.00	74.00
64	8"	248.00	546.00	84.00
68	8 ½"	283.00	623.00	97.00
72	9"	332.00	729.00	111.00
78	9 ½"	370.00	814.00	121.00
80	10"	409.00	900.00	130.00
84	10 ½"	428.00	942.00	141.00
90	11 ¼"	510.00	1,122.00	166.00
96	12"	591.00	1,300.00	191.00

SIZE		AJAX FLOAT		
DIAM.	CIRC.	WEIGHT		M.B.L.
MM	INCH	KGS/100M	KGS/220 M	TONNES
40	5"	96.00	211.00	31.00
44	5 ½"	112.00	245.00	39.00
48	6"	133.00	292.00	47.00
52	6 ½"	156.00	344.00	50.00
56	7"	181.00	399.00	62.00
60	7 ½"	208.00	457.00	67.00
64	8"	237.00	521.00	76.00
68	8 ½"	268.00	589.00	88.00
72	9"	300.00	659.00	101.00
80	10"	370.00	813.00	117.00

KARAT WINCHLINE – BUOYANT WINCHLINE

UNIQUE CHARACTERISTICS FOR HIGH STRENGTH
A "WIRE ROPE LAY" CONSTRUCTION

6-STRAND

KARAT® WINCHline combines the unique characteristics of the high strength KARAT®-fibres with a 6-strand «wire rope lay» construction.
The outer layer of each strand comprises a special combination of Nylon monofilaments and Nylon multifilaments. KARAT® WINCHline is designed to be used on self tensioning winches and is DNV Type Approved.

6-STRAND

BUOYANT WINCHlineTM is a unique fibre rope with a 6-strand "wire rope lay" construction.
The outer layer of each strand comprises a special combination of Nylon monofilaments and PP multifilaments.
BUOYANT WINCHlineTM is designed to be permanently floating and to be used on self tensioning winches.

KEY FEATURES

KARAT WINCHLINE	
CONSTRUCTION	6 STRAND WIRE-LAY CONSTRUCTION
SPECIFIC GRAVITY	1.1
UV-RESISTANCE	VERY GOOD
ABRASION RESISTANCE	GOOD
CHEMICAL RESISTANCE	GOOD
ELONGATION	18% NEW ROPE
MELTING POINT	APPROX. 250ºC
WATER ABSORPTION	2%-4%
COLOR	WHITE

BUOYANT WINCHLINE	
CONSTRUCTION	6 STRAND WIRE-LAY CONSTRUCTION
SPECIFIC GRAVITY	0.99
UV-RESISTANCE	VERY GOOD
ABRASION RESISTANCE	GOOD
CHEMICAL RESISTANCE	GOOD
ELONGATION	21% NEW ROPE
MELTING POINT	APPROX. 250ºC
WATER ABSORPTION	APPROX. 2%
COLOR	BLUE - WHITE, WITH OR WITHOUT SIGNAL TRACER

SIZE		KARAT WINCHLINE		
DIAM. (MM)	CIRC. (INCH)	WEIGHT KG/100M	WEIGHT KG/220M	MBL (TN)
40	5"	104.00	228.80	33.00
44	5 ½"	121.00	266.20	42.00
48	6"	144.00	316.80	50.00
52	6 ½"	169.00	371.80	54.00
56	7"	197.00	433.40	67.00
60	7 ½"	225.00	495.00	72.00
64	8"	257.00	565.40	82.00
68	8 ½"	290.00	638.00	94.00
72	9"	325.00	715.00	108.00
78	9 ½"	375.00	825.00	118.00
80	10"	401.00	882.20	126.00

SIZE		BUOYANT WINCHLINE		
DIAM. (MM)	CIRC. (INCH)	WEIGHT KG/100M	WEIGHT KG/220M	MBL (TN)
40	5"	99.00	217.80	31.40
44	5 ½"	115.00	253.00	39.90
48	6"	137.00	301.40	47.50
52	6 ½"	161.00	354.20	51.30
56	7"	187.00	411.40	63.70
60	7 ½"	214.00	470.80	68.40
64	8"	244.00	536.80	77.90
68	8 ½"	276.00	607.20	89.30
72	9"	309.00	679.80	102.60
78	9 ½"	345.00	759.00	111.10
80	10"	381.00	838.20	119.70

TWISTED ROPES 3 AND 4 STRANDS

Twisted ropes have developed over a long period of time with the only real evolution being the material used that has changed from natural fibers to man – made (artificial) fibers. This change of fiber gave the construction higher strength and longer life. Today, twisted ropes are preferred for most simple applications because of their flexibility, knot making ability, splicing and easy handling in small diameters. The 4 - strand ropes have a slightly firmer lay than the 3 - strand ones, since they are round ropes with more outside surface, more traction on sheaves and objects.

.A. produces twisted ropes from the following materials:

NYLON :
- High tenacity yarns
- High elongation characteristics
- High stretch – high strength fibers
- UV resistant
- Sinkable ropes

POLYESTER:
- Excellent Fatigue life
- Increased service life
- Low stretch – high strength fibers
- Excellent weather + abrasion resistance
- Sinkable ropes

OCEANIC:
- Flat filaments, a mixture of polypropylene – polyethylene co-extruded
- One of the strongest floating ropes
- Reduced friction internal and external
- Increased flexibility
- Easy handling
- UV resistant

POLYPROPYLENE:
- They can be of split film or monofilaments twines
- Light weight
- Waterproof
- Low stretching at work load
- Abrasion resistant
- All strands of the rope can be double twisted
- Floating ropes

SIZAL & MANILA:
- Made of high quality natural fibers
- Hygroscopic
- Friendly for environment
- Excellent weather + abrasion resistance
- Ideal for pilot + accommodation ladders

NATURAL FIBER ROPES

SIZE		MANILA						SIZAL				
		WEIGHT			BR.STRENGTH (TONNES)			WEIGHT				
DIAM.		KGS	KGS					KGS	KGS		BR.STRENGHT	LONG HEMP BR.STRENGHT
(MM)	(INCH)	/100M	/220M	120 FATH. CA.LBS	GRADE I	GRADE II	MERCHANT QUALITY	/100M	/220M	120 FATH. CA.LBS	TONNES	TONNES
6	¾"	2.90	6.40	14	2.90	6.40	14	2.90	6.40	14¼	0.27	0.30
8	1"	5.40	11.70	26¼	5.40	11.70	26¼	5.10	11.20	24½	0.48	0.52
10	1 ¼"	6.80	15.00	33	6.80	15.00	33	8.00	18.00	39	0.64	0.80
12	1 ½"	10.50	23.00	51	10.50	23.00	51	12.00	26.00	58	0.96	1.20
14	1 ¾"	14.00	31.00	68	14.00	31.00	68	15.00	33.00	74	1.29	1.53
16	2"	19.00	42.00	92	19.00	42.00	92	20.00	44.00	97	1.81	2.02
18	2 ¼"	22.00	48.00	106	22.00	48.00	106	25.00	55.00	121	2.14	2.40
20	2 ½"	27.50	61.00	133	27.50	61.00	133	31.00	68.00	150	2.85	3.09
22	2 ¾"	33.00	73.00	160	33.00	73.00	160	37.00	82.00	181	3.41	3.70
24	3"	40.00	88.00	194	40.00	88.00	194	45.00	98.00	215	4.07	4.40
26	3 ¼"	46.60	103.00	226	46.60	103.00	226	53.00	116.00	254	4.70	5.20
28	3 ½"	53.20	117.00	257	53.20	117.00	257	61.00	133.00	293	5.33	6.00
32	4"	70.00	154.00	339	70.00	154.00	339	80.00	175.00	385	6.87	7.85
36	4 ½"	89.00	196.00	431	89.00	196.00	431	101.00	222.00	487	8.64	10.42
40	5"	110.00	242.00	532	110.00	242.00	532	124.00	273.00	600	10.42	12.13

TWISTED ROPES 3 + 4 STRANDS

SIZE		POLYPROPYLENE			OCEANIC			NYLON/POLYAMIDE			POLYESTER		
		WEIGHT		MBL	WEIGHT		MBL	WEIGHT		MBL	WEIGHT		MBL
DIAM. (MM)	CIRC. (INCH)	KGS/100M	KGS/220M	TONNES	KGS/100M	KGS/220M	TONNES	KGS/100M	KGS/220M	TONNES	KGS/100M	KGS/220M	TONNES
6	¾"	1.63	3.59	0.60	1.63	3.59	0.69	2.22	4.88	0.80	2.73	6.00	0.61
8	1"	2.89	6.36	1.02	2.89	6.36	1.19	3.95	8.69	1.40	4.80	10.56	1.07
10	1 ¼"	4.52	9.94	1.57	4.52	9.94	1.83	6.17	13.57	2.16	7.58	16.68	1.65
12	1 ½"	6.51	14.32	2.20	6.51	14.32	2.59	8.88	19.53	3.07	10.90	23.98	2.34
14	1 ¾"	8.86	19.49	2.94	8.86	19.49	3.47	12.10	26.62	4.08	14.90	32.78	3.15
16	2"	11.60	25.52	3.77	11.60	25.52	4.43	15.80	34.76	5.29	19.40	42.68	4.06
18	2 ¼"	14.60	32.12	4.71	14.60	32.12	5.56	20.00	44.00	6.56	24.60	54.12	5.09
20	2 ½"	18.10	39.82	5.72	18.10	39.82	6.75	24.70	54.34	8.08	30.30	66.66	6.22
22	2 ¾"	21.90	48.18	6.84	21.90	48.18	8.06	29.90	65.78	9.58	36.70	80.74	7.45
24	3"	26.00	57.20	8.03	26.00	57.20	9.46	35.50	78.10	11.42	45.20	99.44	8.97
26	3 ¼"	30.60	67.32	9.33	30.60	67.32	10.91	41.70	91.74	14.15	51.20	112.64	10.29
28	3 ½"	35.40	77.88	10.70	35.40	77.88	12.54	48.40	106.48	15.19	59.40	130.68	11.83
30	3 ¾"	40.70	89.54	12.13	40.70	89.54	13.66	55.50	122.10	17.23	69.20	152.24	13.52
32	4"	46.30	101.86	13.66	46.30	101.86	14.37	63.20	139.04	19.58	77.60	170.72	15.30
34	4 ¼"	52.00	114.40	15.18	52.00	114.40	16.11	71.00	156.20	21.90	87.60	191.40	17.10
36	4 ½"	58.60	128.92	17.03	58.60	128.92	17.84	80.00	176.00	24.47	98.20	216.04	19.17
38	4 ¾"	65.00	143.00	18.53	65.00	143.00	19.67	89.00	195.80	27.00	109.00	239.80	21.08
40	5"	72.30	159.06	20.80	72.30	159.06	21.51	98.70	217.14	30.00	121.00	266.20	23.45

1. Materials: All the above mentioned materials form yarns twisted into strands and made exclusively of pure raw materials.
2. Diameter: The size of all ropes must always be considered in approximate terms for obvious reasons and is actually determined by Linear Density.
3. Linear Density: Is considered standard and in the metric system is measured in Kilotex (ktex) that is grams/meter or kilograms/1000 meters length.

All ropes have extra U.V. protection additives, are made of high quality materials and are properly tested and certified. Twisted ropes have different applications such as in agriculture, transport, gardening, household, decoration, sports, shipping, fishing etc. It is up to the user to choose the right rope suited for the destined application.

KAPA PROTECTION SLEEVE – KAPA CHAFE QUARD

Our OEM have developed a variety of chafe products for extra protection reinforcement during mooring, tug, offshore applications.

The high performance protection sleeves offer excellent abrasion resistance and protect the ropes from wear while in contact with steel surfaces such as chocks, leads etc and damages occurring from sharp surfaces and edges.

They can be fixed or movable and their material depends on intended operational conditions.

KAPA CONNECT

Kapa connect is a strong fiber rope alternative to metal shackle or typical cow hitch between two lines. Light weight and easy to handle, it reduces connection / disconnection time and allows quick disengagement in case of emergency.

FALL PREVENTER DEVICES (FPDS)

THE USE OF FPDS IS RECOMMENDED BY THE INTERNATIONAL MARITIME ORGANIZATION (IMO)

Lifeboat accidents resulting in fatalities and injuries have been occurring for a number of years despite efforts taken to reduce them. Most of the accidents have taken place on vessels using conventional davits and on-load release systems.

The purpose of this guide is to help you decide whether additional precautions in the form of Fall Preventer Devices (FPDs) are appropriate, and if so, when and how to use them safely and effectively.

The use of FPDs is recommended by the International Maritime Organization (IMO) because:

- Many accidents have resulted in fatalities and injuries to seafarers;
- Exposure of seafarers to unacceptable risks calls for an urgent solution to the problem; and
- Waiting for development of new systems is not considered an option.

FPDs is an interim measure until new, safe, IMO approved systems are available. Development, testing and certification of such systems will, however, take time; thus routine use of FPDs can realistically be expected for many years.

ANNEX 7

According to Annex 7 "PROCEDURE FOR PROTOTYPE TESTS FOR TYPE APPROVAL AND PRODUCTION TEST OF FALL PREVENTER DEVICES WITH LIFE BOATS OR RESCUE BOATS LAUNCHED BY FALLS OTHER THAN FREE FALL LIFEBOATS". In particular, the environmental tests as specified in Part 1.2.1 ,1. of IMO resolution MSC 70) 81) were performed.

YACHTING LINE
MEGA - SUPERYACHTS

KAPA MARINE 12 ® 24 STRANDS

This rope series is considered the most successful mooring rope in the world! A very soft, flexible and easy to handle construction that offers safety on board.

The concept of developing this line was to produce a product made of excellent yarns, with only advantages towards all other mooring ropes; to produce a much safer and stronger product made of raw materials of the highest specifications. A big advantage of Kapa Ropes is that they enable the crew to make perfect splices in zero time.

- KAPA NYLON

- KAPA POLYESTER

- KAPA FLEX

- KAPA OCEANIC F

KAPA MARINE ROPES

ADVANTAGES

- Non rotating, torque free
- Superior abrasion resistance
- No kicking-no hockling
- Excellent grip
- Longer service life (estimated 1:2,25)
- Very flexible and soft (wet or dry)
- Greater bearing surface
- Easy, comfortable handling
- Easy-spliced construction
- Ideal for auto winches

KAPA MARINE ROPES 12 ® 24 STRANDS

SIZE		KAPA NYLON		KAPA POLYESTER		KAPA FLEX		KAPA OCEANIC F	
DIAM.	CIRC.	WEIGHT	M.B.L.	WEIGHT	M.B.L.	WEIGHT	M.B.L.	WEIGHT	M.B.L.
(MM)	(INCH)	KGS/ 100M	TONNES	KGS/ 100M	TONNES	KGS/ 100M	TONNES	KGS/ 100M	TONNES
6	3/4 "	2.37	0.82	2.73	0.61	2.21	0.74	1.70	0.70
8	1 "	4.19	1.48	4.80	1.07	3.90	1.32	3.00	1.12
10	11/14 "	6.50	2.28	7.60	2.50	5.85	2.09	4.50	1.99
12	11/12 "	9.37	3.30	10.90	3.00	8.58	3.00	6.60	2.85
14	1 3/4 "	12.80	4.50	15.00	3.70	11.83	4.15	9.10	3.95
16	2 "	16.60	5.83	19.40	4.20	14.00	5.30	11.60	5.10
18	21/4 "	21.00	7.37	24.60	4.80	18.00	6.70	14.90	6.50
20	2 1/2 "	26.00	9.13	30.00	6.00	21.65	8.30	17.90	7.40
22	23/4 "	31.40	11.00	35.00	7.50	26.62	10.00	22.00	9.10
24	3 "	37.30	13.20	44.00	8.50	31.46	12.00	26.00	10.50
26	31/4 "	44.15	15.40	49.50	10.50	36.90	14.00	30.50	12.70
28	31/2 "	50.00	18.00	62.00	18.00	42.95	15.80	35.50	14.00
30	33/4 "	57.00	21.00	72.00	21.00	49.00	18.00	40.50	16.00
32	4 "	65.00	24.00	81.00	24.00	55.00	24.00	46.00	18.00
34	43/8 "	73.50	27.00	92.00	27.00	63.00	27.00	52.50	19.50
36	41/2 "	82.00	30.00	103.00	30.00	71.00	30.00	59.00	21.00
38	43/4 "	92.00	33.50	115.00	33.50	80.00	33.00	65.00	25.00
40	5 "	102.00	37.00	127.00	37.00	89.00	36.00	71.00	29.00
44	51/2 "	123.00	45.00	155.00	45.00	105.00	41.00	88.00	35.00
48	6 "	146.00	53.00	184.00	54.00	127.00	49.00	104.00	42.00
52	61/2 "	172.00	63.00	215.00	63.00	150.00	57.00	123.00	47.00

KAPA CUSTOM MADE

SPLICED END OPTIONS

SPECIAL KAPA PROTECTION (BRAIDED) **1**
HANDMADE LEATHER PROTECTION **2**
SPLICED EYE WITH EXTENSION LOOP **3**
SPLICED EYE WITH THIMBLE **4**


1


2


3


4

COMPLETE SETS

FENDER LINES

ROPES FOR TENDERS FENDERS & TOYS

A-Z ROPE NEEDS

The Kapa Rope Series is designed to satisfy every taste you may have.

You can choose the ideal rope for you from a big variety of colors or even from a personal combination of colors to perfectly match your boat.
We can also offer you matching ropes for mooring, long lines, fenders and tenders.

These fancy lines complete the custom-made ropes for your yacht and only!

COLOR OPTIONS

The fancy lines that complete the custom made line for a yacht!
Twisted, braided, flat lines at any combination of colors!

YACHTING LINE
SAILING BOATS

KAPA NEEMA RACING is very strong pre-stretched rope made of 100% Dyneema fibers impregnated with Kapa Coating for extremely well protection against abrasion & wear and UV stability. The 12-strand construction enables the crew to make, fix or re-adjust splices in a few seconds only. An ideal rope for halyards.

KAPA NEEMA PLUS RACING consists of ultra high molecular weight polyethylene fiber and a robust polyester jacket

that ensures stability and uniformity while in use.

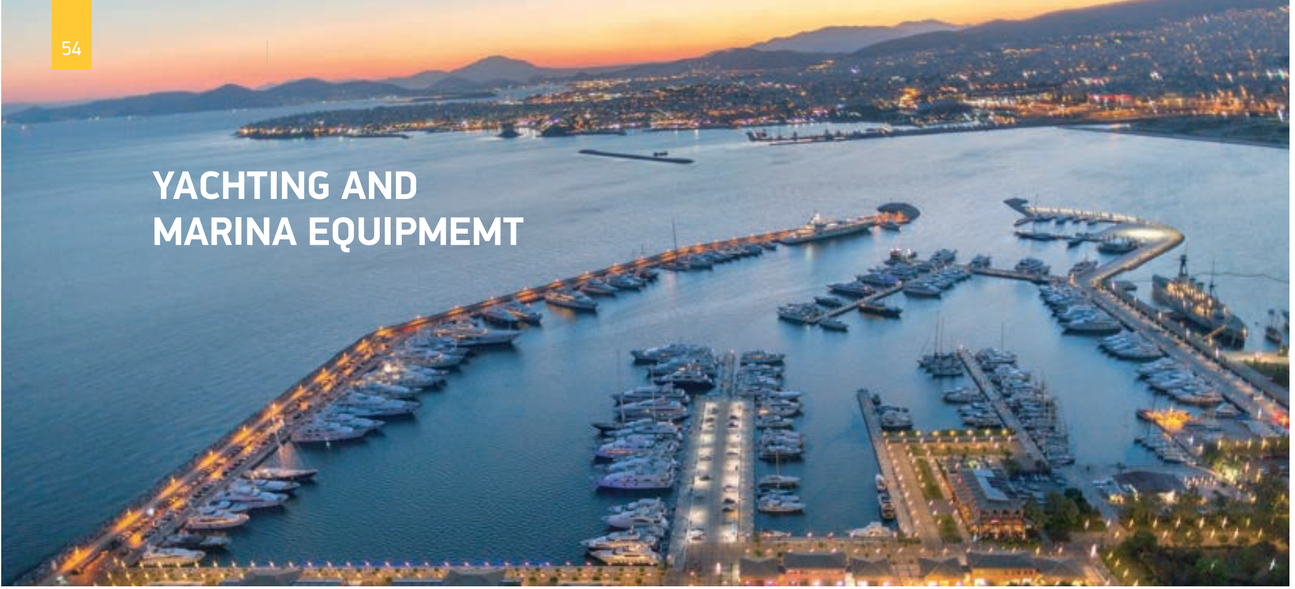
It is a low stretch construction, pre-stretched and heat-treated, ideal for halyards and sheets. Perfect rope for auto-winches.

KAPA TAPE 3® polyester ropes are made from high TENACITY efficiency sub-rope cores, laid parallel within an outer braided jacket. An easy to handle rope for all around sheet and spinnaker.

KAPA TAPE 4® is a high performance DOUBLE braided polyester rope, ideal for performance catamarans, sport boats as well as sailing boats. Ideal rope for main sail and head sail.

SIZE		KAPA TAPE 3			KAPA TAPE 4		
DIAM.	CIRC.	WEIGHT	WEIGHT	M.B.L.	WEIGHT	WEIGHT	M.B.L.
(MM)	(INCH)	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES
6	3/4 "	2.73	6.00	0.48	2.73	6.00	0.48
8	1 "	4.80	10.60	1.19	4.80	10.60	1.19
10	11/14 "	9.50	20.90	1.83	9.50	20.90	1.83
12	11/12 "	10.90	24.00	2.60	10.90	24.00	2.60
14	1 3/4 "	14.90	32.80	3.50	14.90	32.80	3.50
16	2 "	19.40	42.70	4.51	19.40	42.70	4.51
18	21/4 "	24.60	54.20	5.65	24.60	54.20	5.65
20	2 1/2 "	30.30	66.70	6.90	30.30	66.70	6.90
22	23/4 "	36.70	80.80	8.27	36.70	80.80	8.27
24	3 "	45.20	99.50	9.96	45.20	99.50	9.96
26	31/4 "	51.20	112.70	11.42	51.20	112.70	11.42
28	31/2 "	59.40	130.70	13.14	59.40	130.70	13.14
30	33/4 "	69.20	152.30	15.01	69.20	152.30	15.01

KAPANEEMA RACING					KAPANEEMA PLUS RACING		
SIZE		WEIGHT	WEIGHT	M.B.L.	WEIGHT	WEIGHT	M.B.L.
DIAM. (MM)	CIRC. (INCH)	KGS/ 100M	KGS/ 220M	TONNES	KGS/ 100M	KGS/ 220M	TONNES
6	¾"	2.30	5.10	3.60	5.20	11.50	3.10
8	1"	3.90	8.60	6.10	6.40	14.10	5.48
10	1 ¼"	5.80	12.70	9.00	7.80	17.20	8.21
12	1 ½"	8.30	18.26	13.00	11.50	25.40	11.86
14	1 ¾"	11.30	24.86	17.60	13.90	30.50	16.43
16	2"	14.70	32.40	23.10	20.00	44.00	20.99
18	2 ¼"	18.60	41.00	29.20	23.10	50.80	27.01
20	2 ½"	23.00	50.60	36.00	29.20	64.20	32.86
22	2 ¾"	27.80	61.20	43.60	32.90	72.50	40.16
24	3"	33.20	73.10	52.00	43.80	96.30	47.46
26	3 ¼"	39.00	85.80	61.10	48.00	105.60	55.67
28	3 ½"	45.20	99.40	71.80	69.60	153.20	64.80
30	3 ¾"	51.90	114.18	81.20	74.30	163.50	73.93
32	4"	59.00	129.80	92.40	77.20	169.70	79.40
34	4 ¼"	63.90	140.60	100.10	81.60	179.60	83.97
36	4 ½"	71.40	157.10	111.80	87.80	193.10	95.83
38	4 ¾"	79.90	175.78	125.10	97.70	214.80	106.78
40	5"	88.20	194.10	138.20	104.20	229.30	119.56



YACHTING AND MARINA EQUIPMEMT

Established a yachting equipment department to import from the entire world and commercialize in the Greek market the most famous and reliable yachting accessories and equipment.

POLYFORM FENDERS
MAJONI FENDERS

KAPA TENDERS

YOULONG LIFERAFTS

INFLATABLE LIFE JACKETS
ISO & SOLAS

VITRIFRIGO REFRIGERATORS

HELLA MARINE NAVIGATION
LIGHTS AND FANS

MZ ELECTRONICS

BAITEK WATERMAKERS

ITALWINCH ELECTRICAL AND
HYDRAULIC WINDLASSES AND
WINCHES

CRAFTSMAN BOW THRUSTERS

MARCO PUMPS ITALY

MAESTRINI SEA WATER FILTERS

VICTRON ENERGY PRODUCTS

SINCLAIR AIR CONDITIONS

GENERATORS

AND MANY MORE...

PACKING AND IDENTIFICATION

implemented ID marking on all its products.

The ID tag with the detailed label mentioning brand name, construction, diameter, length, date of production etc., in combination with the water-proof packing material of each mooring rope present the ultimate protection and identification of every product.

WIRE ROPES

ONE OF THE LEADING COMPANIES
WORLDWIDE IN THE PRODUCTION OF WIRE ROPES

We can offer a wide range of wire ropes including general purpose steel wire ropes, stainless steel, PVC coated and rotation resistance wire ropes for mooring, cranes, hoisting, luffing, lashing, industrial and offshore applications.

Well-engineered production technologies, user knowledge and many years of experience are combined to supply customized wire rope slings, offering solutions to the most demanding operations.

The available constructions are 6x7, 6x19, 6x36, 6x37, 8x26, 19x7, 35x7, 4x39 etc complying to the norms set by classification societies.

	TOWING ROPES	MOORING LINES	ANCHOR LINES	RUNNERS	HEAD SIDE® UDDER LINES	SLINGS	STANDING RIGGING	RUNNING RIGGING	BOOM HOISTS	PREVENTERS	BOAT FALLS	WINCHES	CRANES	HOISTS	SAFETY ROPES	CRANE HOISTS	DERRICKS	TRAWLWARPS	ELEVATOR WIRES	GUYS
1X19							X													
6X7							X													
6X19								X										X	X	X
6X24	X									X										
6X37		X				X		X				X	X		X					
6X25 FC						X	X													
6X25 SC			X				X													
6X29 FC													X		X		X			
6X29 SC			X										X							
6X26 FC						X						X								
6X26 SC								X				X								
6X31 FC								X				X	X							
6X31 SC								X				X	X							
6X36 FC								X				X	X		X					
6X36 SC	X	X	X	X						X			X		X					
6X41 FC								X				X								
6X41 SC	X	X	X					X				X								
7X19							X													X
7X7							X													X
8X25									X											
8X19																			X	
U4XSES39											X			X		X				
4 X F (40)											X			X		X				
CASAR									X		X		X	X		X		X		
VEROTOP									X		X		X	X		X		X		
19X7											X		X	X		X				
35X7											X		X	X		X				
36X7											X		X	X		X				
37X7											X		X	X		X				

WIRE ROPES - FC

SIZE									
DIAM	6 X 19 + FC - DIN3060			6 X 36 + FC DIN3064			6 X 37 + FC DIN3066		
		TS:1770 N/MM²	TS:1960 N/MM²		TS:1770 N/MM²	TS:1960 N/MM²		TS:1770 N/MM²	TS:1960 N/MM²
MM	WEIGHT KG/M	MBL (TN)	MBL (TN)	WEIGHT KG/M	MBL (TN)	MBL (TN)	WEIGHT KG/M	MBL (TN)	MBL (TN)
4	0.06	0.89	0.98				0.06	1.02	1.12
5	0.09	1.39	1.54				0.09	1.34	1.48
6	0.13	2.00	2.21				0.13	1.92	2.12
7	0.17	2.72	3.02				0.17	2.61	2.88
8	0.22	3.55	3.92	0.23	3.75	4.15	0.22	3.40	3.77
9	0.28	4.50	4.97	0.28	7.74	5.26	0.28	4.31	4.77
10	0.35	5.55	6.14	0.37	5.86	6.49	0.35	5.32	5.89
11	0.42	6.71	7.43	0.44	7.10	7.86	0.42	6.43	7.14
12	0.50	7.98	8.84	0.53	8.44	9.34	0.50	7.66	8.49
13	0.59	9.37	10.40	0.62	9.91	10.94	0.59	8.99	9.96
14	0.68	10.91	12.03	0.72	11.44	12.75	0.68	10.40	11.52
15	0.78	12.54	13.86	0.81	13.39	14.93	0.78	12.03	13.35
16	0.89	14.17	15.70	0.94	15.05	16.66	0.89	13.66	15.09
18	1.12	17.94	19.88	1.19	18.97	21.08	1.12	17.23	19.06
20	1.38	22.22	24.57	1.47	23.49	25.99	1.38	21.30	23.55
22	1.67	26.81	29.66	1.78	28.4	31.41	1.67	25.79	28.54
24	1.99	31.91	35.37	2.11	33.72	37.44	1.99	30.68	33.94
26	2.34	37.51	41.59	2.48	39.64	43.86	2.34	35.98	39.86
28	2.71	43.43	48.11	2.88	45.97	50.88	2.71	41.69	46.18
30	3.12	49.88	55.23	3.24	53.61	59.77	3.12	48.11	53.31
32	3.54	56.78	62.90	3.76	60.02	66.44	3.54	54.43	60.24
34	4.00	64.00	70.95	4.17	68.8	76.70	4.01	61.67	68.30
36	4.48	71.87	79.61	4.76	75.97	84.1	4.48	68.91	76.35
38	4.99	80.00	88.62	5.19	85.93	95.81	5.01	77.06	85.32
40	5.54	88.69	98.17	5.87	93.84	104.38	5.54	85.12	94.29
42	6.10	97.70	112.00	6.41	105.00	117.00	6.12	94.09	104.18
44	6.70	107.03	118.55	7.11	113.41	125.45	6.70	102.96	113.97
46	7.30	118.00	129.00				7.33	112.64	124.77
48	7.97	127.42	141.08				7.97	122.32	135.47
50	8.65	138.60	153.00				8.66	133.03	147.30
52	9.36	149.85	165.95				9.36	143.73	159.12
54	10.10	161.00	178.80				10.10	155.45	172.17
56	10.90	174.31	193.07				10.90	167.18	185.12

WIRE ROPES - SC

									
	6 X 19 + SC DIN3060			6 X 36 + SC (6 XWS36) SC DIN3064			6 X 37 + SC DIN3066		
DIAM MM	WEIGHT KG/M	TS:1770 N/MM² MBL (TN)	TS:1960 N/MM² MBL (TN)	WEIGHT KG/M	TS:1770 N/MM² MBL (TN)	TS:1960 N/MM² MBL (TN)	WEIGHT KG/M	TS:1770 N/MM² MBL (TN)	TS:1960 N/MM² MBL (TN)
6	0.14	2.31	2.56				0.13	2.07	2.29
7	0.20	3.15	3.49				0.18	2.81	3.12
8	0.26	4.11	4.56				0.24	3.68	4.08
9	0.32	5.20	5.76				0.30	4.66	5.16
10	0.40	6.42	7.12				0.38	5.75	6.37
11	0.48	7.77	8.60				0.46	6.95	7.70
12	0.58	9.25	10.23	0.59	9.25	10.19	0.54	8.28	9.16
13	0.68	10.81	12.03	0.70	10.94	12.08	0.64	9.70	10.74
14	0.78	12.64	13.97	0.80	12.64	13.97	0.74	11.21	12.44
15	0.90	14.58	16.11	0.93	14.53	16.11	0.86	12.95	14.37
16	1.02	16.41	18.25	1.05	16.41	18.25	0.97	14.68	16.21
18	1.30	20.80	23.04	1.33	20.80	23.04	1.23	18.65	20.69
20	1.60	25.69	28.44	1.64	25.69	28.44	1.52	22.94	25.38
22	1.94	31.09	34.45	1.98	31.09	34.45	1.84	27.83	30.78
24	2.30	37.00	40.98	2.36	37.00	40.98	2.19	33.13	36.70
26	2.70	43.43	48.11	2.76	43.43	48.11	2.57	38.84	43.02
28	3.14	50.36	55.76	3.21	50.36	55.76	2.98	45.06	49.85
30	3.62	58.10	64.32	3.70	58.10	64.32	3.44	51.99	57.59
32	4.10	65.75	72.88	4.19	65.75	72.88	3.90	58.82	65.14
34	4.64	74.52	82.47	4.75	74.52	82.57	4.42	66.67	73.80
36	5.18	83.28	92.15	5.30	83.28	92.15	4.93	74.41	82.36
38	5.79	93.17	103.16	5.92	93.17	103.16	5.51	83.18	92.15
40	6.40	102.96	114.17	6.54	102.96	114.17	6.09	91.95	101.83
42	7.07	113.66	125.89	7.23	113.66	125.89	6.73	101.53	112.44
44	7.74	124.36	137.61	7.92	124.36	137.61	7.37	111.11	123.04
46	8.46	135.88	150.46	8.67	136.09	150.87	8.07	121.81	134.86
48	9.21	147.91	163.81	9.42	147.81	164.12	8.77	132.52	146.79
50				10.26	160.55	178.39	9.53	143.73	159.12
52				11.10	173.29	192.66	10.30	154.94	171.56
54				11.95	187.56	209.99	11.10	167.69	185.73
56				12.80	201.83	223.24	11.90	180.43	199.80
58				13.75	216.62	239.55	12.80	193.68	214.48
60				14.70	231.40	255.86	13.70	206.93	229.15
62				16.40	259.43	287.46			
64				17.30	274.21	300.71			

NON ROTATING WIRE ROPES

SIZE	 U4 X SES 39		 19 X 7 SC (19X7) DIN3069			 35 X 7 SC DIN3071		
DIAM		TS:1960 N/MM²		TS:1770 N/MM²	TS:1960 N/MM²		TS:1770 N/MM²	TS:1960 N/MM²
MM	WEIGHT KG/M	MBL (TN)	WEIGHT KG/M	MBL (TN)	MBL (TN)	WEIGHT KG/M	MBL (TN)	MBL (TN)
7			0.20	2.90	3.21			
8	0.26	4.51	0.26	3.79	4.19			
9	0.33	5.71	0.33	4.79	5.31			
10	0.40	7.05	0.40	5.92	6.55	0.45	6.50	7.20
11			0.49	7.16	7.93	0.55	7.86	8.71
12	0.58	10.20	0.58	8.52	9.44	0.65	9.39	10.40
13			0.68	10.00	11.11	0.77	11.01	12.13
14	0.79	13.80	0.79	11.62	12.84	0.89	12.74	14.07
15			0.91	13.35	14.88	1.03	14.78	16.31
16	1.03	18.00	1.03	15.19	16.82	1.16	16.72	18.45
18	1.30	22.80	1.30	19.16	21.20	1.47	21.10	23.34
20	1.61	28.20	1.60	23.65	26.20	1.82	25.99	28.75
22	1.95	34.10	1.94	28.64	31.70	2.20	31.50	34.86
24	2.32	40.60	2.31	34.05	37.72	2.62	37.41	41.39
26	2.72	47.70	2.71	39.96	44.34	3.07	43.93	48.62
28	3.15	55.30	3.14	46.38	51.38	3.56	50.97	56.37
30	3.62	63.40	3.61	53.31	59.02	4.11	58.72	65.04
32	4.12	72.20	4.11	60.55	67.07	4.65	66.56	73.70
33.5	4.51	79.10						
34	4.65	81.50	4.64	68.40	75.74	5.27	75.43	83.49
35.5	5.07	88.80						
36	5.21	91.30	5.20	76.66	84.91	5.92	84.66	93.73
38	5.80	101.80				6.56	93.88	103.98
40	6.43	110.00				7.26	104.08	115.19

CRANE WIRE ROPES

SIZE	 KAPA COMPACTED P (35X7) PPI IWRC			 KAPA COMPACTED P (8X26) PPI IWRC			 KAPA HOIST 4 COMPACTED (4X36)	
DIAM		TS:1960 N/MM²	TS:2160 N/MM²		TS:1960 N/MM²	TS:2160 N/MM²		TS:1960 N/MM²
MM	WEIGHT KG/M	MBL (TN)	MBL (TN)	WEIGHT KG/M	MBL (TN)	MBL (TN)	WEIGHT KG/M	MBL (TN)
13	0.85	15.80	17.00	0.78	15.10	16.20		
14	0.99	18.30	19.60	0.90	17.50	18.80		
15				1.04	20.20	21.50		
16	1.29	23.80	25.70	1.18	22.90	24.60	1.20	22.50
18	1.63	30.60	32.70	1.49	29.00	31.00	1.52	28.50
19	1.82	33.70	36.00	1.67	32.40	34.65	1.69	31.70
20	2.01	37.90	40.70	1.84	35.80	38.30	1.88	35.20
21	2.22	41.00	44.20	2.05	39.55	42.35		
22	2.43	45.30	49.30	2.23	43.30	46.40	2.27	42.50
24	2.90	54.10	58.30	2.65	51.60	55.10	2.70	50.60
26	3.40	63.30	67.40	3.18	60.60	64.70	3.17	59.40
28	3.94	73.40	80.30	3.68	70.10	75.10	3.68	68.90
30	4.53	84.30	92.20	4.23	80.50	86.20	4.22	79.10
32	5.15	96.20	106.00	4.81	91.60	97.90	4.81	90.00
34	5.65	105.60	115.00	5.43	103.00	110.00	5.43	101.60
35	6.16	115.00	124.00	5.76	109.50	117.00		
36	6.52	121.00	131.00	6.09	116.00	124.00	6.08	113.90
38	7.26	135.00	146.00	6.79	129.00	138.00	6.78	126.90
40	8.05	151.00	162.00	7.52	143.00	153.00	7.51	140.60

CASAR SPECIAL WIRE ROPES

CASAR WIRE ROPES IMPROVE PERFORMANCE
AND ASSURE LONG TERM DURABILITY

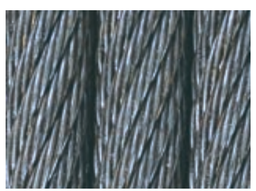
We are sole representative of Casar special wire ropes in Greece.

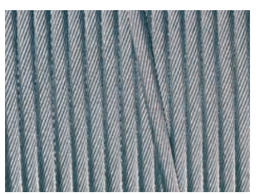
Casar wire ropes are considered to be the highest quality wire ropes existing suitable for all types of cranes.

For every type of crane there is a special Casar wire rope constructed.

A few constructions, the most widely used ones, are shown on the next page. We recommend that the client refers to the company's publication "which wire rope for my crane" or asks us for further instructions.

Most recent Casar constructions are made from compacted strands which are fully lubricated and layered with plastic between the steel core and the outer strands. The excellent quality of the material, the special design and the structural stability of Casar wire ropes improve performance and assure long term durability.





TYPICAL CASAR CONSTRUCTIONS

CASAR SUPERPLAST10 MIX

Very high bending fatigue performance and high minimum breaking load. Mainly overhead and industrial cranes, where rotation resistant ropes are not required.

CASAR EUROLIFT

Has a core in a special design avoiding crossover between the strands of core and preventing internal rope destruction. Hoist rope for mobile cranes, electrical hoists and other applications, where rotation resistant ropes are required.

CASAR POWERPLAST

Has a high breaking load and a good resistance against drum crushing. Hoist rope for deck cranes and offshore cranes, pull-in-riser and other applications in the marine environment, where rotation resistant ropes are required.

CASAR STRATOPLAST

Very flexible Filler construction. Rope for a huge number of different applications, can be used as hoisting rope in multiple part reeving for smaller lifting heights as well as for twin hoist systems with left and right hand lay ropes for greater lifting heights.

CASAR TURBOPLAST

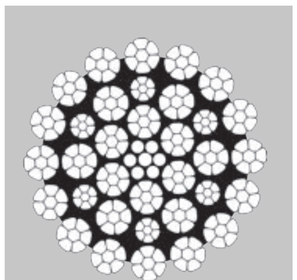
High breaking load and good resistance against crushing. Hoisting rope in multiple part reeving for smaller lifting heights as well as for twin hoist systems with left and right hand lay ropes for greater lifting heights.

CASAR STARLIFT

A very flexible rope with a core in a special design avoiding crossovers between the strands of core and preventing internal rope destruction. Hoist rope for mobile cranes, electrical hoists and other applications, where rotation resistant ropes are required.

VEROPE SPECIAL WIRE ROPES

SPECIAL WIRE ROPES FOR CRANE APPLICATIONS

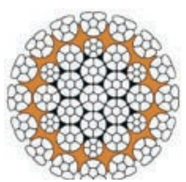


.Verope special wire ropes in Greece.

Verope AG was established in 2004 with the purpose to develop affordable special wire ropes for crane applications at a very high technical level.

Target market segments are the marine industry, construction industry and heavy industry.

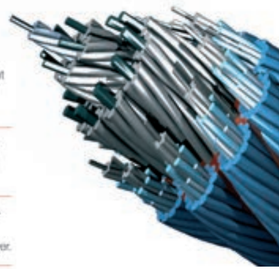
Verope is today a major supplier to MacGregor, NMF, TTS, and Liebherr.



ROTATION RESISTANT ROPES

verotop P		verotop **P** is a rotation-resistant rope with compacted strands and a rope core covered with a plastic layer.
verotop XP		verotop **XP** is a rotary swaged rotation-resistant rope with compacted strands and a rope core covered with a plastic layer.
verotop		verotop is a very flexible rotation-resistant rope with compacted strands.
verotop S		verotop **S** is a very flexible rotation-resistant rope with compacted outer strands and very high breaking strength.
verotop E		verotop **E** is a flexible rotation-resistant rope with compacted outer strands.
vero 4		vero **4** is a 4-strand rotation-resistant rope with compacted strands.

NON ROTATION - RESISTANT ROPES



verostar 8		verostar **8** is an 8-strand, non-rotation resistant rope with conventional strands and a rope core covered with a plastic layer.
veropro 8		veropro **8** is an 8-strand, non-rotation resistant rope with compacted outer strands and a rope core covered with a plastic layer.
veropro 8 RS		veropro **8 RS** is a rotary swaged 8-strand, non-rotation resistant rope with compacted outer strands and a rope core covered with a plastic layer.
verpower 8		verpower **8** is a rotary swaged 8-strand, non-rotation resistant rope in parallel lay construction with compacted outer strands and a rope core covered with a plastic layer.
verpro 10		verpro **10** is a very flexible 10-strand, non-rotation resistant rope with compacted strands and a rope core covered with a plastic layer.
verotech 10		verotech **10** is a very flexible 10-strand, non-rotation resistant rope in parallel lay construction with compacted strands and a rope core covered with a plastic layer.
verosteel 8		verosteel **8** is an 8-strand, non-rotation resistant rope with compacted outer strands.

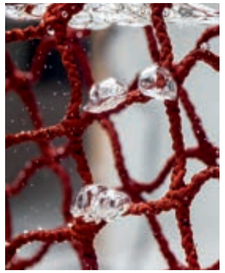
FISHING & AQUACULTURE

.A. SPECIALIZES IN THIS FIELD WITH PRODUCTS OF EXCELLENT QUALITY

Our OEM has expanded its ability to provide a large variety of materials used in the field of Fishing and Aquaculture, such as trawl doors, nets, our excellent fishing wires and combination ropes, anchoring systems accessories and all relevant components.
Our combination ropes (mayettas) consist of 4 or 6 wire strands coated with polypropylene, polysteel, pure nylon or nylon & polypropylene combination.

The galvanized fishing wire ropes are preformed and postpressed so as to make it easier on the drum and so as to prevent disorientation of the strands.

Our chains, galvanized or bright, short or long link are used in anchor systems that we make which we deliver connected in place according to buyers instructions.



QUALITY
All our products are of excellent quality following the norms of ISO 9001:2015

NICHED THE MARKET
We supply fishing nets-trawls to the Greek fishing industry and export to vessels in the Mediterranean and worldwide.

COMBINATION ROPES (MAYETTAS)

Combination ropes are mostly used in the fishing and Aquaculture industries, as well as in other applications such as in kids playgrounds etc. A combination rope is a rope structure consisting of a wire rope core and a synthetic rope braided coating.

Combination ropes can be produced in various constructions: 6x6, 6x7, 6x8, 6x12, 6x19.The construction depends on the diameter of the combination rope and on the flexibility and rigidness requirements. The weight depends on the construction, the diameter of the individual wires used and the type of coating. Tensile strength can be 160 or 180 kp/mm2.

The core can be fiber (FC) or wire (IWRC). The coating can be of Polypropylene, Polysteel or Nylon. Different coloring is available with standard being Polypropylene Blue, Polysteel Green & Nylon White.

WIRE ROPES 6 STRANDS + STEEL CORE / FC		
SIZE	6 STRANDS + STEEL CORE	6 STRANDS + FC
DIAM	WEIGHT (KG/MT)	WEIGHT (KG/MT)
12	0.24	0.21
14	0.31	0.29
16	0.37	0.38
18	0.46	0.47
20	0.63	0.58
22	0.83	0.71
24	1.02	0.86
26	1.2	1.01
28	1.38	1.12
30	1.48	1.24
32	1.61	1.430
36	1.91	1.710

WIRE ROPES 8 STRANDS + STEEL CORE	
SIZE	6 STRANDS + STEEL CORE
DIAM	WEIGHT (KG/MT)
24	0.82
26	1.03
40	1.65
44	2.21
48	3.24
52	4.27

NOTES:

1) If the coating is nylon then the weight of each diam. FC or IWRC is increased respectively due to the difference between polypropylene and nylon.

2) All weights have a tolerance of +/- 3%.

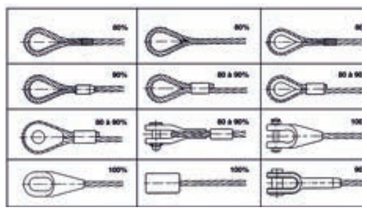
3) If other construction than 6X8 is required it can be manufactured on special order for lengths over 1.200 meters each diameter.

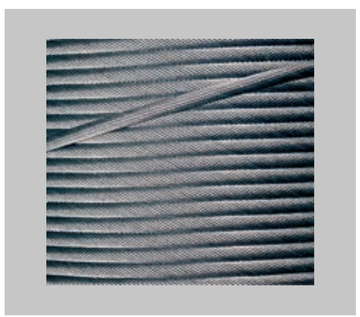
FISHING WIRE ROPES										
SIZE										
CIRC	DIAM		6 X 19 DIN3058 FC		6 X 19 DIN3058 SC		6 X 7 DIN3055 FC		6 X 7 DIN3055 SC	
INCH	INCH	MM	WEIGHT KG/M	MBL (TN)	WEIGHT KG/M	MBL (TN)	WEIGHT KG/M	MBL (TN)	WEIGHT KG/M	MBL (TN)
		2					0.014	0.24	0.016	0.26
		3					0.032	0.53	0.035	0.58
1/2”	5/32”	4					0.057	0.96	0.063	1.03
5/8”	3/16”	5					0.090	1.50	0.094	1.62
3/4”	1/4”	6	0.13	2.14	0.15	2.31	0.13	2.15	0.14	2.32
7/8”	9/32”	7	0.18	2.92	0.20	3.15	0.170	2.93	0.19	3.16
1”	5/16”	8	0.24	3.81	0.26	4.11	0.23	3.83	0.25	4.14
1 1/8”	11/32”	9	0.30	4.83	0.33	5.22	0.29	4.84	0.318	5.23
1 1/4”	3/8”	10	0.37	5.96	0.41	6.44	0.36	5.98	0.39	6.46
1 3/8”	7/16”	11	0.45	7.21	0.45	7.79	0.43	7.24	0.47	7.82
1 1/2”	15/32”	12	0.54	8.58	0.59	9.27	0.51	8.61	0.57	9.30
1 5/8”	1/2”	13	0.63	10.10	0.69	10.90	0.60	10.10	0.66	10.90
1 3/4”	9/16”	14	0.73	11.70	0.80	12.60	0.70	11.70	0.77	12.60
		15	0.84	13.40	0.92	14.50				
2”	5/8”	16	0.95	15.30	1.05	16.50	0.91	15.30	1.01	16.50
		17	1.08	17.20	1.19	18.60				
2 1/4”	23/32”	18	1.21	19.30	1.33	20.80	1.16	19.40	1.28	21.00
		19	1.35	21.50	1.49	23.20				
2 1/2”	3/4”	20	1.49	23.80	1.64	25.70	1.43	23.90	1.57	25.80
2 3/4”	7/8”	22	1.80	28.80	1.98	31.10	1.73	28.90	1.90	31.20
3”	15/16”	24	2.15	34.30	2.37	37.00	2.06	34.40	2.27	37.20
3 1/4”	1”	26	2.52	40.30	2.77	43.50	2.42	40.40	2.66	43.60
3 1/2”	1 1/8”	28	2.92	46.70	3.21	50.40	2.80	46.90	3.08	50.70
3 3/4”	1 3/16”	30	3.35	53.86	3.68	58.10	3.20	54.05	3.55	58.40
4”	1 1/4”	32	3.82	61.00	4.20	65.90	3.66	61.20	4.03	66.10
4 1/4”	1 3/8”	34	4.31	69.10	4.74	74.65	4.12	69.40	4.53	74.90
4 1/2”	1 13/32”	36	4.83	77.20	5.31	83.40	4.63	77.60	5.09	83.70
4 3/4”	1 1/2”	38					5.15	86.65	5.65	93.30
5”	1 9/16”	40					5.72	95.70	6.29	103.00

END WORK AND FITTINGS ON WIRE ROPES

All users of wire ropes with fittings should have a good knowledge of what to order especially in terms of working loads, so that they do not encounter any unexpected situation.

Depending on the end fittings the strength of the wire ropes and their B.L. is adjusted as per the reference table.





WIRE ROPE END FITTING AND TERMINATION

A. Open and close type spelter sockets: They are alloy cast steel fittings fitted on the end of the wire ropes by wire lock resin.

Grip capacity Resistance 98% - 100% of wire rope M.B.L..

B. Open and close type wedge sockets: Basket and wedge in alloy cast steel. Quick mount / dismountable sockets mainly for dredging industry.

Grip capacity 95%.

C. Wire rope clips: Must be used as a set of 4 or more, body facing away from wire rope end, distance between of grips 1.5 to 3 times the width of the clips bridge.

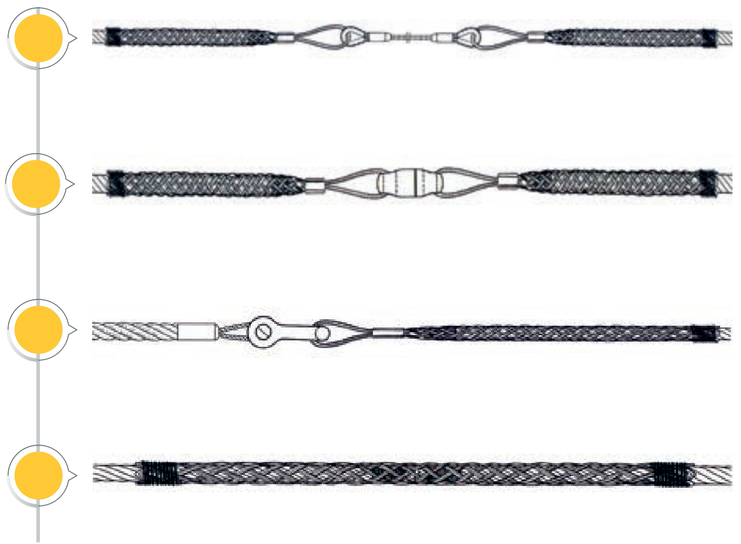
Grip Capacity 95%.

D. Ferrules: Mostly aluminum or steel give a grip capacity of 90% of

wire rope M.B.L.

E. H and splicing: When woven correctly gives a grip capacity of over 80% of wire rope M.B.L.

METHODS OF INSTALLING A WIRE ROPE



WIRE ROPE GRIPS “CHINESE FINGERS”

Never install a wire rope by pulling it in by the old one immediately connected to each other shape D.

This type of connection will transfer the twists of the old wire rope built us in the system to the new one.

This will damage the new rope extremely.

Use the other methods A,B, or C or even a 3-strand rope to pull the new wire in place.

This way the new wire rope will last longer.

ANCHORS - ANCHOR CHAINS

ALL OUR ANCHORS, ANCHOR CHAINS AND ACCESSORIES ARE BRAND NEW DELIVERED WITH APPROPRIATE CERTIFICATES NEEDED DEPENDING ON THE VESSELS REGISTRY

.A. supplies anchors, chains, all accessories for vessels, aquaculture and fishing worldwide.

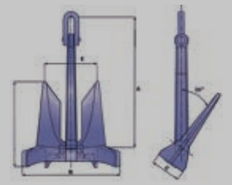
At any given time we keep an enormous stock in Piraeus (and also in China) of studless anchor-chain from 16mm up to 40 mm, studlink anchor-chain from 16mm up to 107 mm.

We keep brand new chain in stock of grade U3, K3, R3 RS3.

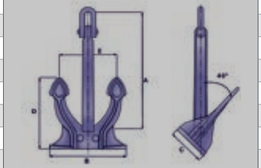
Kenter shackles, swivels, pear shackles, triplates and all accessories required to build anchor or mooring systems are available in stock for immediate delivery.

Our products are fully certified by LRS or ABS or BV and other requested classes.

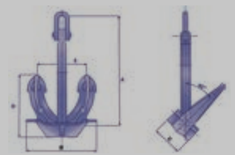
Diam	GRADE U2		GRADE U3		Min. Weight/Length 27,5m	
mm	P.L./kg	B.L./kg	P.L./kg	B.L./kg	Dee Shackle/kg	Lugless Sh./kg
12.5	6700	9400	9400	13500	107	105
14.0	8400	11800	11800	16800	130	127
16.0	10900	15300	15300	22000	160	157
17.5	13000	18300	18300	26100	190	186
19.0	15300	21500	21500	30700	220	216
20.5	17800	24900	24900	35600	252	248
22.0	20400	28600	28600	40900	290	286
24.0	24200	33900	33900	48500	350	345
26.0	28300	39700	39700	56700	410	405
28.0	32700	45800	45800	65500	480	475
30.0	37500	52400	52400	74900	550	545
32.0	42500	59400	59400	84900	620	615
34.0	47700	66800	66800	95500	700	690
36.0	53300	74600	74600	107000	785	775
38.0	59200	82800	82800	118000	875	860
40.0	65300	91400	91400	131000	965	950
42.0	71700	100000	100000	143000	1055	1040
44.0	78400	110000	110000	157000	1150	1130
46.0	85300	119000	119000	171000	1260	1240
48.0	92600	130000	130000	185000	1370	1345
50.0	100000	140000	140000	200000	1485	1455
52.0	108000	151000	151000	215000	1605	1575
54.0	116000	162000	162000	231000	1725	1690
56.0	124000	174000	174000	248000	1850	1810
58.0	132000	185000	185000	265000	1985	1945
60.0	141000	198000	198000	282000	2135	2075
62.0	150000	210000	210000	300000	2275	2220
64.0	159000	223000	223000	319000	2430	2370
66.0	169000	236000	236000	337000	2590	2525
68.0	178000	250000	250000	357000	2755	2685
70.0	188000	263000	263000	376000	2925	2850
73.0	203000	285000	285000	407000	3185	3100
76.0	219000	307000	307000	438000	3460	3360
78.0	230000	322000	322000	459000	3640	3535
81.0	246000	345000	345000	492000	3940	3820
84.0	263000	368000	368000	526000	4240	4105
87.0	280000	393000	393000	561000	4555	4405
90.0	298000	417000	417000	596000	4870	4705
92.0	310000	434000	434000	620000	5085	4905
95.0	329000	460000	460000	657000	5405	5210
97.0	341000	477000	477000	682000	5630	5425
100.0	360000	504000	504000	720000	5970	5745
102.0	373000	522000	522000	746000	6210	5970
105.0	393000	550000	550000	785000	6580	6320
107.0	406000	568000	568000	812000	6845	6575



AC 14 ANCHORS							
WEIGHT			DIMENSIONS [IN MM]				
KG			A	B	C	D	E
970	-	1080	1810	1660	540	1530	885
1305	-	1575	2015	1845	600	1705	985
1980	-	2100	2100	1920	630	1820	1030
2295	-	2475	2300	2107	687	1945	1127
2655	-	2835	2388	2185	711	2016	1168
3040	-	3445	2560	2345	765	2165	1255
3670	-	3940	2586	2366	771	2185	1266
5175	-	5510	2925	2615	850	2350	1400
5850	-	6225	3034	2600	869	2400	1460
6525	-	6975	3150	2688	902	2500	1516
8325	-	9675	3340	3000	1006	2800	1590
9945	-	10575	3500	3210	1050	2975	1720
		12075	3660	3350	1090	3095	1795



SPEK ANCHORS							
WEIGHT			DIMENSIONS [IN MM]				
KG			A	B	C	D	E
480	-	660	1260	908	442	846	650
780	-	900	1300	1030	502	975	750
1290	-	1440	1430	1240	587	1165	900
1590	-	1740	1620	1299	644	1229	950
1920	-	2100	1755	1454	720	1370	1050
2460	-	2640	1866	1514	744	1424	1100
2850	-	3060	1940	1584	788	1502	1150
3300	-	3780	2160	1650	801	1560	1200
4050	-	4890	2400	1927	910	1813	1400
5250	-	5610	2600	2000	954	1864	1450
6000	-	6450	2600	2060	998	1946	1500
6900	-	7800	2740	2138	1030	2006	1550
8300	-	9900	3060	2333	1118	2210	1700
10500	-	11700	3186	2440	1178	2301	1770



HALL ANCHORS						
WEIGHT			DIMENSIONS [IN MM]			
KG			A	B	C	D = E
180	-	240	985	694	312	510
360	-	480	1220	860	380	630
780	-	900	1490	1053	480	772
1020	-	1140	1600	1126	512	825
1290	-	1440	1800	1245	550	895
1920	-	2100	2020	1407	623	1020
2280	-	2640	2170	1519	672	1085
3300	-	3780	2466	1740	733	1265
4050	-	4590	2784	1889	780	1384
4890	-	5610	2788	1952	864	1394
6000	-	6900	2930	2064	932	1512
8300	-	9300	3301	2311	1023	1650
9900	-	11100	3502	2452	1086	1751

SLINGS

WIRE ROPE, CHAIN, FIBER

When a single leg sling is used to lift a weight in a U or V shape instead of a straight line, the capacity of the sling must automatically be considered the same and equal to the capacity of the correspondent block.

Our wire rope slings are produced and tested according with B.S. - E.N.-13 414-1: 2003 + A2 2008 with pressed ferrules eyes (d.) or hand spliced eyes (e.)

NOTE 1 The working load limits (WLLs) given in the Table above are based on the assumption that soft eyes of single - leg slings are used over bearing points having diameters not less than twice the nominal diameter of the rope.

NOTE 2 The Table shows working load limit values for ferrule - secured eye slings in various configurations. These values, which are based on the equation have been rounded for the convenience of the user.

WORKING LOAD LIMITS FOR SLINGS USING FIBRE CORED ROPE OF CLASSES 6X18 AND 6X36 IN GRADE 1770 AND HAVING FERRULE-SECURED EYE TERMINATIONS

Angle to the vertical	One Leg Sling	Two Leg Sling		Three and Four Leg Sling		Endless Sling
	0°	0° - 45°	>45° - 60°	0° - 45°	>45° - 60°	0°
Nominal Rope dia mm	Direct	Direct	Direct	Direct	Direct	Choke Hitch
	Working Load Limits (WLL) t					
	t	t	t	t	t	t
8	0.70	0.95	0.70	1.50	1.05	1.10
9	0.85	1.20	0.85	1.80	1.30	1.40
10	1.05	1.50	1.05	2.25	1.60	1.70
11	1.30	1.80	1.30	2.70	1.95	2.12
12	1.55	2.12	1.55	3.30	2.30	2.50
13	1.80	2.50	1.80	3.85	2.70	2.90
14	2.12	3.00	2.12	4.35	3.15	3.30
16	2.70	3.85	2.70	5.65	4.20	4.35
18	3.40	4.80	3.40	7.20	5.20	5.65
20	4.35	6.00	4.35	9.00	6.50	6.90
22	5.20	7.20	5.20	11.0	7.80	8.40
24	6.30	8.80	6.30	13.5	9.40	10.0
26	7.20	10.0	7.20	15.0	11.0	11.8

WORKING LOAD LIMITS FOR SLINGS USING STEEL CORED ROPE OF CLASSES 6X18 AND 6X36 IN GRADE 1770 AND HAVING FERRULE-SECURED EYE TERMINATIONS

Angle to the vertical	One Leg Sling	Two Leg Sling		Three and Four Leg Sling		Endless Sling
	0°	0° - 45°	>45° - 60°	0° - 45°	>45° - 60°	0°
Nominal Rope dia mm	Direct	Direct	Direct	Direct	Direct	Choke Hitch
	Working Load Limits (WLL) t					
	t	t	t	t	t	t
8	0.75	1.05	0.75	1.55	1.10	1.20
9	0.950	1.30	0.95	2.00	1.40	1.50
10	1.15	1.60	1.15	2.40	1.70	1.35
11	1.40	2.00	1.40	3.00	2.12	2.25
12	1.70	2.30	1.70	3.55	2.50	2.70
13	2.00	2.80	2.00	4.15	3.00	3.15
14	2.25	3.15	2.25	4.80	3.40	3.70
16	3.00	4.20	3.00	6.30	4.50	4.80
18	3.70	5.20	3.70	7.80	5.65	6.00
20	4.60	6.50	4.60	9.80	6.90	7.35
22	5.65	7.80	5.65	11.8	8.40	9.00
24	6.70	9.40	6.70	14.0	10.0	10.6
26	7.80	11.0	7.80	16.5	11.5	12.5

POLYESTER LIFTING SLINGS ACCORDING TO EN 1492-1

WLL (T)	WIDTH (MM)	COLOR	STRAIGHT LIFT (KGS)	BASKET 200% (KGS)	BASKET 140% (KGS)	BASKET 100% (KGS)	CHOCKER %80 (KGS)
1	30	VIOLET	1,000	2,000	1,400	1,000	800
2	60	GREEN	2,000	4,000	2,800	2,000	1,600
3	90	YELLOW	3,000	6,000	4,200	3,000	2,400
4	120	GREY	4,000	8,000	5,600	4,000	3,200
5	150	RED	5,000	10,000	7,000	5,000	4,000
6	180	BROWN	6,000	12,000	8,400	6,000	4,800
8	240	BLUE	8,000	16,000	11,200	8,000	6,400
10	300	ORANGE	10,000	20,000	14,000	10,000	8,000

POLYESTER LIFTING SLINGS ACCORDING TO EN 1492-1

WLL (T)	WIDTH (MM)	COLOR	STRAIGHT LIFT (KGS)	BASKET 200% (KGS)	BASKET 140% (KGS)	BASKET 100% (KGS)	CHOCKER %80 (KGS)
1	40	VIOLET	1,000	2,000	1,400	1,000	800
2	50	GREEN	2,000	4,000	2,800	2,000	1,600
3	60	YELLOW	3,000	6,000	4,200	3,000	2,400
4	70	GREY	4,000	8,000	5,600	4,000	3,200
5	75	RED	5,000	10,000	7,000	5,000	4,000
6	80	BROWN	6,000	12,000	8,400	6,000	4,800
8	90	BLUE	8,000	16,000	11,200	8,000	6,400
10	100	ORANGE	10,000	20,000	14,000	10,000	8,000
12	110	ORANGE	12,000	24,000	16,800	12,000	9,600
15	125	ORANGE	15,000	30,000	21,000	15,000	12,000
20	150	ORANGE	20,000	40,000	28,000	20,000	16,000
30	200	ORANGE	30,000	60,000	42,000	30,000	24,000
50	220	ORANGE	50,000	100,000	70,000	50,000	40,000
80	260	ORANGE	80,000	160,000	112,000	80,000	64,000
100	290	ORANGE	10,000	200,000	140,000	100,000	80,000

NOTES:

1) Lifting Slings (up to 6››X6m) are shrink packed.

2) Although the construction of all slings is according to the EN 1492-1 and EN 1492 - 2, the name coloring only applies to the D.P. (double ply).

3) Each sling is supplied with an individual test certificate.

4) Single ply slings are normally supplied without eye protection.

5) Double ply and 4-ply slings are supplied with eye protection.

Our Polyester lifting slings can come as single ply (SP), double ply (DP) or four ply (FP) with the safety factor of 7:1 in all cases. They are manufactured according to EN 1492 - 1 and EN 1492 - 2. These flat slings can be shown also as endless Polyester slings and cargo lashing slings.

Another category are the side stitch round slings that can be produced up to 30 meters effective length with a capacity up to 100 tons.

Upon ordering any type of sling one must define the end fittings, the length of the short path in cargo lashing and the type of ratchet needed. Any combination is available.

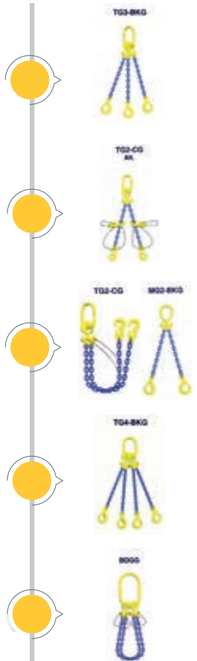
GUNNEBO LIFTING – GROUP CROSBY

.A. is always looking for the best way to serve its customers. When it comes to lifting chains and accessories it has to be Gunnebo – Sweden. Our company represents Gunnebo in Greece, adding our excellent wire ropes to supplement their unbeatable chains and accessories, in meeting all the demands of our clients, no matter what variations or difficulties they may have.

Tradition and experience ensures the future in lifting. Gunnebo lifting, since its establishment in 1764, developed a large number of products, designed to meet the professional lifting demands made by different business environments.

Over 250 years of experience is used to develop new products. The latest one is the GrabiQ system, marked today with success and acknowledgment in the market. We must stress that Gunnebo is not putting test only a percentage of items or components produced as allowed by international standards, but all items produced 100% by them.

To improve lifting in the mobile crane segment out of the GrabiQ system a new concept was developed, the “FlexiLeg”. It utilizes only a few components giving early retirement to a lot of old slings and components. Now mobile cranes do not have to carry 10 or 15 different types of lifting slings.



CHAIN SLINGS

Working Load Limits in Tonnes for chain slings grade 8, according to EN 818-4

Sling type	1-leg	2-leg		3- and 4-leg		Choke Hitch
Condition of use	Straight	β 0-45° α 0-90°	β 45-60° α 90-120°	β 0-45° α 0-90°	β 45-60° α 90-120°	Endless sling in choke hitch
Load factor	1	1.41	1	2.1	1.5	1.6
Chain size						
6	1.12	1.60	1.12	2.36	1.70	1.80
7	1.50	2.12	1.50	3.15	2.24	2.50
8	2.00	2.80	2.00	4.25	3.00	3.15
10	3.15	4.25	3.15	6.70	4.75	5.00
13	5.30	7.50	5.30	11.20	8.00	8.50
16	8.0	11.2	8.0	17.0	11.8	12.5
19	11.2	16.0	11.2	23.6	17.0	18.0
22	15.0	21.2	15.0	31.5	22.4	23.6
26	21.2	30.0	21.2	45.0	31.5	33.5
32	31.5	45.0	31.5	67.0	47.5	50.0

CHAIN SLINGS

Working Load Limits in Tonnes for chain slings grade 10, according to EN 818-4

Sling type	1-leg	2-leg		3- and 4-leg		Choke Hitch	
Condition of use	Straight	β 0-45° α 0-90°	β 45-60° α 90-120°	β 0-45° α 0-90°	β 45-60° α 90-120°	Choke β 0-45° α 0-90°	Choke β 45-60° α 90-120°
Load factor	1	1.41	1	2.1	1.5	1.1	0.8
Chain size							
6	1.50	2.10	1.50	3.10	2.20	1.60	1.20
7	1.95	2.70	1.95	4.00	2.90	2.10	1.50
8	2.50	3.50	2.50	5.20	3.70	2.70	2.00
10	4.00	5.60	4.00	8.40	6.00	4.40	3.20
13	6.80	9.50	6.80	14.20	10.20	7.40	5.40
16	10.00	14.10	10.00	21.00	15.00	11.00	8.00
20	16.00	22.50	16.00	33.60	24.00	17.60	12.80
22	20.00	28.20	20.00	42.00	30.00	22.00	16.00
26	27.00	38.00	27.00	56.70	40.50	29.70	21.60
32	40.00	56.40	40.00	84.00	60.00	44.00	32.00

TONSBERG MOORING LINKS

Galvanised steel mooring link of compact design typically used as connection between wire rope and fiber tail. Available in four sizes 90 T, 120 T, 180 T and 250T.

Each link is proof tested and certified by DNV, and are DNV Type Approved.

300 T can be supplied on special request.

Type	DIMENSIONS mm						Nom. B/S tons	Weight Kg	Applicable Pantrunner Size diameter
	A	B	C	D	E	R			
90T	285	115	136	65	75	22	90	11.2	56-68mm
120T	324	142	150	75	90	28	120	16.0	72-80mm
180T	350	184	160	85	120	30	180	24.5	88-112mm
250T	363	196	174	85	120	35	250	29,1	88-112mm

SUPPLIED WITH MEG 4 CERTIFICATE

MANDAL FAIRLEAD SHACLES

Stainless steel mooring shackle with sleek shape designed to pass through fairleads.

Each link is proof tested and certified by DNV, and are DNV Type Approved.

Available in two sizes, 90 M and 120 M.

Type	DIMENSIONS mm							Nom. B/S tons	Weight Kg	Applicable Pantrunner Size diameter
	A	B	C	D	E	F	R			
90T	255	97	120	67	68	100	34	90	7.8	56-64mm
120T	300	129	130	82	90	128	45	120	13.3	68-80mm

SHACKLES

SHACKLES HIGH LOAD SCREW PIN AND SAFETY (GALVANIZED/SELF-COLOURED)										
SAFE WORKING LOAD	BODY DIAM		PIN DIAM		INSIDE AT PIN		WEIGHT ON KGR FOR 100PCS OF EACH TYPE			
	MM	INC	MM	INC	MM	INC	DEE PIN	DEE BOLT	BOW PIN	BOW BOLT
1.00	9.52	3/8"	10.72	7/16"	16.66	21/32"	13.15		13.60	
1.50	10.72	7/16"	12.70	1/2"	18.25	23/32"	19.04		22.22	
2.03	12.70	1/2"	15.88	5/8"	20.64	13/16"	32.19	35.37	34.47	38.54
3.25	15.88	5/8"	19.10	3/4"	26.99	1 1/16"	57.59	72.56	67.57	73.47
4.75	19.10	3/4"	22.23	7/8"	31.75	1 1/4"	100.22	121.99	100.68	130.16
6.50	22.23	7/8"	25.40	1"	36.52	1 7/16"	142.86	168.70	155.55	182.31
8.50	25.40	1"	28.58	1 1/8"	42.80	1 11/16"	208.61	246.71	264.85	258.95
9.50	28.58	1 1/8"	31.75	1 1/4"	46.00	1 13/16"	302.94	334.69	338.32	360.54
12.00	31.75	1 1/4"	35.12	1 3/4"	51.60	2 1/32"	406.34	470.74	439.00	512.01
13.50	35.12	1 3/8"	38.10	1 1/2"	52.15	2 1/4"	553.28	611.79	583.67	696.59
17.00	38.10	1 1/2"	41.27	1 5/8"	60.32	2 3/8"	741.49	841.27	793.19	892.51
25.00	44.50	1 3/4"	50.80	2"	73.03	2 7/8"	1,156.50	1,299.31	1,270.74	1,424.03
35.00	50.80	2"	57.15	2 1/4"	79.38	3 1/4"	1,663.63	1,872.10	1,874.83	2,106.57
42.50	57.15	2 1/4"	63.50	2 1/2"	95.25	3 3/4"	2,494.33	2,875.28	2,693.88	3,061.22
55.00	63.50	2 1/2"	69.90	2 3/4"	104.77	4 1/8"	3,365.00	3,839.00	3,814.96	4,272.10
85.00	76.20	3"	82.55	3 1/4"	127.00	5"	4,916.10	5,605.44	5,417.68	6,589.57
120.00	88.90	3 1/2"	95.30	3 3/4"	146.05	5 3/4"	8,730.20	9,913.83	9,523.80	11,374.15

NOTES:

1) Maximum proof load is 2.5 times the working load.

2) Minimum Breaking Load is 5 to 6 times the working load.

3) Side loading on shackles from the 0^0 in line at angles of 45^0 reduces the working load limit to its 70% and of angles of 90^0 to 50%.

TURNBUCKLES

- Turnbuckles are mainly used for rigging or tensioning of wires, ropes, rods etc.
- Turnbuckles must be used for straight - or in line - pull only.
- There are of open or closed body and for each size the body of an assembly is always of the same dimensions, no matter what end fittings may be.
- The overall length and weight differs for each size depending on end fittings.
- Galvanized and in some cases inox turnbuckles are used.
- Turnbuckles as an assembly, can have the following ends: eye, hook or jaw and they can come in any combination of them.

SHACKLES HIGH LOAD SCREW PIN AND SAFETY (GALVANIZED/SELF-COLOURED)								
WORKING LOAD LIMIT/KG	THREAD DIAM IN INC	BODY DIMENSIONS						
		A	B	C	D	E	G	H
227	1/4 x 4	4.75	4.00	0.38	0.72	0.34	0.50	0.38
363	5/16 x 4 1/2	5.44	4.50	0.47	0.81	0.38	0.56	0.44
544	3/8 x 6	7.12	6.00	0.56	0.88	0.38	0.62	0.50
998	1/2 x 6	7.50	6.00	0.75	1.12	0.50	0.81	0.62
998	1/2 x 9	10.50	9.00	0.75	1.12	0.50	0.81	0.62
998	1/2 x 12	13.50	12.00	0.75	1.12	0.50	0.81	0.62
1587	5/8 x 6	7.88	6.00	0.94	1.38	0.62	1.00	0.75
1587	5/8 x 9	10.88	9.00	0.94	1.38	0.62	1.00	0.75
1587	5/8 x 12	13.88	12.00	0.94	1.38	0.62	1.00	0.75
2358	3/4 x 6	8.25	6.00	1.12	1.69	0.75	1.12	0.94
2358	3/4 x 9	11.25	9.00	1.12	1.69	0.75	1.12	0.94
2358	3/4 x 12	14.25	12.00	1.12	1.69	0.75	1.12	0.94
2358	3/4 x 18	20.25	18.00	1.12	1.69	0.75	1.12	0.94
3265	7/8 x 12	14.62	12.00	1.31	1.94	0.88	1.31	1.06
3265	7/8 x 18	20.62	18.00	1.31	1.94	0.88	1.31	1.06
4535	1 x 6	9.00	6.00	1.50	2.25	1.00	1.50	1.25
4535	1 x 12	15.00	12.00	1.50	2.25	1.00	1.50	1.25
4535	1 x 18	21.00	18.00	1.50	2.25	1.00	1.50	1.25
4535	1 x 24	27.00	24.00	1.50	2.25	1.00	1.50	1.25
6893	1 1/4 x 12	15.12	12.00	1.56	2.62	1.25	1.88	1.50
6893	1 1/4 x 18	21.12	18.00	1.56	2.62	1.25	1.88	1.50
6893	1 1/4 x 24	27.12	24.00	1.56	2.62	1.25	1.88	1.50
9705	1 1/2 x 12	15.75	12.00	1.88	3.00	1.50	2.25	1.75
9705	1 1/2 x 18	21.75	18.00	1.88	3.00	1.50	2.25	1.75
9705	1 1/2 x 24	27.75	24.00	1.88	3.00	1.50	2.25	1.75

HOOK & HOOK

HOOK & EYE

EYE & EYE

JAW & EYE

JAW & JAW

DO AND DO NOT

We would like to draw your attention to this page that must be read before using this catalogue for your knowledge and safety.

- Read carefully.
- Read all warnings.
- Follow instructions and earmark warnings.
- Failure to follow regulations and suggestions may result to serious injury or death.

Accidents involving ropes have the largest percentage among any other sort of accidents on board.

.A. assumes no responsibility for the wrong usage or misapplication of any products sold by us.

We understand and expect that all products sold are used properly, for the application destined in a safe manner.

Working load limit: All products in this catalogue and all other products sold by our company (.A.) have a working load limit that corresponds to any other term used for the same purpose such as SWL etc.

Proper use of material: Each item in this catalogue has a proper way of use that permits the applications up to the values of WLL. Avoid side loading, passing lines on sharp corners, over loading, use under extreme weather conditions, such as high or low temperatures, chemical solutions or vapors, modifying or welding of products.

Correct matching of components:

Items and any component picked to work together must match. Skilled personnel must ensure this safety factor: In all items-ropes-wire ropes components etc,the safety factor to the WLL is 4:1 or 5:1. This factor increases to 12:1-15:1 where the safety of personnel is involved and especially for ropes and wire ropes. Consider the international safety regulations, the company's instructions and any other rule or regulation towards employee and material safety.

DO

- Inspect products regularly.
- Match components properly.
- Choose the correct construction and size for the application it is intended for.
- Stock ropes and wire ropes correctly.
- Keep ropes away from sun rays,chemical and especially from battery fluids.
- Keep ropes clean, rinse them with fresh water (not sea water) after every use and dry them in the open before storing them.
- Destroy equipment rather than discard it to avoid usage by employees not aware of the wear and tear.
- Use products of a known brand that have the WLL clearly depicted.
- Avoid sharp turns/bends around any piece of equipment, especially for ropes of all sorts.
- Establish lifetime of your equipment and especially of wire ropes and ropes within the parameters of intended use, provided that usage conditions remain the same. This allows you to retire the equipment on a regular schedule.

DO NOT

- Ever exceed the WLL.
- Shock load your equipment.
- Stand under loads.
- Stand in the snap back/danger zone of ropes.
- Stand with one or two feet in a coil of rope that is used at the time.
- Ride on moving roads.
- Permit wear for no reason at all.
- Permit knots, twists and back turns before use on ropes and back twists on wire ropes.
- Free trapped slings on ropes from under loads by pulling them, lift the weight first.
- Measure the strength of a rope by its diameter,same rope can show a few diameters depending how slack or tens it is.

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