Supplier and service partner for
shipping and shipyards,
on-/offshore, industry,
handicraft and construction industry

Kloska Group®

www.kloska.com

mooring **ropes**
special wire **ropes**

Kloska Group

Kloska Group ®
www.kloska.com

In 1981 the company Uwe Kloska GmbH was founded as a technical supplier in Bremen. Today it is still the company group's headquarter. Over the course of several years other companies joined the group, each completing the service portfolio in a different way.

In the beginning of the 90s the Kloska Group started to expand considerably. It was always a strategic target to be present at all important maritime locations in Germany. Following the requirements of the growing ship supply market, the group established new branches and cooperation in Belgium, the Netherlands, China, Russia, Poland, Spain, Brazil, Singapore, South Africa and the United Arab Emirates.

Nowadays, the group's business activities range from technical supplies for the shipping, on-/offshore services, construction, handicraft and general industry to engine spare parts combined with in-house repair shops, conveyor technology and hydraulics. The group also established catering services and supplies general provisions and stores to ferries, cargo vessels, cruise ships, research vessels and research stations.

We extend our standard business fields by a large number of attractive specialized services. The vast range of products at our facilities includes approximately 130.000 different items.

Our standard activities include delivery on short notice, 24-hours service and just-in-time delivery as well as a professional, individual and personal assistance on site. It is our highest priority to establish a long lasting customer relationship on a fair and solid basis.

Our experienced team is used to thinking customer orientated. We benefit from our flexibility and creativity in order to meet all the frequently changing demands of the market.

Based on the achieved success and with the support of our employees, we are eager to lead the Kloska Group into an even more prosperous future.

We benefit from our experience, will be a reliable partner for our customers and will work continuously on our improvement.

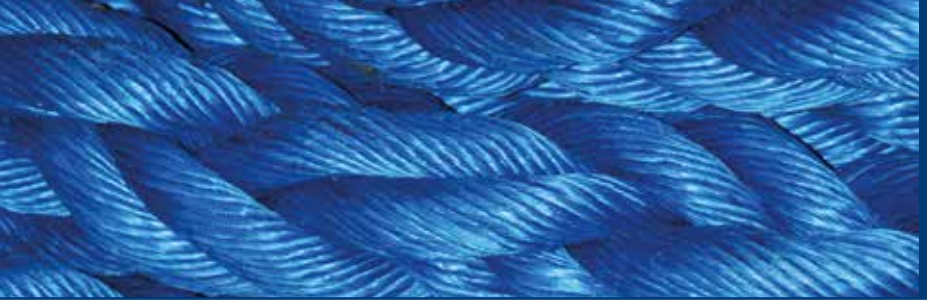
Uwe Kloska and Nadine Kloska

CONTENT

mooring ropes

special wire ropes

additional equipment



UKTAmarine 8F

UKTAmarine 8F mooring rope are produced from blended polymers with special lay for low weight and high strength.

Features

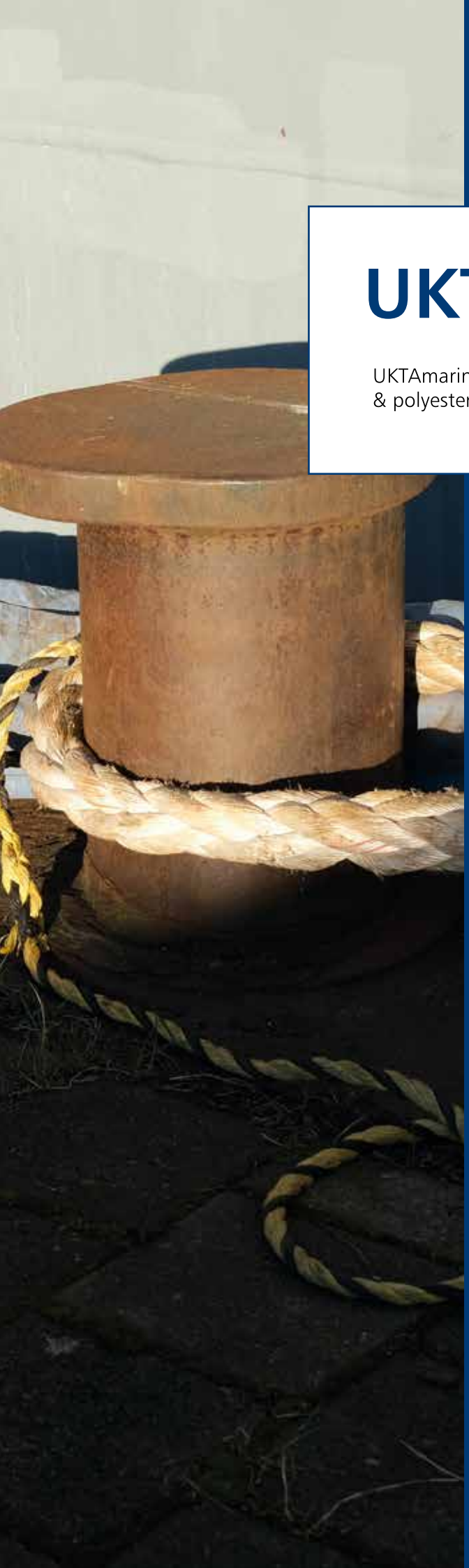
- 25% more strength than conventional polypropylene ropes
- Unaffected by acids and alkalies
- Floats in water, does not absorb water
- Low elongation
- construction: 8 strand

Benefits

- Higher strength to weight ratio, facilitating downsizing vis-a-vis polypropylene ropes
- Special blend of raw material enables higher abrasion resistance than normal polypropylene ropes
- 220 mtrs coil with PTC protected spliced eyes of 1.8 mtr each

Technical Facts

Ø [mm]	Circ. Inch	Weight 220 m [kg]	Break Load linear [kN]	Break Load linear [t]
48	6 1/2	229	387	39,5
56	7	313	510	52
60	7 1/2	360	584	59,5
64	8	410	662	67,5
72	9	515	829	84,5
80	9 1/2	650	1020	104
88	10	775	1275	125



UKTAmarine 8F plus

UKTAmarine 8F plus mooring rope are produced from polyolefin & polyester dual fibre.

Features

- does not sink in water and prevent damage to propeller shaft
- higher strength compared to other ropes
- ensures consistent performance
- less wear & tear
- good shock absorption
- floating
- construction: 8 strand

Benefits

- Higher strength to weight ratio, facilitating downsizing vis-a-vis polypropylene ropes
- Special blend of raw material enables higher abrasion resistance than normal polypropylene ropes
- 220 mtrs coil with PTC protected spliced eyes of 1.8 mtr each

Technical Facts

Ø [mm]	Circ. Inch	Weight 220 m [kg]	Break Load linear [kN]	Break Load linear [t]
48	6	290	520	53
56	7	396	716	73
64	8	485	876	89,3
72	9	630	1118	114
80	10	745	1324	135
88	11	925	1598	163

UKTAmarine 24F

this special 24 plait mooring rope is available exclusively at Kloska, our buoyant allrounder for all kind of vessels, made from a mix from polyester/polyolefin and protected with Geogard Marine Finish for improved abrasion resistance.

Special 24-plait (12x2) cover made from polyester/polyolefin mix with Geogard Marine Finish for improved abrasion resistance. OCIMF-conforming mooring line for use on tankers. Our allround mooring rope at a very good price/cost ratio.

- Good abrasion resistance
- High tenacity
- Very good UV resistance
- Buoyant
- 220 mtrs coil with PTC protected spliced eyes of 1.8 mtr each
- construction: 12x2/24 strand

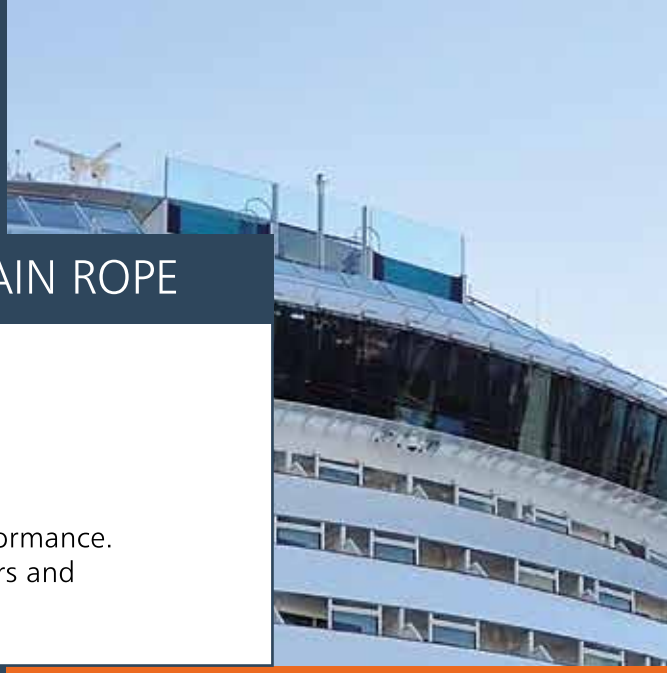
Technical Facts

Ø [mm]	Circ. Inch	Weight 220 m [kg]	Break Load linear [kN]	Break Load linear [t]
40	5	155,5	313,5	32,0
44	5,5	204,6	383,9	39,2
48	6	257,4	451,5	46,1
52	6 1/2	281,6	522,5	53,3
56	7	343,2	610,5	62,3
60	7,5	389,4	688,6	70,2
64	8	455,4	781	79,7
68	8,5	534,6	880	89,8
72	9	580,8	984,5	100,4
76	9,5	664,4	1089	111,1
80	10	726	1210	123,4
84	10,5	799	1320	134,6
88	11	881	1463	149,2
96	12	1045	1753	178,8

Gleistein

More than Ropes.

Gleistein has been manufacturing ropes since 1824 and is the oldest industrial family business in Bremen. Together with the Trencin plant (Slovakia), the company has two of the world's most modern production facilities for the manufacture of cordage with a total production area of over 17,000 m². In 2013, Kloska and Gleistein signed a distribution agreement. Gleistein Ropes and the Kloska Group join forces to better serve their shipping company and shipyard clients in Germany. The distribution deal sets out that Gleistein manufactures ropes for distribution by Kloska. Besides enabling distribution of renowned products such as DynaOne® and WinchMaster, the agreement also involves the manufacture of an exclusive product line for Kloska bearing the name UKTAmarine.



MAIN ROPE

X-Twin Plus-Cover

The entry point to the X-Twin class with an exceptional performance. Buoyant mooring rope with extreme strength for cruise liners and LNG tanker. Also available without cover.

Technical Facts

Elongation at 10% of break load: 0.6%

Ø [mm]	Weight [kg/100]	Spliced break load [kN]	Spliced break load [tnf]	Break load linear [kn]	Break load linear [tnf]
32	46.6	543.0	55.4	603.0	61.5
34	55.0	620.0	63.2	689.0	70.3
36	63.3	748.0	76.3	831.0	84.7
38	69.8	815.0	83.1	906.0	92.4
40	79.5	925.0	94.3	1,028.0	104.8
42	89.7	1,044.0	106.5	1,160.0	118.3
44	97.8	1,155.0	117.8	1,283.0	130.8
48	112.4	1,260.0	128.5	1,400.0	142.8
50	119.5	1,370.0	139.7	1,522.0	155.2
52	131.5	1,510.0	154.0	1,678.0	171.1
54	141.0	1,650.0	168.3	1,833.0	186.9
56	158.5	1,790.0	182.5	1,989.0	202.8
62	168.0	1,930.0	196.8	2,144.0	218.6
64	187.6	2,070.0	211.1	2,300.0	234.5
68	197.2	2,200.0	224.3	2,444.0	249.2
70	206.7	2,330.0	237.6	2,589.0	264.0
72	237.7	2,600.0	265.1	2,889.0	294.6
74	247.3	2,730.0	278.4	3,033.0	309.3
76	269.7	2,860.0	291.6	3,178.0	324.1
78	288.8	3,120.0	318.1	3,467.0	353.5

- **High strength**
  Strength-optimised core made of Dyneema® SK 78
- **Quality cover**
  Affordable, lightweight cover made of a high-quality Plus fibre mix
- **Perfect handling**
  Light and flexible for first-class handling under all conditions

FLX Mooring System

- **Light, compact and durable:**

The high-quality main mooring rope with Dyneema®. It weighs just a fraction the weight of a conventional mooring rope, but lasts many times longer.

- **Someone has to do the work:**

The highly efficient tail. It absorbs the shocks and wears like a conventional mooring rope, but only constitutes the last few metres of the ensemble and can exchanged in a flash.

- **Profitability:**

Acquisition costs are amortized after only a few years. But the substantial savings in weight and space as well as the easier handling can be enjoyed right from the start!

MAIN ROPE

TexteelTwin® Plus-Cover

Always on top: The inexpensive entry into the TexteelTwin® class with excellent performance characteristics, yet buoyant and robust.

Premium mooring system with cost-efficiency: Extremely durable, lightweight main mooring rope combined with high-elongation tail as an inexpensive sacrificial element.

Main mooring rope

Tail

A main mooring rope and a tail are always combined together.

Technical Facts

Elongation at 10% of break load: 0.6 %

Ø [mm]	Weight [kg/100 m]	Spliced break load [kN]	Spliced break load [tnf]	Break load linear [kn]	Break load linear [tnf]
36	63.3	670.0	68.3	744	75.9
38	69.8	735.0	74.9	817	83.3
40	79.5	830.0	84.6	922	94.0
42	89.7	940.0	95.9	1,044.0	106.5
44	97.8	1,040.0	106.0	1,156.0	117.9
48	112.4	1,135.0	115.7	1,261.0	128.6
50	119.5	1,230.0	125.4	1,367.0	139.4
52	131.5	1,360.0	138.7	1,511.0	154.1
54	141.0	1,485.0	151.4	1,650.0	168.3
56	158.5	1,610.0	164.2	1,789.0	182.4
62	168.0	1,740.0	177.4	1,933.0	197.1
64	187.6	1,860.0	189.7	2,067.0	210.8
68	197.2	1,980.0	201.9	2,200.0	224.3
70	206.7	2,100.0	214.1	2,333.0	237.9
72	237.7	2,340.0	238.6	2,600.0	265.1

- **Maximum performance**
  Strength-optimised core with minimal elongation and made of pure Texteel® fibres
- **Reliability**
  Extremely tried-and-tested buoyant design with a strong protective cover made of Plus yarn for long service life
- **Cost-effectiveness**
  Texteel® = HMPE power in certified Gleistein quality to provide outstanding value for money

GeoSquare® Tail

our tail, made from GeoSquare Plus rope, is buoyant, endlessly spliced as a grommet (loop), with two protected eyes (1,8 mtr. and 0,6 mtr.)

Technical Facts

Elongation at 10% of break load: 1.9%

Ø [mm]	Weight [kg/11 m]	Spliced break load [kN]	Spliced break load [tnf]
32	12.1	297.6	30.3
36	15.4	376.0	38.3
40	19.0	459.2	46.8
44	23.3	560.0	57.1
48	27.5	662.4	67.5
52	32.0	766.4	78.1
56	37.5	892.8	91.0
60	42.5	1,006.4	102.6
64	48.5	1,142.4	116.5
68	53.8	1,262.4	128.7
72	61.3	1,438.4	146.7
80	75.0	1,760.0	179.5
88	91.3	2,131.2	217.3
96	108.8	2,523.2	257.3

- **Simply light**
  Buoyant tail made of light weight Plus yarns
- **Simply robust**
  Balanced, robust construction with high break load and long service life
- **Simply affordable**
  The use of an endlessy spliced grommet ensures best weight-to-capacity-ratio

WinchMaster

The perfect mooring rope with dimensional stability, high strength and neutral buoyancy

Technical Facts

Elongation at 10% of break load: 2.8%

Ø	Weight [kg/100 m]	Spliced break load [kN]	Spliced break load [tnf]	Break load linear [kN]	Break load linear [tnf]
36	74.5	230.0	23.5	256.0	26.1
40	87.0	280.0	28.6	311.0	31.7
44	100.0	375.0	38.2	417.0	42.5
48	129.0	460.0	46.9	511.0	52.1
52	140.0	520.0	53.0	578.0	58.9
56	169.0	600.0	61.2	667.0	68.0
60	192.0	690.0	70.4	767.0	78.2
64	215.0	800.0	81.6	889.0	90.7
68	230.0	900.0	91.8	1,000.0	102.0
72	295.5	1,040.0	106.0	1,156.0	117.9
84	413.0	1,270.0	129.5	1,411.0	143.9
96	488.0	1,500.0	153.0	1,667.0	170.0

- **Extremely dimensionally stable**
  Load bearing, compacted XS core with a rigid overbraid from Plus-Fibres
- **Extremely light**
  fully buoyant by the balanced use of abrasion resistant polyester fibre in the firm cover braid
- **Extremely safe**
  robust cover for long-term protection in use under toughest conditions

GeoSquare® Plus

robust conventional mooring rope made of Gleistein Plus yarns

Technical Facts

Elongation at 10% of break load: 1.9%

Ø [mm]	Weight [kg/11 m]	Spliced break load [kN]	Spliced break load [tnf]	Break load linear [kN]	Break load linear [tnf]
40	76.0	287.0	29.3	319.0	32.5
44	93.0	350.0	35.7	389.0	39.7
48	110.0	414.0	42.2	460.0	46.9
52	128.0	479.0	48.8	532.0	54.2
56	150.0	558.0	56.9	620.0	63.2
60	170.0	629.0	64.1	699.0	71.3
64	194.0	714.0	72.8	793.0	80.9
68	215.0	789.0	80.5	877.0	89.4
72	245.0	899.0	91.7	999.0	101.9
80	300.0	1,100.0	112.2	1,222.0	124.6
88	365.0	1,332.0	135.8	1,480.0	150.9
96	435.0	1,577.0	160.8	1,752.0	178.7

- **Universal**
  Flexible multipurpose mooring rope with high strength and moderate elongation
- **Buoyant**
  Balanced use of polyester and polyolefin esures good floatability
- **Economical**
  Easy to splice square braid at an attractive price

8-strand square plait (4x2) with inner yarns made of polyolefin and outer yarns of Gleistein Plus yarns, in mottled green/white or goldorange/white tracer teal

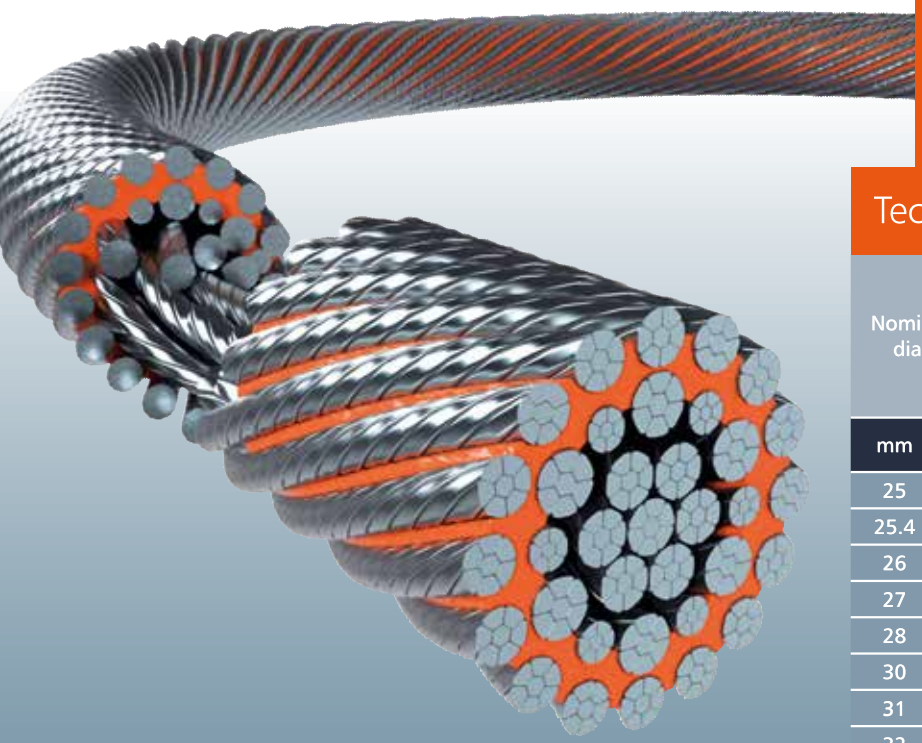
verope rely on

verope AG is a joint venture of Pierre Verreet, founder and managing director of verope AG, and Kiswire Ltd. (South Korea). In 2007 began the very successful partnership between verope AG and the KloskaGroup for the industrial industry sector and for the maritime business. It is the concept of verope AG to offer special wire ropes which are both – high quality and cost-effective. Leading international crane manufacturers have tested the ropes extensively and use them as original equipment. Another advantage for end customers is the high availability from stock in Germany, Singapore and Houston and the short delivery time for direct deliveries on board of the vessels.

special wire ropes

verotop P

is a rotation-resistant rope with compacted strands and a rope core covered with a plastic layer.



- verotop P has a very high breaking strength.
- verotop P provides a very stable rope structure and achieves excellent bending fatigue results.
- verotop P offers excellent crushing and very good abrasion resistance.
- verotop P possesses perfect spooling behavior on multilayer drum.
- verotop P can be used either with or without swivel.
- verotop P is a category 1 rotation-resistant rope in accordance with ASTM A1023.

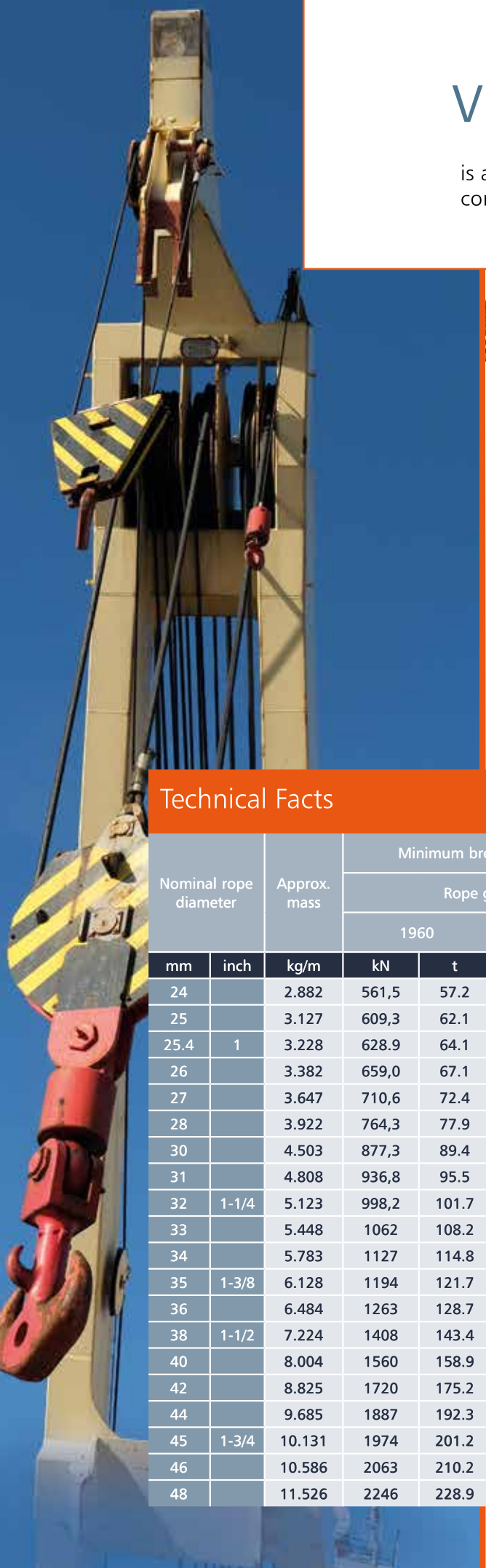
Technical Facts

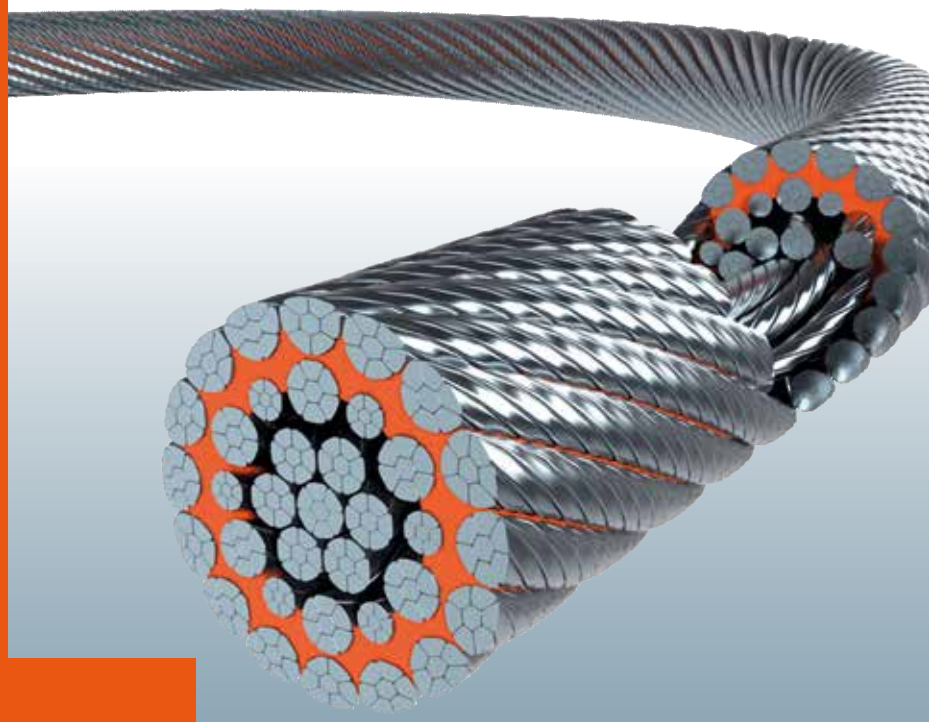
Nominal rope diameter		Approx. mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm	inch	kg/m	kN	t	kN	t
25		3.046	590,0	60.2	616.9	62.9
25.4	1	3.144	609.0	62.1	636.8	64.9
26		3.294	638,1	65	667.3	68.0
27		3.553	688.1	70.1	719.6	73.3
28		3.821	740,1	75.4	773.9	78.9
30		4.386	849,6	86.6	888.4	90.5
31		4.683	907.1	92.4	948.6	96.7
32	1-1/4	4.990	966,6	98.5	1011	103.0
33		5.307	1028	104.7	1075	109.5
34		5.634	1091	111.2	1141	116.3
35	1-3/8	5.970	1156	117.8	1209	123.2
36		6.316	1223	124.7	1279	130.4
38	1-1/2	7.037	1363	138.9	1425	145.2
40		7.797	1510	153.9	1579	160.9
42		8.597	1665	169.7	1741	177.4
43		9.011	1745	177.9	1825	186.0
44		9.435	1827	186.2	1911	194.7
45	1-3/4	9.869	1911	194.8	1999	203.7
46		10.312	1997	203.5	2089	212.8
48		11.228	2175	221.6	2274	231.7
50	2	12.183	2360	240.5	2468	251.5
52		13.178	2552	260.1	2669	272.0
54	2-1/8	14.211	2753	280.5	2878	293.3

Nominal rope diameter		Approx. mass	Rope grade	
			2060	
mm	inch	kg/m	kN	t
66		22.63	4249	433.28
72		25.26	5064	516.38

verotop XP

is a rotary swaged rotation-resistant rope with compacted strands and rope core covered with a plastic layer.





Technical Facts

Nominal rope diameter		Approx. mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm	inch	kg/m	kN	t	kN	t
24		2.882	561,5	57.2	611,5	62.3
25		3.127	609,3	62.1	663,5	67.6
25.4	1	3.228	628.9	64.1	684.9	69.8
26		3.382	659,0	67.1	717,7	73.1
27		3.647	710,6	72.4	773,9	78.9
28		3.922	764,3	77.9	832,3	84.8
30		4.503	877,3	89.4	955,5	97.4
31		4.808	936,8	95.5	1020	104.0
32	1-1/4	5.123	998,2	101.7	1087	110.8
33		5.448	1062	108.2	1156	117.8
34		5.783	1127	114.8	1227	125.1
35	1-3/8	6.128	1194	121.7	1301	132.5
36		6.484	1263	128.7	1376	140.2
38	1-1/2	7.224	1408	143.4	1533	156.2
40		8.004	1560	158.9	1699	173.1
42		8.825	1720	175.2	1873	190.8
44		9.685	1887	192.3	2055	209.4
45	1-3/4	10.131	1974	201.2	2150	219.1
46		10.586	2063	210.2	2246	228.9
48		11.526	2246	228.9	2446	249.3

- verotop XP is the strongest of all our rotation-resistant ropes.
- verotop XP has a very stable rope structure and achieves good bending fatigue results.
- verotop XP offers superior crushing resistance and best resistance to abrasion.
- verotop XP possesses perfect spooling behavior on multilayer drum.
- verotop XP can be used either with or without swivel.
- verotop XP is a category 1 rotation-resistant rope in accordance with ASTM A1023.

vero 4

is a 4-strand rotation-resistant rope with compacted strands.

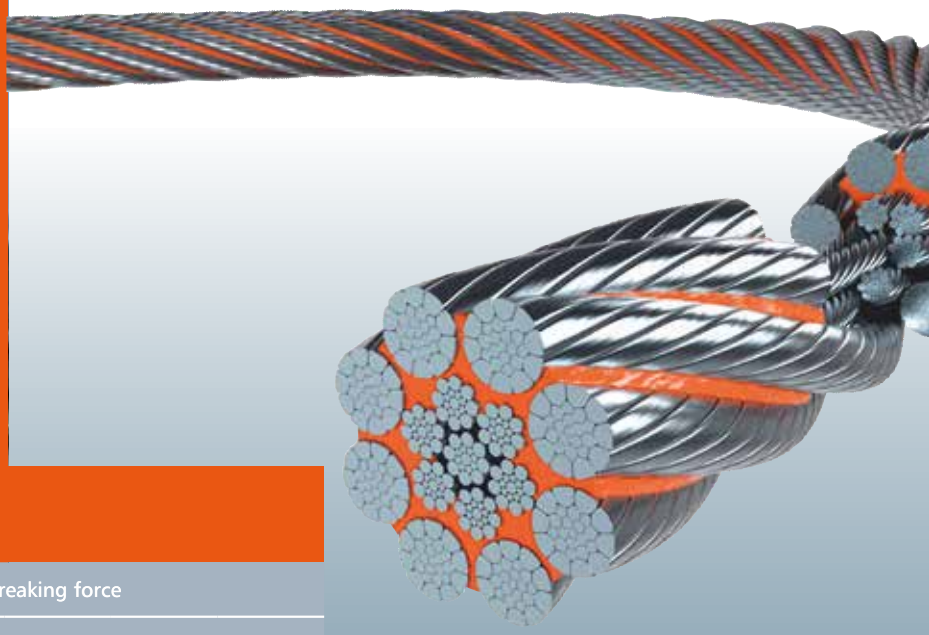
- vero 4 has a high breaking strength.
- vero 4 is a very robust rope construction.
- vero 4 offers excellent resistance to crushing and abrasion.
- vero 4 may not be used with a swivel.

Technical Facts

Nominal rope diameter		Approx. mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm	inch	kg/m	kN	t	kN	t
25		2.633	546,4	55.7	582.7	59.4
26		2.848	591,0	60.2	630.3	64.2
27		3.071	637,3	64.9	679.7	69.3
28		3.303	685,4	69.8	731.0	74.5
29		3.543	735,2	74.9	784.1	79.9
30		3.791	786,8	80.2	839.1	85.5
31		4.048	840,1	85.6	896.0	91.3
32	1-1/4	4.314	895,2	91.2	954.8	97.3
33		4.587	952,0	97.0	1015	103.5
33.5		4.727	981.1	100.0	1046	106.6
34		4.870	1011	103.0	1078	109.8
35	1-3/8	5.160	1071	109.1	1142	116.4
36		5.459	1133	115.5	1208	123.1

veropro 8

is an 8-strand, non-rotation resistant rope with compacted outer strands and a rope core covered with a plastic layer.



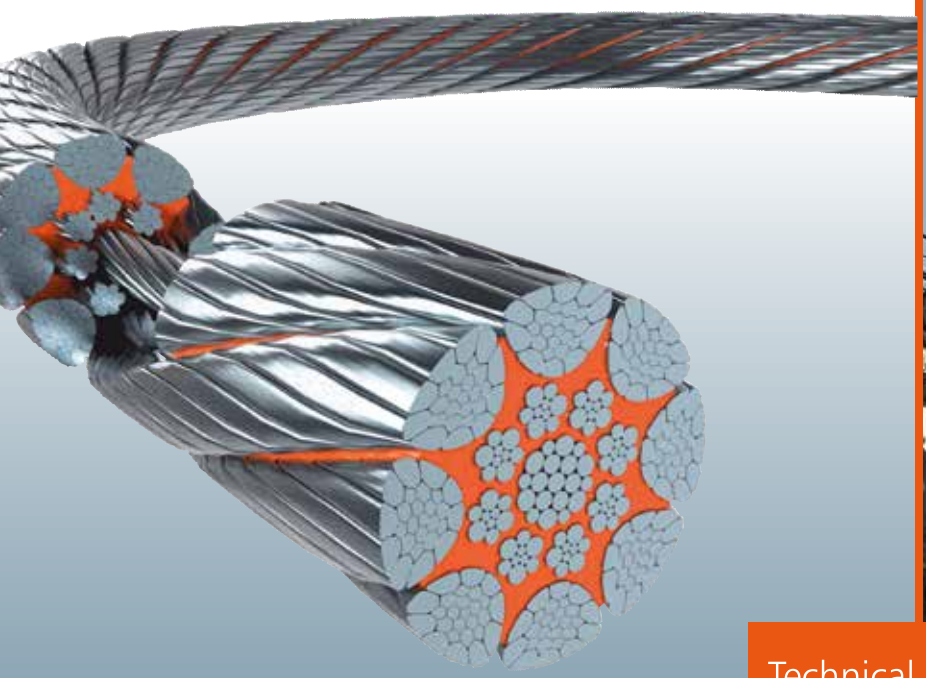
Technical Facts

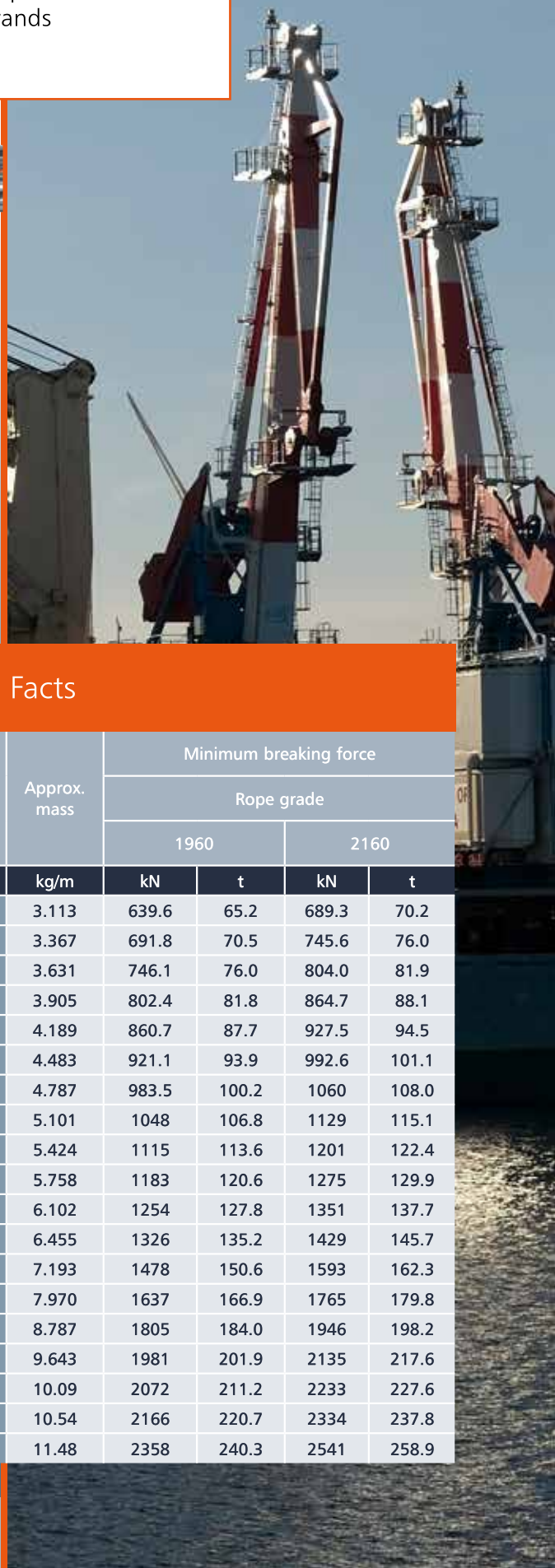
Nominal rope diameter		Approx. mass	Minimum breaking force					
			Rope grade					
			1770		1960		2160	
mm	Inch	kg/m	kN	t	kN	t	kN	t
25		2.812	509.3	51.9	563.3	57.4	591.8	60.3
26		3.041	550.8	56.1	609.3	62.1	640.0	65.2
27		3.279	594.0	60.5	657.0	67.0	690.2	70.3
28		3.527	638.8	65.1	706.6	72.0	742.3	75.6
29		3.783	685.3	69.8	758.0	77.2	796.3	81.1
30		4.049	733.4	74.7	811.1	82.7	852.1	86.8
31		4.323	783.1	79.8	866.1	88.3	909.9	92.7
32	1-1/4	4.606	834.4	85.0	922.9	94.0	969.5	98.8
33		4.899	887.4	90.4	981.5	100.0	1031	105.1
34		5.200	941.9	96.0	1042	106.2	1095	111.5
35	1-3/8	5.511	998.2	101.7	1104	112.5	1160	118.2
36		5.830	1056	107.6	1168	119.0	1227	125.0
38	1-1/2	6.496	1177	119.9	1301	132.6	1367	139.3
40		7.198	1304	132.9	1442	146.9	1515	154.4
42		7.935	1437	146.5	1590	162.0	1670	170.2
44		8.709	1578	160.7	1745	177.8	1833	186.8
45	1-3/4	9.109	1650	168.1	1825	186.0	1917	195.4
46		9.519	1724	175.7	1907	194.3	2003	204.2
48		10.364	1877	191.3	2077	211.6	2181	222.3
50	2	11.246	2037	207.6	2253	229.6	2367	241.2
52		12.164	2203	224.5	2437	248.3	2560	260.9
54	2-1/8	13.117	2376	242.1	2628	267.8	2761	281.3
56		14.107	2555	260.4	2826	288.0		
58		15.133	2741	279.3	3032	309.0		
60	2-3/8	16.194	2933	298.9	3245	330.6		

- veropro 8 has a very high breaking strength.
- veropro 8 has a very stable rope structure and achieves excellent bending fatigue results.
- veropro 8 offers excellent resistance to crushing and abrasion.
- veropro 8 possesses perfect spooling behavior on multilayer drum.
- veropro 8 may not be used with a swivel.

veropower 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.





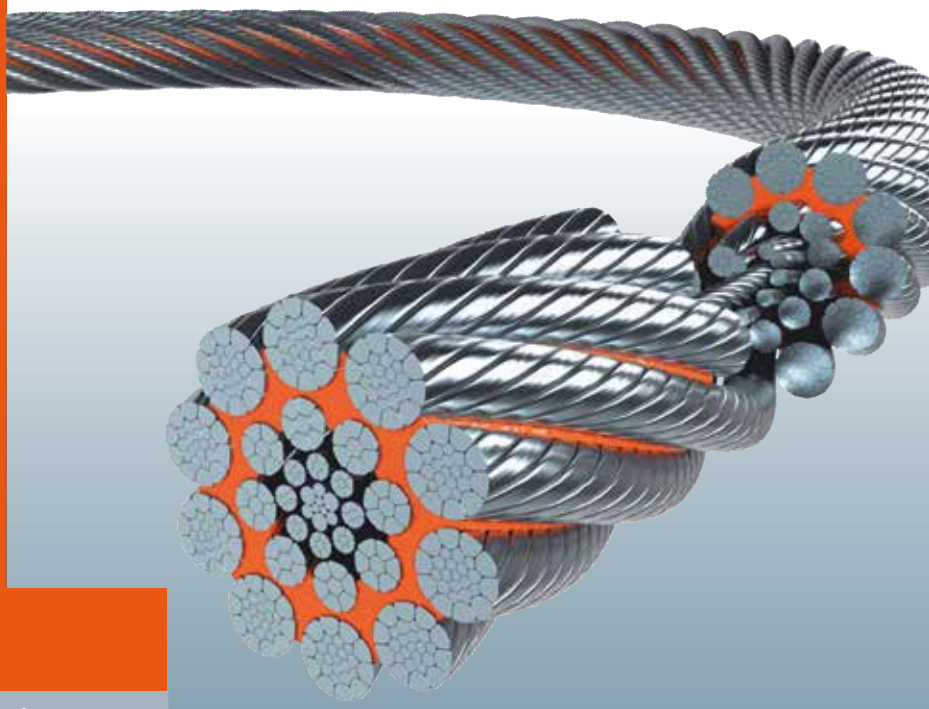
- veropower 8 is the strongest of all non-rotation resistant ropes.
- veropower 8 has a very stable rope structure and achieves good bending fatigue results.
- veropower 8 offers superior crushing resistance and excellent resistance to abrasion.
- veropower 8 possesses perfect spooling behavior on multilayer drum.
- veropower 8 may not be used with a swivel.

Technical Facts

Nominal rope diameter		Approx. mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm		kg/m	kN	t	kN	t
25		3.113	639.6	65.2	689.3	70.2
26		3.367	691.8	70.5	745.6	76.0
27		3.631	746.1	76.0	804.0	81.9
28		3.905	802.4	81.8	864.7	88.1
29		4.189	860.7	87.7	927.5	94.5
30		4.483	921.1	93.9	992.6	101.1
31		4.787	983.5	100.2	1060	108.0
32	1-1/4	5.101	1048	106.8	1129	115.1
33		5.424	1115	113.6	1201	122.4
34		5.758	1183	120.6	1275	129.9
35	1-3/8	6.102	1254	127.8	1351	137.7
36		6.455	1326	135.2	1429	145.7
38	1-1/2	7.193	1478	150.6	1593	162.3
40		7.970	1637	166.9	1765	179.8
42		8.787	1805	184.0	1946	198.2
44		9.643	1981	201.9	2135	217.6
45	1-3/4	10.09	2072	211.2	2233	227.6
46		10.54	2166	220.7	2334	237.8
48		11.48	2358	240.3	2541	258.9

veropro 10

is a very flexible 10-strand, non-rotation resistant rope with compacted strands and a rope core covered with a plastic layer.

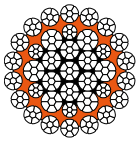


Technical Facts

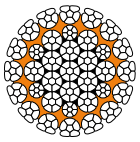
Nominal rope diameter		Approx. mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm	inch	kg/m	kN	t	kN	t
30		4.152	828.0	84.4	891.6	90.9
32	1-1/4	4.724	942.1	96.0	1014.4	103.4
34		5.333	1063.5	108.4	1145.2	116.7
36		5.979	1192.3	121.5	1283.9	130.8
38	1-1/2	6.662	1328.4	135.4	1430.5	145.8
40		7.381	1472.0	150.0	1585.1	161.5
42		8.138	1622.8	165.4	1747.5	178.1
44		8.931	1781.1	181.5	1917.9	195.4
46		9.762	1946.7	198.4	2096.3	213.6
48		10.629	2119.6	216.0	2282.5	232.6
50	2	11.533	2299.9	234.4	2476.7	252.4
52		12.474	2487.6	253.5	2678.8	273.0
54	2-1/8	13.452	2682.6	273.4	2888.8	294.4
56		14.467	2885.0	294.0	3106.8	316.6
58		15.519	3094.8	315.4	3332.6	339.6
60	2-3/8	16.608	3311.9	337.5	3566.4	363.4
62		17.733	3536.4	360.4	3808.1	388.1
64	2-1/2	18.896	3768.2	384.0	4057.8	413.5
66	2-5/8	20.095	4007.4	408.4	4315.4	439.7
68		21.332	4254.0	433.5	4580.9	466.8
70	2-3/4	22.605	4507.9	459.4	4854.3	494.7

- veropro 10 has a very high breaking strength.
- veropro 10 has a very stable rope structure and achieves excellent bending fatigue results.
- veropro 10 offers excellent resistance to crushing and abrasion.
- veropro 10 possesses perfect spooling behavior on multilayer drum.
- veropro 10 may not be used with a swivel.

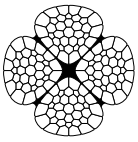
ROTATION-RESISTANT special wire ropes



verotop P

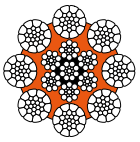


verotop XP

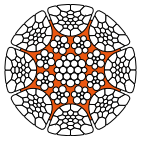


vero 4

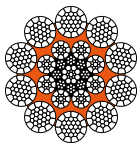
NON-ROTATION-RESISTANT special wire ropes



veropro 8



veropower 8



veropro 10

Lay types of wire ropes

Two lay types are to be considered:
Regular or ordinary lay and Lang's lay.

In regular lay ropes, the lay direction of the wires in the strands is opposite to the lay direction of the strands in the rope. We distinguish between left hand oridinary lay LHOL (left hand strand, right hand rope, sZ) **(figure17)** and right hand ordinary lay RHOL (right hand strand, left hand rope, zS) **(figure 18)**.

In Lang's lay ropes, the lay direction of the wires in the strands is equal to the strands in the rope. We distinguish between left hand Lang's lay LHLL (left hand strand, left hand rope, sS) **(figure 19)** and right hand Lang's lay RHLL (right hand strand, right hand rope, zZ) **(figure 20)**.

The advantages of regular lay ropes are:

- Better structural stability
- Easier identification of broken wires

The advantages of Lang's lay ropes are:

- Better contact in the groove of the sheaves
- Superior resistance to wear
- Longer lifetime in case of high dead loads
- Considerably better spooling behavior on a multi-layer drum

Figure 17: Regular lay left hand (zS)

Figure 18: Regular lay right hand (sZ)

Figure 19: Lang's Lay left hand (sS)

Figure 20: Lang's Lay right hand (zZ)

To get the maximum performance in the application of a spare part rope on board it's important to store it correctly.
This guideline shows the critical points how to handle with spare part ropes on board.

In general, the circumstances on board are rough. The salty seawater the temperature differences and the aggressive sun can weakening the rope in its performance or even worse can make the rope useless.

Especially for deck crane wire ropes, the following points must be considered:

- The reel should always store below-deck in cool and dry area.
- The reel should not touch the ground, means stand on a palette or similar.
- The reel should always covered by an adequate package.
- If the rope will install into the application, the rope must be re-lubricated with a suitable re-lubricant (might the compatibility of the basic lubricant) over the hole length.

Inspection of the stored rope:

The reel should be inspected continuously.
Each 6 month following points must be checked:

- Is the packing fine?
- What is the condition of the wooden reel?
- How about the surface of the rope?
- Should the rope re-lubricated for corrosion protecting reason?

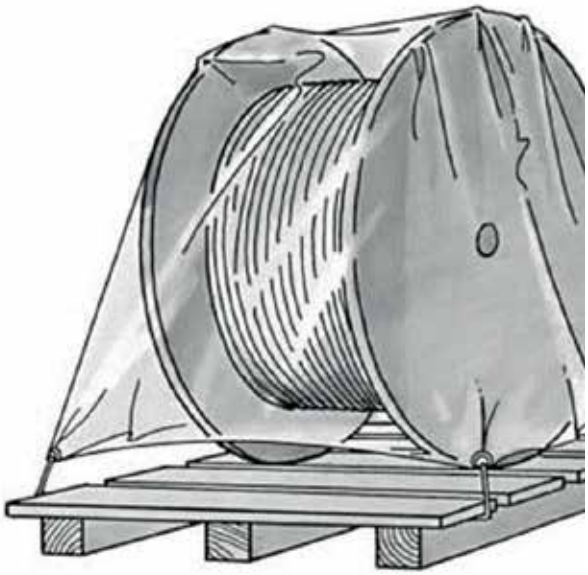
Re-lubrication of the rope:

Lubrication protects the rope from corrosion. This is why the rope should always have a film of lubrication on its surface. As long as the rope is well lubricated there will be no corrosion. Especially the first layer of the reel must have a perfect film of lubrication. The picture shows a perfect film of lubrication on the rope.

During the inspection of the rope and the reel, every half year, if there are spots on the rope surface which is free from lubricant (dry out) or there are first signs of corrosion it is absolutely essential to re-lubricate those spots.

Sometimes it's not possible to store the rope below-deck due to space reason. In these cases, the rope must, additional to the above-mentioned points, covered by a tarpaulin and has to be protected from the sun.

The covered tarpaulin does not seal the reel completely. There has to be a small gap for air circulation that the condensate can elusion.



By following all the above-mentioned points the spare part rope should be in a good condition for the application.

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Kloska Group ®
www.kloska.com

wire rope ident card

VESSEL NAME / IMO-NO.: _____

CRANE NO.: _____ CRANE TYPE: _____

DATE: _____ SERIAL NO.: _____

THIS INFORMATION YOU WILL FIND ON THE CERTIFICATE!

ACTUAL USED BRAND AND TYPE: _____

TYPE (HOISTING OR LUFFING WIRE ROPE): _____

DIAMETER OF WIRE ROPE: _____

TOTAL LENGTH: _____

NOMINAL TENSILE STRENGTH: _____
(1770 / 1960 / 2160N /qmm)

ACTUAL BREAKING LOAD: _____

TYPE OF LAY / DIRECTION OF LAY: _____

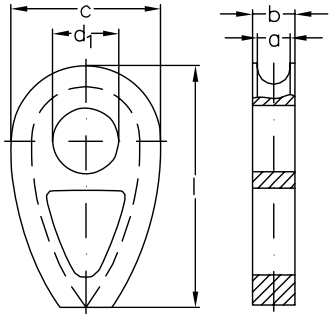
THIS INFORMATION IS NOT MENTIONED ON THE CERTIFICATE!

END CONNECTION OF THE ROPE: _____
(FOR EXAMPLE: SOLID THIMBLE / OPEN SPELTER SOCKET)

THE EXACT MEASURES ARE VERY IMPORTANT!

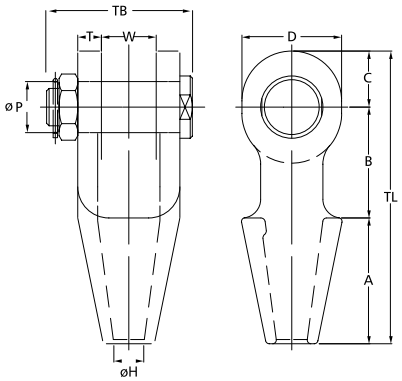
SOLID THIMBLE

d1: _____ mm
c: _____ mm
l: _____ mm
b: _____ mm
a: _____ mm



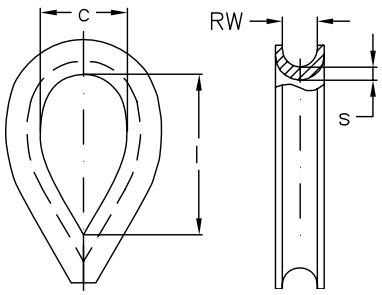
OPEN SPELTER SOCKET

W: _____ mm
H: _____ mm
P: _____ mm
TL: _____ mm



STANDART THIMBLE

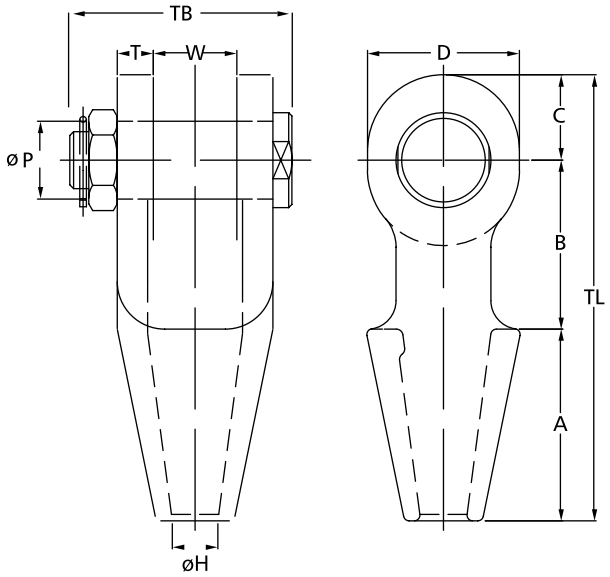
c: _____ mm
l: _____ mm



additional **equipment**

OPEN SPELTER SOCKETS WITH BOLT AND NUT

QUENCHED AND
TEMPERED CAST STEEL



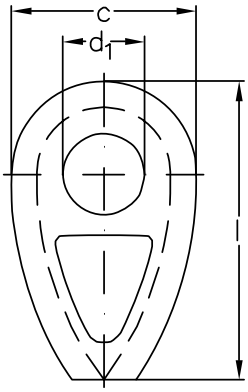
SIZE/TYPE	MBL*	for rope diameter		strand diameter		Dimensions										Weight
						A	B	C	D	H	P	T	TL	TB	W	
	Mtons	mm	inch	mm	inch	mm	mm	mm	mm	ø	ø	mm	mm	mm	mm	kg
196	8	6-7	1/4	-	-	50	40	19	34	9	16	9	109	62	19	0,5
197	12	8-10	3/8	-	-	57	45	22	42	13	21	11	124	75	21	0,8
198	20	11-13	7/16 - 1/2	-	-	64	51	27	50	15	25	12	142	80	25	1,1
199	25	14-16	9/16 - 5/8	13	1/2	76	63	32	58	18	30	14	171	96	32	1,9
100	40	18-19	3/4	14-16	9/16 - 5/8	89	76	40	70	22	35	16	205	107	38	3,1
104	55	20-22	7/8	18-19	3/4	101	89	45	80	25	41	19	235	123	44	4,7
108	75	23-26	1	20-22	7/8	114	101	60	104	29	51	22	275	138	51	8
111	90	27-30	1 1/8	23-26	1	127	114	65	114	33	57	25	306	160	57	12
115	125	31-36	1 1/4 - 1 3/8	27-28	1 1/16 - 1 1/8	139	127	72	126	39	63	28	338	165	63	16
118	150	37-39	1 1/2	30-32	1 3/16 - 1 1/4	152	162	80	142	42	70	30	394	199	76	23
120	170	40-42	1 5/8	33-35	1 5/16 - 1 3/8	165	165	88	156	45	76	33	418	209	76	28
125	225	43-48	1 3/4 - 1 7/8	36-40	1 7/16 - 1 5/8	191	178	100	176	52	89	39	469	237	89	43
128	280	49-54	2 - 2 1/8	42-45	1 5/8 - 1 3/4	216	228	108	194	59	95	45	552	263	101	62
130	360	55-60	2 1/4 - 2 3/8	46-48	1 13/16 - 1 7/8	229	254	120	210	64	108	53	603	298	113	90
132	425	61-68	2 1/2 - 2 5/8	50-54	2 - 2 1/8	248	273	133	236	75	121	60	654	330	127	123
135	460	69-75	2 3/4 - 2 7/8	56-62	2 1/4 - 2 1/2	279	279	138	240	81	127	73	696	359	133	159
138	560	76-80	3 - 3 1/8	64-67	2 1/2 - 2 5/8	305	286	146	252	88	133	76	737	380	146	190
140	625	81-86	3 1/4 - 3 3/8	69-76	2 3/4 - 3	330	298	160	290	92	140	79	788	397	159	230
142	720	87-93	3 1/2 - 3 5/8	78-86	3 1/16 - 3 3/8	356	318	178	320	99	152	83	852	419	171	287
144	875	94-102	3 3/4 - 4	88-96	3 7/16 - 3 3/4	381	343	190	350	108	178	89	914	451	191	377
146	1200	108-115	4 1/4 - 4 1/2	98-110	3 7/8 - 4 5/16	450	480	215	400	129	195	100	1145	506	205	548
150	1400	120-130	4 3/4 - 5	112-124	4 7/16 - 4 7/8	500	500	250	450	147	220	110	1250	546	225	766
155	1600	135-140	5 1/4 - 5 1/2	125-132	4 15/16 - 5 3/16	540	497	263	480	157	240	140	1300	623	230	1081
160	2000	142-153	5 3/4 - 6	133-143	5 1/4 - 5 5/8	585	505	275	500	171	255	140	1365	655	250	1200
165	2220	154-165	6 1/4 - 6 1/2	144-154	5 11/16 - 6 1/4	630	530	300	550	185	275	150	1460	685	260	1474
170	2500	166-178	6 3/4 - 7	155-166	6 1/4 - 6 3/4	680	570	310	570	199	295	150	1560	715	280	1655
175	2800	180-191	7 1/4 - 7 1/2	167-179	6 9/16 - 7 1/16	725	600	325	600	213	310	155	1650	750	300	1956
180	3200	192-204	7 3/4 - 8	180-191	7 1/4 - 7 1/2	775	620	345	640	229	330	160	1740	790	320	2303

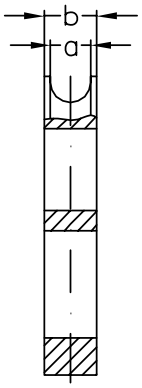
* MBL = Minimum Breaking Load

All sockets can be provided with certificates.

SOLID THIMBLES, acc. to DIN 3091

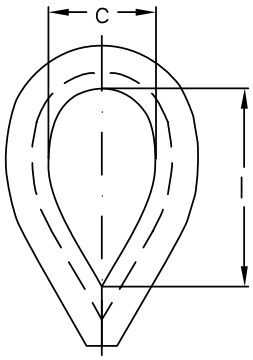
Nominal size/ max. rope diameter	a	b	d_1 max poss. machined hole diam.	c	l	Weight/pc
mm	mm	mm	mm	mm	mm	kg
22	24	33,5	55	110	177	1,8
24	26	36	60	120	193	2,3
26	29	39,5	65	130	209	3,0
28	31	42	70	140	224	3,7
32	35	47	80	160	256	5,3
36	40	53	90	180	288	7,5
40	44	58	100	200	320	10,4
44	48	63	110	220	352	13,4
48	53	69	120	240	384	17,8
52	57	74	130	260	416	23,1
56	62	80	140	280	448	29,0
64	70	90	160	320	512	41,3
72	79	101	180	360	576	66,0
80	88	112	200	400	640	99,0

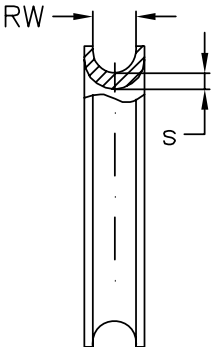




THIMBLES, acc. to former DIN 83311, corresponds to EN 13411-1, galvanized

Nominal size	Groove RW	Rope diameter	c	i approx.	s	Weight/100pc
	mm	mm	mm	mm	mm	kg
0,4	8	8	20	36	3	5,4
0,6	11	10	28	50	4	11,0
1	13	12	32	60	5	17,9
1,6	15	14	38	68	6	25,4
2	17	16	42	76	7	33,8
2,5	19	18	48	85	8	49,9
3	21	20	53	95	9	68,3
4	24	22	60	110	10	93,7
5	28	26	70	125	10,5	133,0
6	30	28	75	135	12	146,0
8	34	32	85	150	13	314,3
10	38	36	95	170	15	393,0
12	42	40	105	190	16	539,0
16	46	44	115	205	16	582,5
20	50	48	125	225	18	966,0
25	56	54	140	250	20	1188,0
31	62	60	155	280	21	1636,0





All sockets can be provided with certificates.

wire rope grips

- made from woven mesh wire

A cable grip is a wire rope connection for temporary use. Cable grips are used for assembling and disassembling crane wire ropes. Three different types are available.

Typ CF 1

one side with thimble

Typ	cable-/ wire Ø	length mm	load approx. kN
CF-100	8-15	1500	5,12
CF-101	8-15	2000	5,12
CF-115	15-20	1500	6,93
CF-116	15-20	2000	6,93
CF-120	20-30	1500	8,67
CF-121	20-30	2000	8,67
CF-130	30-40	1500	10,40
CF-131	30-40	2000	10,40
CF-140	40-50	1500	21,36
CF-141	40-50	2000	21,36
CF-150	50-60	1500	21,36
CF-151	50-60	2000	21,36
CF-160	60-80	1500	28,48
CF-161	60-80	2000	28,48
CF-180	80-100	1500	45,60
CF-181	80-100	2000	45,60

Typ CF 2

with thimble and swivel, anti twist, the connection for ropes with same diameter

Typ	cable-/ wire Ø	length mm	load approx. kN
CF-200	8-15	1500	5,12
CF-201	8-15	2000	5,12
CF-215	15-20	1500	6,93
CF-216	15-20	2000	6,93
CF-220	20-30	1500	8,67
CF-221	20-30	2000	8,67
CF-230	30-40	1500	10,40
CF-231	30-40	2000	10,40
CF-240	40-50	1500	21,36
CF-241	40-50	2000	21,36
CF-250	50-60	1500	21,36
CF-251	50-60	2000	21,36
CF-260	60-80	1500	28,48
CF-261	60-80	2000	28,48
CF-280	80-100	1500	45,60
CF-281	80-100	2000	45,60

Typ CF 4

both end open, the connection for ropes with same diameter

Typ	cable-/ wire Ø	length mm	load approx. kN
CF-406	6-8	1250	3,60
CF-407	6-8	1500	3,60
CF-408	8-10	1250	3,60
CF-409	8-10	1500	3,60
CF-410	10-15	1250	5,12
CF-411	10-15	1500	5,12
CF-415	15-20	1250	6,93
CF-416	15-20	1500	6,93
CF-420	20-30	1500	8,67
CF-421	20-30	2000	8,67
CF-430	30-40	1500	10,40
CF-431	30-40	2000	10,40
CF-440	40-50	1500	21,36
CF-441	40-50	2000	21,36
CF-450	50-60	1500	21,36
CF-451	50-60	2000	21,36
CF-460	60-80	1500	28,48
CF-461	60-80	2000	28,48
CF-462	80-100	2000	45,60

cable laid grommets

Grommet-diameter	MBL acc. EN 13414-3	WLL acc. EN 13414-3	MBL acc. IMCA M 179	WLL acc. IMCA M 179
mm	t	t	t	t
30	76,87	15,37	72,60	14,52
33	93,06	18,61	87,89	17,58
36	111,23	22,25	105,05	21,01
39	129,95	25,99	122,73	24,55
42	150,88	30,18	142,50	28,50
48	197,13	39,43	186,18	37,24
54	248,89	49,78	235,06	47,01
60	307,26	61,45	290,19	58,04
66	372,24	76,28	351,56	72,04
72	442,72	93,20	418,12	88,03
78	519,81	112,76	490,93	106,49
84	602,41	134,47	568,94	127,00
90	691,61	158,99	653,19	150,16
96	787,42	186,59	743,68	176,28
102	888,74	217,30	839,37	205,22
108	996,67	252,32	941,30	238,30
114	1.110,10	290,60	1.048,43	274,46
120	1.230,14	333,37	1.161,80	314,85
126	1.356,79	381,12	1.281,42	359,95
132	1.488,95	434,11	1.406,23	409,98
144	1.771,98	560,75	1.673,54	529,60
156	2.079,24	693,00	1.963,73	654,57
168	2.411,83	803,94	2.277,84	759,28
174	2.586,94	862,31	2.443,00	814,33
192	3.149,70	1.049,90	2.974,72	991,57
204	3.556,00	1.185,33	3.359,00	1.119,66

Following versions are available

endless

endless with two soft eyes

endless with thimbles both end

endless with thimble and soft eye

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