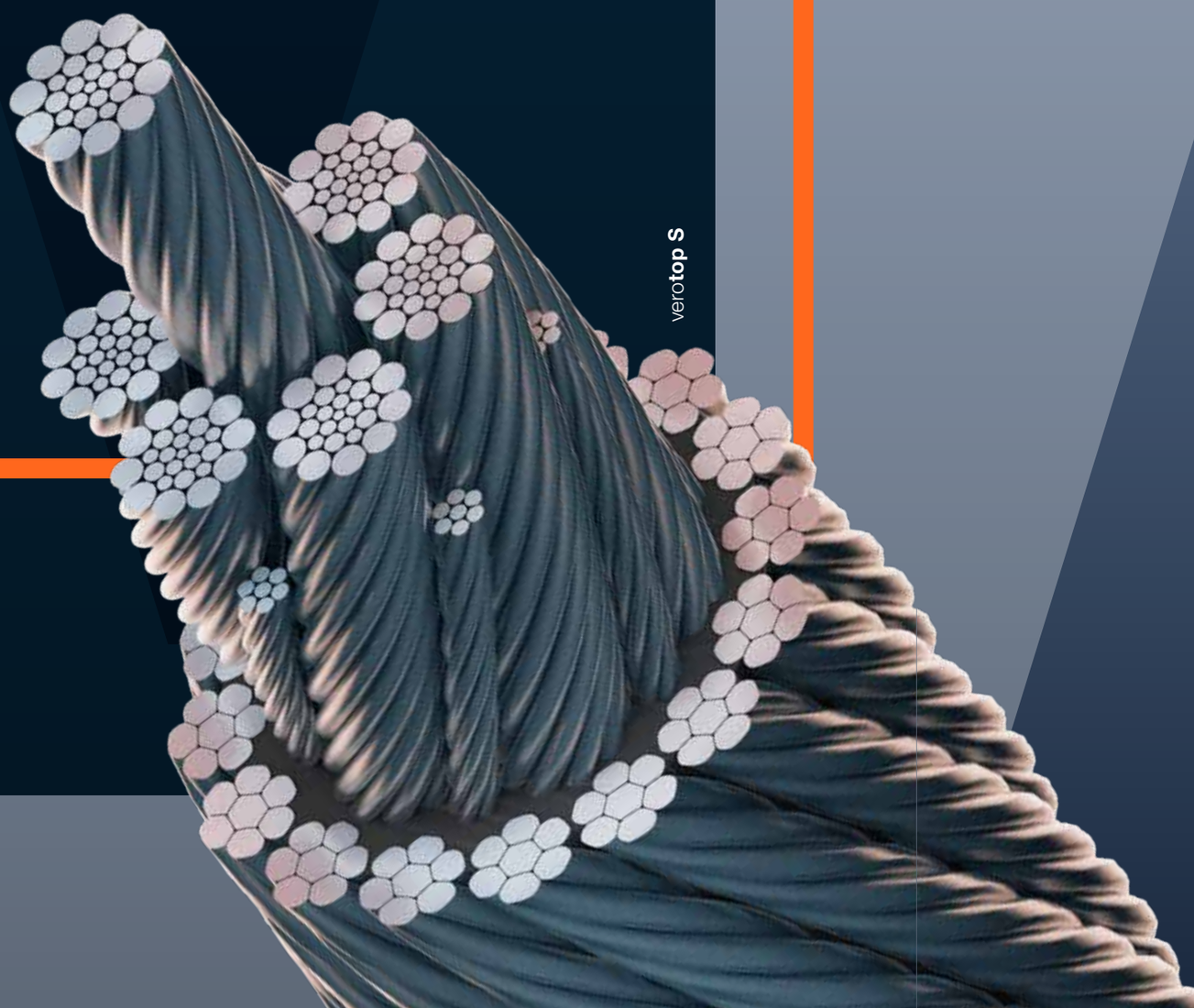
verope®

GENERAL CATALOG

verope® **special wire ropes**



GENERAL CATALOG
Edition October 2024

Overhead Crane

Ladle Crane

Jib Crane

Foundation Equipment

Offshore Crane

Mobile Crane

Crawler Crane

Tower Crane

Luffing Crane

Truck Crane

Gantry Crane (STS)

RTG Crane

Straddle Carrier

Mobile Harbor Crane

Knuckle Boom Crane

Deck Crane

Ship Unloader

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VEROPE® RELY ON SPECIAL WIRE ROPES

VEROPE® MERGES CUSTOMER DEMANDS FOR TOP QUALITY AND COMPETITIVE PRICING IN PRODUCTION, SALES, DISTRIBUTION AND SERVICES OF SPECIAL WIRE ROPES WITH A TRUE GLOBAL REACH.

verope® AG is a Joint Venture company between Pierre Verreet, head and founder of verope®, and Kiswire Ltd. from South Korea.

By using the extraordinary expertise of verope® in the special wire rope market and the long experience of Kiswire Ltd. in efficient production, verope® is a partner you can rely on.

Our concept is to provide affordable high quality special wire ropes for the mining-, construction- and heavy industry, as well as offshore and port applications to the world market.

At the heart of the verope® service strategy lies reliability and consistent innovation with a true global reach. This is achieved by focusing on the most valuable asset of any company – its employees and partners all over the globe. Together they make up our heroes of reliability.

This ever-expanding verope® team remains your reliable partner to advise and assist you on the best and most competitive rope construction for your application.

Your requirements are our focus.

Pierre Verreet, CEO

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APPLICATIONS

This catalog is designed to help our customers select the appropriate special wire rope from our broad product range.

Please use the orange tab to the right in order to gain an overview and quickly switch from one product to another.

Using the blue tab to the left, you can compare which rope is suitable for which application. Please note, that each rope construction has specific product features, tailored to specific application requirements. For more information, refer to the individual product data sheets. We would be happy to advise you on the best rope construction that suits your application.

For your convenience we have added, alongside the relevant metric dimensions, commonly used English units by conversion such as lb/feet for the rope's length mass and tons (of 2000 lbs) for the rope's minimum breaking force.

Regarding the important discard criteria for visible broken wires, we have converted our details to the International Standard ISO 4309. Please also read the "Important Information" on page 34!

The data shown in this catalog are correct at the time of printing. Subject to modifications, the specifications may change, errors and omissions excepted!

Remarks regarding the product selection when using the blue tab on the left
For single layer spooling, ordinary lay ropes have to be used.

1) In case rotation-resistant rope is needed
2) Used in steel mills, where high temperatures are involved
3) Preferably on single layer drum
4) Grab application
5) For special applications
6) Only available from 30 mm diameter

SPECIAL WIRE ROPES

Rotation-resistant special wire ropes

vero**top P** P. 6–7		vero**top P** is a rotation-resistant rope with compacted strands and a rope core covered with a plastic layer.
vero**top XP** P. 8–9		vero**top XP** is a rotary swaged rotation-resistant rope with compacted strands and a rope core covered with a plastic layer.
vero**top** P. 10–11		vero**top** is a very flexible rotation-resistant rope with compacted strands.
vero**top S** P. 12–13		vero**top S** is a very flexible rotation-resistant rope with compacted outer strands and very high breaking strength.
vero**top S+** P. 14–15		vero**top S+** is a very flexible rotation-resistant rope with compacted outer strands and extraordinary breaking strength.
vero**top E** P. 16–17		vero**top E** is a flexible rotation-resistant rope with compacted outer strands.
vero **4** P. 18–19		vero **4** is a 4-strand rotation-resistant rope with compacted strands.

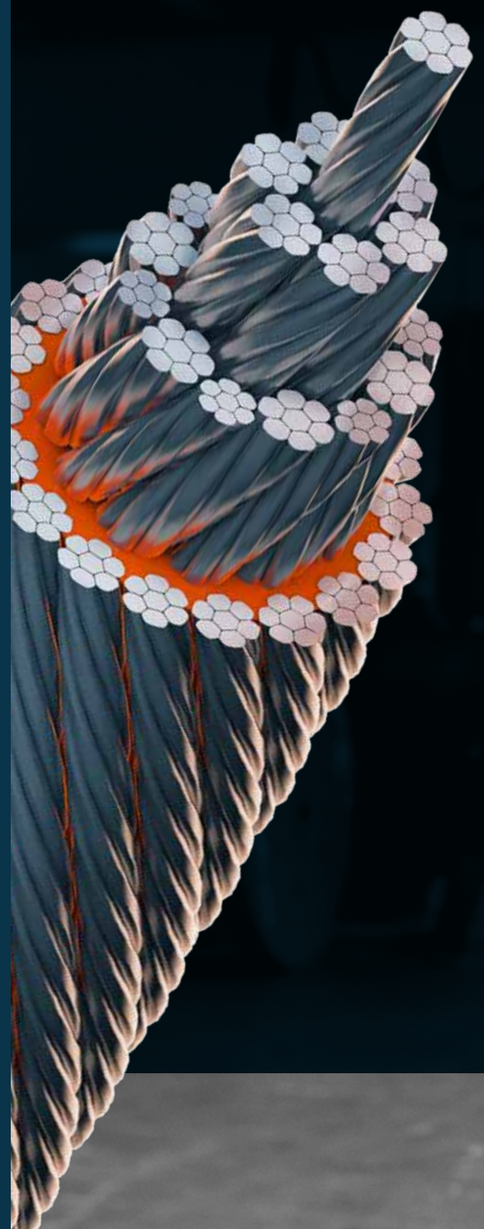
Non-rotation-resistant special wire ropes

vero**star 8** P. 20–21		vero**star 8** is an 8-strand, non-rotation-resistant rope with conventional strands and a rope core covered with a plastic layer.
vero**pro 8** P. 22–23		vero**pro 8** is an 8-strand, non-rotation-resistant rope with compacted outer strands and a rope core covered with a plastic layer.
vero**pro 8 RS** P. 24–25		vero**pro 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.
vero**power 8** P. 26–27		vero**power 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.
vero**pro 10** P. 28–29		vero**pro 10** is a very flexible 10-strand, non-rotation-resistant rope with compacted strands and a rope core covered with a plastic layer.
vero**tech 10** P. 30–31		vero**tech 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.
vero**steel 8** P. 32–33		vero**steel 8** is an 8-strand, non-rotation-resistant rope with compacted outer strands.

PROVIDES A VERY STABLE ROPE STRUCTURE AND ACHIEVES EXCELLENT BENDING FATIGUE RESULTS.

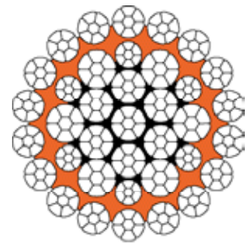
VEROTOP P

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.

The rope is fully lubricated. The finish available as standard is galvanized, bright finish on request. Average fill factor: 0.730
Ordinary or Lang Lay available. Rope Category Number (RCN) to determine the number of visible broken outer wires, signaling discard of rope acc. ISO 4309: RCN = 23-3
Further details: www.verope.com



VEROTOP P

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
56		15.86	2908	296.53	3058[2]	311.83[2]
58		17.01	3098	315.91	3258[2]	332.22[2]
60		18.20	3333	339.87	3505[2]	357.41[2]
62		19.44	3517	358.63	3698[2]	377.09[2]
64		20.71	3775	384.94	3969[2]	404.73[2]
66		21.37	3972	405.03	4094[2]	417.47[2]
68		23.38	4251	433.48	4470[2]	455.81[2]
70	2-3/4	24.78	4535	462.44	4769[2]	486.3[2]
72		26.21	4809	490.38	5057[2]	515.67[2]
74		27.69	5064	516.38		

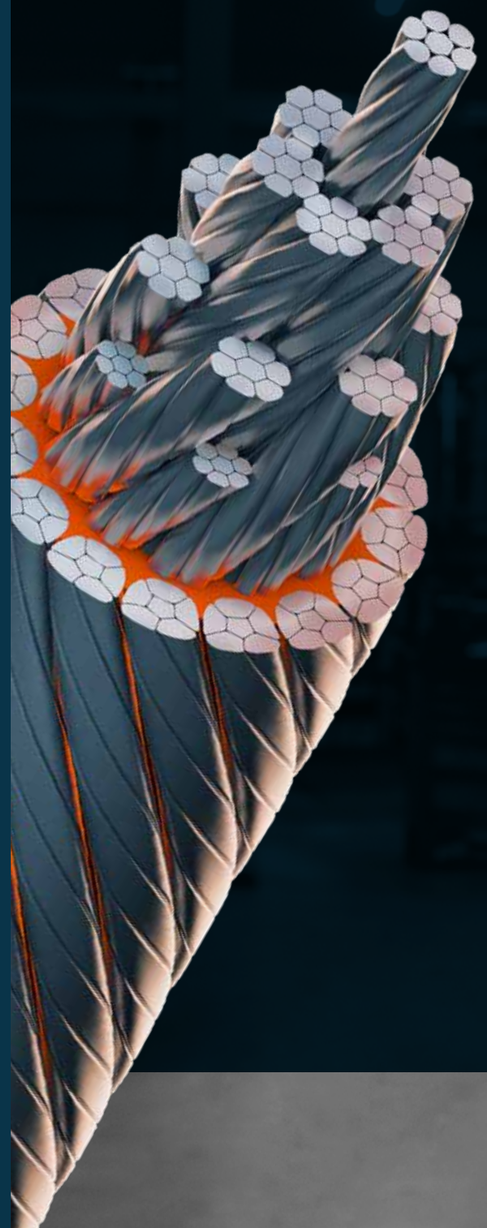
Nominal rope diameter		Approx mass		Minimum breaking force tons[1] of 2000 lbs	
				Rope grade	
mm*	Inch	lb/ft[1]	kg/ft[1]	1960	2160
16	5/8	0.84	0.38	27.2	28.4
17		0.95	0.43	30.7	32.1
18		1.06	0.48	34.4	35.9
19	3/4	1.18	0.54	38.3	40.1
20		1.31	0.59	42.4	44.4
21		1.44	0.66	46.8	48.9
22		1.58	0.72	51.4	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	2-1/8	9.55	4.33	309.4	323.5
56		10.66	4.83	326.9	343.7[2]
58		11.43	5.18	348.2	366.2[2]
60		12.23	5.55	374.6	394.0[2]
62		13.06	5.92	395.3	415.7[2]
64		13.92	6.31	424.3	446.1[2]
66		14.36	6.51	446.5	460.2[2]
68		15.71	7.13	477.8	502.4[2]
70	2-3/4	16.65	7.55	509.8	536.1[2]
72		17.61	7.99	540.6	568.4[2]
74		18.61	8.44	569.2	

*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 2) *2060 N/mm²

OFFERS SUPERIOR CRUSHING RESISTANCE
AND BEST RESISTANCE TO ABRASION.

VEROTOP XP

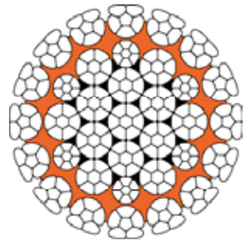
is a rotary swaged rotation-resistant rope with compacted strands and a rope core covered with a plastic layer.



- verotop **XP** is the strongest of all 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.

The rope is fully lubricated. The finish available as standard is galvanized, bright finish on request. Average fill factor: 0.745
Ordinary or Lang Lay available. Rope Category Number (RCN) to determine the number of visible broken outer wires, signaling discard of rope acc. ISO 4309: RCN = 23-1
Further details: www.verope.com

VEROTOP XP



Nominal rope diameter		Approx mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm*	Inch	kg/m	kN	t	kN	t
17		1.446	281.7	28.7	306.8	31.3
18		1.621	315.8	32.2	344.0	35.1
19	3/4	1.806	351.9	35.9	383.3	39.1
20		2.001	389.9	39.7	424.7	43.3
21		2.206	429.9	43.8	468.2	47.7
22		2.421	471.8	48.1	513.8	52.4
22.4		2.510	489.1	49.8	532.7	54.3
23		2.646	515.7	52.5	561.6	57.2
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
28.6	1-1/8	4.092	797.4	81.3	868.4	88.5
29		4.207	819.8	83.5	892.8	91
30		4.503	877.3	89.4	955.5	97.4
31		4.808	936.8	95.5	1020	104
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
41.3	1-5/8	8.533	1663	169.4	1811	184.5
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
47.5	1-7/8	11.288	2199	224.1	2395	244.1
48		11.526	2246	228.9	2446	249.3
50[2]	2	12.507	2437	248.5	2654	270.6

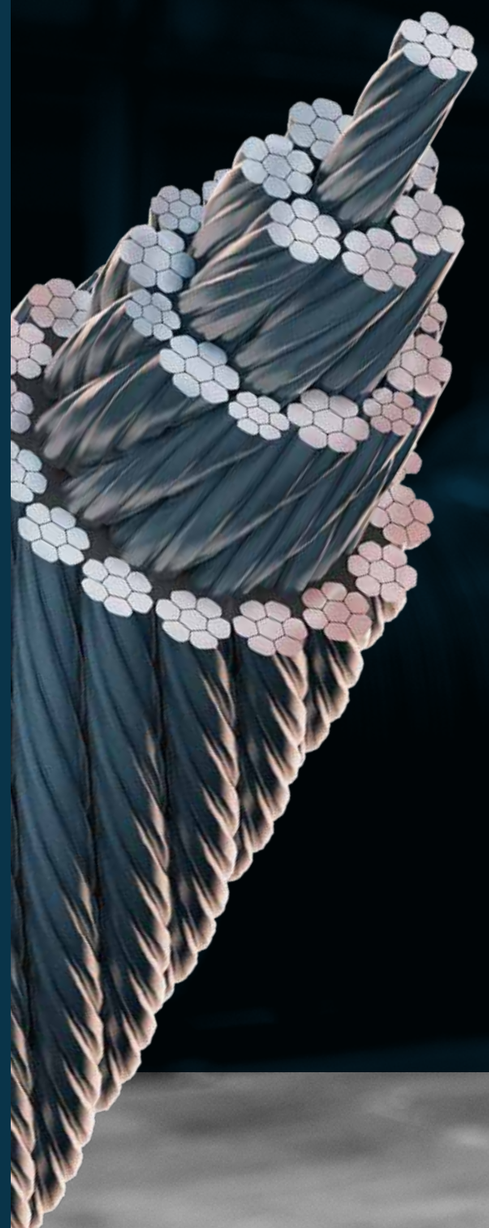
Nominal rope diameter		Approx mass		Minimum breaking force tons[1] of 2000 lbs	
				Rope grade	
mm*	Inch	lb/ft[1]	kg/ft[1]	1960	2160
17		0.97	0.44	31.7	34.5
18		1.09	0.49	35.5	38.7
19	3/4	1.21	0.55	39.6	43.1
20		1.34	0.61	43.8	47.7
21		1.48	0.67	48.3	52.6
22		1.63	0.74	53	57.8
22.4		1.69	0.77	55	59.9
23		1.78	0.81	58	63.1
24		1.94	0.88	63.1	68.7
25		2.1	0.95	68.5	74.6
25.4	1	2.17	0.98	70.7	77
26		2.27	1.03	74.1	80.7
27		2.45	1.11	79.9	87
28		2.64	1.2	85.9	93.6
28.6	1-1/8	2.75	1.25	89.6	97.6
29		2.83	1.28	92.1	100.4
30		3.03	1.37	98.6	107.4
31		3.23	1.47	105.3	114.7
32	1-1/4	3.44	1.56	112.2	122.2
33		3.66	1.66	119.3	129.9
34		3.89	1.76	126.7	137.9
35	1-3/8	4.12	1.87	134.2	146.2
36		4.36	1.98	142	154.7
38	1-1/2	4.85	2.2	158.2	172.3
40		5.38	2.44	175.3	190.9
41.3	1-5/8	5.73	2.6	186.9	203.5
42		5.93	2.69	193.3	210.5
44		6.51	2.95	212.1	231
45	1-3/4	6.81	3.09	221.9	241.6
46		7.11	3.23	231.8	252.5
47.5	1-7/8	7.58	3.44	247.2	269.2
48		7.75	3.51	252.4	274.9
50[2]	2	8.40	3.81	273.9	298.3

*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 2) *2060 N/mm²

A SUPERIOR BALANCED ROPE WHEN RESISTANCE TO ROTATION BECOMES MOST CRITICAL.

VEROTOP

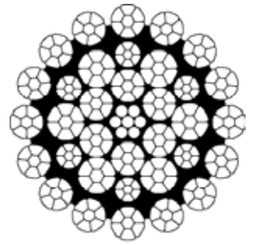
is a very flexible rotation-resistant rope with compacted strands.



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

The rope is fully lubricated. The finish available is either bright or galvanized. Average fill factor: 0.738 | Lay type: Lang Lay
Rope Category Number (RCN) to determine the number of visible broken outer wires, signaling discard of rope acc. ISO 4309: RCN = 23-2
Further details: www.verope.com

VEROTOP



Nominal rope diameter		Approx mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm²	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		
58		17.01	3098	315.9	3258[2]	332.2[2]
60		18.20	3333	339.9	3505[2]	357.4[2]
62		19.44	3517	358.6	3698[2]	377.1[2]
64		20.71	3775	384.9	3969[2]	404.7[2]
66		21.37	3972	405	4094[2]	417.5[2]
68		23.38	4251	433.5	4470[2]	455.8[2]
70	2-3/4	24.78	4535	462.4	4769[2]	486.3[2]
72		26.21	4809	490	5057[2]	515.7[2]

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	2-1/8	9.6	4.35	312.8	
56		10.32	4.68	336.4	
58		11.43	5.18	348.2	366.2[2]
60		12.23	5.54	374.6	394[2]
62		13.06	5.93	395.3	415.7[2]
64		13.91	6.31	424.3	446.1[2]
66		14.36	6.51	446.5	460.2[2]
68		15.71	7.13	477.8	502.4[2]
70	2-3/4	16.65	7.55	509.8	536.1[2]
72		17.61	7.99	540.6	568.4[2]

*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 2) *2060 N/mm²

PROVIDES EXCELLENT BREAKING STRENGTH
AND VERY GOOD RESISTANCE TO ROTATION.

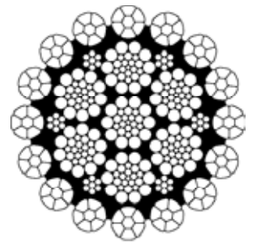
VEROTOP S

is a very flexible rotation-resistant rope with compacted outer strands and very high breaking strength.

- vero**top S** is a very strong compacted rotation-resistant rope.
- vero**top S** achieves very good bending fatigue results.
- vero**top S** offers excellent resistance to crushing and abrasion.
- vero**top S** possesses perfect spooling be-havior on multilayer drum.
- vero**top S** can be used either with or without swivel.
- vero**top S** is a category 1 rotation-resistant rope in accordance with ASTM A1023.

The rope is fully lubricated. The finish available is either bright or galvanized. Average fill factor: 0.742 | Lay type: Lang Lay
Rope Category Number (RCN) to determine the number of visible broken outer wires, signaling discard of rope acc. ISO 4309: RCN = 23-2
Further details: www.verope.com

VEROTOP S



Nominal rope diameter		Approx mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm*	Inch	kg/m	kN	t	kN	t
13		0.847	166.0	16.9	172.8	17.6
14		0.982	192.5	19.6	200.4	20.4
15		1.127	221.0	22.5	230.1	23.4
16	5/8	1.283	251.4	25.6	261.8	26.7
17		1.448	283.8	28.9	295.5	30.1
18		1.623	318.2	32.4	331.3	33.8
19	3/4	1.809	354.5	36.1	369.2	37.6
20		2.004	392.8	40	409.0	41.7
21		2.210	433.1	44.1	451.0	46
22		2.425	475.3	48.4	494.9	50.4
22.4		2.514	492.8	50.2	513.1	52.3
23		2.651	519.5	52.9	541.0	55.1
24		2.886	565.7	57.6	589.0	60
25		3.132	613.8	62.5	639.1	65.1
25.4	1	3.233	633.6	64.6	659.7	67.2
26		3.387	663.9	67.7	691.3	70.4
27		3.653	715.9	73	745.5	76
28		3.928	770.0	78.5	801.7	81.7
28.6	1-1/8	4.099	803.3	81.9	836.5	85.2
29		4.214	825.9	84.2	860.0	87.6
30		4.510	883.9	90.1	920.4	93.8
31		4.815	943.8	96.2	982.7	100.1
32	1-1/4	5.131	1005.7	102.5	1047	106.7
33		5.457	1069	109	1114	113.5
34		5.792	1135	115.7	1182	120.5
35	1-3/8	6.138	1203	122.6	1253	127.7
36		6.494	1273	129.7	1325	135
38	1-1/2	7.235	1418	144.5	1477	150.5
40		8.017	1571	160.1	1636	166.7

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
13		0.57	0.26	18.7	19.4
14		0.66	0.3	21.6	22.5
15		0.76	0.34	24.8	25.9
16	5/8	0.86	0.39	28.3	29.4
17		0.97	0.44	31.9	33.2
18		1.09	0.49	35.8	37.2
19	3/4	1.22	0.55	39.8	41.5
20		1.35	0.61	44.2	46
21		1.48	0.67	48.7	50.7
22		1.63	0.74	53.4	55.6
22.4		1.69	0.77	55.4	57.7
23		1.78	0.81	58.4	60.8
24		1.94	0.88	63.6	66.2
25		2.1	0.95	69	71.8
25.4	1	2.17	0.99	71.2	74.2
26		2.28	1.03	74.6	77.7
27		2.45	1.11	80.5	83.8
28		2.64	1.2	86.5	90.1
28.6	1-1/8	2.75	1.25	90.3	94
29		2.83	1.28	92.8	96.7
30		3.03	1.37	99.3	103.4
31		3.24	1.47	106.1	110.5
32	1-1/4	3.45	1.56	113	117.7
33		3.67	1.66	120.2	125.2
34		3.89	1.77	127.6	132.9
35	1-3/8	4.12	1.87	135.2	140.8
36		4.36	1.98	143.1	149
38	1-1/2	4.86	2.21	159.4	166
40		5.39	2.44	176.6	183.9

*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 2) *2060 N/mm²

PROVIDES EXTRAORDINARY BREAKING STRENGTH AND VERY GOOD RESISTANCE TO ROTATION.

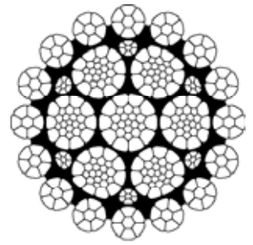
VEROTOP S+

is a very flexible rotation-resistant rope with compacted outer strands and extraordinary high breaking strength.

- vero**top S+** is the strongest of all compacted rotation-resistant ropes.
- vero**top S+** achieves very good bending fatigue results.
- vero**top S+** offers excellent resistance to crushing and abrasion.
- vero**top S+** possesses perfect spooling behavior on multilayer drum.
- vero**top S+** can be used either with or without swivel.
- vero**top S+** is a category 1 rotation-resistant rope in accordance with ASTM A1023.

The rope is fully lubricated. The finish available is either bright or galvanized. Average fill factor: 0.742 | Lay type: Lang Lay
Rope Category Number (RCN) to determine the number of visible broken outer wires, signaling discard of rope acc. ISO 4309: RCN = 23-2
Further details: www.verope.com

VEROTOP S+



Nominal rope diameter		Approx mass	Minimum breaking force	
mm*	Inch	kg/m	kN	t
13		0.867	179.1	18.3
14		1.005	207.7	21.2
15		1.154	238.5	24.3
16	5/8	1.313	271.3	27.6
17		1.482	306.3	31.2
18		1.662	343.4	35
19	3/4	1.851	382.6	39
20		2.051	424.0	43.2
21		2.262	467.4	47.6
22		2.482	513.0	52.3
22.4		2.573	531.8	54.2
23		2.713	560.7	57.1
24		2.954	610.5	62.2
25		3.205	662.5	67.5
25.4	1	3.309	683.8	69.7
26		3.467	716.5	73
27		3.739	772.7	78.7
28		4.021	831.0	84.7
28.6	1-1/8	4.195	867.0	88.3
29		4.313	891.4	90.8
30		4.616	953.9	97.2
31		4.928	1018.6	103.8
32	1-1/4	5.251	1085.4	110.6
33		5.585	1154.3	117.6
34		5.928	1225.3	124.9
35	1-3/8	6.282	1298.4	132.3
36		6.646	1373.7	140
38	1-1/2	7.405	1530.6	156
40		8.205	1695.9	172.8

Nominal rope diameter		Approx mass		Minimum breaking force
mm*	Inch	lb/ft[1]	kg/ft[1]	tons[1] of 2000 lbs
13		0.58	0.26	20.1
14		0.68	0.31	23.4
15		0.78	0.35	26.8
16	5/8	0.88	0.4	30.5
17		1	0.45	34.4
18		1.12	0.51	38.6
19	3/4	1.24	0.56	43
20		1.38	0.63	47.7
21		1.52	0.69	52.5
22		1.67	0.76	57.7
22.4		1.73	0.78	59.8
23		1.82	0.83	63
24		1.98	0.9	68.6
25		2.15	0.98	74.5
25.4	1	2.22	1.01	76.9
26		2.33	1.06	80.5
27		2.51	1.14	86.9
28		2.7	1.23	93.4
28.6	1-1/8	2.82	1.28	97.4
29		2.9	1.31	100.2
30		3.1	1.41	107.2
31		3.31	1.5	114.5
32	1-1/4	3.53	1.6	122
33		3.75	1.7	129.7
34		3.98	1.81	137.7
35	1-3/8	4.22	1.92	145.9
36		4.47	2.03	154.4
38	1-1/2	4.98	2.26	172
40		5.51	2.5	190.6

*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.
Relevant is our website www.verope.com 2) *2060 N/mm²

COMBINES HIGH BREAKING STRENGTH AND GOOD ROTATION RESISTANCE WITH REMARKABLE EFFICIENCY.

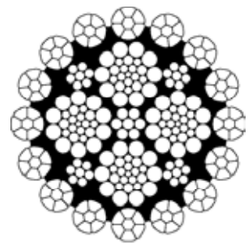
VEROTOP E

is a flexible rotation-resistant rope with compacted outer strands.

- vero**top E** has a high breaking strength.
- vero**top E** achieves very good bending fatigue results.
- vero**top E** offers great resistance to crushing and abrasion.
- vero**top E** possesses perfect spooling behavior on multilayer drum.
- vero**top E** can be used either with or without swivel.
- vero**top E** is a category 1 rotation-resistant rope in accordance with ASTM A1023.

The rope is fully lubricated. The finish available is either bright or galvanized. Average fill factor: 0.700 | Lay type: Lang Lay
Rope Category Number (RCN) to determine the number of visible broken outer wires, signaling discard of rope acc. ISO 4309: RCN = 23-2
Further details: www.verope.com

VEROTOP E



Nominal rope diameter		Approx mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm*	Inch	kg/m	kN	t	kN	t
8	5/16	0.305	55.2	5.6	60.2	6.1
9		0.387	69.8	7.1	76.2	7.8
10		0.477	86.2	8.8	94.1	9.6
11	7/16	0.577	104.3	10.6	113.9	11.6
12		0.687	124.1	12.6	135.5	13.8
13		0.806	145.7	14.8	159.1	16.2
14		0.935	169.0	17.2	184.5	18.8
15		1.074	194.0	19.8	211.8	21.6
16	5/8	1.222	220.7	22.5	241.0	24.6
18		1.546	279.3	28.5	305.0	31.1
19	3/4	1.723	311.2	31.7	339.8	34.6
20		1.909	344.8	35.1	376.5	38.4
22		2.310	417.2	42.5	455.6	46.4
23		2.524	456.0	46.5	497.9	50.7
24		2.749	496.5	50.6	542.1	55.2
25		2.983	538.8	54.9	588.3	59.9
26		3.226	582.7	59.4	636.3	64.8
27		3.479	628.4	64	686.2	69.9
28		3.741	675.8	68.9	737.9	75.2
29		4.013	725.0	73.9	791.6	80.7
30		4.295	775.8	79.1	847.1	86.3
32	1-1/4	4.887	882.7	90	963.8	98.2
34		5.517	983.8	100.3	1077	109.8
35	1-3/8	5.846	1043	106.2	1142	116.3
36		6.185	1103	112.4	1208	123.1
38	1-1/2	6.891	1229	125.2	1346	137.1
40		7.635	1362	138.8	1491	151.9

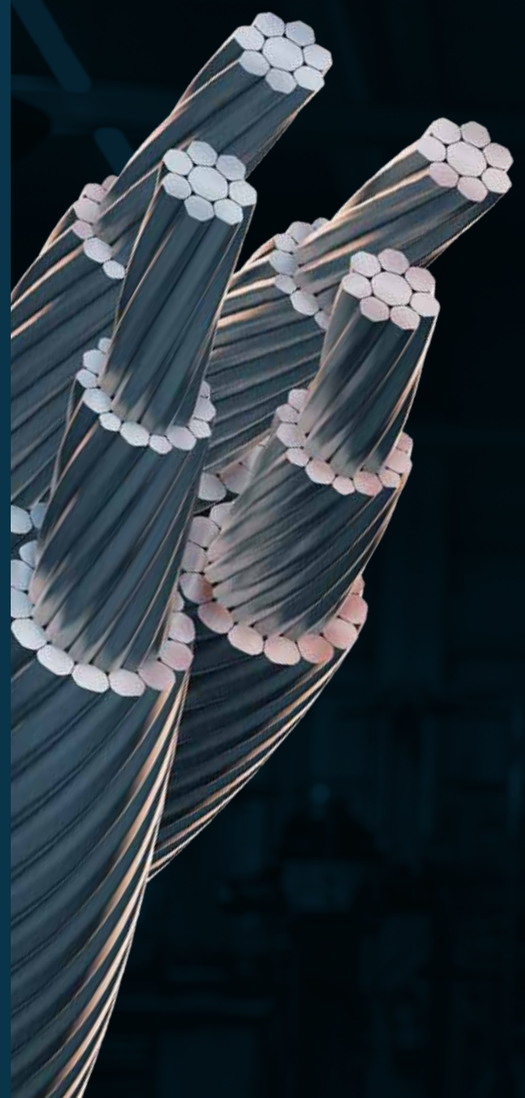
Nominal rope diameter		Approx mass		Minimum breaking force tons[1] of 2000 lbs	
				Rope grade	
mm*	Inch	lb/ft[1]	kg/ft[1]	1960	2160
8	5/16	0.21	0.09	6.2	6.8
9		0.26	0.12	7.8	8.6
10		0.32	0.15	9.7	10.6
11	7/16	0.39	0.18	11.7	12.8
12		0.46	0.21	14	15.2
13		0.54	0.25	16.4	17.9
14		0.63	0.29	19	20.7
15		0.72	0.33	21.8	23.8
16	5/8	0.82	0.37	24.8	27.1
18		1.04	0.47	31.4	34.3
19	3/4	1.16	0.53	35	38.2
20		1.28	0.58	38.8	42.3
22		1.55	0.7	46.9	51.2
23		1.7	0.77	51.3	56
24		1.85	0.84	55.8	60.9
25		2	0.91	60.6	66.1
26		2.17	0.98	65.5	71.5
27		2.34	1.06	70.6	77.1
28		2.51	1.14	76	82.9
29		2.7	1.22	81.5	89
30		2.89	1.31	87.2	95.2
32	1-1/4	3.28	1.49	99.2	108.3
34		3.71	1.68	110.6	121.1
35	1-3/8	3.93	1.78	117.2	128.3
36		4.16	1.89	124	135.8
38	1-1/2	4.63	2.1	138.1	151.3
40		5.13	2.33	153.1	167.6

*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.
Relevant is our website www.verope.com 2) *2060 N/mm²

SUITS BEST FOR HARSHEST WORKING CONDITIONS WITH DYNAMIC IMPACT LOADS.

VERO 4

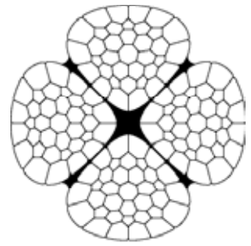
is a 4-strand rotation-resistant rope with compacted strands.



- 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.

The rope is fully lubricated and available with galvanized finish. Average fill factor: 0.631 | Lay type: Ordinary Lay Rope Category Number (RCN) to determine the number of visible broken outer wires, signaling discard of rope acc. ISO 4309: RCN = 22 | Further details: www.verope.com

VERO 4



Nominal rope diameter		Approx mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm*	Inch	kg/m	kN	t	kN	t
8	5/16	0.270	55.9	5.7	59.7	6.1
9		0.341	70.8	7.2	75.5	7.7
10		0.421	87.4	8.9	93.2	9.5
11	7/16	0.510	105.8	10.8	112.8	11.5
12		0.607	125.9	12.8	134.3	13.7
13		0.712	147.7	15.1	157.6	16.1
14		0.826	171.3	17.5	182.7	18.6
15		0.948	196.7	20	209.8	21.4
16	5/8	1.078	223.8	22.8	238.7	24.3
18		1.365	283.2	28.9	302.1	30.8
19	3/4	1.521	315.6	32.2	336.6	34.3
20		1.685	349.7	35.6	373.0	38
22		2.039	423.1	43.1	451.3	46
24		2.426	503.5	51.3	537.0	54.7
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	1015	103.5
33.5		4.727	981.1	100	1046	106.6
34		4.870	1011	103	1078	109.8
35	1-3/8	5.160	1071	109.1	1142	116.4
36		5.459	1133	115.5	1208	123.1

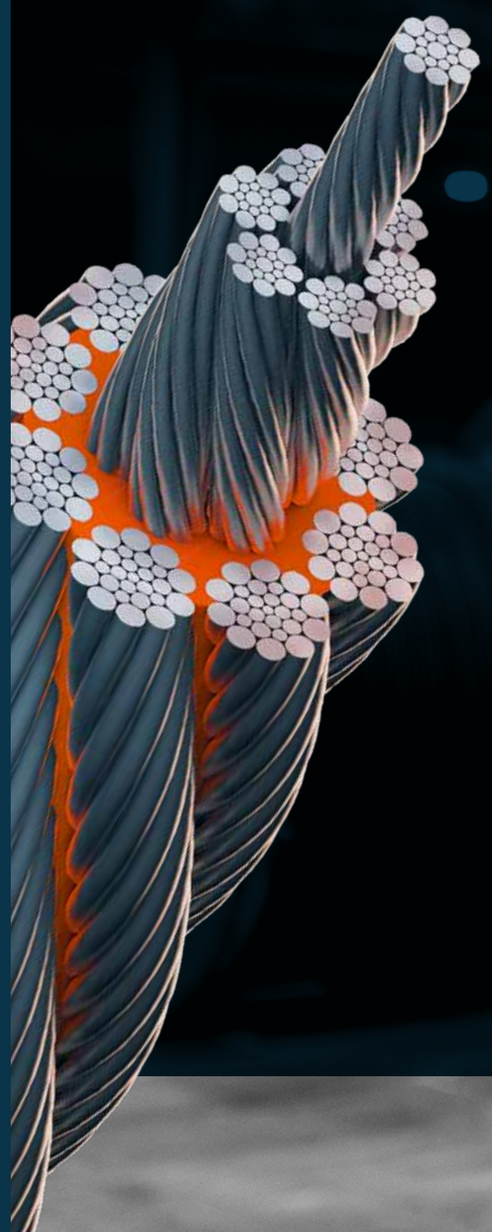
Nominal rope diameter		Approx mass		Minimum breaking force tons[1] of 2000 lbs	
				Rope grade	
mm*	Inch	lb/ft[1]	kg/ft[1]	1960	2160
8	5/16	0.18	0.08	6.3	6.7
9		0.23	0.1	8	8.5
10		0.28	0.13	9.8	10.5
11	7/16	0.34	0.16	11.9	12.7
12		0.41	0.18	14.1	15.1
13		0.48	0.22	16.6	17.7
14		0.55	0.25	19.3	20.5
15		0.64	0.29	22.1	23.6
16	5/8	0.72	0.33	25.2	26.8
18		0.92	0.42	31.8	34
19	3/4	1.02	0.46	35.5	37.8
20		1.13	0.51	39.3	41.9
22		1.37	0.62	47.6	50.7
24		1.63	0.74	56.6	60.4
25		1.77	0.8	61.4	65.5
26		1.91	0.87	66.4	70.8
27		2.06	0.94	71.6	76.4
28		2.22	1.01	77	82.2
29		2.38	1.08	82.6	88.1
30		2.55	1.16	88.4	94.3
31		2.72	1.23	94.4	100.7
32	1-1/4	2.9	1.32	100.6	107.3
33		3.08	1.4	107	114.1
33.5		3.18	1.44	110.3	117.6
34		3.27	1.48	113.6	121.1
35	1-3/8	3.47	1.57	120.4	128.4
36		3.67	1.66	127.3	135.8

*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 2) *2060 N/mm²

ACHIEVES BEST SERVICE LIFE IN REEVING SYSTEMS WITH SINGLE LAYER DRUMS.

VEROSTAR 8

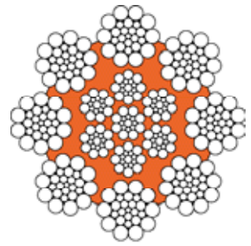
is an 8-strand, non-rotation-resistant rope with conventional strands and a rope core covered with a plastic layer.



- vero**star 8** has a high breaking strength.
- vero**star 8** has a very stable rope structure and achieves good bending fatigue results.
- vero**star 8** achieves best service life in reeving systems with single layer drums.
- vero**star 8** may not be used with a swivel.

The rope is fully lubricated. The finish available as standard is bright, galvanized finish on request. Average fill factor: 0.610
Ordinary or Lang Lay available. Rope Category Number (RCN) to determine the number of visible broken outer wires, signaling discard of rope acc. ISO 4309:
Nominal rope diameter till 42 mm: RCN = 09
Nominal rope diameter 43 mm to 48 mm: RCN = 11
Nominal rope diameter above 48 mm: RCN = 13
Further details: www.verope.com

VEROSTAR 8



Nominal rope diameter		Approx mass	Minimum breaking force			
			Rope grade			
			1770		1960	
mm*	Inch	kg/m	kN	t	kN	t
6		0.155	26.9	2.74	29.8	3
7		0.211	36.6	3.73	40.6	4.1
8	5/16	0.276	47.9	4.9	53.0	5.4
9		0.349	60.6	6.2	67.1	6.8
10		0.431	74.8	7.6	82.8	8.4
11	7/16	0.522	90.5	9.2	100.2	10.2
12		0.621	107.7	11	119.3	12.2
12.7	1/2	0.695	120.6	12.3	133.6	13.6
13		0.729	126.4	12.9	140.0	14.3
14		0.845	146.6	14.9	162.3	16.5
15		0.970	168.3	17.1	186.3	19
16	5/8	1.104	191.5	19.5	212.0	21.6
17		1.246	216.2	22	239.4	24.4
18		1.397	242.3	24.7	268.3	27.3
19	3/4	1.557	270.0	27.5	299.0	30.5
20		1.725	299.2	30.5	331.3	33.8
21		1.902	329.8	33.6	365.2	37.2
22		2.087	362.0	36.9	400.9	40.8
22.4		2.164	375.3	38.2	415.6	42.3
23		2.281	395.7	40.3	438.1	44.6
24		2.484	430.8	43.9	477.1	48.6
25		2.695	467.5	47.6	517.6	52.7
25.4	1	2.782	482.5	49.2	534.3	54.4
26		2.915	505.6	51.5	559.9	57.1
27		3.143	545.2	55.6	603.8	61.5
28		3.380	586.4	59.8	649.3	66.2
28.6	1-1/8	3.527	611.8	62.3	677.4	69
29		3.626	629.0	64.1	696.5	71
30		3.881	673.1	68.6	745.4	76
31		4.144	718.8	73.2	795.9	81.1
32	1-1/4	4.415	765.9	78	848.1	86.4
33		4.696	814.5	83	901.9	91.9
34		4.984	864.6	88.1	957.4	97.6
35	1-3/8	5.282	916.2	93.4	1015	103.4
36		5.588	969.3	98.8	1073	109.4
38	1-1/2	6.226	1080	110.1	1196	121.9
40		6.899	1197	121.9	1325	135
41.3	1-5/8	7.355	1276	130	1413	144
42		7.606	1319	134.4	1461	148.9
44		8.348	1448	147.6	1603	163.4
45	1-3/4	8.731	1515	154.3	1677	170.9
46		9.124	1583	161.3	1753	178.6
47.5	1-7/8	9.729	1688	172	1869	190.4
48		9.934	1723	175.6	1908	194.4
50	2	10.780	1870	190.5	2071	211
52		11.659	2022	206.1	2239	228.2
54	2-1/8	12.573	2181	222.2	2415	246.1
56		13.522	2346	239	2597	264.7
58		14.505	2516	256.4	2786	283.9
60	2-3/8	15.523	2693	274.4	2982	303.8

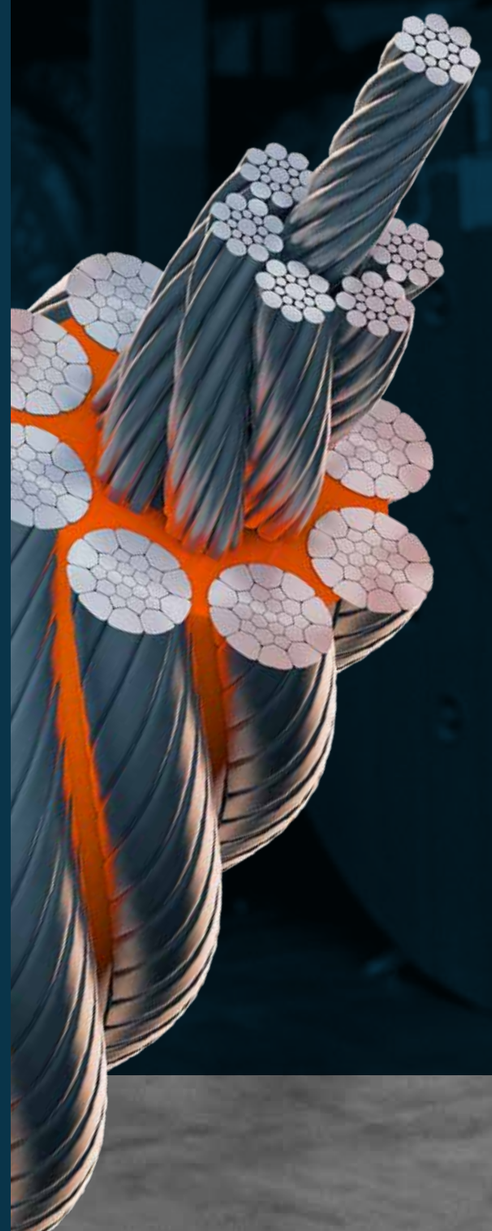
Nominal rope diameter		Approx mass		Minimum breaking force tons[1] of 2000 lbs	
				Rope grade	
mm*	Inch	lb/ft[1]	kg/ft[1]	1770	1960
6		0.104	0.047	3.0	3.3
7		0.142	0.064	4.1	4.6
8	5/16	0.19	0.08	5.4	6
9		0.23	0.11	6.8	7.5
10		0.29	0.13	8.4	9.3
11	7/16	0.35	0.16	10.2	11.3
12		0.42	0.19	12.1	13.4
12.7	1/2	0.47	0.21	13.6	15
13		0.49	0.22	14.2	15.7
14		0.57	0.26	16.5	18.2
15		0.65	0.3	18.9	20.9
16	5/8	0.74	0.34	21.5	23.8
17		0.84	0.38	24.3	26.9
18		0.94	0.43	27.2	30.2
19	3/4	1.05	0.47	30.3	33.6
20		1.16	0.53	33.6	37.2
21		1.28	0.58	37.1	41.1
22		1.4	0.64	40.7	45.1
22.4		1.45	0.66	42.2	46.7
23		1.53	0.7	44.5	49.2
24		1.67	0.76	48.4	53.6
25		1.81	0.82	52.5	58.2
25.4	1	1.87	0.85	54.2	60.1
26		1.96	0.89	56.8	62.9
27		2.11	0.96	61.3	67.9
28		2.27	1.03	65.9	73
28.6	1-1/8	2.37	1.08	68.8	76.1
29		2.44	1.11	70.7	78.3
30		2.61	1.18	75.7	83.8
31		2.78	1.26	80.8	89.5
32	1-1/4	2.97	1.35	86.1	95.3
33		3.16	1.43	91.5	101.4
34		3.35	1.52	97.2	107.6
35	1-3/8	3.55	1.61	103	114
36		3.76	1.7	109	120.6
38	1-1/2	4.18	1.9	121.4	134.4
40		4.64	2.1	134.5	148.9
41.3	1-5/8	4.94	2.24	143.4	158.8
42		5.11	2.32	148.3	164.2
44		5.61	2.55	162.8	180.2
45	1-3/4	5.87	2.66	170.2	188.5
46		6.13	2.78	177.9	197
47.5	1-7/8	6.54	2.97	189.7	210
48		6.68	3.03	193.7	214.5
50	2	7.24	3.29	210.2	232.7
52		7.83	3.55	227.3	251.7
54	2-1/8	8.45	3.83	245.1	271.5
56		9.09	4.12	263.6	291.9
58		9.75	4.42	282.8	313.2
60	2-3/8	10.43	4.73	302.6	335.1

*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 2) *2060 N/mm²

ROPE WITH VERY HIGH STRUCTURAL STABILITY, ACHIEVES EXCELLENT BENDING FATIGUE RESULTS.

VEROPRO 8

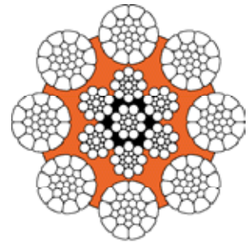
is an 8-strand, non-rotation-resistant rope with compacted outer strands and a rope core covered with a plastic layer.



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

The rope is fully lubricated. The finish available as standard is galvanized, bright finish on request. Average fill factor: 0.666
Ordinary or Lang Lay available. Rope Category Number (RCN) to determine the number of visible broken outer wires, signaling discard of rope acc. ISO 4309:
Nominal rope diameter till 42 mm: RCN = 09
Nominal rope diameter 43 mm to 48 mm: RCN = 11
Nominal rope diameter above 48 mm: RCN = 13
Further details: www.verope.com

VEROPRO 8



Nominal rope diameter		Approx mass	Minimum breaking force					
			Rope grade					
			1770		1960		2160	
mm*	Inch	kg/m	kN	t	kN	t	kN	t
6		0.162	29.3	2.99	32.4	3.30	34.1	3.48
6.4		0.184	33.4	3.41	36.9	3.76	38.8	3.96
7		0.220	39.9	4.07	44.2	4.51	46.4	4.73
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		
62		18.10			3520	358.9		
64		19.10			3718	379.1		
66		20.40			3946	402.4		
68		21.60			4189	427.2		
70	2-3/4	22.90			4463	455.1		
72		24.20			4728	482.1		

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
6		0.11	0.049	3.29	3.64	3.83
6.4		0.12	0.056	3.75	4.15	4.36
7		0.15	0.067	4.48	4.97	5.22
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	
62		12.16	5.52		395.7	
64		12.83	5.82		417.9	
66		13.71	6.22		443.5	
68		14.51	6.58		470.9	
70	2-3/4	15.39	6.98		501.7	
72		16.26	7.38		531.4	

*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 2) *2060 N/mm²

PROVIDES EXCELLENT RESISTANCE TO ABRASION AND HAS A VERY HIGH BREAKING STRENGTH.

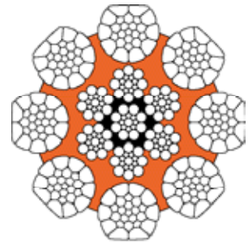
VEROPRO 8RS

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

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

The rope is fully lubricated. The finish available as standard is galvanized, bright finish on request. Average fill factor: 0.685
Lay type: Ordinary Lay. Rope Category Number (RCN) to determine the number of visible broken outer wires, signaling discard of rope acc. ISO 4309:
Nominal rope diameter till 42 mm: RCN = 09
Nominal rope diameter 43 mm to 48 mm: RCN = 11
Nominal rope diameter above 48 mm: RCN = 13
Further details: www.verope.com

VEROPRO 8RS



Nominal rope diameter		Approx mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm*	Inch	kg/m	kN	t	kN	t
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
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.
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 2) *2060 N/mm²

PROVIDES THE HIGHEST BREAKING STRENGTH OF ALL NON-ROTATION-RESISTANT ROPES AND OFFERS SUPERIOR RESISTANCE TO DRUM CRUSHING.

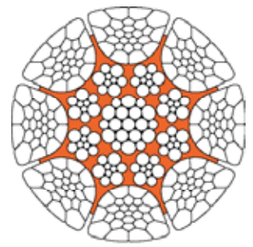
VEROPOWER 8

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.

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

The rope is fully lubricated. The finish available as standard is galvanized, bright finish on request. Average fill factor: 0.747
Lay type: Ordinary Lay. Rope Category Number (RCN) to determine the number of visible broken outer wires, signaling discard of rope acc. ISO 4309:
Nominal rope diameter till 40 mm: RCN = 09
Nominal rope diameter 41 mm to 46 mm: RCN = 11
Nominal rope diameter above 46 mm: RCN = 13
Further details: www.verope.com

VEROPOWER 8



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

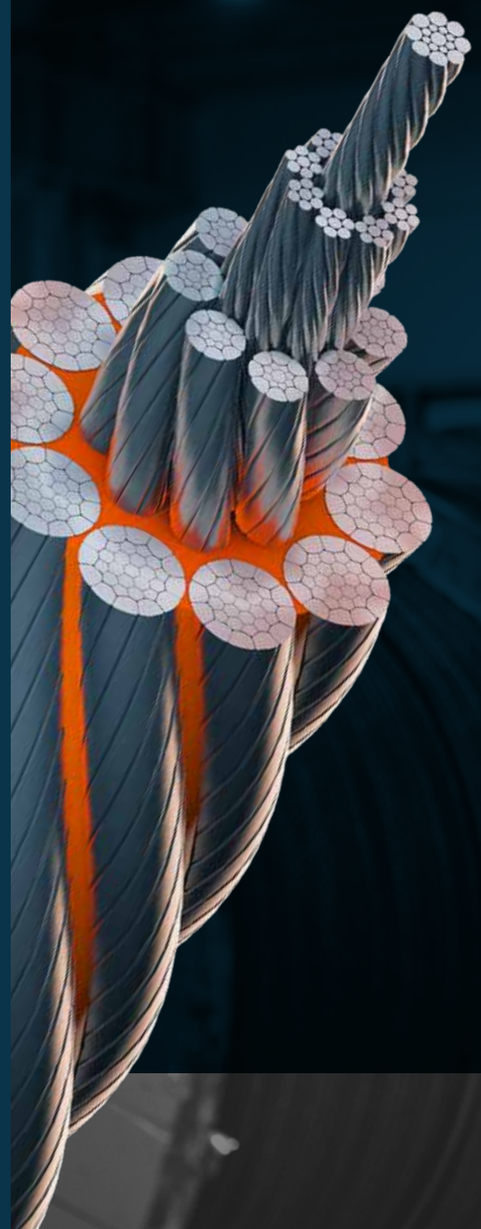
Nominal rope diameter		Approx mass		Minimum breaking force tons[1] of 2000 lbs	
				Rope grade	
mm*	Inch	lb/ft[1]	kg/ft[1]	1960	2160
12		0.48	0.22	16.6	17.9
12.7	1/2	0.54	0.24	18.6	20
13		0.57	0.26	19.4	21
14		0.66	0.3	22.5	24.3
15		0.75	0.34	25.9	27.9
16	5/8	0.86	0.39	29.4	31.7
17		0.97	0.44	33.2	35.8
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.
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 2) *2060 N/mm²

EXTREMELY FLEXIBLE ROPE WITH VERY HIGH BREAKING STRENGTH, ACHIEVES EXCELLENT BENDING FATIGUE RESULTS.

VEROPRO 10

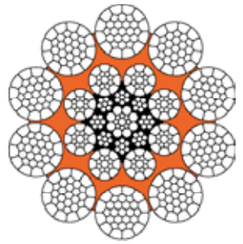
is a very flexible 10-strand, non-rotation-resistant rope with compacted strands and a rope core covered with a plastic layer.



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

The rope is fully lubricated. The finish available as standard is galvanized, bright finish on request. Average fill factor: 0.683
Ordinary or Lang Lay available. Rope Category Number (RCN) to determine the number of visible broken outer wires, signaling discard of rope acc. ISO 4309: RCN = 11
Further details: www.verope.com

VEROPRO 10



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.
Relevant is our website www.verope.com 2) *2060 N/mm²

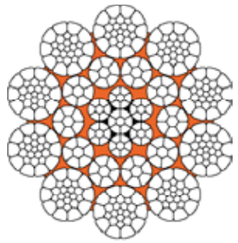
COMBINES UNMATCHED BENDING FATIGUE RESISTANCE WITH EXCELLENT BREAKING STRENGTH.

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.

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

The rope is fully lubricated. The finish available as standard is galvanized, bright finish on request. Average fill factor: 0.732
Lay type: Ordinary Lay. Rope Category Number (RCN) to determine the number of visible broken outer wires, signaling discard of rope acc. ISO 4309: RCN = 11
Further details: www.verope.com



VEROTECH 10

Nominal rope diameter		Approx mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm*	Inch	kg/m	kN	t	kN	t
6		0.178	34.9	3.6	38.0	3.9
7		0.242	47.5	4.8	51.7	5.3
8	5/16	0.316	62.0	6.3	67.6	6.9
9		0.400	78.5	8	85.5	8.7
10		0.494	96.9	9.9	105.6	10.8
11	7/16	0.598	117.3	12	127.7	13
12		0.712	139.5	14.2	152.0	15.5
12.7	1/2	0.797	156.3	15.9	170.2	17.3
13		0.836	163.8	16.7	178.4	18.2
14		0.969	189.9	19.4	206.9	21.1
15		1.112	218.0	22.2	237.5	24.2
16	5/8	1.266	248.1	25.3	270.2	27.5
17		1.429	280.1	28.5	305.1	31.1
18		1.602	314.0	32	342.0	34.8
19	3/4	1.785	349.8	35.6	381.0	38.8
20		1.978	387.6	39.5	422.2	43
21		2.180	427.4	43.6	465.5	47.4
22		2.393	469.0	47.8	510.9	52.1
22.4		2.481	486.2	49.5	529.6	54
23		2.616	512.6	52.2	558.4	56.9
24		2.848	558.2	56.9	608.0	62
25		3.090	605.7	61.7	659.7	67.2
25.4	1	3.190	625.2	63.7	681.0	69.4
26		3.342	655.1	66.8	713.5	72.7
27		3.604	706.5	72	769.5	78.4
28		3.876	759.8	77.4	827.5	84.3
28.6	1-1/8	4.044	792.7	80.8	863.4	88
29		4.158	815.0	83	887.7	90.5
30		4.450	872.2	88.9	950.0	96.8
31		4.751	931.3	94.9	1014	103.3
32	1-1/4	5.063	992.3	101.1	1081	110.2
33		5.384	1055	107.5	1149	117.1
34		5.716	1120	114.1	1220	124.3

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
6		0.12	0.05	3.9	4.3
7		0.16	0.07	5.3	5.8
8	5/16	0.21	0.1	7	7.6
9		0.27	0.12	8.8	9.6
10		0.33	0.15	10.9	11.9
11	7/16	0.4	0.18	13.2	14.4
12		0.48	0.22	15.7	17.1
12.7	1/2	0.54	0.24	17.6	19.1
13		0.56	0.25	18.4	20.1
14		0.65	0.3	21.3	23.3
15		0.75	0.34	24.5	26.7
16	5/8	0.85	0.39	27.9	30.4
17		0.96	0.44	31.5	34.3
18		1.08	0.49	35.3	38.4
19	3/4	1.2	0.54	39.3	42.8
20		1.33	0.6	43.6	47.5
21		1.47	0.66	48	52.3
22		1.61	0.73	52.7	57.4
22.4		1.67	0.76	54.6	59.5
23		1.76	0.8	57.6	62.8
24		1.91	0.87	62.7	68.3
25		2.08	0.94	68.1	74.2
25.4	1	2.14	0.97	70.3	76.5
26		2.25	1.02	73.6	80.2
27		2.42	1.1	79.4	86.5
28		2.6	1.18	85.4	93
28.6	1-1/8	2.72	1.23	89.1	97
29		2.79	1.27	91.6	99.8
30		2.99	1.36	98	106.8
31		3.19	1.45	104.7	114
32	1-1/4	3.4	1.54	111.5	121.5
33		3.62	1.64	118.6	129.1
34		3.84	1.74	125.9	137.1

*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 2) *2060 N/mm²

OFFERS BEST GENERAL PROPERTIES AT HIGH AMBIENT TEMPERATURES.

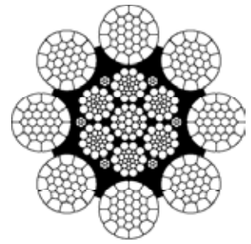
VEROSTEEL 8

is an 8-strand, non-rotation-resistant rope with compacted outer strands.

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

The rope is fully lubricated. The finish available as standard is galvanized, bright finish on request. Average fill factor: 0.702
Ordinary or Lang Lay available. Rope Category Number (RCN) to determine the number of visible broken outer wires, signaling discard of rope acc. ISO 4309:
Nominal rope diameter till 42 mm: RCN = 09
Nominal rope diameter 43 mm to 48 mm: RCN = 11
Nominal rope diameter above 48 mm RCN = 13
Further details: www.verope.com

VEROSTEEL 8



Nominal rope diameter		Approx mass	Minimum breaking force			
			Rope grade			
			1960		2160	
mm*	Inch	kg/m	kN	t	kN	t
16	5/8	1.164	235.1	24	254.4	25.9
17		1.315	265.5	27.1	287.2	29.3
18		1.474	297.6	30.3	322.0	32.8
19	3/4	1.642	331.6	33.8	358.7	36.6
20		1.819	367.4	37.4	397.5	40.5
21		2.006	405.1	41.3	438.2	44.7
22		2.202	444.6	45.3	481.0	49
23		2.406	485.9	49.5	525.7	53.6
24		2.620	529.1	53.9	572.4	58.3
25		2.843	574.1	58.5	621.1	63.3
26		3.075	620.9	63.3	671.7	68.5
27		3.316	669.6	68.2	724.4	73.8
28		3.566	720.1	73.4	779.1	79.4
29		3.825	772.5	78.7	835.7	85.2
30		4.094	826.7	84.2	894.3	91.1
31		4.371	882.7	89.9	954.9	97.3
32	1-1/4	4.658	940.6	95.8	1018	103.7
33		4.953	1000	101.9	1082	110.3
34		5.258	1062	108.2	1149	117.1
35	1-3/8	5.572	1125	114.7	1217	124
36		5.895	1190	121.3	1288	131.2
37		6.227	1257	128.1	1360	138.6
38	1-1/2	6.568	1326	135.2	1435	146.2
39		6.918	1397	142.4	1511	154
40		7.278	1470	149.8	1590	162
41		7.646	1544	157.3	1670	170.2
42		8.024	1620	165.1	1753	178.6
43		8.410	1698	173.1	1837	187.2
44		8.806	1778	181.2	1924	196
45	1-3/4	9.211	1860	189.5	2012	205
46		9.625	1944	198.1	2103	214.3
47		10.05	2029	206.8	2195	223.7
48		10.48	2116	215.7	2289	233.3
49		10.92	2205	224.7	2386	243.1
50	2	11.37	2296	234	2484	253.1

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	0.78	0.36	26.4	28.6
17		0.88	0.4	29.8	32.3
18		0.99	0.45	33.5	36.2
19	3/4	1.1	0.5	37.3	40.3
20		1.22	0.55	41.3	44.7
21		1.35	0.61	45.5	49.3
22		1.48	0.67	50	54.1
23		1.62	0.73	54.6	59.1
24		1.76	0.8	59.5	64.3
25		1.91	0.87	64.5	69.8
26		2.07	0.94	69.8	75.5
27		2.23	1.01	75.3	81.4
28		2.4	1.09	80.9	87.6
29		2.57	1.17	86.8	93.9
30		2.75	1.25	92.9	100.5
31		2.94	1.33	99.2	107.3
32	1-1/4	3.13	1.42	105.7	114.4
33		3.33	1.51	112.4	121.6
34		3.53	1.6	119.4	129.1
35	1-3/8	3.74	1.7	126.5	136.8
36		3.96	1.8	133.8	144.8
37		4.18	1.9	141.3	152.9
38	1-1/2	4.41	2	149.1	161.3
39		4.65	2.11	157	169.9
40		4.89	2.22	165.2	178.7
41		5.14	2.33	173.6	187.8
42		5.39	2.45	182.1	197
43		5.65	2.56	190.9	206.5
44		5.92	2.68	199.9	216.2
45	1-3/4	6.19	2.81	209.1	226.2
46		6.47	2.93	218.5	236.3
47		6.75	3.06	228.1	246.7
48		7.04	3.2	237.9	257.3
49		7.34	3.33	247.9	268.2
50	2	7.64	3.47	258.1	279.2

*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 2) *2060 N/mm²

PLEASE NOTE THAT WRONG SELECTION
AND USE OF WIRE ROPES CAN BE DANGEROUS!

SAFETY INSTRUCTIONS

With the following information, we would like to bring your attention to a few key points for proper selection, use and monitoring of wire ropes. In addition to general technical literature on wire ropes and their national and international standards, your verope® team is happy to assist regarding all rope related questions you may have.
Don't hesitate to contact us!

- **Wire ropes must be properly transported, stored, set up and maintained. Please refer to the relevant literature on these topics.**
- **Always inspect wire rope and wire rope termination for wear, damage or abuse before use! Never use wire rope or wire rope termination that is worn out, damaged or abused!**
- **Never overload or shock load a wire rope.**
- **Please note that very high or very low ambient temperatures may dramatically change the behavior of the wire rope as well as the wire rope termination. Please contact us if there is any doubt regarding the safe use in a certain environment.**
- **Please note that any termination assembled by verope® must not be modified!**
- **Wire ropes and wire rope terminations are regarded as expendable products. For safe and proper use, maintenance and inspection are required. Wire ropes and wire rope terminations have to be discarded when the results of inspection indicate that a further use would be unsafe.**
  Please refer to applicable international or national standards in their relevant version (e.g. ISO 4309, EN 12385 and EN 13411), other general technical literature or regulations concerning inspection, examination and discard criteria for both wire ropes and wire rope terminations.
- **Our products are subject to modifications, this may change the specifications. Relevant is always our website.**
- **The cross-section on our data sheet shows a typical rope diameter and can vary within the range.**

PROTECT YOURSELF AND OTHERS!
FAILURE OF WIRE ROPE OR WIRE ROPE TERMINATION
MAY CAUSE SERIOUS INJURY OR DEATH!

ROPE CATEGORY NUMBER (RCN)

The correct allocation of our verope® special wire ropes for determining the replacement state based on visible wire breaks according to ISO 4309.
The International Standard ISO 4309, "Cranes – Wire ropes – Care and maintenance, inspection and discard", 4th edition 06/2013, provides comprehensive information. A frequent discard criteria, among many others discussed in detail by the standard, is the number of visible broken wires. Depending on the rope construction, categorized by the Rope Category Number RCN acc. to standard's annex G, the relevant crane classification M1 to M8 and given system such as a single- or multi-layer drum, the discard criteria can be determined by the number of visible broken wires. This means besides the rope construction it is also the relevant machine used its design and classification that determines the discard criteria. Therefore it is no longer possible to give a general number of visible broken wires for a given rope construction, signaling discard. To give you the correct allocation of your verope® special wire rope to this International Standard ISO 4309, please find below the respective classification of the "Rope Category Number RCN". Please note that within a rope construction its RCN-number may change depending on rope's nominal diameter. With this information, you can now determine in compliance with the actual type of your application the number of visible broken wires, signaling discard of the rope. If you have any further questions regarding discard, please don't hesitate to contact us. We are happy to assist you!

ROTATION-RESISTANT SPECIAL WIRE ROPES

verope® special wire rope construction	Number of outer strands	Number of load-bearing wires in the outer strands	Rope category RCN according to ISO 4309	Stripping wire breaking number according to ISO 4309[1]			
				For applicable rope ranges see footnote[2]		For applicable rope ranges see footnotes[3,4]	
				over a length of		over a length of	
				6 x d[5]	30 x d[5]	6 x d[5]	30 x d[5]
vero **4**	4	144	22	2	4	4	8
vero**top XP**	16	96	23-1	2	4	4	8
vero**top** vero**top S** vero**top S+** vero**top E**	16	112	23-2	3	5	5	10
vero**top P**	18	126	23-3	3	5	6	11

NON-ROTATION RESISTANT SPECIAL WIRE ROPES

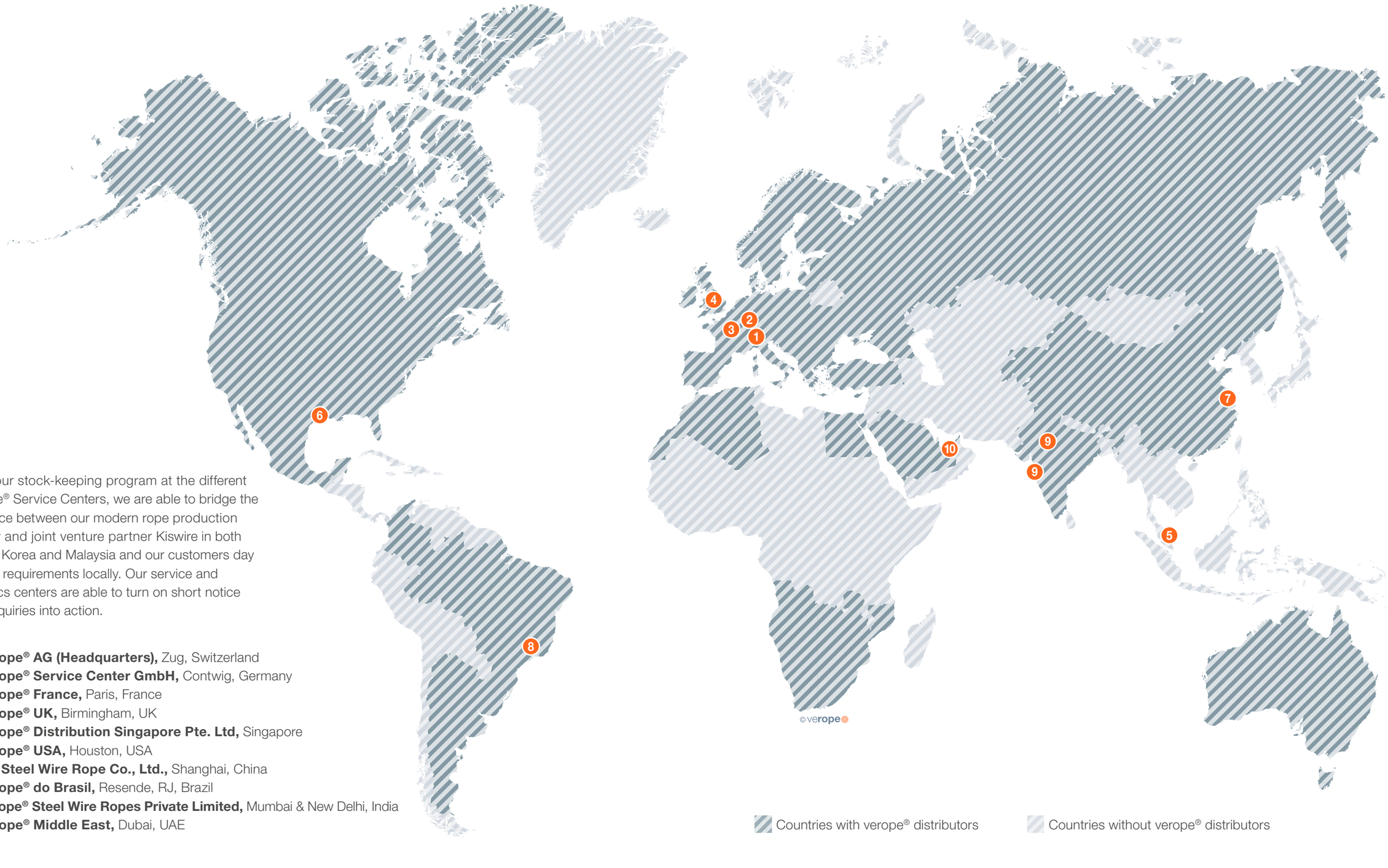
verope® special wire rope construction	Nominal rope diameter d (mm)[7]	Number of outer strands	Number of load-bearing wires in the outer strands	Rope category RCN according to ISO 4309	Stripping wire breaking number according to ISO 4309[1]					
					For applicable rope ranges see footnote[2]				For applicable rope ranges see footnotes[3,4]	
					Classes M1 to M4 or class unknown[6]				All classes M1 to M8	
					Cross stroke		Equal stroke		Cross and equal stroke	
					over a length of				over a length of	
					6 x d[5]	30 x d[5]	6 x d[5]	30 x d[5]	6 x d[5]	30 x d[5]
vero**star 8** vero**pro 8** vero**steel 8**	6 to 7	8	136	3	4	8	2	4	8	16
	8 to 42	8	208	9	9	18	4	9	18	36
	43 to 48	8	248	11	10	21	5	10	20	42
	larger 48	8	288	13	12	24	6	12	24	48
vero**power 8** vero**pro 8 RS**	up to 40	8	208	9	9	18	-	-	18	36
	41 to 46	8	248	11	10	21	-	-	20	42
	larger 46	8	288	13	12	24	-	-	24	48
vero**tech 10** vero**pro 10**	larger 10	10	260	11	10	21	5	10	20	42
vero**pro 10**	larger 49	10	310	-	12	24	6	12	24	49
vero**tech 10**	6 to 9,5	9	153	4	5	10	2	5	10	20
	10 to 16	9	234	10	10	19	5	10	20	38

Note: 1) Please note that a counted broken wire always has two ends. **2)** Shall be applied exclusively to those sections of rope running only over steel sheaves and/or spooling on a single-layer drum. For single layer spooling ordinary lay ropes have to be used. The wire breaks are randomly distributed. **3)** Shall be applied exclusively to those sections of rope spooling on a multi-layer drum. **4)** The values are valid only in conjunction with footnote 3 and apply to deterioration that occurs at the cross-over zones and interference between wraps due to fleet angle effects. Note: These values do not apply to those sections of rope running only over sheaves but do not spool on the multi-layer drum! **5)** d = nominal rope diameter **6)** Twice the number of broken wires listed may be applied to ropes on mechanisms whose classification is known to be M5 to M8. **7)** Other rope diameters on request.

VEROPE® WORLDWIDE

SERVICE AND DISTRIBUTION

VEROPE® HAS A WORLDWIDE NETWORK OF PROFESSIONAL DISTRIBUTORS WHO EXPERTLY SELECT THE CORRECT HIGH PERFORMANCE ROPE TO SUIT YOUR REQUIREMENTS REGIONALLY.



With our stock-keeping program at the different verope® Service Centers, we are able to bridge the distance between our modern rope production facility and joint venture partner Kiswire in both South Korea and Malaysia and our customers day to day requirements locally. Our service and logistics centers are able to turn on short notice any inquiries into action.

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9. **verope® Steel Wire Ropes Private Limited,** Mumbai & New Delhi, India
10. **verope® Middle East,** Dubai, UAE

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Provides background information on rope construction, different rope types and useful tips for the correct handling of special wire ropes.

➜ HANDLING BROCHURE

Offers important information and explanations, that help our customers to handle special wire ropes correctly and safely.

GENERAL CATALOG ➜

All verope® special wire ropes combined in a complete catalog and sorted by application.

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