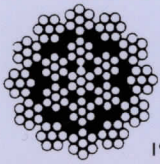


Cables de Acero
Wire Rope



TREFIL CABLE, S.L.

Cables de uso general / General purpose ropes

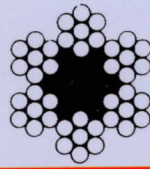


19 x 7 + 0

CABLES ANTIGIRATORIOS ROTATION - RESISTANT Gris engrasado o galvanizado Bright or drawn galvanized

180 Kgs./mm² 1770 N/mm²
200 Kgs./mm² 1960 N/mm²

Diámetro nominal Nominal Diameter	Peso aprox. Approx. Weight	Carga de rotura efectiva Minimum breaking force			
		180 Kgf.	200 Kgf.	1770 kN	1960 kN
5	9,4	1.479	1.642	14.5	16.1
6	13,6	2.131	2.356	20.9	23.1
7	18,5	2.897	3.213	28.4	31.5
8	24,2	3.790	4.192	37.2	41.1
9	30,6	4.790	5.314	47.0	52.1
10	37,8	5.920	6.558	58.1	64.3
11	45,7	7.160	7.936	70.2	77.8
12	54,4	8.520	9.445	83.6	92.6
13	63,9	10.000	11.118	98.1	109.0
14	74,1	11.600	12.852	114.0	126.0
16	96,8	15.200	16.830	149.0	165.0
18	122,0	19.200	21.216	188.0	208.0
20	151,0	23.700	26.214	232.0	257.0
22	183,0	28.600	31.722	281.0	311.0

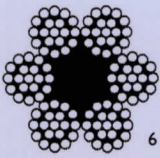


6 x 7 + FC

CABLES PARA LA INDUSTRIA RIGGING ROPES Gris engrasado o galvanizado Bright or drawn galvanized

180 Kgs./mm² 1770 N/mm²

Diámetro nominal Nominal Diameter	Peso aprox. Approx. Weight	Carga de rotura efectiva Minimum breaking force	
		180 Kgf.	1770 kN
2	1.38	210	2.1
3	3.11	480	4.7
4	5.54	850	8.3
5	8.65	1.330	13.0
6	12.50	1.910	21.1
7	17.00	2.600	28.8
8	22.10	3.400	37.6
10	34.60	5.310	58.8
12	49.80	7.650	84.7
14	67.00	10.400	115.0
16	88.60	13.600	151.0
18	112.00	17.200	191.0

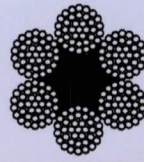


6 x 19 + FC

CABLES PARA LA INDUSTRIA RIGGING ROPES Gris engrasado o galvanizado Bright or drawn galvanized

180 Kgs./mm² 1770 N/mm²

Diámetro nominal Nominal Diameter	Peso aprox. Approx. Weight	Carga de rotura efectiva Minimum breaking force	
		180 Kgf.	1770 kN
6	12.5	2.000	19.60
7	17.0	2.720	26.66
8	22.1	3.550	34.80
9	28.0	4.490	44.01
10	34.6	5.550	54.39
11	41.9	6.710	65.76
12	49.8	7.980	78.20
14	67.8	10.900	106.82
16	88.6	14.200	139.16
18	112.0	18.000	176.40



6 x 37 + FC

CABLES PARA LA INDUSTRIA RIGGING ROPES Gris engrasado o galvanizado Bright or drawn galvanized

180 Kgs./mm² 1770 N/mm²
200 Kgs./mm² 1960 N/mm²

Diámetro nominal Nominal Diameter	Peso aprox. Approx. Weight	Carga de rotura efectiva Minimum breaking force			
		180 Kgf.	200 Kgf.	1770 kN	1960 kN
8	22.5	3.800	4.200	37.3	41.5
9	28.5	4.800	5.360	47.1	52.5
10	35.2	5.900	6.600	57.9	64.6
11	42.6	7.200	7.900	70.6	77.9
12	50.7	8.600	9.400	84.3	92.0
13	59.5	9.000	9.500	88.2	93.2
14	69.0	10.400	11.000	102.0	108.0
16	90.1	13.550	14.400	133.0	141.0
18	114.0	17.200	18.150	169.0	178.0
19	127.0	21.500	22.400	210.8	220.0
20	141.0	23.800	23.900	233.0	234.0
22	170.0	25.700	27.100	252.0	266.0
24	203.0	30.600	32.300	300.0	317.0
26	238.0	35.900	37.900	352.0	372.0
28	276.0	41.700	44.000	409.0	432.0
30	317.0	47.800	50.600	469.0	496.0
32	360.1	54.500	57.500	534.0	564.0
34	407.0	61.500	65.000	603.0	637.0
36	456.0	68.900	72.800	676.0	714.0
38	508.0	76.800	81.200	753.0	796.0
40	563.0	87.000	89.900	853.0	882.0
42	610.0	93.900	99.200	921.0	973.0
44	670.0	103.000	108.100	1.010.0	1.060.0
46	732.0	112.200	118.300	1.100.0	1.160.0
48	797.0	122.300	129.500	1.200.0	1.270.0

Cables de uso general / General purpose ropes

Diámetro nominal Nominal Diameter		Peso aprox. Approx. Weight	Carga de rotura efectiva Minimum breaking force		DIN 3081/2/7 ISO 2408	
ø mm	kg./100 m		180 Kgf.	200 Kgf.	1770 kN	1960 kN
16	107,0		16.400	18.200	161.0	179.0
18	135,0		20.800	23.000	204.0	226.0
20	167,0		25.700	28.500	252.0	279.0
22	202,0		31.100	34.500	305.0	338.0
24	240,0		37.000	41.000	363.0	402.0
26	282,0		43.000	48.100	426.0	472.0
28	327,0		50.400	55.800	494.0	547.0
30	375,0		57.800	64.000	567.0	628.0
32	427,0		65.800	72.900	645.0	715.0
34	482,0		74.300	82.300	728.0	807.0
36	540,0		83.300	92.200	817.0	904.0
38	602,0		92.800	103.000	910.0	1.010.0
40	667,0		103.000	114.200	1.010.0	1.120.0
42	736,0		113.000	125.400	1.110.0	1.230.0
44	807,0		124.000	137.700	1.220.0	1.350.0
46	882,0		135.600	150.900	1.330.0	1.480.0
48	961,0		147.900	164.200	1.450.0	1.610.0
50	1040,0		161.200	177.500	1.580.0	1.740.0
52	1130,0		173.400	192.800	1.700.0	1.890.0
54	1220,0		187.700	207.000	1.840.0	2.030.0
56	1310,0		201.900	223.400	1.980.0	2.190.0
58	1400,0		216.300	239.700	2.120.0	2.350.0
60	1500,0		231.500	256.000	2.270.0	2.510.0

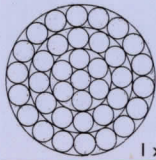
Diámetro nominal Nominal Diameter		Peso aprox. Approx. Weight	Carga de rotura efectiva Minimum breaking force		DIN 3058 DIN 3057 DIN 3064 ISO 2408	
ø mm	kg./100 m		180 Kgf.	200 Kgf.	1770 kN	1960 kN
8	25,5		4.201	4.668	41,2	45,7
10	41,3		6.515	7.294	64,3	71,5
12	57,3		9.250	10.200	90,7	100,0
13	67,3		10.800	12.000	106,0	118,0
14	78,0		12.650	14.000	124,0	137,0
16	102,0		16.400	18.200	161,0	179,0
18	129,0		20.800	23.000	204,0	226,0
19	144,0		23.250	25.700	228,0	252,0
20	159,0		25.700	28.500	252,0	279,0
22	193,0		31.000	34.500	304,0	338,0
24	229,0		37.000	41.000	363,0	402,0
26	269,0		43.400	48.100	426,0	472,0
28	312,0		50.400	55.800	494,0	547,0
30	358,0		55.600	64.000	545,0	628,0
32	408,0		65.000	72.900	645,0	715,0
36	516,0		83.300	92.000	817,0	904,0
38	585,0		92.800	103.000	910,0	1.010,0
40	637,0		102.900	114.000	1.010,0	1.120,0
42	737,0		113.400	125.500	1.112,0	1.231,0

Diámetro nominal Nominal Diameter		Peso aprox. Approx. Weight	Carga de rotura efectiva Minimum breaking force		DIN 3058 DIN 3057 DIN 3064 ISO 2408	
ø mm	kg./100 m		180 Kgf.	1770 kN		
8	22,5		3.800	37,5		
9	28,5		4.500	44,0		
10	35,2		5.500	54,3		
11	42,6		6.700	65,7		
12	50,7		8.600	84,1		
13	59,5		10.000	98,7		
14	69,0		11.600	114,0		
16	90,1		15.300	150,0		
18	114,0		19.300	189,0		
19	127,0		21.500	211,0		
20	141,0		23.900	234,0		
22	170,0		28.900	283,0		
24	203,0		34.300	336,0		
26	238,0		40.300	395,0		
28	276,0		46.700	458,0		
30	317,0		53.600	526,0		
32	360,0		61.000	598,0		
34	407,0		68.800	675,0		
36	456,0		77.200	757,0		
38	508,0		86.000	843,0		
40	563,0		95.300	935,0		

Diámetro nominal Diameter		Peso Weight kg./100 m	C. Rotura 160 Kg.	M.B.L. 1570 kN	DIN 3052		DIN 3053	
Diameter	Diameter	kg./100 m	160 Kg.	1570 kN	Diameter	Peso Weight kg./100 m	C. Rotura 160 Kg.	M.B.L. 1570 kN
2	2,3		380	3,7	3	4,6	765	7,5
3	4,7		775	7,6	4	8,1	1.350	13,3
4	9,2		1.500	14,9	5	12,7	2.100	20,8
5	13,6		2.200	22,0	6	18,3	3.000	29,9
6	18,8		3.100	30,5	7	24,9	4.150	40,7
7	27,0		4.500	43,9	8	32,4	5.400	53,2
8	36,8		6.100	59,8	9	41,1	6.900	67,4
9	42,3		7.000	68,6	10	50,7	8.500	83,2
10	57,5		9.500	93,4	11	61,4	10.200	100,0
11					12	73,0	12.100	119,0
12					13	85,7	14.300	140,0
13					14	99,4	16.600	163,0
15					15	114,1	19.100	187,0
16					16	129,8	21.700	213,0

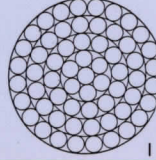
Cordones de Acero / Open Spiral Strands / Full-Locked Coil Ropes

CORDONES GALVANIZADOS ROUND STRANDED GALVANIZED WIRE ROPES



DIN

1 x 37 + 0



DIN

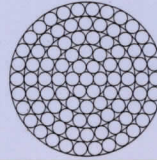
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DIN 3054

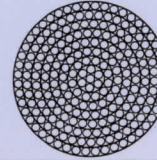
Diámetro Diameter	Peso Weight kg./100 m	C. Rotura 160 Kg.	M.B.L. 1570 kN	Diámetro Diameter	Peso Weight kg./100 m	C. Rotura 160 Kg.	M.B.L. 1570 kN
4	8.8	1.400	13.5	18	160.0	25.600	251.0
5	14.0	2.400	24.0	20	204.0	31.600	310.0
6	19.0	3.100	30.5	22	241.0	38.300	376.0
7	24.5	3.800	37.6	24	293.0	45.600	447.0
8	35.0	5.500	54.0	26	338.0	53.500	525.0
9	41.0	6.400	63.0	28	397.0	62.100	609.0
10	55.0	8.600	84.0	30	451.0	71.300	699.0
11	62.8	9.500	93.0	32	521.0	81.000	795.0
12	70.9	11.200	110.0				
13	79.5	12.200	120.0				
14	98.2	15.300	150.0				
15	118.0	18.800	184.0				
17	141.4	22.600	222.0				
18	165.9	25.400	249.0				
19	192.4	29.800	292.0				
21	220.9	34.600	339.0				
22	251.0	39.700	389.0				

Todos los cordones se pueden fabricar en calidades:
1570 N/mm² 160 Kg/mm²
1670 N/mm² 170 Kg/mm²
1770 N/mm² 180 Kg/mm²
1870 N/mm² 190 Kg/mm²

CORDONES GALVANIZADOS ROUND STRANDED GALVANIZED WIRE ROPES



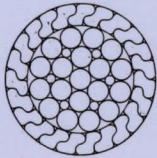
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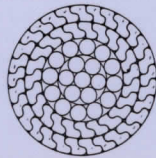
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Diámetro Diameter	Peso Weight kg./100 m	C. Rotura 160 Kg.	M.B.L. 1570 kN	Diámetro Diameter	Peso Weight kg./100 m	C. Rotura 160 Kg.	M.B.L. 1570 kN
22	240.0	37.900	372.0	50	1.200	203.900	2.000
24	290.0	45.200	443.0	51	1.250	213.100	2.090
26	346.0	53.000	520.0	52	1.300	212.300	2.170
28	390.0	61.500	603.0	54	1.400	238.600	2.340
30	454.0	70.600	692.0	56	1.500	255.900	2.510
32	512.0	80.200	787.0	57	1.570	266.100	2.610
34	577.0	90.600	889.0	58	1.620	275.300	2.700
36	654.0	101.600	997.0	60	1.730	294.700	2.890
38	735.0	113.200	1110.0	62	1.850	314.100	3.080
40	799.0	125.400	1230.0	64	1.970	334.500	3.280
				66	2.100	355.900	3.490
				67	2.160	367.100	3.600
				68	2.230	378.300	3.710
				70	2.360	400.700	3.930
				71	2.430	412.000	4.040
				72	2.500	424.200	4.160
				74	2.640	447.700	4.390
				76	2.780	473.000	4.630
				77	2.860	484.400	4.750
				78	2.930	497.600	4.880
				80	3.080	523.100	5.130
				82	3.240	549.600	5.390
				83	3.320	562.900	5.520
				84	3.400	677.200	5.660
				86	3.560	604.700	5.930

CORDONES CERRADOS "Z" COMPACTADOS FULL-LOCKED COIL ROPE



FCLR-A

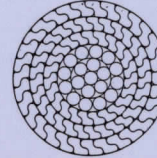


FCLR-B

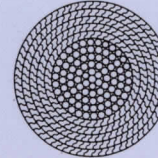
Diámetro Diameter	Peso Weight kg./m	C. Rotura 160 Kg.	M.B.L. 1570 kN	Diámetro Diameter	Peso Weight kg./m	C. Rotura 160 Kg.	M.B.L. 1570 kN
20	2.2	37.500	368	25	3.7	60.800	596
21	2.5	41.300	405	26	4.0	65.700	644
22	2.7	45.400	445	27	4.3	70.900	695
23	3.0	49.600	486	28	4.6	76.200	747
24	3.2	53.900	529	29	4.9	81.700	801
25	3.5	58.500	574	30	5.3	87.500	858
26	3.8	63.300	621	31	4.7	93.400	916
27	4.1	68.300	670	32	6.0	99.500	976
28	4.4	73.400	720	33	6.4	106.000	1.040
29	4.8	78.800	773	34	6.8	112.200	1.100
30	5.1	84.300	827	35	7.2	119.300	1.170
31	5.5	90.000	883	36	7.6	125.400	1.230
32	5.8	95.900	941	37	8.1	132.600	1.300
33	6.2	102.000	1.000	38	8.5	140.700	1.380
34	6.6	108.100	1.060	39	9.0	147.900	1.450
35	6.7	115.200	1.130	40	9.4	155.000	1.520
36	7.4	121.300	1.190	41	9.9	163.200	1.600
37	7.8	128.500	1.260	42	10.4	171.300	1.680
38	8.2	135.600	1.330	43	10.9	179.500	1.760
				44	11.4	187.600	1.840
				45	11.9	196.800	1.930
				46	12.5	206.000	2.020
				47	13.0	215.200	2.110
				48	13.6	224.300	2.200
				50	14.7	242.700	2.380

Todos los cordones se pueden fabricar en calidades:
1570 N/mm² 160 Kg/mm²
1670 N/mm² 170 Kg/mm²
1770 N/mm² 180 Kg/mm²
1870 N/mm² 190 Kg/mm²

CORDONES CERRADOS "Z" COMPACTADOS FULL-LOCKED COIL ROPE



FCLR-C

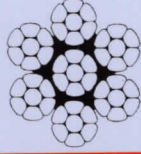
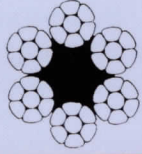


FCLR-D

Diámetro Diameter	Peso Weight kg./m	C. Rotura 160 Kg.	M.B.L. 1570 kN	Diámetro Diameter	Peso Weight kg./m	C. Rotura 160 Kg.	M.B.L. 1570 kN
40	9.3	116.100	1.580	126	100	1.651.900	16200
41	9.8	169.300	1.660	127	102	1.682.500	16500
42	10.2	177.400	1.740	128	103	1.702.900	16700
43	10.7	185.600	1.820	129	105	1.733.500	17000
44	11.2	194.800	1.910	130	107	1.764.100	17300
45	11.8	203.900	2.000	131	108	1.784.500	17500
46	12.3	213.100	2.090	132	110	1.815.100	17800
47	12.8	222.300	2.180	133	112	1.845.700	18100
48	13.4	231.500	2.270	134	113	1.866.100	18300
49	13.9	241.700	2.370	135	115	1.896.700	18600
50	14.5	251.900	2.470	136	117	1.927.300	18900
51	15.3	265.100	2.600	137	118	1.957.900	19200
52	15.9	275.300	2.700	138	120	1.978.300	19400
53	16.5	285.500	2.800	139	122	2.008.400	19700
54	17.1	296.700	2.910	140	124	2.039.400	20000
55	17.8	307.900	3.020	141	125	2.070.000	20300
56	18.4	319.200	3.130	142	127	2.100.600	20600
57	19.1	330.400	3.240	143	129	2.131.200	20900
60	19.8	342.600	3.360	144	131	2.161.800	21200
61	20.5	354.900	3.480	145	133	2.192.400	21500
62	21.1	366.100	3.590	146	135	2.223.000	21800
63	21.9	378.300	3.710	147	136	2.253.600	22100
64	22.6	391.600	3.840	148	138	2.284.200	22400
65	23.3	403.800	3.960	149	140	2.314.700	22700
66	24.1	417.100	4.090	150	142	2.345.300	23000

Cordones de Acero Compactos / Compacted Steel Wire Ropes

6 CORDONES COMPACTADOS 180 Kg./mm² 6 COMPACTED STRAND ROPES 1770 N/mm²

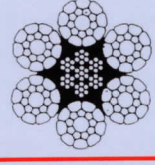
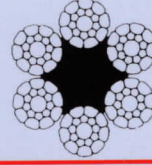


6 x 7 + FC DIN 3055

7 x 7 + 0 DIN 3055

Diámetro Diameter	Peso Weight kg./m	C. Rotura 180 Kg.	M.B.L. 1770 kN	Diámetro Diameter	Peso Weight kg./m	C. Rotura 180 Kg.	M.B.L. 1770 kN
8	0.27	4.700	46.1	8	0.29	5.500	53.9
9	0.34	6.000	58.8	9	0.37	7.000	68.7
10	0.42	7.300	71.6	10	0.46	8.500	83.4
11	0.51	8.800	86.3	11	0.55	10.400	102.0
12	0.60	10.500	102.9	12	0.77	12.300	102.6
13	0.71	12.350	121.1	13	0.89	14.500	142.2
14	0.82	14.200	139.2	14	1.17	16.800	164.7
16	1.07	18.650	182.9	16	1.48	22.000	215.7
18	1.04	23.700	232.4	18	1.82	27.800	272.6
20	1.70	29.200	286.3	20	2.21	34.400	337.4
22	2.03	35.300	346.2	22	2.63	41.600	108.0
24	2.41	42.000	411.9	24	3.09	49.550	485.9
26	2.83	49.300	483.5	26	3.58	58.250	571.2
28	3.28	57.200	560.9	28	4.67	67.450	661.5
32	4.29	54.700	536.4	32	5.92	88.250	865.4
36	5.43	94.700	928.7	36	8.14	111.150	1090.0

6 CORDONES COMPACTADOS 180 Kg./mm² 6 COMPACTED STRAND ROPES 1770 N/mm²

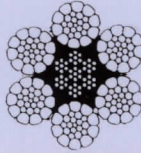
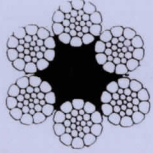


6 x 19S-FC DIN 3058

6 x 19S-IWRC DIN 3058

Diámetro Diameter	Peso Weight kg./m	C. Rotura 180 Kg.	M.B.L. 1770 kN	Diámetro Diameter	Peso Weight kg./m	C. Rotura 180 Kg.	M.B.L. 1770 kN
10	0.42	6.300	61.8	10	0.47	7.200	70.6
11	0.50	7.650	75.0	11	0.57	8.700	85.3
12	0.60	9.100	89.2	12	0.68	10.400	102.0
13	0.70	10.700	104.9	13	0.79	12.200	119.6
14	0.81	12.400	121.6	14	0.92	14.200	139.3
16	1.06	46.600	162.8	16	1.20	18.500	181.4
18	1.34	20.600	202.0	18	1.52	23.400	229.5
20	1.66	25.400	249.1	20	1.87	28.900	283.4
22	2.00	30.700	301.1	22	2.27	35.000	343.2
24	2.39	36.500	358.0	24	2.70	41.600	408.0
26	2.80	42.900	420.7	26	3.17	48.800	478.6
28	3.25	49.700	487.4	28	3.67	56.600	556.0
32	4.24	65.000	637.4	32	4.80	74.000	725.7
36	5.38	82.000	804.2	36	6.07	93.600	918.0
40	6.63	102.000	1000.3	40	7.50	116.000	1137.0

6 CORDONES COMPACTADOS 180 Kg./mm² 6 COMPACTED STRAND ROPES 1770 N/mm²

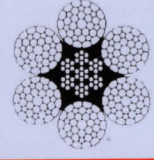
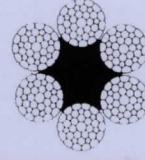


6 x 26WS-FC DIN 3058

6 x 26WS-IWRC DIN 3058

Diámetro Diameter	Peso Weight kg./m	C. Rotura 180 Kg.	M.B.L. 1770 kN	Diámetro Diameter	Peso Weight kg./m	C. Rotura 180 Kg.	M.B.L. 1570 kN
12	0.60	9.100	89.2	12	0.67	10.400	102.0
13	0.70	9.500	93.2	13	0.79	12.200	119.6
14	0.81	12.400	121.6	14	0.92	14.200	139.3
16	1.06	16.200	158.9	16	1.19	18.500	181.4
18	1.34	20.600	202.0	18	1.51	23.400	229.5
20	1.66	25.400	250.0	20	1.86	28.900	283.4
22	2.00	30.700	301.1	22	2.26	32.000	343.2
24	2.40	36.500	358.0	24	2.70	41.600	408.0
26	2.80	42.900	420.7	26	3.15	48.800	479.0
28	3.25	49.700	487.4	28	3.65	56.600	555.1
32	4.24	65.000	637.4	32	4.78	74.000	725.7
36	5.38	82.200	806.1	36	6.04	93.600	918.0
40	6.63	102.000	1000.3	40	7.46	116.000	1137.6

6 CORDONES COMPACTADOS 180 Kg./mm² 6 COMPACTED STRAND ROPES 1770 N/mm²



6 x 36WS-FC DIN 3064

6 x 36WS-IWRC DIN 3064

Diámetro Diameter	Peso Weight kg./m	C. Rotura 180 Kg.	M.B.L. 1570 kN	Diámetro Diameter	Peso Weight kg./m	C. Rotura 180 Kg.	M.B.L. 1570 kN
16	1.09	16.600	162.8	16	1.23	18.700	183.4
18	1.38	21.000	206.0	18	1.56	23.700	232.4
20	1.71	25.900	254.0	20	1.92	29.300	287.3
22	2.06	31.300	307.0	22	2.33	35.400	347.2
24	2.45	37.200	364.8	24	2.77	42.200	414.0
26	2.88	43.700	428.6	26	3.25	49.500	485.4
28	3.34	50.700	497.2	28	3.77	57.400	562.9
30	4.36	66.200	649.2	30	4.92	75.000	735.5
34	5.52	89.800	821.8	34	6.23	94.900	930.7
38	6.81	103.000	1010.1	38	7.69	117.000	1147.4
44	8.24	125.000	1225.8	44	9.31	142.000	1392.5

Desde 1993 Trefil Cable, S.L. Madrid (España) demostró que por razones de seguridad los grommets son preferibles a las eslingas de cable establecido. Estas ventajas en consecuencia son más fáciles de manipular, durante el transporte e instalación. Como los grommets no disponen de un empalme, no hay necesidad de tener en cuenta la fluctuación en baja carga (de bombeo y a efectos del deslizamiento en el empalme).

La longitud del cable establecido exige una mayor tolerancia en comparación con los grommets, causada por el empalme. Esto es una ventaja para la fiabilidad y la seguridad de los grommets. El empalme de eficiencia de eslingas son del 30% menos, que los cables de acero grommets, dependiendo de la categoría D/d proporción, por la eficiencia de la flexión. Los ascensores más pesados del mundo (Piper Bdeck 10.750 toneladas métricas y Gannet Jacket 8.400 toneladas métricas) se han levantado con los grommets en lugar de eslingas.

Grommets con diámetros de 15 pulgadas y 15 5/8 pulgadas y una fuerza de rotura mínima respectivamente de 10.400 toneladas y 11.400 toneladas métricas han sido suministrados por Trefil Cable.




In 1990 a testing programme in Madrid Spain proved that for safety reasons grommets are preferred cable laid slings. They are a smaller diameter and therefore lighter, whilst they achieve the same breaking forces. These advantages result in easier and cheaper handling, transport an installation. As grommets do not have a splice, there is no need to consider fluctuating low loads (pumping effects and slipping of the splice).

The length of the cable laid sling demands a greater tolerance compared to grommets, caused by the splices. This is an advantage for the reliability and safety of grommets- The splice efficiency of slings is 30% less, which can be used, depending on the D/d-ratio, for the bending efficiency. It is quite evident why the world's heaviest lifts (load or Piper B deck 10.750 metric tons and Gannet Jacket 8.400 metric tons) have been lifted by grommets rather than slings.

Grommets with diameters of 15 inch and 15 5/8 inch and a minimum breaking force of respectively 10.400 metric ton and 11.400 metric tons have been supplied by Trefil Cable, S.L.

For data not mentioned please contact us.

Grommets de cable de acero Cable Laid Grommets

	Diámetro nominal Nominal diameter		Carga de trabajo / Working load limited			
			Alma textil / Fibre core		Alma metálica / IWR	
	mm.	inch	Kgf.	kN	Kgf.	kN
	9	0.35	1.265	12.41	1.450	14.22
	12	0.47	2.100	20.59	2.550	25.01
	15	0.59	3.300	32.36	4.000	39.23
	18	0.71	5.100	50.01	5.800	56.88
	21	0.83	6.900	67.67	7.700	75.51
	24	0.94	9.100	89.24	10.400	101.99
	27	1.06	11.400	111.80	12.750	125.03
	30	1.18	14.100	138.27	16.050	157.40
	33	1.30	17.100	167.69	19.150	187.80
	36	1.42	20.300	199.08	22.650	222.12
	39	1.54	23.800	233.40	26.050	255.46
	42	1.65	27.500	269.68	30.700	301.06
	45	1.77	33.000	323.62	35.150	344.70
	48	1.89	36.200	355.00	39.600	388.34
	54	2.13	45.600	447.18	50.200	492.29
	57	2.24	51.800	507.98	57.950	568.30
	60	2.36	56.400	533.10	62.680	614.88
	66	2.60	68.200	668.81	75.700	742.36
	72	2.83	81.000	794.34	88.000	862.99
	78	3.07	95.200	933.59	104.400	1023.81
84	3.31	110.400	1082.65	121.100	1187.59	
90	3.54	131.100	1285.65	141.700	1389.60	
96	3.78	144.100	1413.14	155.100	1521.01	
102	4.02	162.400	1592.60	176.000	1725.97	
108	4.25	182.400	1788.73	200.800	1969.18	
120	4.72	225.300	2209.44	250.900	2460.49	

Grandes eslingas en cable de acero

Big Steel wire rope slings

Gaza trenzada
Trapedered eye



Ø Cable Rope	CARGA DE ROTURA / BREAKING LOAD				TAMAÑO DE LA GAZA EYE LENGTH	
	ALMA TEXTIL / FIBRE CORE		ALMA METÁLICA / IWRC			
	Kgf.	kN	Kgf.	kN		
64	174.400	1.710	200.000	1.960	1.280 mm	
66	175.900	1.725	203.000	1.990	1.320 mm	
68	177.900	1.745	210.600	2.065	1.360 mm	
70	188.700	1.850	223.000	2.185	1.400 mm	
72	199.400	1.955	236.000	2.315	1.440 mm	
74	210.600	2.065	249.300	2.445	1.480 mm	
76	222.300	2.180	263.000	2.580	1.520 mm	
78	234.000	2.295	277.000	2.715	1.560 mm	
80	246.300	2.415	291.000	2.855	1.600 mm	
82	258.500	2.535	306.000	3.000	1.640 mm	
84	271.300	2.660	321.200	3.150	1.680 mm	
86	284.500	2.790	336.500	3.300	1.720 mm	
88	297.800	2.920	352.300	3.455	1.760 mm	
90	311.500	3.055	368.600	3.615	1.800 mm	
92	325.800	3.195	385.500	3.780	1.840 mm	
94	340.000	3.335	402.300	3.945	1.880 mm	
96	354.400	3.475	420.000	4.115	1.920 mm	
98	370.000	3.625	437.000	4.285	1.960 mm	
100	385.000	3.775	455.000	4.465	2.000 mm	
102	400.000	3.925	473.600	4.645	2.040 mm	
104	416.000	4.080	492.500	4.830	2.080 mm	
106	432.400	4.240	511.400	5.015	2.120 mm	
108	448.700	4.400	530.800	5.205	2.160 mm	
110	465.500	4.565	550.600	5.400	2.200 mm	
112	482.000	4.730	571.000	5.600	2.240 mm	
114	500.200	4.905	591.400	5.800	2.280 mm	
116	517.500	5.075	612.300	6.005	2.320 mm	
118	535.900	5.255	634.000	6.215	2.360 mm	
120	553.700	5.430	655.600	6.430	2.400 mm	

Cables de acero, eslingas y grommets para el levantamiento en offshore

Las personas que utilizan alta tecnología en operaciones de elevación en offshore y en cargas superiores utilizan grommets.

Cada vez son más, las empresas del mercado de extracción petrolífera (offshore) que están utilizando grommets en las operaciones de tierra ya que éstas son cada vez más pesadas y se requieren para ser transportados e instalados en el lugar en una última operación.

El levantamiento es una de esas funciones críticas ya que el fracaso de un sistema de este tipo podría fácilmente ser catastrófica, con las más estrictas exigencias se imponen al funcionamiento en grúas, cables, eslingas y hardware relacionado con las tablas adjuntas.

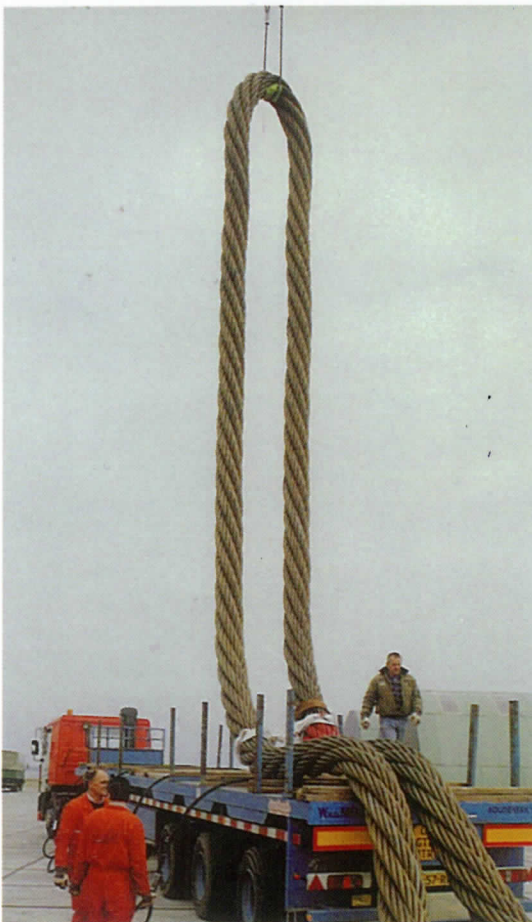
Trefil Cable es un líder europeo en el diseño y fabricación de sistemas de cable de acero para la industria. Tenemos la tecnología, las personas y, sobre todo, la experiencia ganada con cuidado para poder garantizar una total fiabilidad de nuestros productos.

Cable laid slings and grommets for offshore lifting

As a man's inexorable advance into larger scale operations continues, the technology of support systems must follow.

Increasingly, units and modules throughout the offshore industry are being assembled and finished onshore, are getting heavier, and require to be transported and installed at location in one final operation. Lifting is one such critical function and because failure of such a system could easily be catastrophic, the most stringent demands are placed upon the dependability of cranes, ropes, sling and related attachment hardware.

Trefil Cable, S.L. is a world leader in the design and manufacture of wire rope systems for the industry. We have the technology, people and above all the carefully won experience to be able to guarantee absolute reliability for our products – anything less would simply be incoceivable.








Eslingas en cable de acero / Steel wire rope slings

Directiva en maquinaria 2006 / 42 / CE EG EN - 13414 - 2003

EN 13411-1,2,3,4,5,6

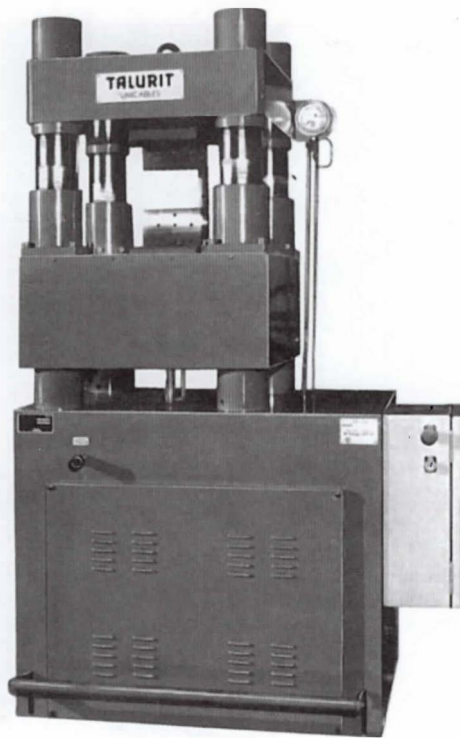
Ojo flamenco
Flemish eye

Ø Cable Rope										
	Carga de trabajo / Working load limited									
	Kgf.	kN	Kgf.	kN	Kgf.	kN	Kgf.	kN	Kgf.	kN
8	700	6.86	1.400	13.72	1.190	11.67	980	9.61	700	6.86
10	1.000	9.81	2.000	19.62	1.700	16.67	1.400	13.73	1.000	9.81
12	1.500	14.71	3.000	29.42	2.550	25.01	2.100	20.59	1.500	14.71
14	2.000	19.61	4.000	39.22	3.400	33.34	2.800	27.46	2.000	19.61
16	2.700	26.48	5.400	52.96	4.590	45.01	3.780	37.07	2.700	26.48
18	3.150	30.89	6.300	61.78	5.355	52.51	4.410	43.25	3.150	30.89
20	4.000	39.23	8.000	78.46	6.800	66.69	5.600	54.92	4.000	39.23
22	5.000	49.03	10.000	98.06	8.500	83.36	7.000	68.65	5.000	49.03
24	6.300	61.78	12.600	123.56	10.710	105.03	8.820	86.49	6.300	61.78
26	7.000	68.65	14.000	137.30	11.900	116.70	9.800	96.11	7.000	68.65
28	8.000	78.45	16.000	156.90	13.600	133.37	11.200	109.83	8.000	78.45
30	9.500	93.16	19.000	186.32	16.150	158.38	13.300	130.43	9.500	93.16
32	11.000	107.87	22.000	215.74	18.700	183.38	15.400	151.02	11.000	107.87
34	12.500	122.58	25.000	245.16	21.250	208.39	17.500	171.62	12.500	122.58
36	14.000	137.29	28.000	274.58	23.800	233.40	19.600	192.21	14.000	137.29
38	15.500	152.00	31.000	304.00	26.350	258.41	21.700	212.80	15.500	152.00
40	17.000	166.71	34.000	333.42	28.900	283.41	23.800	233.40	17.000	166.71
44	20.760	203.59	41.520	407.17	35.292	346.10	29.064	285.02	20.760	203.59
48	24.680	242.03	49.360	484.06	41.956	411.45	34.520	338.84	24.680	242.03
52	29.000	284.39	58.000	568.79	49.300	483.47	40.600	398.15	29.000	284.39
56	33.640	329.90	67.280	659.79	57.188	560.82	47.096	461.85	33.640	329.90
60	40.000	392.27	80.000	784.53	68.000	666.58	56.000	549.17	40.000	392.27

Gaza trenzada
Tapered eye



Calidad del acero: 200 Kgs. / mm² (1960 N/mm²)
Coeficiente de seguridad: 6 / Safety Factor: 6



ACCESORIOS "CROSBY" PARA ESLINGAS

			
M-320 A	S-316 A	G-209	G-210
			
S-412	A-342	A-350	G-416
			
G-417	S-643	G-414	G-450

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E199216

Una Compañía con certificación ISO 9001

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