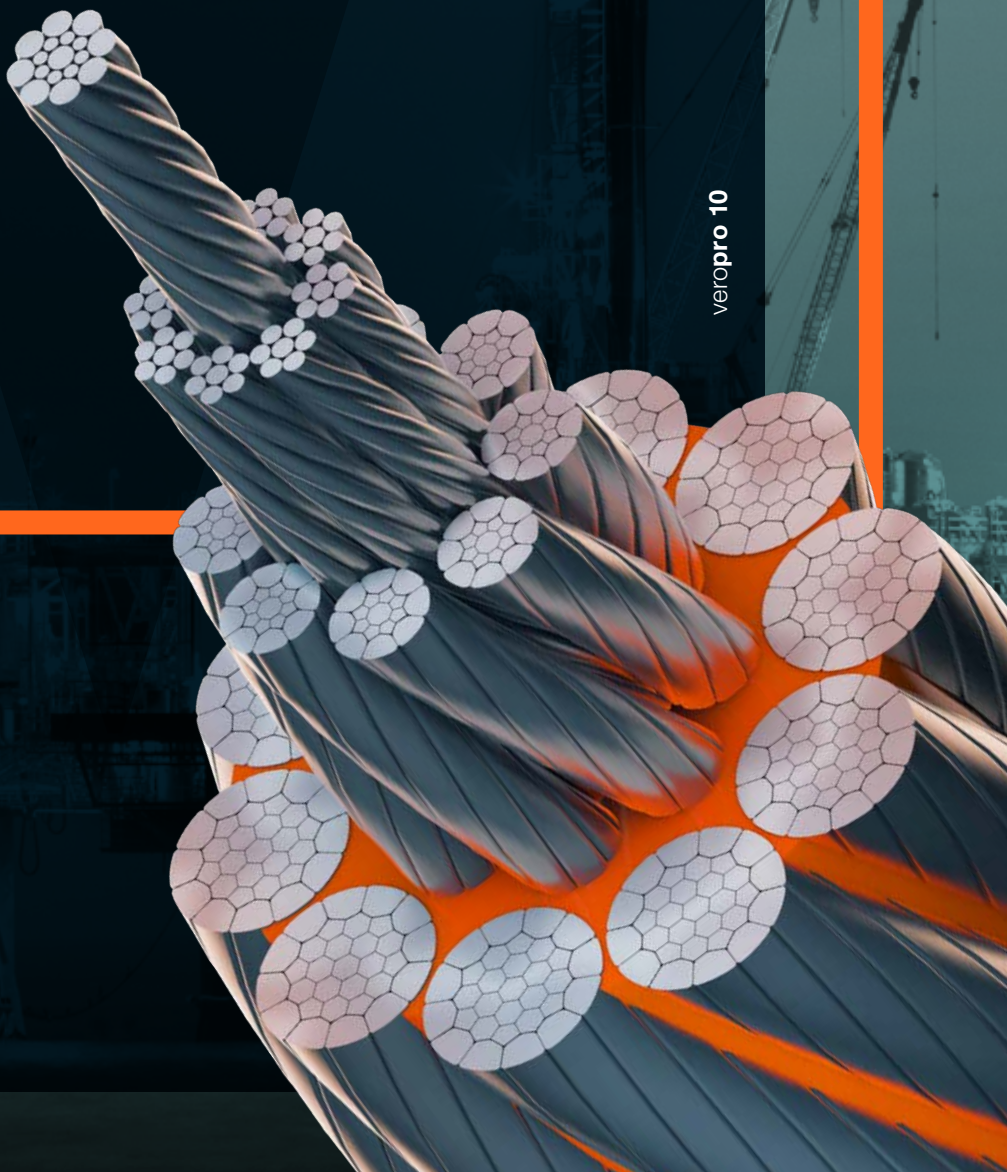
verope®

OFFSHORE INDUSTRY

verope® **special wire ropes**



Offshore Crane

Knuckle Boom Crane

APPLICATIONS

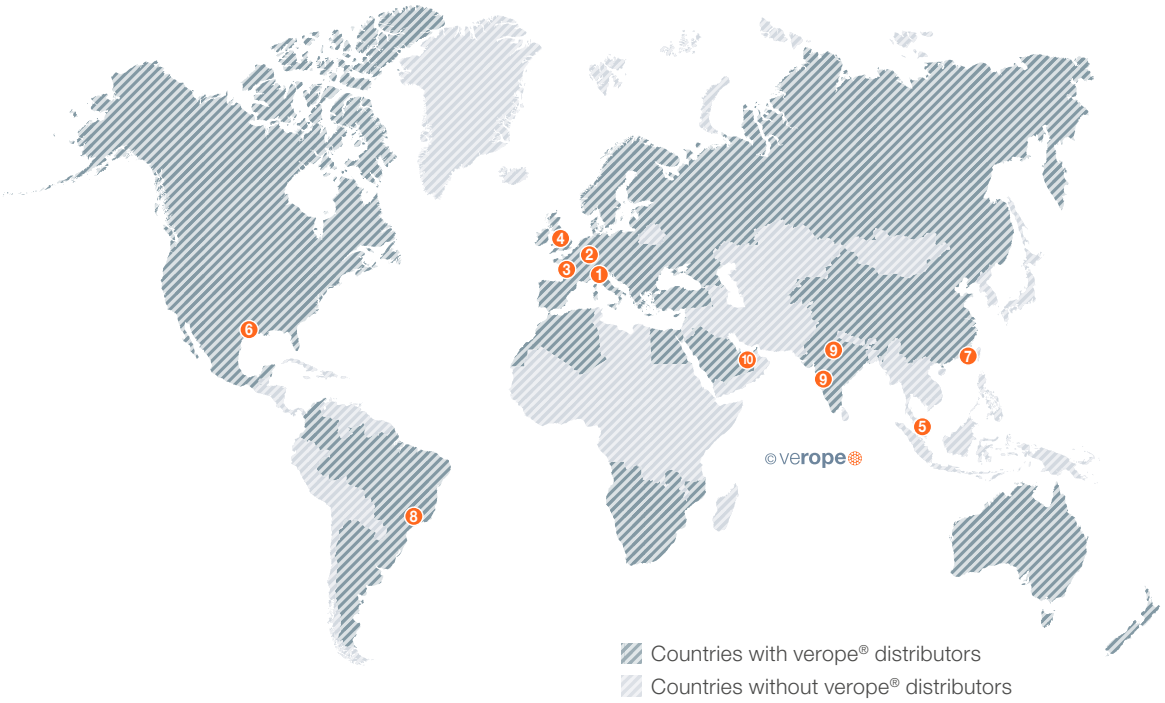
OFFSHORE INDUSTRY

Special wire ropes are subject to extreme conditions in modern offshore industry applications. verope® offers various ropes, rope end fittings and customized solutions for offshore industry applications. verope® provides a global distribution network for special wire ropes to serve the customers wherever the products are needed.

verope® offers the following services:

- Technical customer service
- Technical advice including analysis, e.g. theoretical lifetime calculations
- Rope & crane inspections (reeving system) and Reporting
- Damage analysis
- Training and Seminar
- A broad range of rope tests in our own testing facilities such as:
  - Tensile test up to 2500 kN
  - Bending fatigue test for various rope diameters
  - Various tests to determine the rotational behavior of ropes
  - Elongation measurement
  - Modulus of elasticity determination
  - Rope flexibility tests
  - Measurement of the diameter reduction under load
  - Radial Stability
  - Tension-tension fatigue test

verope® worldwide

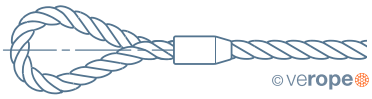


1. **verope® AG (Headquarters),** Zug, Switzerland
2. **verope® Service Center GmbH,** Contwig, Germany
3. **verope® France,** Paris, France
4. **verope® UK,** Birmingham, UK
5. **verope® Distribution Singapore Pte. Ltd,** Singapore
6. **verope® USA,** Houston, USA
7. **LTI Steel Wire Rope Co., Ltd.,** Shanghai, China
8. **verope® do Brasil,** Resende, RJ, Brazil
9. **verope® Steel Wire Ropes Private Limited,** Mumbai & New Delhi, India
10. **verope® Middle East,** Dubai, UAE

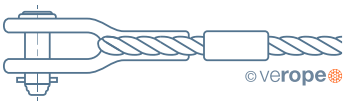
STANDARD ROPE END CONNECTIONS

We are able to offer customized ropes with the correct end connections for crane brands such as:

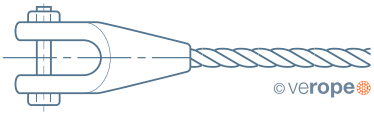
• Liebherr • Terex • Sennebogen • Tadano Faun • Manitowoc • And much more



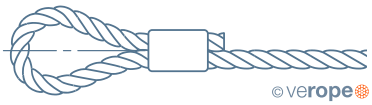
Flemish eye ferrule-secured termination



Ferrule-secured open thimble termination

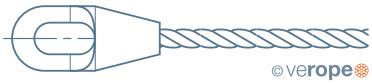


Open spelter socket: Metal or resin socketing

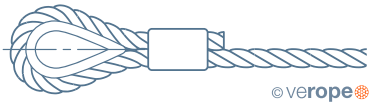


Ferrule-secured eye termination

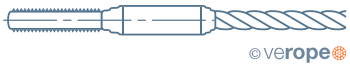
End stop: either metal/resin socketing or swaged



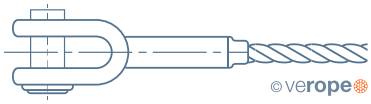
Closed end socket: Metal or cast synthetic resin



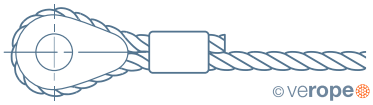
Ferrule-secured thimble termination



Threaded socket swaged



Open socket swaged



Ferrule-secured solid thimble termination

Closed socket swaged

Pad eye

Seized and cut ©verope

Fused and tapered ©verope

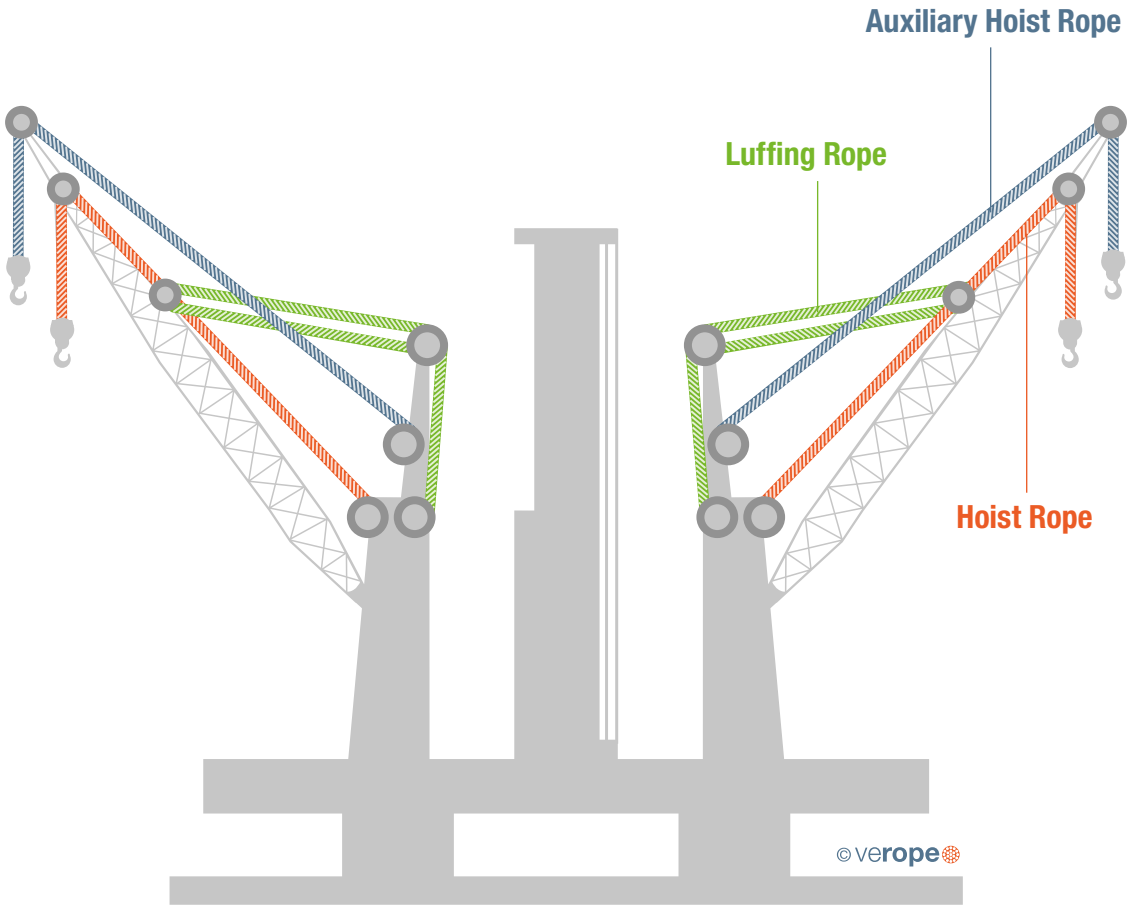
verope® can also offer customer-specific solutions in addition to the standard rope end connections. Special solutions on request.

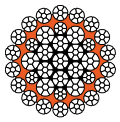
ROPE APPLICATIONS FOR OFFSHORE INDUSTRY

Offshore Crane

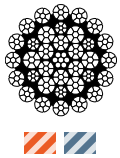
Knuckle Boom Crane

OFFSHORE CRANE

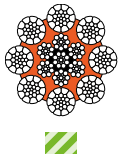




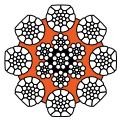
verotop P is a rotation-resistant rope with compacted strands and a rope core covered with a plastic layer.



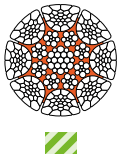
verotop is a very flexible rotation-resistant rope with compacted strands.



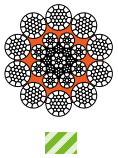
veropro 8 is an 8-strand, non-rotation-resistant rope with compacted outer strands and a rope core covered with a plastic layer.



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



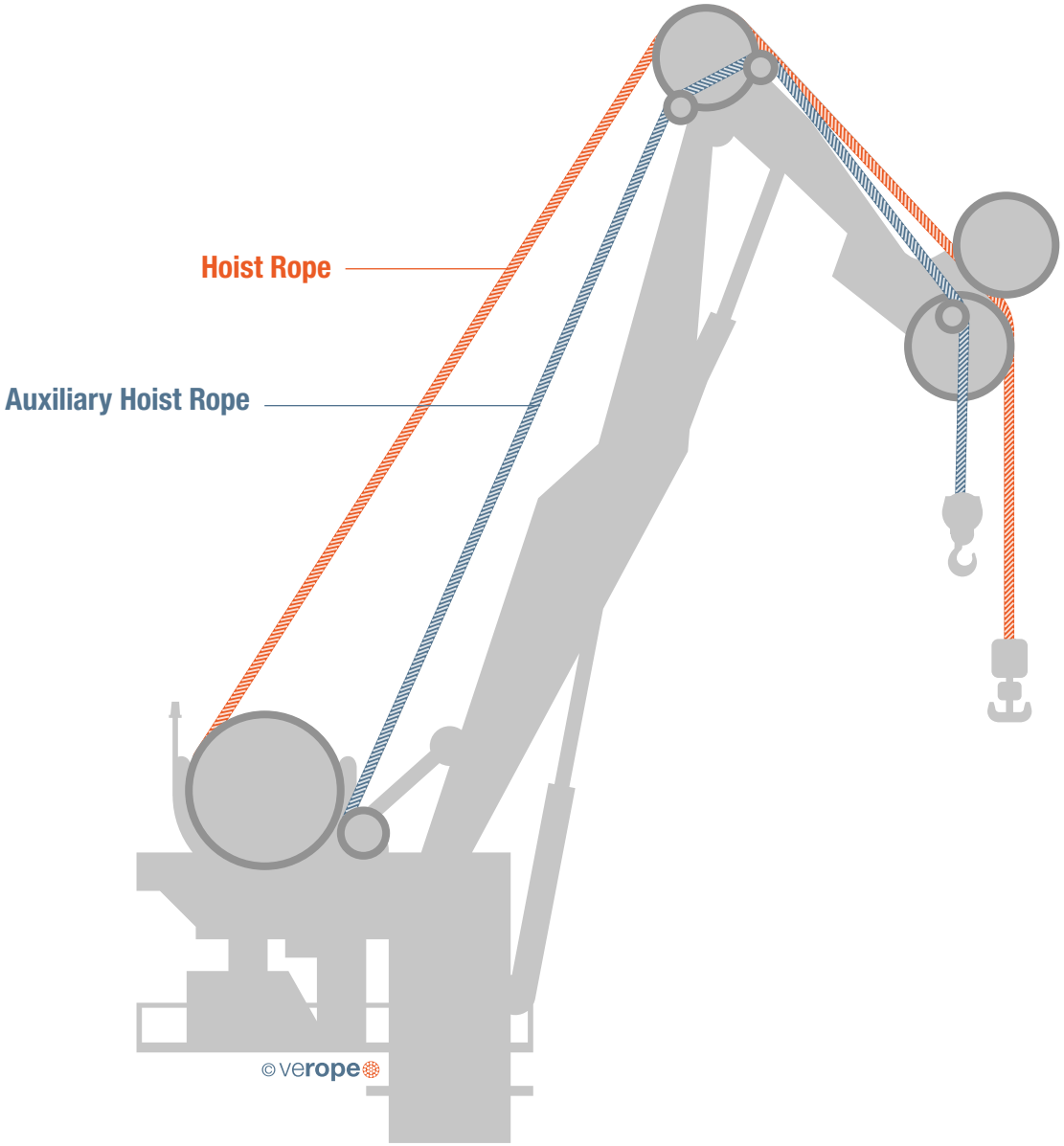
veropower 8[1] is a rotary swaged 8-strand, non-rotation resistant rope in parallel lay construction with compacted outer strands and a rope core covered with a plastic layer.

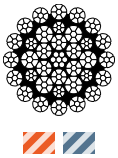


veropro 10[2] is a very flexible 10-strand, non-rotation-resistant rope with compacted strands and a rope core covered with a plastic layer.

[1] For special applications | [2] Only available from 30 mm diameter

KNUCKLE BOOM CRANE





verotop is a very flexible rotation-resistant rope with compacted strands.

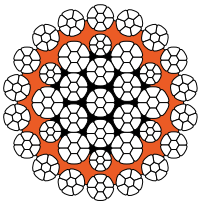
TECHNICAL BROCHURE

verope® **special wire ropes**

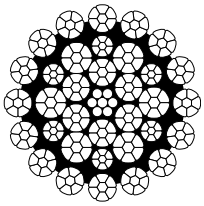
The new and completely revised “Technical Brochure” is aimed at all customers, distributors and rope users. The brochure is available in German and English and provides useful information on the correct handling of special wire ropes by means of numerous graphics and tables.

Order here: marketing@verope.com
www.verope.com

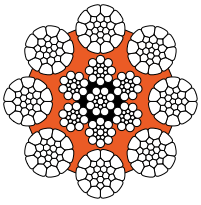
SPECIAL WIRE ROPE APPLICATIONS FOR OFFSHORE INDUSTRY



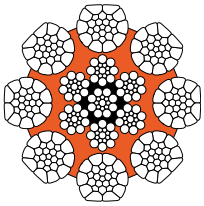
verotop P



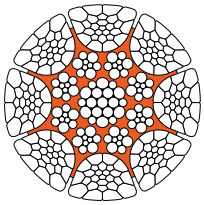
verotop



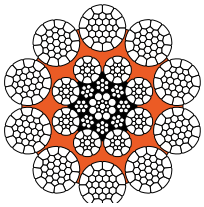
veropro 8



veropro 8 RS



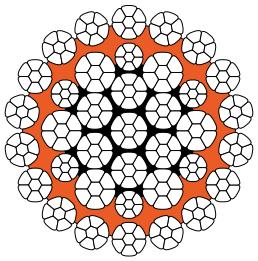
veropower 8



veropro 10

VEROTOP P

provides a very stable rope structure and achieves excellent bending fatigue reslts.



Nominal rope diameter		Approx mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm*	Inch	kg/m	kN	t	kN	t
16	5/8	1.248	241.7	24.6	252.7	25.7
17		1.408	272.8	27.8	285.3	29.1
18		1.579	305.8	31.2	319.8	32.6
19	3/4	1.759	340.8	34.7	356.3	36.3
20		1.949	377.6	38.5	394.8	40.2
21		2.149	416.3	42.4	435.3	44.4
22		2.359	456.9	46.6	477.7	48.7
22.4		2.445	473.6	48.3	495.3	50.5
23		2.578	499.3	50.9	522.2	53.2
24		2.807	543.7	55.4	568.6	57.9
25		3.046	590.0	60.1	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
27		3.553	688.1	70.1	719.6	73.3
28		3.821	740.1	75.4	773.9	78.9
28.6	1-1/8	3.986	772.1	78.7	807.4	82.3
29		4.099	793.9	80.9	830.1	84.6
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
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
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
54	2-1/8	14.211	2753	280.5	2878	293.3

Nominal rope diameter		Approx mass		Minimum breaking force tons[1] of 2000 lbs	
				Rope grade	
mm*	Inch	lb/ft[1]	kg/ft[1]	1960	2160
16	5/8	0.84	0.38	27.2	28.4
17		0.95	0.43	30.7	32.1
18		1.06	0.48	34.4	35.9
19	3/4	1.18	0.54	38.3	40.1
20		1.31	0.59	42.4	44.4
21		1.44	0.66	46.8	48.9
22		1.58	0.72	51.4	53.7
22.4		1.64	0.75	53.2	55.7
23		1.73	0.79	56.1	58.7
24		1.89	0.86	61.1	63.9
25		2.05	0.93	66.3	69.3
25.4	1	2.11	0.96	68.5	71.6
26		2.21	1	71.7	75
27		2.39	1.08	77.3	80.9
28		2.57	1.16	83.2	87
28.6	1-1/8	2.68	1.22	86.8	90.8
29		2.75	1.25	89.2	93.3
30		2.95	1.34	95.5	99.9
31		3.15	1.43	102	106.6
32	1-1/4	3.35	1.52	108.6	113.6
33		3.57	1.62	115.5	120.8
34		3.79	1.72	122.7	128.3
35	1-3/8	4.01	1.82	130	135.9
36		4.24	1.93	137.5	143.8
38	1-1/2	4.73	2.15	153.2	160.2
40		5.24	2.38	169.8	177.5
42		5.78	2.62	187.2	195.7
43		6.06	2.75	196.2	205.1
44		6.34	2.88	205.4	214.8
45	1-3/4	6.63	3.01	214.9	224.7
46		6.93	3.14	224.5	234.8
48		7.55	3.42	244.5	255.6
50	2	8.19	3.71	265.2	277.4
52		8.85	4.02	286.9	300
54		9.55	4.33	309.4	323.5

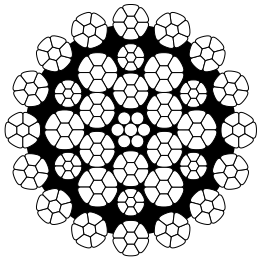
*Standard tolerance: +2% to 4%, other tolerances possible upon agreement. Other and special rope diameters are available upon request.

1) The values are indicative only. Authoritative figures remain the metric ones! Errors and omissions excepted! The cross-section shows a typical rope diameter and can vary within the range. Subject to modifications, this may change the specifications.

Relevant is our website www.verope.com

VEROTOP

provides a very stable rope structure and achieves excellent bending fatigue reslts.



Nominal rope diameter		Approx mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm*	Inch	kg/m	kN	t	kN	t
8	5/16	0.313	61.1	6.2	62.7	6.4
9		0.397	77.3	7.9	79.4	8.1
10		0.490	95.4	9.7	98.0	10
11	7/16	0.593	115.5	11.8	118.6	12.1
12		0.705	137.4	14	141.2	14.4
12.7	1/2	0.790	153.9	15.7	158.1	16.1
13		0.828	161.3	16.4	165.7	16.9
14		0.960	187.0	19.1	192.2	19.6
15		1.102	214.7	21.9	220.6	22.5
16	5/8	1.254	244.3	24.9	251.0	25.6
17		1.415	275.8	28.1	283.3	28.9
18		1.587	309.2	31.5	317.7	32.4
19	3/4	1.768	344.5	35.1	353.9	36.1
20		1.959	381.7	38.9	392.2	40
21		2.160	420.8	42.9	432.4	44.1
22		2.371	461.9	47.1	474.5	48.4
22.4		2.458	478.8	48.8	491.9	50.1
23		2.591	504.8	51.4	518.6	52.9
24		2.821	549.7	56	564.7	57.5
25		3.061	596.4	60.8	612.8	62.4
25.4	1	3.160	615.7	62.7	632.5	64.5
26		3.311	645.1	65.7	662.8	67.5
27		3.571	695.7	70.9	714.7	72.8
28		3.840	748.2	76.2	768.7	78.3
28.6	1-1/8	4.006	780.6	79.5	802.0	81.7
29		4.119	802.6	81.8	824.5	84
30		4.408	858.9	87.5	882.4	89.9
31		4.707	917.1	93.4	942.2	96
32	1-1/4	5.015	977.2	99.6	1004	102.3
33		5.334	1039	105.9	1068	108.8
34		5.662	1103	112.4	1133	115.5
35	1-3/8	6.000	1169	119.1	1201	122.4
36		6.348	1237	126	1271	129.5
38	1-1/2	7.072	1378	140.4	1416	144.3
40		7.837	1527	155.6	1569	159.8
41		8.233	1604	163.5	1648	167.9
42		8.640	1683	171.5	1729	176.2
43		9.056	1764	179.8	1813	184.7
44		9.482	1848	188.3	1898	193.4
45	1-3/4	9.918	1932	196.9	1985	202.3
46		10.364	2019	205.8	2075	211.4
48		11.285	2199	224	2259	230.2
50	2	12.245	2386	243.1	2451	249.8
52		13.244	2580	262.9	2651	270.1
54	2-1/8	14.282	2783	283.6		
56		15.360	2993	305		

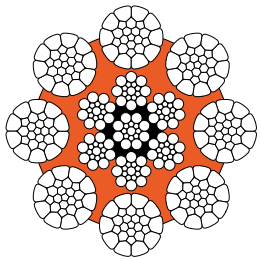
Nominal rope diameter		Approx mass		Minimum breaking force tons[1] of 2000 lbs	
				Rope grade	
mm*	Inch	lb/ft[1]	kg/ft[1]	1960	2160
8	5/16	0.21	0.1	6.9	7.1
9		0.27	0.12	8.7	8.9
10		0.33	0.15	10.7	11
11	7/16	0.4	0.18	13	13.3
12		0.47	0.22	15.4	15.9
12.7	1/2	0.53	0.24	17.3	17.8
13		0.56	0.25	18.1	18.6
14		0.65	0.29	21	21.6
15		0.74	0.34	24.1	24.8
16	5/8	0.84	0.38	27.5	28.2
17		0.95	0.43	31	31.8
18		1.07	0.48	34.8	35.7
19	3/4	1.19	0.54	38.7	39.8
20		1.32	0.6	42.9	44.1
21		1.45	0.66	47.3	48.6
22		1.59	0.72	51.9	53.3
22.4		1.65	0.75	53.8	55.3
23		1.74	0.79	56.7	58.3
24		1.9	0.86	61.8	63.5
25		2.06	0.93	67	68.9
25.4	1	2.12	0.96	69.2	71.1
26		2.22	1.01	72.5	74.5
27		2.4	1.09	78.2	80.3
28		2.58	1.17	84.1	86.4
28.6	1-1/8	2.69	1.22	87.7	90.1
29		2.77	1.26	90.2	92.7
30		2.96	1.34	96.5	99.2
31		3.16	1.44	103.1	105.9
32	1-1/4	3.37	1.53	109.8	112.8
33		3.58	1.63	116.8	120
34		3.8	1.73	124	127.4
35	1-3/8	4.03	1.83	131.4	135
36		4.27	1.94	139	142.8
38	1-1/2	4.75	2.16	154.9	159.1
40		5.27	2.39	171.6	176.3
41		5.53	2.51	180.3	185.2
42		5.81	2.63	189.2	194.4
43		6.09	2.76	198.3	203.8
44		6.37	2.89	207.7	213.3
45	1-3/4	6.66	3.02	217.2	223.2
46		6.96	3.16	227	233.2
48		7.58	3.44	247.1	253.9
50	2	8.23	3.73	268.2	275.5
52		8.9	4.04	290	298
54		9.6	4.35	312.8	
56		10.32	4.68	336.4	

*Standard tolerance: +2% to 4%, other tolerances possible upon agreement. Other and special rope diameters are available upon request.

1) The values are indicative only. Authoritative figures remain the metric ones! Errors and omissions excepted! The cross-section shows a typical rope diameter and can vary within the range. Subject to modifications, this may change the specifications. Relevant is our website www.verope.com

VEROPRO 8

has very high structural stability, achieves excellent bending fatigue results.



Nominal rope diameter		Approx mass	Minimum breaking force					
			Rope grade					
			1770		1960		2160	
mm*	Inch	kg/m	kN	t	kN	t	kN	t
8	5/16	0.288	52.1	5.3	57.7	5.9	60.6	6.2
9		0.364	66.0	6.7	73.0	7.4	76.7	7.8
10		0.450	81.5	8.3	90.1	9.2	94.7	9.6
11	7/16	0.544	98.6	10	109.1	11.1	114.6	11.7
12		0.648	117.3	12	129.8	13.2	136.3	13.9
12.7	1/2	0.726	131.4	13.4	145.4	14.8	152.7	15.6
13		0.760	137.7	14	152.3	15.5	160.0	16.3
14		0.882	159.7	16.3	176.7	18	185.6	18.9
15		1.012	183.3	18.7	202.8	20.7	213.0	21.7
16	5/8	1.152	208.6	21.3	230.7	23.5	242.4	24.7
17		1.300	235.5	24	260.5	26.5	273.6	27.9
18		1.457	264.0	26.9	292.0	29.8	306.8	31.3
19	3/4	1.624	294.2	30	325.4	33.2	341.8	34.8
20		1.799	325.9	33.2	360.5	36.7	378.7	38.6
21		1.984	359.3	36.6	397.5	40.5	417.5	42.5
22		2.177	394.4	40.2	436.2	44.5	458.3	46.7
22.4		2.257	408.9	41.7	452.2	46.1	475.1	48.4
23		2.380	431.0	43.9	476.8	48.6	500.9	51
24		2.591	469.3	47.8	519.1	52.9	545.4	55.6
25		2.812	509.3	51.9	563.3	57.4	591.8	60.3
25.4	1	2.902	525.7	53.6	581.5	59.3	610.8	62.2
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	690.2	70.3
28		3.527	638.8	65.1	706.6	72	742.3	75.6
28.6	1-1/8	3.680	666.5	67.9	737.2	75.1	774.5	78.9
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	922.9	94	969.5	98.8
33		4.899	887.4	90.4	981.5	100	1031	105.1
34		5.200	941.9	96	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	1227	125
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
41.3	1-5/8	7.673	1390	141.6	1537	156.7	1615	164.6
42		7.935	1437	146.5	1590	162	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	1917	195.4
46		9.519	1724	175.7	1907	194.3	2003	204.2
47.5	1-7/8	10.150	1838	187.3	2034	207.2	2136	217.7
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		
58		15.133	2741	279.3	3032	309		
60	2-3/8	16.194	2933	298.9	3245	330.6		

Nominal rope diameter		Approx mass		Minimum breaking force tons[1] of 2000 lbs		
				Rope grade		
mm*	Inch	lb/ft[1]	kg/ft[1]	1770	1960	2160
8	5/16	0.19	0.09	5.9	6.5	6.8
9		0.24	0.11	7.4	8.2	8.6
10		0.3	0.14	9.2	10.1	10.6
11	7/16	0.37	0.17	11.1	12.3	12.9
12		0.44	0.2	13.2	14.6	15.3
12.7	1/2	0.49	0.22	14.8	16.3	17.2
13		0.51	0.23	15.5	17.1	18
14		0.59	0.27	18	19.9	20.9
15		0.68	0.31	20.6	22.8	23.9
16	5/8	0.77	0.35	23.4	25.9	27.2
17		0.87	0.4	26.5	29.3	30.8
18		0.98	0.44	29.7	32.8	34.5
19	3/4	1.09	0.5	33.1	36.6	38.4
20		1.21	0.55	36.6	40.5	42.6
21		1.33	0.6	40.4	44.7	46.9
22		1.46	0.66	44.3	49	51.5
22.4		1.52	0.69	46	50.8	53.4
23		1.6	0.73	48.4	53.6	56.3
24		1.74	0.79	52.8	58.4	61.3
25		1.89	0.86	57.2	63.3	66.5
25.4	1	1.95	0.88	59.1	65.4	68.7
26		2.04	0.93	61.9	68.5	71.9
27		2.2	1	66.8	73.9	77.6
28		2.37	1.08	71.8	79.4	83.4
28.6	1-1/8	2.47	1.12	74.9	82.9	87
29		2.54	1.15	77	85.2	89.5
30		2.72	1.23	82.4	91.2	95.8
31		2.9	1.32	88	97.4	102.3
32	1-1/4	3.1	1.4	93.8	103.7	109
33		3.29	1.49	99.7	110.3	115.9
34		3.49	1.59	105.9	117.1	123
35	1-3/8	3.7	1.68	112.2	124.1	130.4
36		3.92	1.78	118.7	131.3	137.9
38	1-1/2	4.36	1.98	132.3	146.3	153.7
40		4.84	2.19	146.5	162.1	170.3
41.3	1-5/8	5.16	2.34	156.2	172.8	181.5
42		5.33	2.42	161.6	178.7	187.7
44		5.85	2.66	177.3	196.1	206
45	1-3/4	6.12	2.78	185.5	205.1	215.5
46		6.4	2.9	193.8	214.4	225.2
47.5	1-7/8	6.82	3.09	206.6	228.6	240.1
48		6.96	3.16	211	233.4	245.2
50	2	7.56	3.43	229	253.3	266.1
52		8.17	3.71	247.7	273.9	287.8
54	2-1/8	8.81	4	267.1	295.4	310.3
56		9.48	4.3	287.2	317.7	
58		10.17	4.61	308.1	340.8	
60	2-3/8	10.88	4.94	329.7	364.7	

*Standard tolerance: +2% to 4%, other tolerances possible upon agreement. Other and special rope diameters are available upon request.

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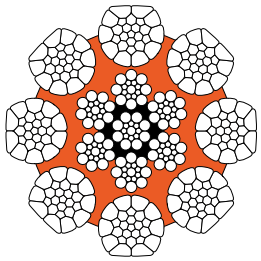
Relevant is our website www.verope.com

VEROPRO 8 RS

provides excellent resistance to abrasion
and has a very high breaking strength.



Nominal rope diameter		Approx mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm*	Inch	kg/m	kN	t	kN	t
12		0.666	134.4	13.7	144.7	14.7
12.7	1/2	0.746	150.5	15.3	162.1	16.5
13		0.782	157.7	16.1	169.9	17.3
14		0.907	182.9	18.6	197.0	20.1
15		1.041	210.0	21.4	226.1	23
16	5/8	1.184	238.9	24.3	257.3	26.2
17		1.337	269.7	27.5	290.5	29.6
18		1.499	302.4	30.8	325.6	33.2
19	3/4	1.670	336.9	34.3	362.8	37
20		1.851	373.3	38	402.0	41
21		2.040	411.5	41.9	443.2	45.2
22		2.239	451.7	46	486.5	49.6
22.4		2.322	468.2	47.7	504.3	51.4
23		2.448	493.7	50.3	531.7	54.2
24		2.665	537.5	54.8	578.9	59
25		2.892	583.3	59.4	628.2	64
25.4	1	2.985	602.1	61.4	648.4	66.1
26		3.128	630.9	64.3	679.4	69.2
27		3.373	680.3	69.3	732.7	74.7
28		3.627	731.6	74.6	788.0	80.3
28.6	1-1/8	3.785	763.3	77.8	822.1	83.8
29		3.891	784.8	80	845.3	86.1
30		4.164	839.9	85.6	904.6	92.2
31		4.446	896.8	91.4	965.9	98.4
32	1-1/4	4.738	955.6	97.4	1029	104.9
33		5.039	1016	103.6	1095	111.5
34		5.349	1079	109.9	1162	118.4
35	1-3/8	5.668	1143	116.5	1231	125.5
36		5.996	1209	123.2	1303	132.7
38	1-1/2	6.681	1348	137.3	1451	147.9
40		7.403	1493	152.2	1608	163.9
41.3	1-5/8	7.892	1592	162.2	1714	174.7
42		8.162	1646	167.7	1773	180.7
44		8.957	1807	184.1	1946	198.3
45	1-3/4	9.369	1890	192.6	2035	207.4
46		9.790	1975	201.2	2127	216.7
47.5	1-7/8	10.439	2106	214.6	2268	231.1
48		10.660	2150	219.1	2316	236

Nominal rope diameter		Approx mass		Minimum breaking force tons[1] of 2000 lbs	
				Rope grade	
mm*	Inch	lb/ft[1]	kg/ft[1]	1960	2160
12		0.45	0.2	15.1	16.3
12.7	1/2	0.5	0.23	16.9	18.2
13		0.53	0.24	17.7	19.1
14		0.61	0.28	20.6	22.1
15		0.7	0.32	23.6	25.4
16	5/8	0.8	0.36	26.9	28.9
17		0.9	0.41	30.3	32.6
18		1.01	0.46	34	36.6
19	3/4	1.12	0.51	37.9	40.8
20		1.24	0.56	42	45.2
21		1.37	0.62	46.3	49.8
22		1.5	0.68	50.8	54.7
22.4		1.56	0.71	52.6	56.7
23		1.64	0.75	55.5	59.8
24		1.79	0.81	60.4	65.1
25		1.94	0.88	65.6	70.6
25.4	1	2.01	0.91	67.7	72.9
26		2.1	0.95	70.9	76.4
27		2.27	1.03	76.5	82.4
28		2.44	1.11	82.2	88.6
28.6	1-1/8	2.54	1.15	85.8	92.4
29		2.61	1.19	88.2	95
30		2.8	1.27	94.4	101.7
31		2.99	1.36	100.8	108.6
32	1-1/4	3.18	1.44	107.4	115.7
33		3.39	1.54	114.2	123
34		3.59	1.63	121.3	130.6
35	1-3/8	3.81	1.73	128.5	138.4
36		4.03	1.83	135.9	146.4
38	1-1/2	4.49	2.04	151.5	163.1
40		4.97	2.26	167.8	180.8
41.3	1-5/8	5.3	2.41	178.9	192.7
42		5.48	2.49	185	199.3
44		6.02	2.73	203.1	218.7
45	1-3/4	6.3	2.86	212.4	228.8
46		6.58	2.98	222	239
47.5	1-7/8	7.01	3.18	236.7	254.9
48		7.16	3.25	241.7	260.3

*Standard tolerance: +2% to 4%, other tolerances possible upon agreement. Other and special rope diameters are available upon request.

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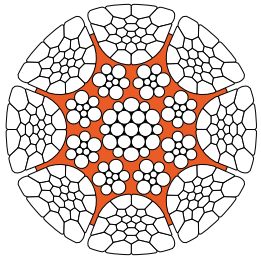
VEROPOWER 8

has very high structural stability, achieves excellent bending fatigue results.



Nominal rope diameter		Approx mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm*	Inch	kg/m	kN	t	kN	t
12		0.717	147.4	15	158.8	16.2
12.7	1/2	0.803	165.1	16.8	177.9	18.1
13		0.842	173.0	17.6	186.4	19
14		0.976	200.6	20.4	216.2	22
15		1.121	230.3	23.5	248.2	25.3
16	5/8	1.275	262.0	26.7	282.3	28.8
17		1.440	295.8	30.1	318.7	32.5
18		1.614	331.6	33.8	357.3	36.4
19	3/4	1.798	369.5	37.6	398.1	40.6
20		1.992	409.4	41.7	441.2	45
21		2.197	451.3	46	486.4	49.6
22		2.411	495.3	50.5	533.8	54.4
22.4		2.499	513.5	52.3	553.4	56.4
23		2.635	541.4	55.2	583.4	59.5
24		2.869	589.5	60.1	635.3	64.7
25		3.113	639.6	65.2	689.3	70.2
25.4	1	3.214	660.3	67.3	711.5	72.5
26		3.367	691.8	70.5	745.6	76
27		3.631	746.1	76	804.0	81.9
28		3.905	802.4	81.8	864.7	88.1
28.6	1-1/8	4.074	837.1	85.3	902.1	91.9
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
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
41.3	1-5/8	8.496	1746	177.9	1881	191.7
42		8.787	1805	184	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
47.5	1-7/8	11.24	2309	235.3	2488	253.6
48		11.48	2358	240.3	2541	258.9

Nominal rope diameter		Approx mass		Minimum breaking force tons[1] of 2000 lbs	
				Rope grade	
mm*	Inch	lb/ft[1]	kg/ft[1]	1960	2160
12		0.48	0.22	16.6	17.9
12.7	1/2	0.54	0.24	18.6	20
13		0.57	0.26	19.4	21
14		0.66	0.3	22.5	24.3
15		0.75	0.34	25.9	27.9
16	5/8	0.86	0.39	29.4	31.7
17		0.97	0.44	33.2	35.8
18		1.08	0.49	37.3	40.2
19	3/4	1.21	0.55	41.5	44.8
20		1.34	0.61	46	49.6
21		1.48	0.67	50.7	54.7
22		1.62	0.74	55.7	60
22.4		1.68	0.76	57.7	62.2
23		1.77	0.8	60.9	65.6
24		1.93	0.87	66.3	71.4
25		2.09	0.95	71.9	77.5
25.4	1	2.16	0.98	74.2	80
26		2.26	1.03	77.8	83.8
27		2.44	1.11	83.9	90.4
28		2.62	1.19	90.2	97.2
28.6	1-1/8	2.74	1.24	94.1	101.4
29		2.81	1.28	96.7	104.3
30		3.01	1.37	103.5	111.6
31		3.22	1.46	110.5	119.1
32	1-1/4	3.43	1.56	117.8	126.9
33		3.64	1.65	125.3	135
34		3.87	1.76	133	143.3
35	1-3/8	4.1	1.86	140.9	151.9
36		4.34	1.97	149.1	160.7
38	1-1/2	4.83	2.19	166.1	179
40		5.36	2.43	184.1	198.3
41.3	1-5/8	5.71	2.59	196.2	211.4
42		5.9	2.68	202.9	218.7
44		6.48	2.94	222.7	240
45	1-3/4	6.78	3.08	232.9	251
46		7.08	3.21	243.4	262.3
47.5	1-7/8	7.55	3.43	259.5	279.7
48		7.71	3.5	265	285.6

*Standard tolerance: +2% to 4%, other tolerances possible upon agreement. Other and special rope diameters are available upon request.

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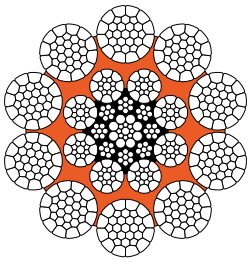
Relevant is our website www.verope.com

VEROPRO 10

is an extremely flexible rope with very high breaking strength and achieves excelent bending fatigue results.



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	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	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	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
54	2-1/8	13.452	2682.6	273.4	2888.8	294.4
56		14.467	2885.0	294	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	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

Nominal rope diameter		Approx mass		Minimum breaking force tons[1] of 2000 lbs	
				Rope grade	
mm*	Inch	lb/ft[1]	kg/ft[1]	1960	2160
30	1-1/4	2.79	1.27	93.1	100.2
32		3.17	1.44	105.9	114
34		3.58	1.63	119.5	128.7
36	1-1/2	4.02	1.82	134	144.3
38		4.48	2.03	149.3	160.8
40		4.96	2.25	165.4	178.2
42		5.47	2.48	182.4	196.4
44		6	2.72	200.2	215.6
46		6.56	2.98	218.8	235.6
48	2	7.14	3.24	238.2	256.6
50		7.75	3.52	258.5	278.4
52	2-1/8	8.38	3.8	279.6	301.1
54		9.04	4.1	301.5	324.7
56		9.72	4.41	324.3	349.2
58	2-3/8	10.43	4.73	347.9	374.6
60		11.16	5.06	372.3	400.9
62	2-1/2	11.92	5.41	397.5	428
64	2-5/8	12.7	5.76	423.5	456.1
66		13.5	6.13	450.4	485
68	2-3/4	14.33	6.5	478.1	514.9
70		15.19	6.89	506.7	545.6

*Standard tolerance: +2% to 4%, other tolerances possible upon agreement. Other and special rope diameters are available upon request.

1) The values are indicative only. Authoritative figures remain the metric ones! Errors and omissions excepted! The cross-section shows a typical rope diameter and can vary within the range. Subject to modifications, this may change the specifications.
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