KÖŞKERLER®

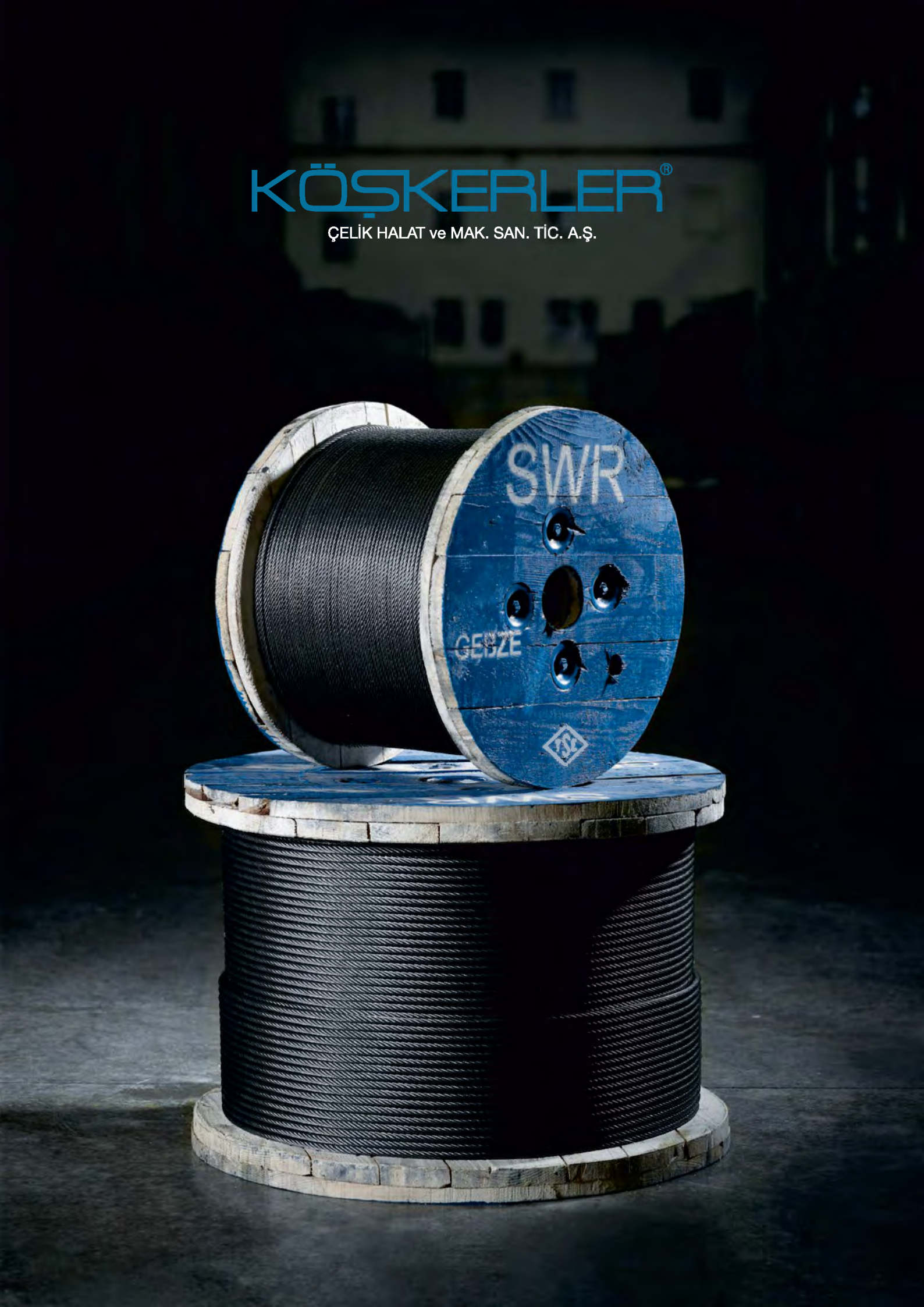
ÇELİK HALAT ve MAK. SAN. TİC. A.Ş.

STEEL WIREROPES

SINCE 1989

KÖŞKERLER®

ÇELİK HALAT ve MAK. SAN. TİC. A.Ş.



KÖŞKERLER®

ÇELİK HALAT ve MAK. SAN. TİC. A.Ş.

Köşkerler Çelik Halat ve Makina San. Tic. A.Ş. started their production in 1989. We are currently operating our business in Kocaeli Dilovası İMES Organized Industrial Zone in an enclosed area of 17.000 m² and total area of 24.000 m²

Elevator ropes, crane ropes, marine ropes and other various ropes used in automotive, cable and other sectors are manufactured in our facility.

We, as Köşkerler Çelik Halat ve Makina San. Tic. A.Ş., have succeeded to put the company over the top of quality by making innovations on a continuous basis over 20 years.

Furthermore, we have taken research and development as a principle and are constantly trying to renew the process in terms of technological production and products by means of R&D activities.

We experience the pride of gaining the trust of our customers in our products. We have gained this success thanks to the strict commitment to honesty, dynamism, quality and customer-oriented principles.

Köşkerler Çelik Halat is a company which always follows innovations and changes, has an environmetal attitude, is aware of its social responsibilities and grows in a planned way and develops fast.

AUTOMOTIVEROPES

- High resistance to corrosion
- Should have high yield strength

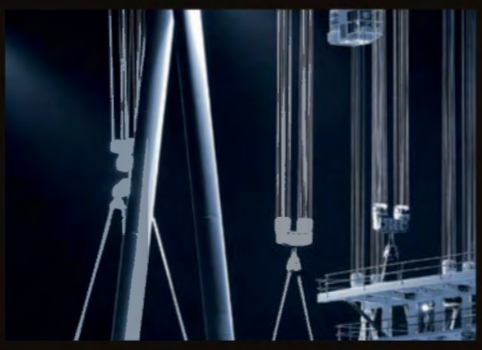
MARINEROPES

- High resistance to corrosion
- Should be flexible
- High resistance to fatigue

ELEVATORROPES

- High resistance to fatigue
- High resistance to abrasion
- No elongation

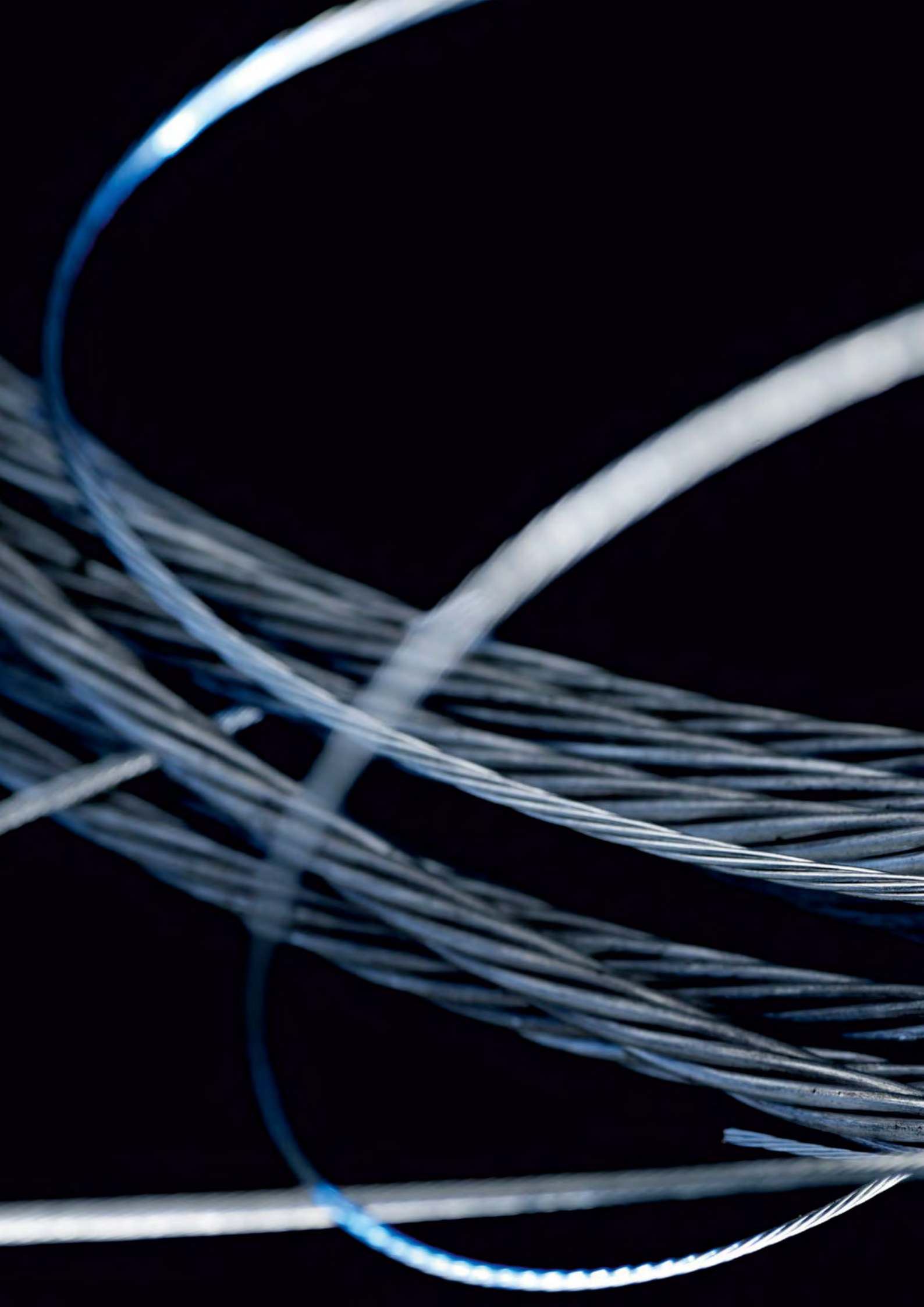
CRANEROPES



- Resistant to abrasion
- Resistant to fatigue
- Resistant to rotating

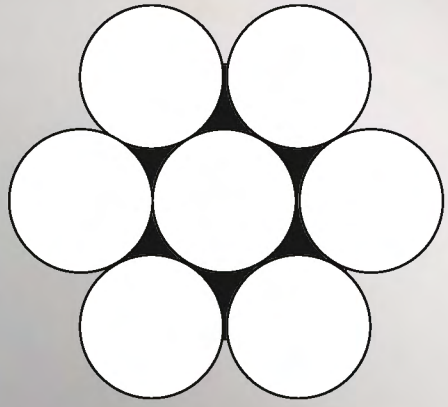
KÖŞKERLER®

ÇELİK HALAT ve MAK. SAN. TİC. A.Ş.



KÖŞKERLER® ÇELİK HALAT ve MAK. SAN. TİC. A.Ş.

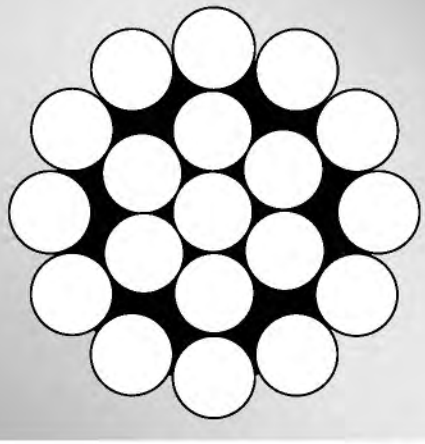
MONOTORONROPES



MONOTORON ROPES

1X7=1X(1+6)

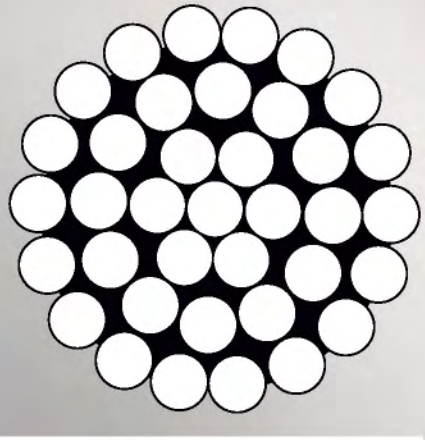
EN 12385-4 DIN 3052							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1180 N/mm²	120 kg/mm²	1570 N/mm²	160 kg/mm²	1770 N/mm²	180 kg/mm²
		Minimum Breaking Load (MBL) kN					
0.66	0.002	0.28		0.37		0.42	
0.8	0.003	0.41		0.55		0.62	
0.9	0.004	0.51		0.69		0.78	
1	0.005	0.65		0.86		0.96	
1.2	0.007	0.93		1.23		1.40	
1.5	0.011	1.50		1.93		2.17	
1.8	0.016	2.10		2.77		3.13	
2	0.020	2.60		3.50		3.90	
2.5	0.031	4.10		5.40		6.10	
3	0.045	5.90		7.80		8.80	
3.5	0.061	8.00		10.6		12.0	
4	0.080	10.4		13.8		15.7	
4.5	0.101	13.2		17.5		19.8	
5	0.125	16.3		21.6		24.5	
5.5	0.151	19.7		26.1		29.6	
6	0.180	23.5		31.1		35.2	
6.5	0.211	27.6		36.4		41.4	
7	0.245	32.0		42.0		48.0	
7.5	0.281	36.7		48.5		55.1	
8	0.320	41.8		55.2		62.6	
8.5	0.361	47.1		62.3		70.7	
9	0.405	52.9		69.9		79.3	
9.5	0.451	58.9		77.9		88.3	
10	0.500	65.3		86.3		97.9	
10.5	0.551	71.9		95.1		108	
11	0.605	79.0		104		118	
11.5	0.661	86.3		114		129	
12	0.720	94.0		124		141	



MONOTORON ROPES

1X19=1X(1+6+12)

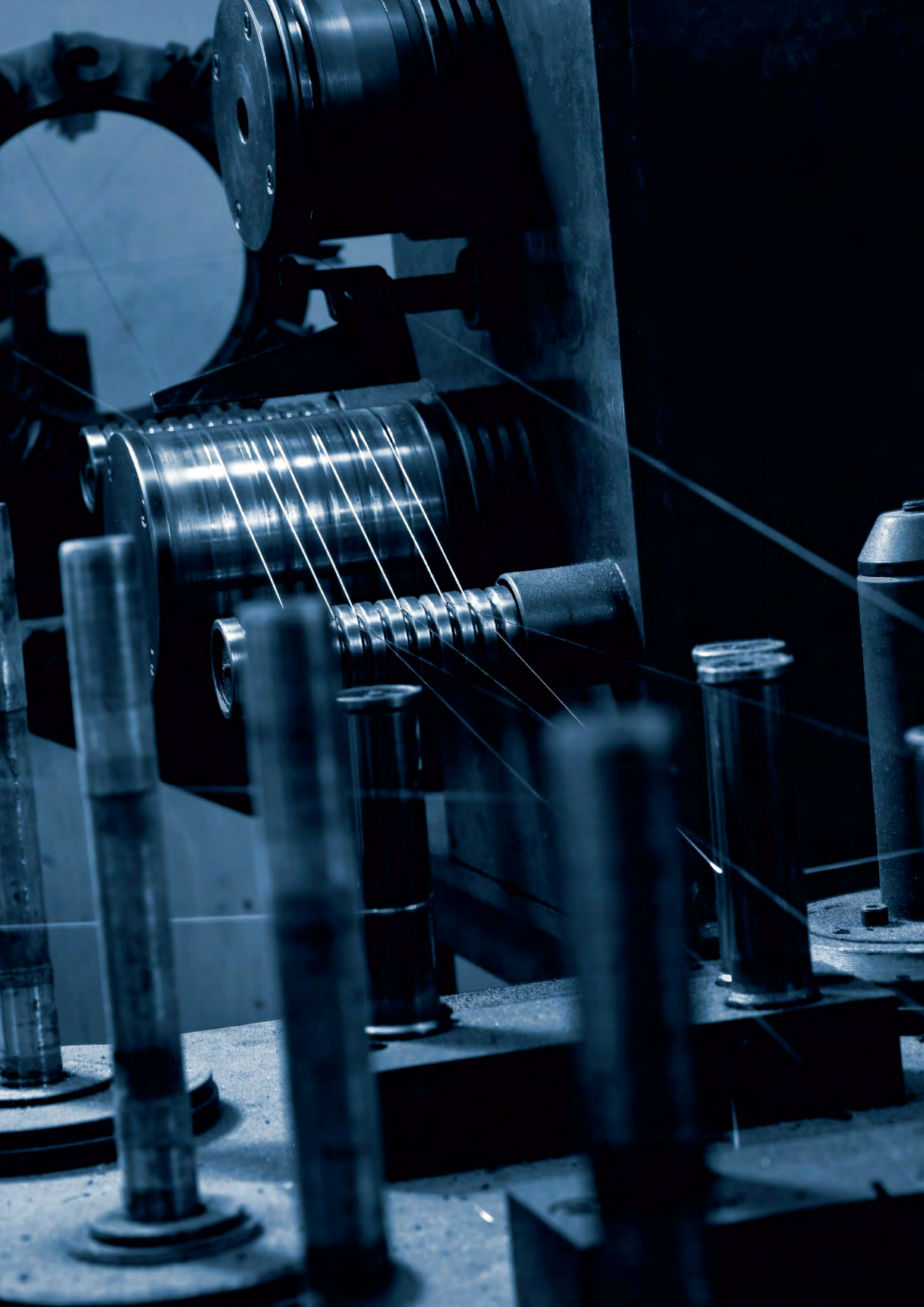
EN 12385-4 DIN 3053							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1180 N/mm²	120 kg/mm²	1570 N/mm²	160 kg/mm²	1770 N/mm²	180 kg/mm²
		Minimum Breaking Load (MBL) kN					
1.5	0.011	1.40		1.85		2.10	
1.8	0.016	2.02		2.67		3.01	
2	0.020	2.50		3.30		3.80	
2.5	0.031	3.90		5.20		5.90	
3	0.045	5.70		7.50		8.50	
3.5	0.061	7.70		10.2		11.6	
4	0.080	10.1		13.3		15.1	
4.5	0.101	12.8		16.9		19.1	
5	0.125	15.8		20.8		23.6	
5.5	0.151	19.1		25.2		28.6	
6	0.180	22.7		30.0		34.0	
6.5	0.211	26.6		35.2		39.9	
7	0.245	30.9		40.8		46.3	
7.5	0.281	35.4		46.9		53.2	
8	0.320	40.3		53.3		60.5	
8.5	0.361	45.5		60.2		68.3	
9	0.405	51.0		67.5		76.6	
9.5	0.451	56.9		75.2		85.3	
10	0.500	63.0		83.3		94.5	
11	0.605	76.2		101		104	
12	0.720	90.7		120		136	
13	0.845	106		141		160	
14	0.980	124		163		185	
15	1.125	142		187		213	
16	1.280	161		213		242	
17	1.445	182		241		273	
18	1.620	204		270		306	



MONOTORON ROPES

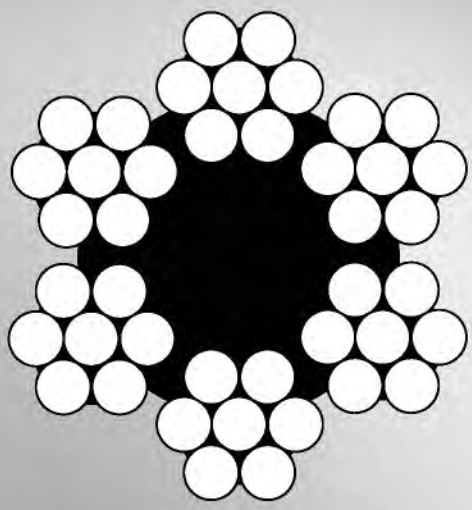
1X37=1X(1+6+12+18)

EN 12385-4 DIN 3054							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1180 N/mm²	120 kg/mm²	1570 N/mm²	160 kg/mm²	1770 N/mm²	180 kg/mm²
		Minimum Breaking Load (MBL) kN					
3	0.045	7.50		10.0		11.3	
4	0.080	9.80		13.0		14.8	
4.5	0.101	12.4		16.5		18.7	
5	0.125	15.4		20.3		23.1	
5.5	0.151	18.6		24.6		27.9	
6	0.180	22.1		29.3		33.2	
6.5	0.211	26.0		34.3		39.0	
7	0.245	30.1		39.8		45.2	
7.5	0.281	34.6		45.7		51.9	
8	0.320	39.3		52.0		59.0	
8.5	0.361	44.4		58.7		66.6	
9	0.405	49.8		65.8		74.7	
9.5	0.451	54.6		72.7		82.0	
10	0.500	60.5		80.5		90.8	
11	0.605	73.2		97.5		109.9	
12	0.720	87.2		116.0		130.8	
13	0.845	102.3		136.1		153.5	
14	0.980	118.6		157.9		178.0	
15	1.125	136.2		181.2		204.3	
16	1.280	155.0		206.2		232.5	
17	1.445	174.9		232.8		262.4	
18	1.620	196.1		261.0		294.2	
19	1.805	218.5		290.8		327.8	
20	2.000	242.1		322.2		363.2	
21	2.205	267.0		355.2		400.4	
22	2.420	293.0		389.8		439.5	
23	2.645	320.2		426.1		480.3	
24	2.880	348.7		463.9		523.0	



KÖŞKERLER® ÇELİK HALAT ve MAK. SAN. TİC. A.Ş.

STEEL WIREROPES

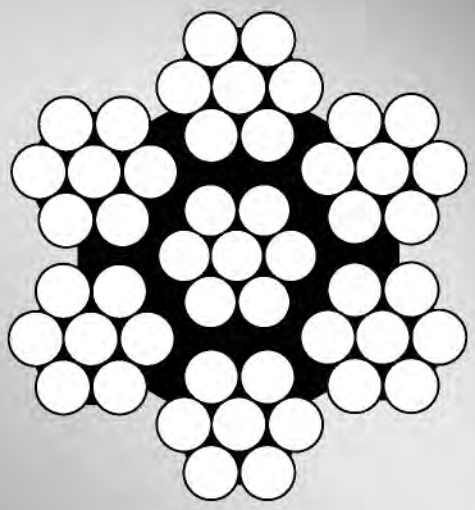


STEEL WIRE ROPES

6X7=6X(1+6) FC

EN 12385-4 DIN 3055

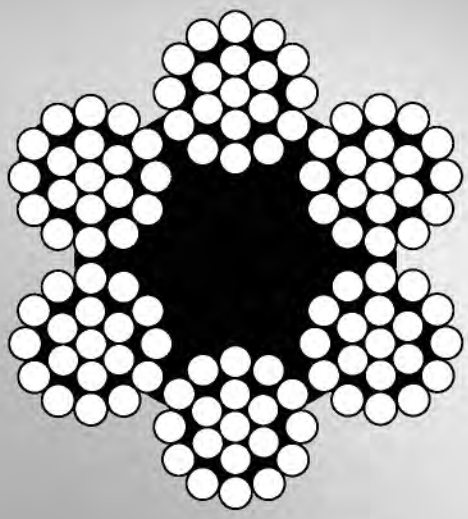
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
2	0.014	2.35		2.60		2.87	
3	0.031	5.29		5.86		6.45	
4	0.055	9.40		10.4		11.5	
5	0.086	14.7		16.3		17.9	
6	0.124	21.2		23.4		25.8	
7	0.169	28.8		31.9		35.1	
8	0.221	37.6		41.6		45.9	
9	0.279	47.6		52.7		58.1	
10	0.345	58.8		65.1		71.7	
11	0.417	71.1		78.7		86.8	
12	0.497	84.6		93.7		103	
13	0.583	99.3		110		121	
14	0.676	115		128		141	
15	0.776	132		146		161	
16	0.883	150		167		184	
17	0.997	170		188		207	
18	1.118	190		211		232	
19	1.245	212		235		259	
20	1.380	235		260		287	



STEEL WIRE ROPES

6X7=6X(1+6) WSC

EN 12385-4 DIN 3055							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
2	0.015	2.54		2.81		3.10	
3	0.035	5.72		6.33		6.98	
4	0.062	10.2		11.3		12.4	
5	0.096	15.9		17.6		19.4	
6	0.138	22.9		25.3		27.9	
7	0.188	31.1		34.5		38.0	
8	0.246	40.7		45.0		49.6	
9	0.311	51.5		57.0		62.8	
10	0.384	63.5		70.4		77.5	
11	0.465	76.9		85.1		93.8	
12	0.553	91.5		101		112	
13	0.649	107		119		131	
14	0.753	125		138		152	
15	0.864	143		158		174	
16	0.983	163		180		199	
17	1,110	184		203		224	
18	1,244	206		228		251	
19	1,386	229		254		280	
20	1,536	254		281		310	

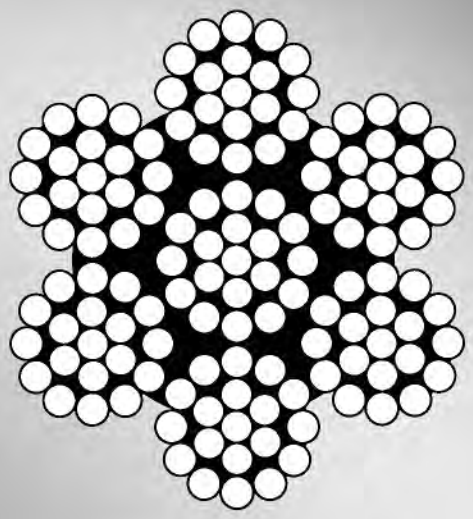


STEEL WIRE ROPES

6X19M=6X(1+6+12) FC

EN 12385-4 DIN 3060

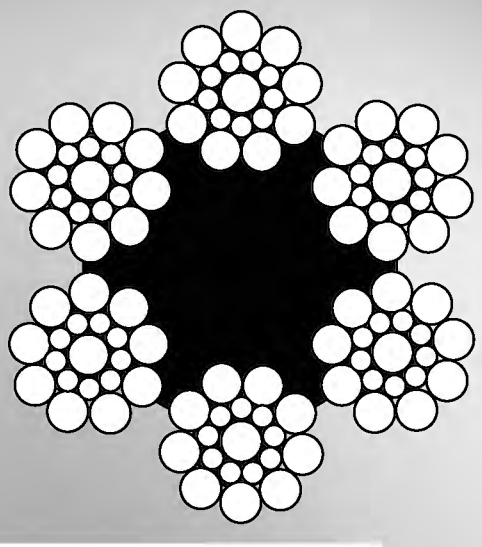
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
4	0.055	8.69		9.63		10.6	
5	0.086	13.6		15.0		16.6	
6	0.124	19.6		21.7		23.9	
7	0.169	26.6		29.5		32.5	
8	0.221	34.8		38.5		42.4	
9	0.280	44.0		48.7		53.7	
10	0.346	54.3		60.2		66.3	
11	0.419	65.8		72.8		80.2	
12	0.498	78.2		86.6		95.5	
13	0.585	91.8		102		112	
14	0.678	107		118		130	
15	0.779	122		135		149	
16	0.886	139		154		170	
17	1.000	157		174		192	
18	1.121	176		195		215	
19	1.249	196		217		239	
20	1.384	217		241		265	
21	1.526	240		265		292	
22	1.675	263		291		321	
23	1.830	287		318		351	
24	1.993	313		347		382	
25	2.163	340		376		414	
26	2.339	367		407		448	
27	2.522	396		439		483	
28	2.713	426		472		520	
29	2.910	457		506		558	
30	3.114	489		542		597	
31	3.325	522		578		637	
32	3.543	556		616		679	
33	3.768	592		655		722	
34	4.000	628		696		767	
35	4.239	666		737		812	
36	4.484	704		780		859	
37	4.737	744		824		908	
38	4.996	785		869		958	
39	5.263	826		915		1009	
40	5.536	869		963		1061	



STEEL WIRE ROPES

6X19M=6X(1+6+12) WSC

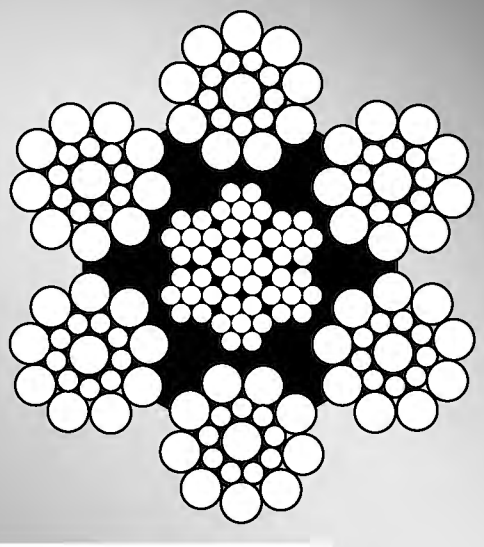
EN 12385-4 DIN 3060							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
4	0.061	9.40		10.4		11.5	
5	0.095	14.7		16.3		17.9	
6	0.137	21.1		23.4		25.8	
7	0.187	28.8		31.9		35.1	
8	0.244	37.6		41.6		45.9	
9	0.309	47.6		52.7		58.1	
10	0.381	58.8		65.1		71.7	
11	0.461	71.1		78.7		86.7	
12	0.549	84.6		93.7		103	
13	0.644	99.3		110		121	
14	0.747	115		128		141	
15	0.857	132		146		161	
16	0.975	150		167		184	
17	1.101	170		188		207	
18	1.234	190		211		232	
19	1.375	212		235		259	
20	1.524	235		260		287	
21	1.680	259		287		316	
22	1.844	284		315		347	
23	2.015	311		344		379	
24	2.195	338		375		413	
25	2.381	367		407		448	
26	2.576	397		440		485	
27	2.777	428		474		523	
28	2.987	461		510		562	
29	3.204	494		547		603	
30	3.429	529		586		645	
31	3.661	565		625		689	
32	3.901	602		666		734	
33	4.149	640		709		781	
34	4.404	679		752		829	
35	4.667	720		797		878	
36	4.938	762		843		929	
37	5.216	804		891		981	
38	5.502	849		940		1035	
39	5.795	894		990		1091	
40	6.096	940		1041		1147	



STEEL WIRE ROPES

6X19S=6X(1+9+9) FC

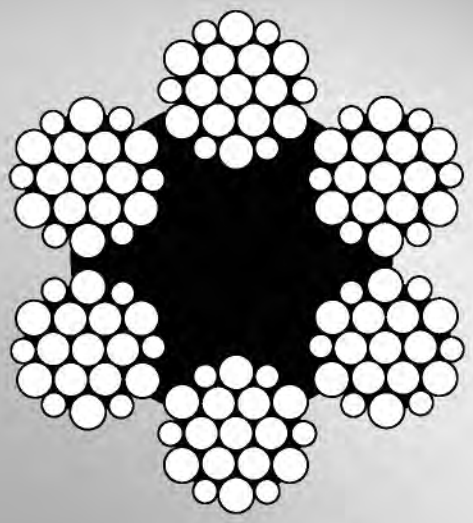
EN 12385-4 DIN 3058							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
6	0.129	21.0		23.3		25.7	
7	0.176	28.6		31.7		34.9	
8	0.230	37.4		41.4		45.6	
9	0.291	47.3		52.4		57.7	
10	0.359	58.4		64.7		71.3	
11	0.434	70.7		78.3		86.2	
12	0.517	84.1		93.1		102	
13	0.607	98.7		109		120	
14	0.704	114		127		140	
15	0.808	131		146		160	
16	0.919	150		166		182	
17	1.038	169		187		206	
18	1.163	189		210		231	
19	1.296	211		233		257	
20	1.436	234		259		285	
21	1.583	258		285		314	
22	1.738	283		313		345	
23	1.899	309		342		377	
24	2.068	336		373		411	
25	2.244	365		404		446	
26	2.427	395		437		482	
27	2.617	426		472		520	
28	2.815	458		507		559	
29	3.019	491		544		599	
30	3.231	526		582		642	
31	3.450	561		622		685	
32	3.676	598		662		730	
33	3.910	636		704		776	
34	4.150	675		748		824	
35	4.398	716		792		873	
36	4.653	757		838		924	
37	4.915	800		885		976	
38	5.184	843		934		1029	
39	5.460	888		984		1084	
40	5.744	935		1035		1140	



STEEL WIRE ROPES

6X19S=6X(1+9+9) IWRC

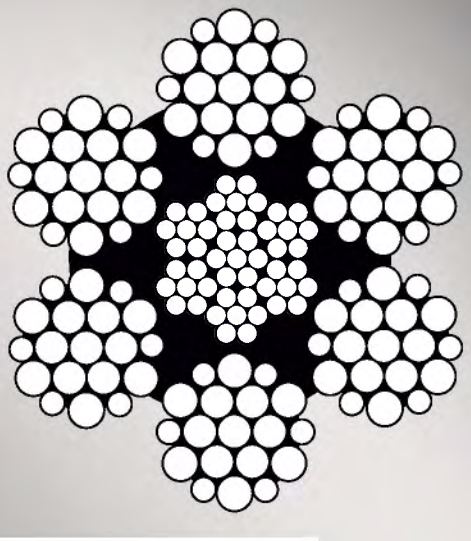
EN 12385-4 DIN 3058				
Rope Diameter mm	Unit Weight kg/m	Wire Tensile		
		1770 N/mm² 180 kg/mm²	1960 N/mm² 200 kg/mm²	2160 N/mm² 220 kg/mm²
		Minimum Breaking Load (MBL) kN		
6	0.144	22.7	25.1	27.7
7	0.196	30.9	34.2	37.7
8	0.256	40.3	44.7	49.2
9	0.324	51.0	56.5	62.3
10	0.400	63.0	69.8	76.9
11	0.484	76.2	84.4	93.0
12	0.576	90.7	100	111
13	0.676	106	118	130
14	0.784	124	137	151
15	0.900	142	157	173
16	1.024	161	179	197
17	1.156	182	202	222
18	1.296	204	226	249
19	1.444	227	252	278
20	1.600	252	279	308
21	1.764	278	308	339
22	1.936	305	338	372
23	2.116	333	369	407
24	2.304	363	402	443
25	2.500	394	436	481
26	2.704	426	472	520
27	2.916	459	509	561
28	3.136	494	547	603
29	3.364	530	587	647
30	3.600	567	628	692
31	3.844	606	671	739
32	4.096	645	715	787
33	4.356	686	760	837
34	4.624	728	807	889
35	4.900	772	855	942
36	5.184	817	904	997
37	5.476	863	955	1053
38	5.776	910	1008	1110
39	6.084	958	1061	1170
40	6.400	1008	1116	1230



STEEL WIRE ROPES

6X19W=6X[1+6+(6+6)] FC

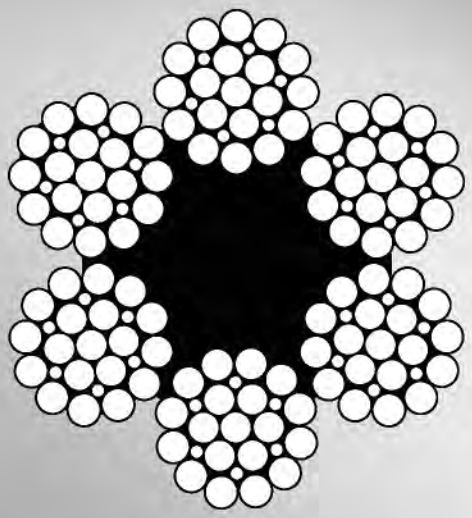
EN 12385-4 DIN 3059							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
6	0.129	21.0		23.3		25.7	
7	0.176	28.6		31.7		34.9	
8	0.230	37.4		41.4		45.6	
9	0.291	47.3		52.4		57.7	
10	0.359	58.4		64.7		71.3	
11	0.434	70.7		78.3		86.2	
12	0.517	84.1		93.1		103	
13	0.607	98.7		109		120	
14	0.704	114		127		140	
15	0.808	131		146		160	
16	0.919	150		166		182	
17	1.038	169		187		206	
18	1.163	189		210		231	
19	1.296	211		233		257	
20	1.436	234		259		285	
21	1.583	258		285		314	
22	1.738	283		313		345	
23	1.899	309		342		377	
24	2.068	336		373		411	
25	2.244	365		404		446	
26	2.427	395		437		482	
27	2.617	426		472		520	
28	2.815	458		507		559	
29	3.019	491		544		599	
30	3.231	526		582		642	
31	3.450	561		622		685	
32	3.676	598		662		730	
33	3.910	636		704		776	
34	4.150	675		748		824	
35	4.398	716		792		873	
36	4.653	757		838		924	
37	4.915	800		885		976	
38	5.184	843		934		1029	
39	5.460	888		984		1084	
40	5.744	935		1035		1140	



STEEL WIRE ROPES

6X19W=6X[1+6+(6+6)] IWRC

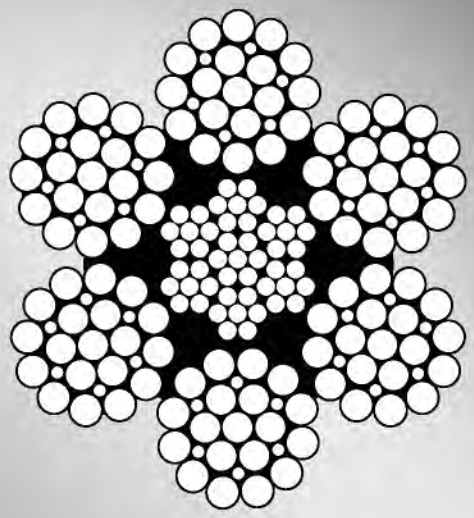
EN 12385-4 DIN 3059							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
6	0.144	22.7		25.1		27.7	
7	0.196	30.9		34.2		37.7	
8	0.256	40.3		44.7		49.2	
9	0.324	51.0		56.5		62.3	
10	0.400	63.0		69.8		76.9	
11	0.484	76.2		84.4		93.0	
12	0.576	90.7		100		111	
13	0.676	106		118		130	
14	0.784	124		137		151	
15	0.900	142		157		173	
16	1,024	161		179		197	
17	1,156	182		202		222	
18	1,296	204		226		249	
19	1,444	227		252		278	
20	1,600	252		279		308	
21	1,764	278		308		339	
22	1,936	305		338		372	
23	2,116	333		369		407	
24	2,304	363		402		443	
25	2,500	394		436		481	
26	2,704	426		472		520	
27	2,916	459		509		561	
28	3,136	494		547		603	
29	3,364	530		587		647	
30	3,600	567		628		692	
31	3,844	606		671		739	
32	4,096	645		715		787	
33	4,356	686		760		837	
34	4,624	728		807		889	
35	4,900	772		855		942	
36	5,184	817		904		997	
37	5,476	863		955		1053	
38	5,776	910		1008		1110	
39	6,084	958		1061		1170	
40	6,400	1008		1116		1230	



STEEL WIRE ROPES

6X19F=6X(1+6+6f+12) FC

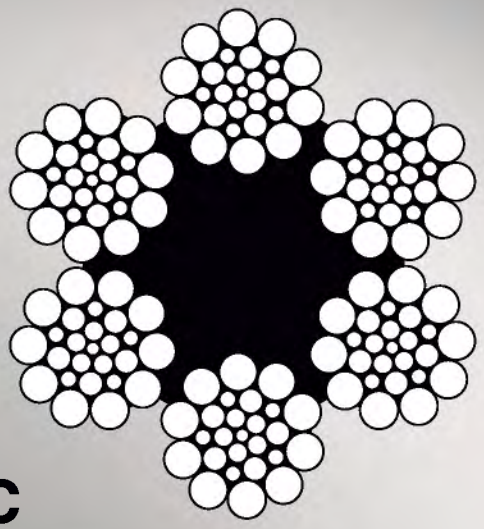
EN 12385-4 DIN 3057							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
8	0.230	37.4		41.4		45.6	
9	0.291	47.3		52.4		57.7	
10	0.359	58.4		64.7		71.3	
11	0.434	70.7		78.3		86.2	
12	0.517	84.1		93.1		103	
13	0.607	98.7		109		120	
14	0.704	114		127		140	
15	0.808	131		146		160	
16	0.919	150		166		182	
17	1.038	169		187		206	
18	1.163	189		210		231	
19	1.296	211		233		257	
20	1.436	234		259		285	
21	1.583	258		285		314	
22	1.738	283		313		345	
23	1.899	309		342		377	
24	2.068	336		373		411	
25	2.244	365		404		446	
26	2.427	395		437		482	
27	2.617	426		472		520	
28	2.815	458		507		559	
29	3.019	491		544		599	
30	3.231	526		582		642	
31	3.450	561		622		685	
32	3.676	598		662		730	
33	3.910	636		704		776	
34	4.150	675		748		824	
35	4.398	716		792		873	
36	4.653	757		838		924	
37	4.915	800		885		976	
38	5.184	843		934		1029	
39	5.460	888		984		1084	
40	5.744	935		1035		1140	



STEEL WIRE ROPES

6X19F=6X(1+6+6f+12) IWRC

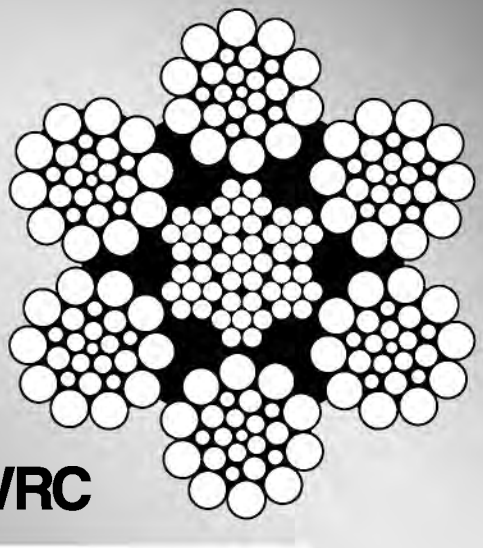
EN 12385-4 DIN 3057				
Rope Diameter mm	Unit Weight kg/m	Wire Tensile		
		1770 N/mm² 180 kg/mm²	1960 N/mm² 200 kg/mm²	2160 N/mm² 220 kg/mm²
		Minimum Breaking Load (MBL) kN		
8	0.256	40.3	44.7	49.2
9	0.324	51.0	56.5	62.3
10	0.400	63.0	69.8	76.9
11	0.484	76.2	84.4	93.0
12	0.576	90.7	100	111
13	0.676	106	118	130
14	0.784	124	137	151
15	0.900	142	157	173
16	1.024	161	179	197
17	1.156	182	202	222
18	1.296	204	226	249
19	1.444	227	252	278
20	1.600	252	279	308
21	1.764	278	308	339
22	1.936	305	338	372
23	2.116	333	369	407
24	2.304	363	402	443
25	2.500	394	436	481
26	2.704	426	472	520
27	2.916	459	509	561
28	3.136	494	547	603
29	3.364	530	587	647
30	3.600	567	628	692
31	3.844	606	671	739
32	4.096	645	715	787
33	4.356	686	760	837
34	4.624	728	807	889
35	4.900	772	855	942
36	5.184	817	904	997
37	5.476	863	955	1053
38	5.776	910	1008	1110
39	6.084	958	1061	1170
40	6.400	1008	1116	1230



STEEL WIRE ROPES

6X26WS=6X[1+5+(5+5)+10] FC

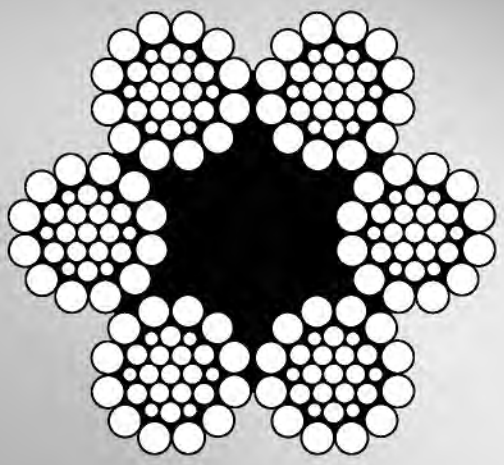
EN 12385-4							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
8	0.235	37.4		41.4		45.6	
9	0.297	47.3		52.4		57.7	
10	0.367	58.4		64.7		71.3	
11	0.444	70.7		78.3		86.2	
12	0.528	84.1		93.1		103	
13	0.620	98.7		109		120	
14	0.719	114		127		140	
15	0.826	131		146		160	
16	0.940	150		166		182	
17	1.061	169		187		206	
18	1.189	189		210		231	
19	1.325	211		233		257	
20	1.468	234		259		285	
21	1.618	258		285		314	
22	1.776	283		313		345	
23	1.941	309		342		377	
24	2.114	336		373		411	
25	2.294	365		404		446	
26	2.481	395		437		482	
27	2.675	426		472		520	
28	2.877	458		507		559	
29	3.086	491		544		599	
30	3.303	526		582		642	
31	3.527	561		622		685	
32	3.758	598		662		730	
33	3.997	636		704		776	
34	4.243	675		748		824	
35	4.496	716		792		873	
36	4.756	757		838		924	
37	5.024	800		885		976	
38	5.299	843		934		1029	
39	5.582	888		984		1084	
40	5.872	935		1035		1140	



STEEL WIRE ROPES

6X26WS=6X[1+5+(5+5)+10] IWRC

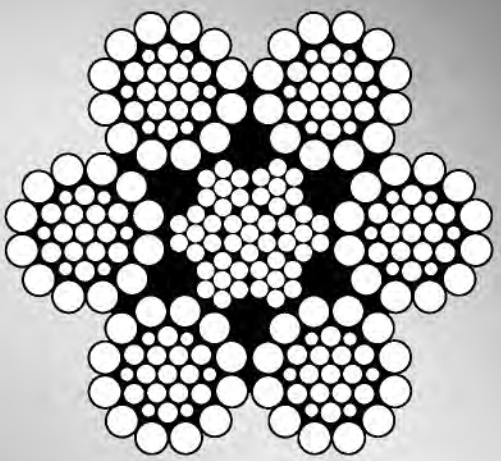
EN 12385-4							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
8	0.262	40.3		44.7		49.2	
9	0.331	51.0		56.5		62.3	
10	0.409	63.0		69.8		76.9	
11	0.495	76.2		84.4		93.0	
12	0.589	90.7		100		111	
13	0.691	106		118		130	
14	0.802	124		137		151	
15	0.920	142		157		173	
16	1.047	161		179		197	
17	1.182	182		202		222	
18	1.325	204		226		249	
19	1.476	227		252		278	
20	1.636	252		279		308	
21	1.804	278		308		339	
22	1.980	305		338		372	
23	2.164	333		369		407	
24	2.356	363		402		443	
25	2.556	394		436		481	
26	2.765	426		472		520	
27	2.982	459		509		561	
28	3.207	494		547		603	
29	3.440	530		587		647	
30	3.681	567		628		692	
31	3.930	606		671		739	
32	4.188	645		715		787	
33	4.454	686		760		837	
34	4.728	728		807		889	
35	5.010	772		855		942	
36	5.301	817		904		997	
37	5.599	863		955		1053	
38	5.906	910		1008		1110	
39	6.221	958		1061		1170	
40	6.544	1008		1116		1230	



STEEL WIRE ROPES

6X31WS=6X[1+6+(6+6)+12] FC

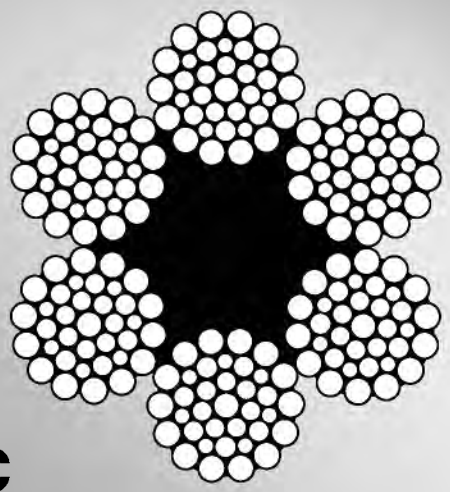
EN 12385-4							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
10	0.367	58.4		64.7		71.3	
11	0.444	70.7		78.3		86.2	
12	0.528	84.1		93.1		103	
13	0.620	98.7		109		120	
14	0.719	114		127		140	
15	0.826	131		146		160	
16	0.940	150		166		182	
17	1.061	169		187		206	
18	1.189	189		210		231	
19	1.325	211		233		257	
20	1.468	234		259		285	
21	1.618	258		285		314	
22	1.776	283		313		345	
23	1.941	309		342		377	
24	2.114	336		373		411	
25	2.294	365		404		446	
26	2.481	395		437		482	
27	2.675	426		472		520	
28	2.877	458		507		559	
29	3.086	491		544		599	
30	3.303	526		582		642	
31	3.527	561		622		685	
32	3.758	598		662		730	
33	3.997	636		704		776	
34	4.243	675		748		824	
35	4.496	716		792		873	
36	4.756	757		838		924	
37	5.024	800		885		976	
38	5.299	843		934		1029	
39	5.582	888		984		1084	
40	5.872	935		1035		1140	



STEEL WIRE ROPES

6X31WS=6X[1+6+(6+6)+12] IWRC

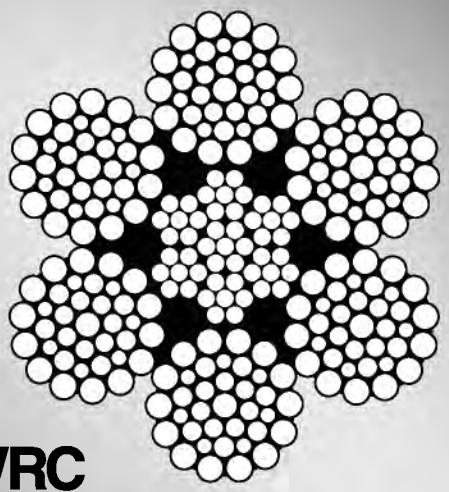
EN 12385-4							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
10	0.409	63.0		69.8		76.9	
11	0.495	76.2		84.4		93.0	
12	0.589	90.7		100		111	
13	0.691	106		118		130	
14	0.802	124		137		151	
15	0.920	142		157		173	
16	1.047	161		179		197	
17	1.182	182		202		222	
18	1.325	204		226		249	
19	1.476	227		252		278	
20	1.636	252		279		308	
21	1.804	278		308		339	
22	1.980	305		338		372	
23	2.164	333		369		407	
24	2.356	363		402		443	
25	2.556	394		436		481	
26	2.765	426		472		520	
27	2.982	459		509		561	
28	3.207	494		547		603	
29	3.440	530		587		647	
30	3.681	567		628		692	
31	3.930	606		671		739	
32	4.188	645		715		787	
33	4.454	686		760		837	
34	4.728	728		807		889	
35	5.010	772		855		942	
36	5.301	817		904		997	
37	5.599	863		955		1053	
38	5.906	910		1008		1110	
39	6.221	958		1061		1170	
40	6.544	1008		1116		1230	



STEEL WIRE ROPES

6X36WS=6X[1+7+(7+7)+14] FC

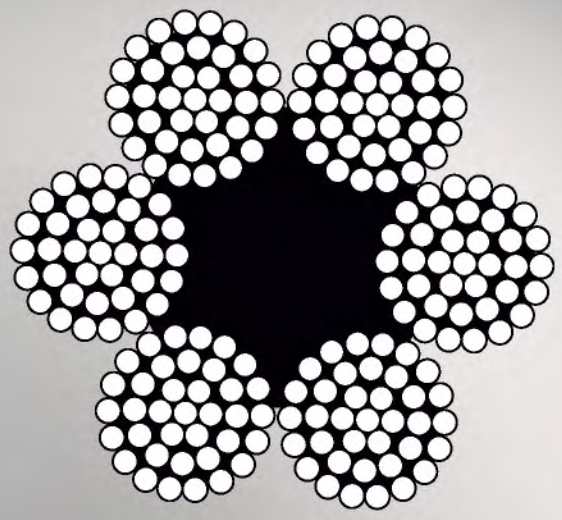
EN 12385-4 DIN 3064							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
10	0.367	58.4		64.7		71.3	
11	0.444	70.7		78.3		86.2	
12	0.528	84.1		93.1		103	
13	0.620	98.7		109		120	
14	0.719	114		127		140	
15	0.826	131		146		160	
16	0.940	150		166		182	
17	1.061	169		187		206	
18	1.189	189		210		231	
19	1.325	211		233		257	
20	1.468	234		259		285	
21	1.618	258		285		314	
22	1.776	283		313		345	
23	1.941	309		342		377	
24	2.114	336		373		411	
25	2.294	365		404		446	
26	2.481	395		437		482	
27	2.675	426		472		520	
28	2.877	458		507		559	
29	3.086	491		544		599	
30	3.303	526		582		642	
31	3.527	561		622		685	
32	3.758	598		662		730	
33	3.997	636		704		776	
34	4.243	675		748		824	
35	4.496	716		792		873	
36	4.756	757		838		924	
37	5.024	800		885		976	
38	5.299	843		934		1029	
39	5.582	888		984		1084	
40	5.872	935		1035		1140	



STEEL WIRE ROPES

6X36WS=6X[1+7+(7+7)+14] IWRC

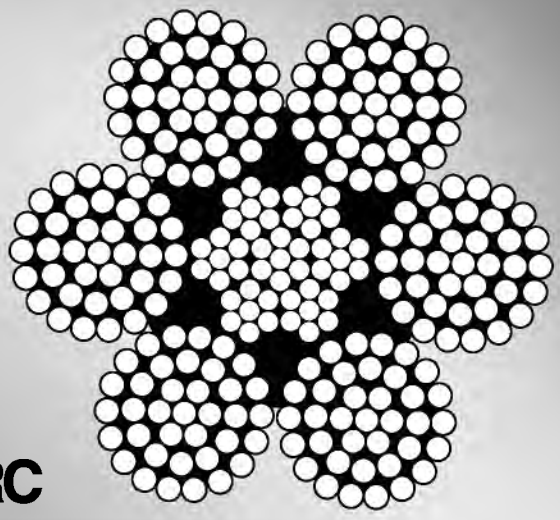
EN 12385-4 DIN 3064							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
10	0.409	63.0		69.8		76.9	
11	0.495	76.2		84.4		93.0	
12	0.589	90.7		100		111	
13	0.691	106		118		130	
14	0.802	124		137		151	
15	0.920	142		157		173	
16	1.047	161		179		197	
17	1.182	182		202		222	
18	1.325	204		226		249	
19	1.476	227		252		278	
20	1.636	252		279		308	
21	1.804	278		308		339	
22	1.980	305		338		372	
23	2.164	333		369		407	
24	2.356	363		402		443	
25	2.556	394		436		481	
26	2.765	426		472		520	
27	2.982	459		509		561	
28	3.207	494		547		603	
29	3.440	530		587		647	
30	3.681	567		628		692	
31	3.930	606		671		739	
32	4.188	645		715		787	
33	4.454	686		760		837	
34	4.728	728		807		889	
35	5.010	772		855		942	
36	5.301	817		904		997	
37	5.599	863		955		1053	
38	5.906	910		1008		1110	
39	6.221	958		1061		1170	
40	6.544	1008		1116		1230	



STEEL WIRE ROPES

6X37M=6X(1+6+12+18) FC

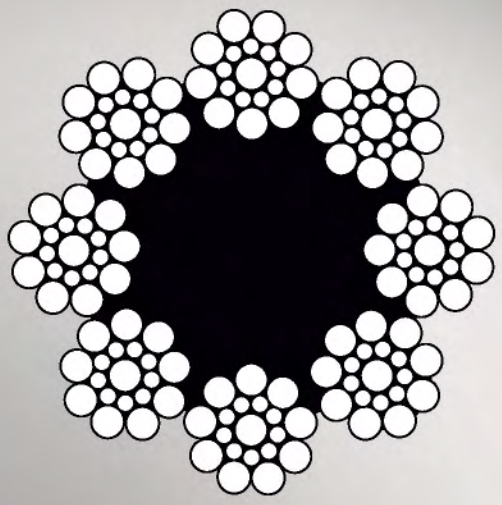
EN 12385-4 DIN 3066							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
10	0.346	52.2		57.8		63.7	
11	0.419	63.2		70.0		77.1	
12	0.498	75.2		83.3		91.8	
13	0.585	88.2		97.7		108	
14	0.678	102		113		125	
15	0.779	117		130		143	
16	0.886	134		148		163	
17	1.000	151		167		184	
18	1.121	169		187		206	
19	1.249	189		209		230	
20	1.384	209		231		255	
21	1.526	230		255		281	
22	1.675	253		280		308	
23	1.830	276		306		337	
24	1.993	301		333		367	
25	2.163	326		361		398	
26	2.339	353		391		431	
27	2.522	381		422		465	
28	2.713	409		453		500	
29	2.910	439		486		536	
30	3.114	470		520		573	
31	3.325	502		556		612	
32	3.543	535		592		652	
33	3.768	569		630		694	
34	4.000	604		668		737	
35	4.239	640		708		781	
36	4.484	677		749		826	
37	4.737	715		792		872	
38	4.996	754		835		920	
39	5.263	794		879		969	
40	5.536	835		925		1020	



STEEL WIRE ROPES

6X37M=6X(1+6+12+18) IWRC

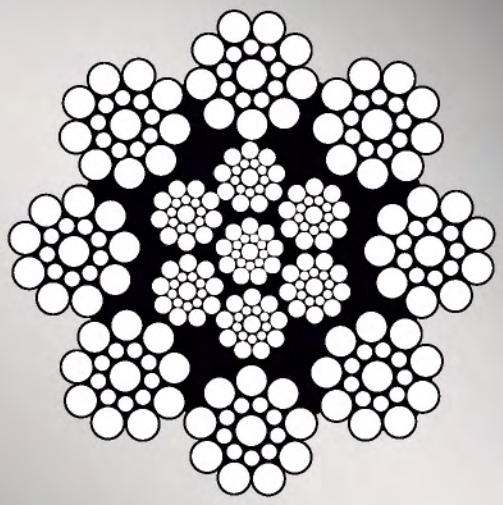
EN 12385-4 DIN 3066							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
10	0.381	61.2		67.8		74.7	
11	0.461	74.1		82.1		90.4	
12	0.549	88.2		97.7		108	
13	0.644	103		115		126	
14	0.747	120		133		146	
15	0.857	138		153		168	
16	0.975	157		174		191	
17	1.101	177		196		216	
18	1.234	198		220		242	
19	1.375	221		245		270	
20	1.524	245		271		299	
21	1.680	270		299		330	
22	1.844	296		328		362	
23	2.015	324		359		395	
24	2.195	353		391		430	
25	2.381	383		424		467	
26	2.576	414		458		505	
27	2.777	446		494		545	
28	2.987	480		532		586	
29	3.204	515		570		629	
30	3.429	551		610		673	
31	3.661	589		652		718	
32	3.901	627		694		765	
33	4.149	667		739		814	
34	4.404	708		784		864	
35	4.667	750		831		916	
36	4.938	794		879		969	
37	5.216	838		928		1023	
38	5.502	884		979		1079	
39	5.795	931		1031		1137	
40	6.096	980		1085		1196	



STEEL WIRE ROPES

8X19S=8X(1+9+9) FC

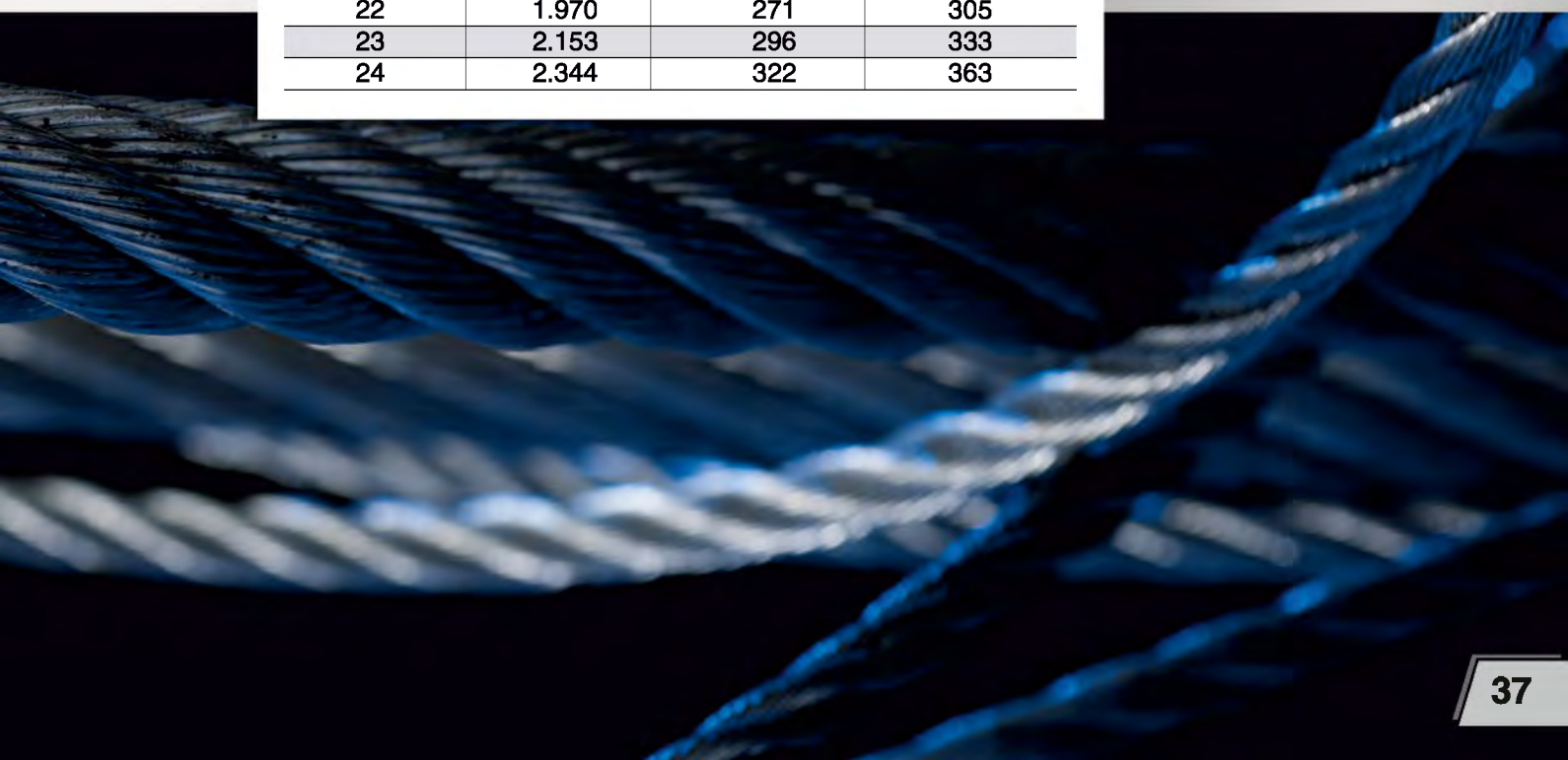
EN 12385-5 DIN 3062					
Rope Diameter mm	Unit Weight kg/m	Wire Tensile			
		1570 N/mm²	160 kg/mm²	1770 N/mm²	180 kg/mm²
		Minimum Breaking Load (MBL) kN			
6	0.123	16.6		18.7	
7	0.167	22.5		25.4	
8	0.218	29.4		33.2	
9	0.275	37.3		42.0	
10	0.340	46.0		51.9	
11	0.411	55.7		62.8	
12	0.490	66.2		74.7	
13	0.575	77.7		87.6	
14	0.666	90.2		102	
15	0.765	104		117	
16	0.870	118		134	
17	0.983	133		150	
18	1.102	149		168	
19	1.227	166		187	
20	1.360	184		207	
21	1.499	203		229	
22	1.646	223		251	
23	1.799	243		274	
24	1.958	265		299	

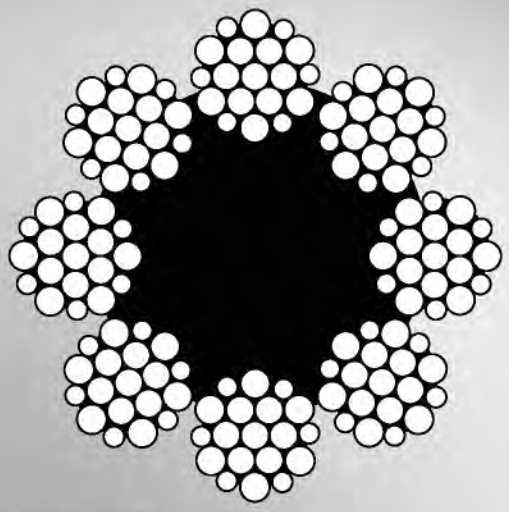


STEEL WIRE ROPES

8X19S=8X(1+9+9) IWRC

EN 12385-5 DIN 3062			
Rope Diameter mm	Unit Weight kg/m	Wire Tensile	
		1570 N/mm² / 160 kg/mm²	1770 N/mm² / 180 kg/mm²
		Minimum Breaking Load (MBL) kN	
6	0.146	20.1	22.7
7	0.199	27.4	30.9
8	0.260	35.8	40.3
9	0.330	45.3	51.0
10	0.407	55.9	63.0
11	0.492	67.6	76.2
12	0.586	80.5	90.7
13	0.688	94.5	106
14	0.798	110	124
15	0.916	126	142
16	1.042	143	161
17	1.176	162	182
18	1.319	181	204
19	1.469	202	227
20	1.628	224	252
21	1.795	246	278
22	1.970	271	305
23	2.153	296	333
24	2.344	322	363

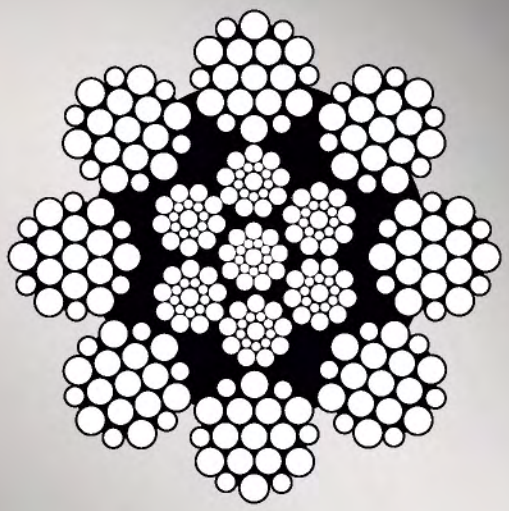




STEEL WIRE ROPES

8X19W=8X[1+6+(6+6)] FC

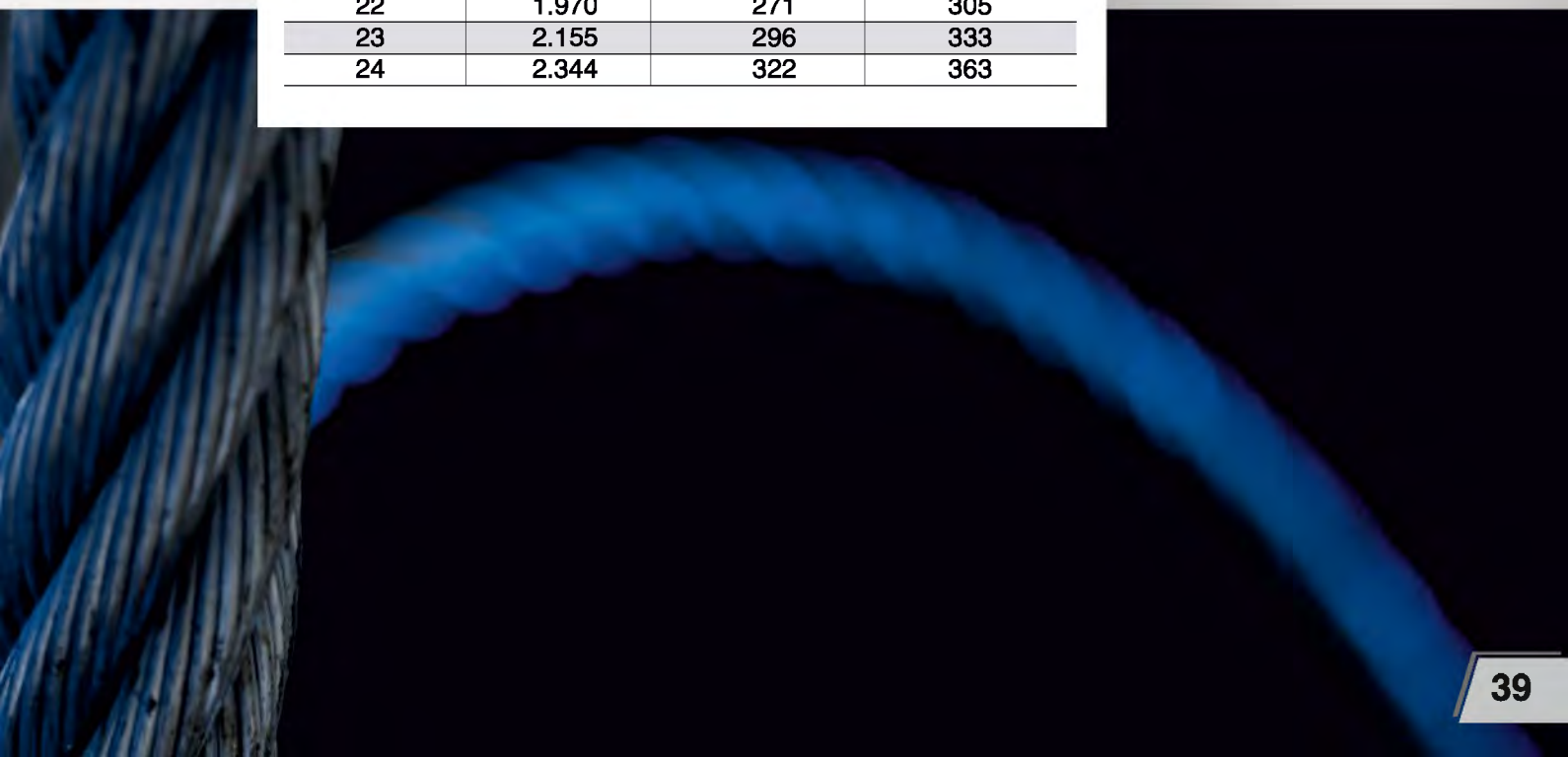
EN 12385-5 DIN 3063					
Rope Diameter mm	Unit Weight kg/m	Wire Tensile			
		1570 N/mm²	160 kg/mm²	1770 N/mm²	180 kg/mm²
		Minimum Breaking Load (MBL) kN			
6	0.123	16.6		18.7	
7	0.167	22.5		25.4	
8	0.218	29.4		33.2	
9	0.275	37.3		42.0	
10	0.340	46.0		51.9	
11	0.411	55.7		62.8	
12	0.490	66.2		74.7	
13	0.575	77.7		87.6	
14	0.666	90.2		102	
15	0.765	104		117	
16	0.870	118		133	
17	0.983	133		150	
18	1.102	149		168	
19	1.227	166		187	
20	1.360	184		207	
21	1.499	203		229	
22	1.646	223		251	
23	1.799	243		274	
24	1.958	265		299	

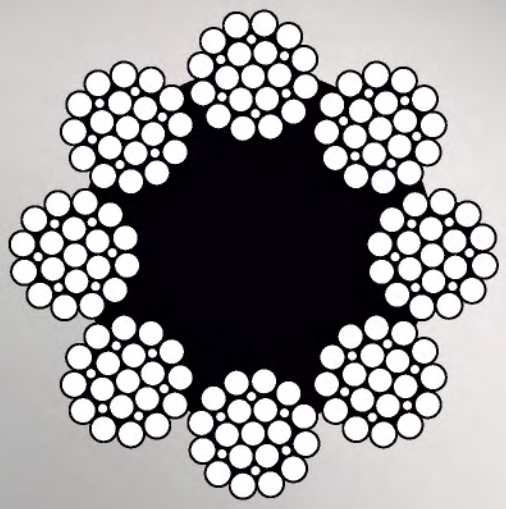


STEEL WIRE ROPES

8X19W=8X[1+6+(6+6)] IWRC

EN 12385-5 DIN 3063					
Rope Diameter mm	Unit Weight kg/m	Wire Tensile			
		1570 N/mm²	160 kg/mm²	1770 N/mm²	180 kg/mm²
		Minimum Breaking Load (MBL) kN			
6	0.146	20.1		22.7	
7	0.199	27.4		30.9	
8	0.260	35.8		40.3	
9	0.330	45.3		51.0	
10	0.407	55.9		63.0	
11	0.492	67.6		76.2	
12	0.586	80.5		90.7	
13	0.688	94.5		106	
14	0.798	110		124	
15	0.916	126		142	
16	1.042	143		161	
17	1.176	162		182	
18	1.319	181		204	
19	1.469	202		227	
20	1.628	224		252	
21	1.795	246		278	
22	1.970	271		305	
23	2.155	296		333	
24	2.344	322		363	

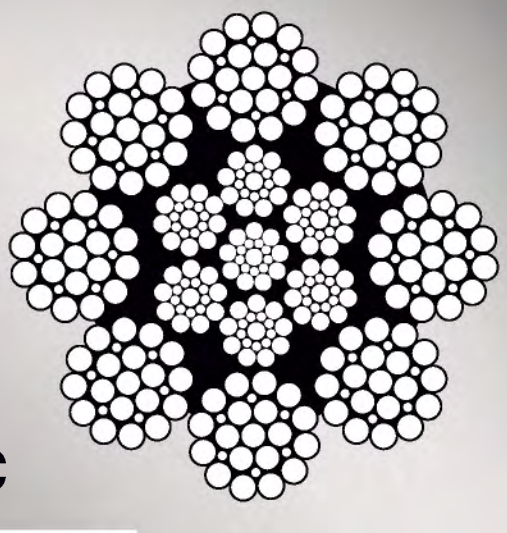




STEEL WIRE ROPES

8X19F=8X(1+6+6F+12) FC

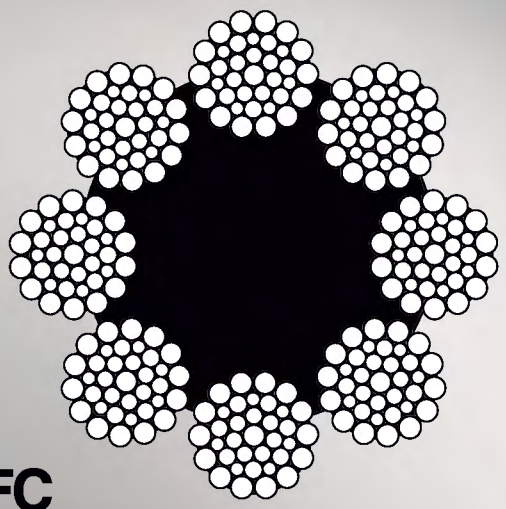
EN 12385-5 DIN 3061					
Rope Diameter mm	Unit Weight kg/m	Wire Tensile			
		1570 N/mm²	160 kg/mm²	1770 N/mm²	180 kg/mm²
		Minimum Breaking Load (MBL) kN			
8	0.218	29.4		33.2	
9	0.275	37.3		42.0	
10	0.340	46.0		51.9	
11	0.411	55.7		62.8	
12	0.490	66.2		74.7	
13	0.575	77.7		87.6	
14	0.666	90.2		102	
15	0.765	104		117	
16	0.870	118		134	
17	0.983	133		150	
18	1.102	149		168	
19	1.227	166		187	
20	1.360	184		207	
21	1.499	203		229	
22	1.646	223		251	
23	1.799	243		274	
24	1.958	265		299	



STEEL WIRE ROPES

8X19F=8X(1+6+6F+12) IWRC

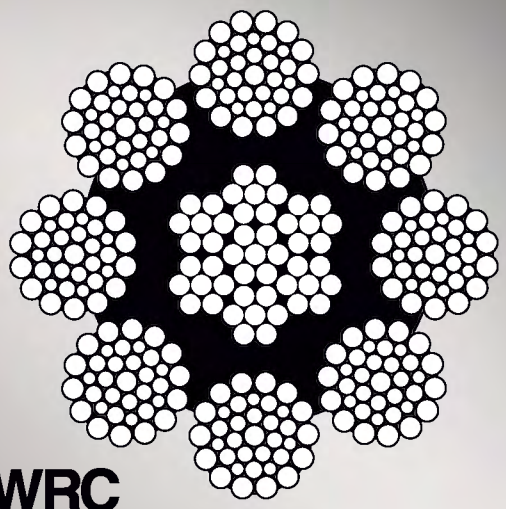
EN 12385-5 DIN 3061					
Rope Diameter mm	Unit Weight kg/m	Wire Tensile			
		1570 N/mm²	160 kg/mm²	1770 N/mm²	180 kg/mm²
		Minimum Breaking Load (MBL) kN			
8	0.260	35.8		40.3	
9	0.330	45.3		51.0	
10	0.407	55.9		63.0	
11	0.492	67.6		76.2	
12	0.586	80.5		90.7	
13	0.688	94.5		106	
14	0.798	110		124	
15	0.916	126		142	
16	1.042	143		161	
17	1.176	162		182	
18	1.319	181		204	
19	1.469	202		227	
20	1.628	224		252	
21	1.795	246		278	
22	1.970	271		305	
23	2.153	296		333	
24	2.344	322		363	



STEEL WIRE ROPES

8X36WS=8X[1+7+(7+7)+14] FC

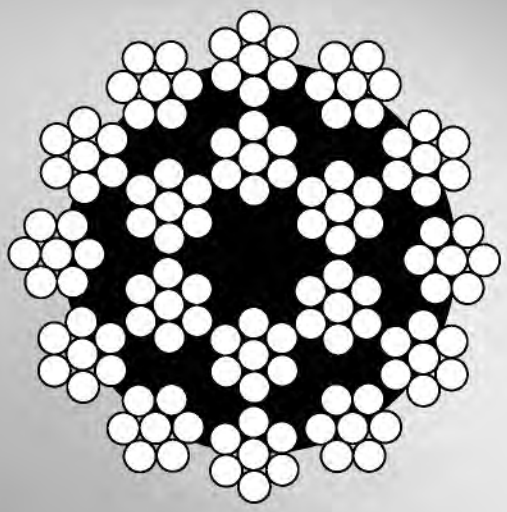
EN 12385-4 DIN 3067				
Rope Diameter mm	Unit Weight kg/m	Wire Tensile		
		1770 N/mm² 180 kg/mm²	1960 N/mm² 200 kg/mm²	2160 N/mm² 220 kg/mm²
		Minimum Breaking Load (MBL) kN		
8	0.228	33.2	36.8	40.5
9	0.288	42.0	46.5	51.3
10	0.356	51.9	57.4	63.3
11	0.431	62.8	69.5	76.6
12	0.513	74.7	82.7	91.1
13	0.602	87.6	97.1	107
14	0.698	102	113	124
15	0.801	117	129	142
16	0.911	133	147	162
17	1.029	150	166	183
18	1.153	168	186	205
19	1.285	187	207	228
20	1.424	207	230	253
21	1.570	229	253	279
22	1.723	251	278	306
23	1.883	274	304	335
24	2.051	299	331	365



STEEL WIRE ROPES

8X36WS=8X[1+7+(7+7)+14] IWRC

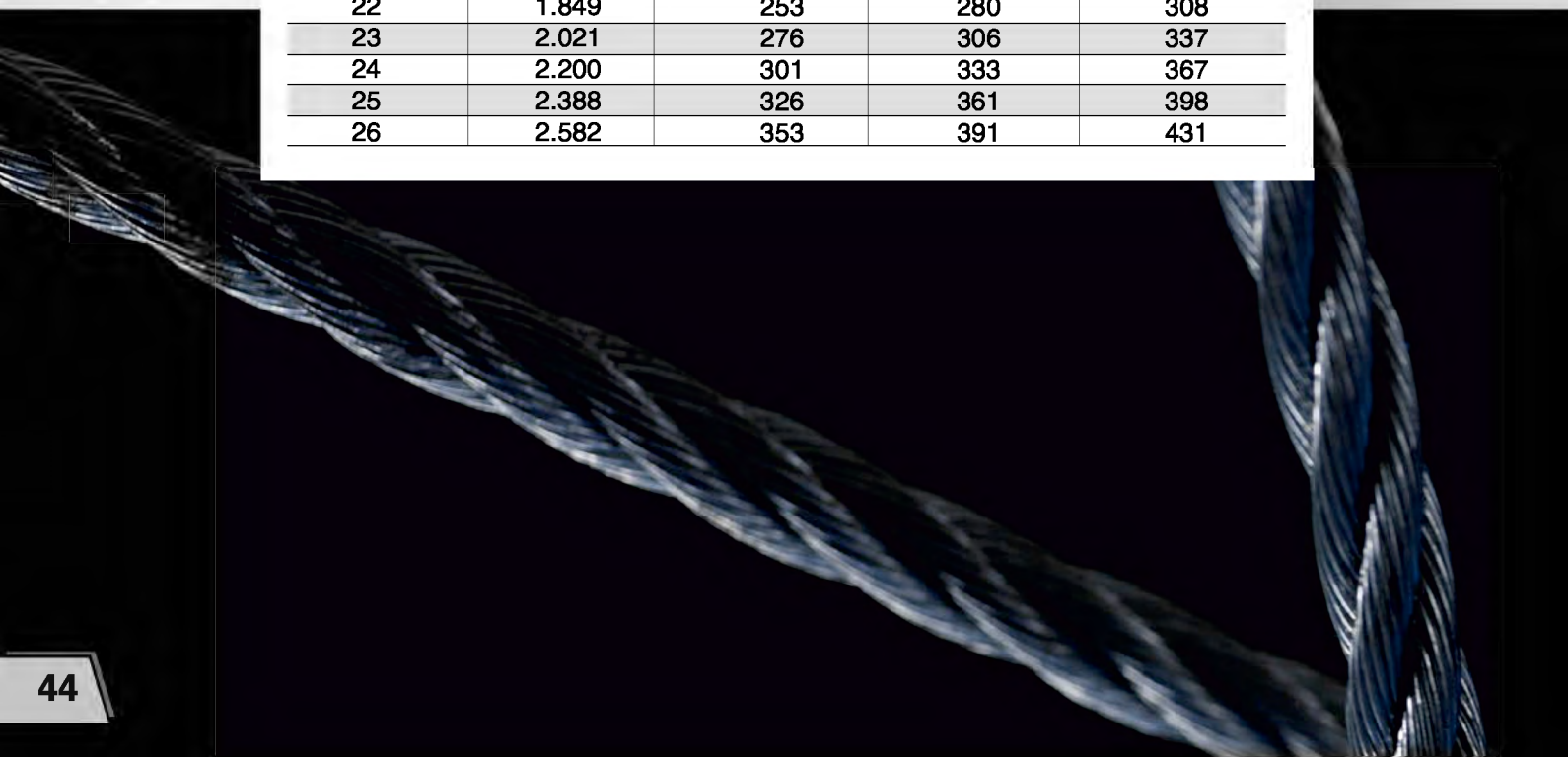
EN 12385-4 DIN 3067							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
8	0.278	40.3		44.7		49.2	
9	0.352	51.0		56.5		62.3	
10	0.435	63.0		69.8		76.9	
11	0.526	76.2		84.4		93	
12	0.626	90.7		100		111	
13	0.735	106		118		130	
14	0.853	124		137		151	
15	0.979	142		157		173	
16	1.114	161		179		197	
17	1.257	182		202		222	
18	1.409	204		226		249	
19	1.570	227		252		278	
20	1.740	252		279		308	
21	1.918	278		308		339	
22	2.105	305		338		372	
23	2.301	333		369		407	
24	2.506	363		402		443	

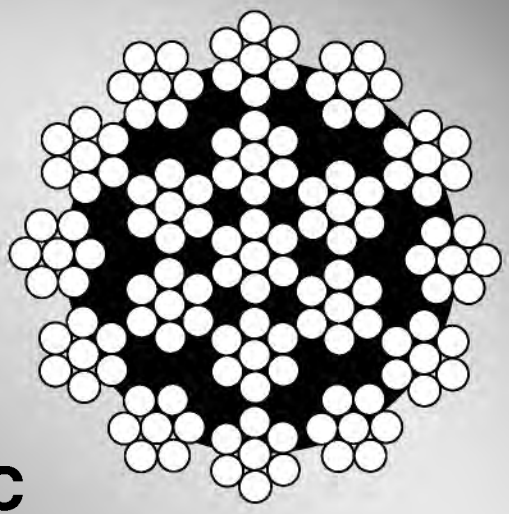


STEEL WIRE ROPES

18X7=6x(1+6)+12x(1+6) FC

EN 12385-4 DIN 3069							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
6	0.137	18.8		20.8		22.9	
7	0.187	25.6		28.3		31.2	
8	0.244	33.4		37.0		40.8	
9	0.309	42.3		46.8		51.6	
10	0.382	52.2		57.8		63.7	
11	0.462	63.2		70.0		77.1	
12	0.550	75.2		83.3		91.8	
13	0.646	88.2		97.7		108	
14	0.749	102		113		125	
15	0.860	118		130		143	
16	0.978	134		148		163	
17	1.104	151		167		184	
18	1.238	169		187		206	
19	1.379	189		209		230	
20	1.528	209		231		255	
21	1.685	230		255		281	
22	1.849	253		280		308	
23	2.021	276		306		337	
24	2.200	301		333		367	
25	2.388	326		361		398	
26	2.582	353		391		431	

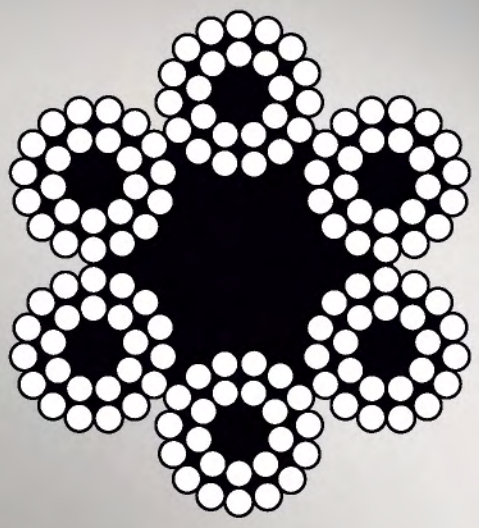




STEEL WIRE ROPES

18X7=6x(1+6)+12x(1+6) WSC

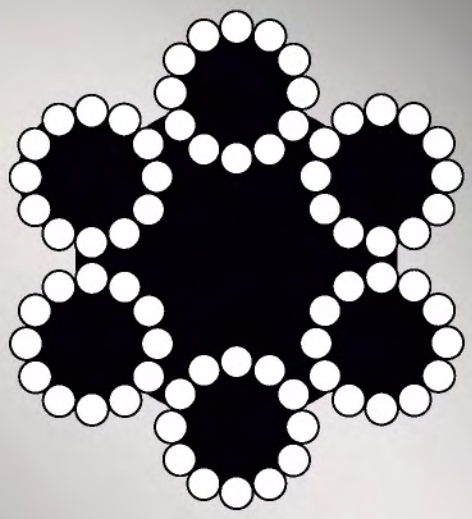
EN 12385-4 DIN 3069							
Rope Diameter mm	Unit Weight kg/m	Wire Tensile					
		1770 N/mm²	180 kg/mm²	1960 N/mm²	200 kg/mm²	2160 N/mm²	220 kg/mm²
		Minimum Breaking Load (MBL) kN					
6	0.145	20.9		23.1		25.5	
7	0.197	28.5		31.5		34.7	
8	0.257	37.2		41.1		45.3	
9	0.325	47.0		52.1		57.4	
10	0.401	58.1		64.3		70.8	
11	0.485	70.2		77.8		85.7	
12	0.577	83.6		92.6		102	
13	0.678	98.1		109		120	
14	0.786	114		126		139	
15	0.902	131		145		159	
16	1.027	149		165		181	
17	1.159	168		186		205	
18	1.299	188		208		230	
19	1.448	210		232		256	
20	1.604	232		257		283	
21	1.768	256		284		312	
22	1.941	281		311		343	
23	2.121	307		340		375	
24	2.310	334		370		408	
25	2.506	363		402		443	
26	2.711	392		435		479	



STEEL WIRE ROPES

6X24+7FC=6x(FC+9+15)

EN 12385-4 DIN 3068			
Rope Diameter mm	Unit Weight kg/m	Wire Tensile	
		1770 N/mm²	180 kg/mm²
		Minimum Breaking Load (MBL) kN	
10	0.318	49.6	
11	0.385	60.0	
12	0.458	71.4	
13	0.537	83.8	
14	0.623	97.1	
15	0.716	111	
16	0.814	127	
17	0.919	143	
18	1.030	160	
19	1.148	179	
20	1.272	198	
21	1.402	218	
22	1.539	240	
23	1.682	262	
24	1.832	285	
25	1.988	309	
26	2.150	335	
27	2.318	361	
28	2.493	389	
29	2.674	416	
30	2.862	446	



STEEL WIRE ROPES

6X12+7FC=6x(FC+12)

Rope Diameter mm	Unit Weight kg/m	Wire Tensile			
		1570 N/mm²	160 kg/mm²	1770 N/mm²	180 kg/mm²
		Minimum Breaking Load (MBL) kN			
6	0.090	11.3		12.7	
8	0.161	20.1		22.5	
10	0.251	32.7		36.8	
11	0.304	39.5		44.5	
12	0.361	47.0		53.0	
13	0.424	55.2		62.2	
14	0.492	64.0		72.2	
15	0.565	73.5		82.8	
16	0.643	83.6		94.2	
17	0.725	94.4		106	
18	0.813	106		119	
19	0.906	118		133	
20	1.004	131		147	
21	1.107	144		162	
22	1.215	158		178	
23	1.328	173		194	
24	1.446	188		212	
25	1.569	204		230	
26	1.697	221		249	
27	1.830	238		268	
28	1.968	256		288	
29	2.111	274		310	
30	2.259	294		331	

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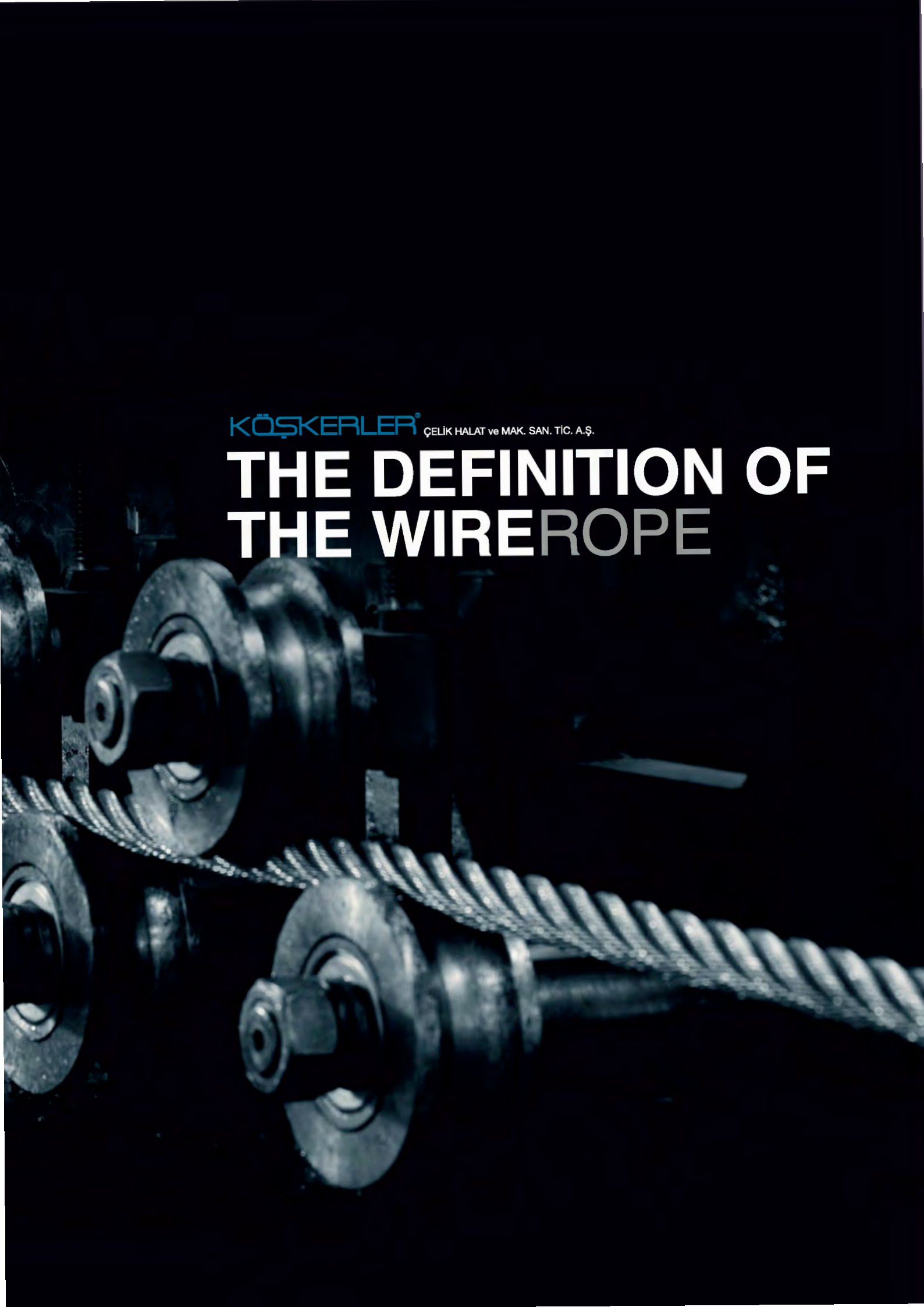
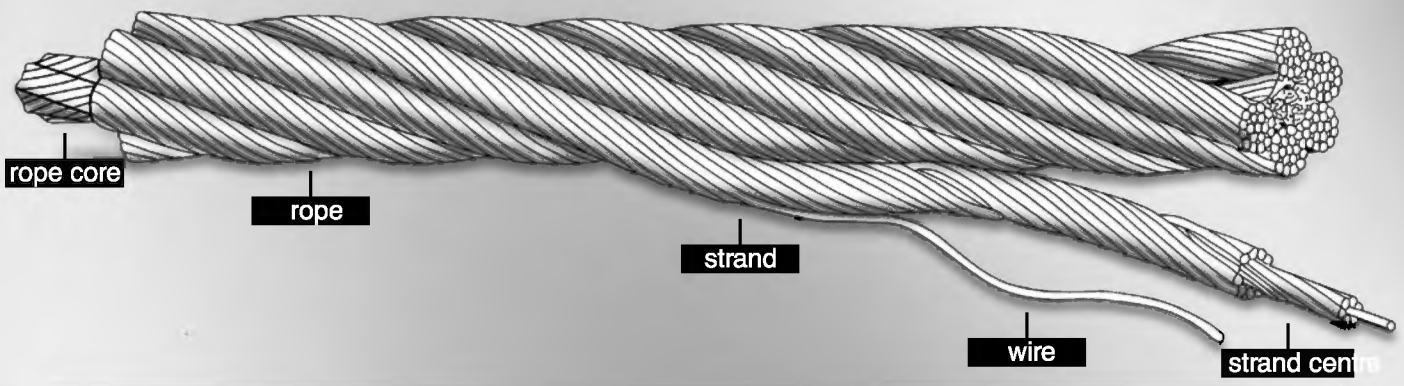
THE DEFINITION OF THE WIREROPE



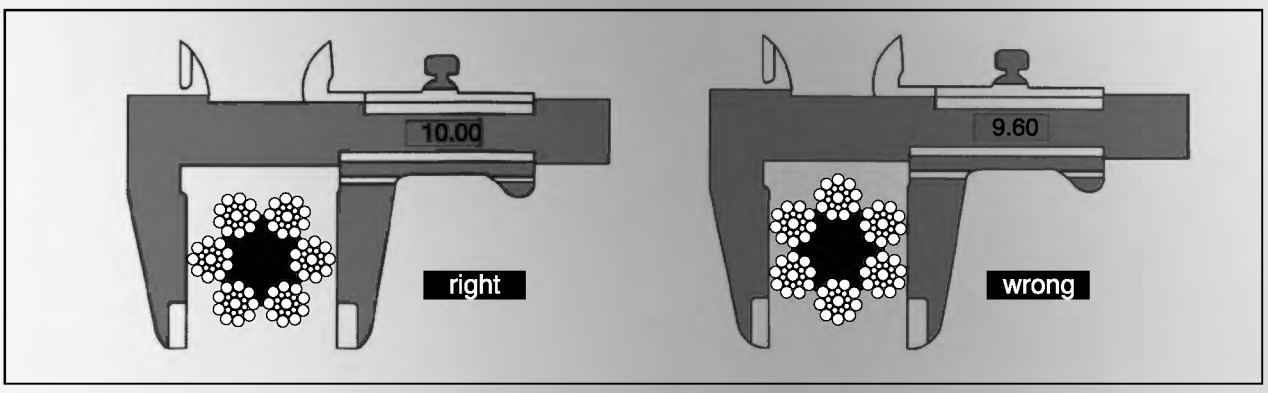
The Definition of The Wire Rope

The wire rope is made up of wrapping at least 4 strands around a core which is made p.p.c, steel or fiber. Every strands and steels wrapped like helix in a different construction.



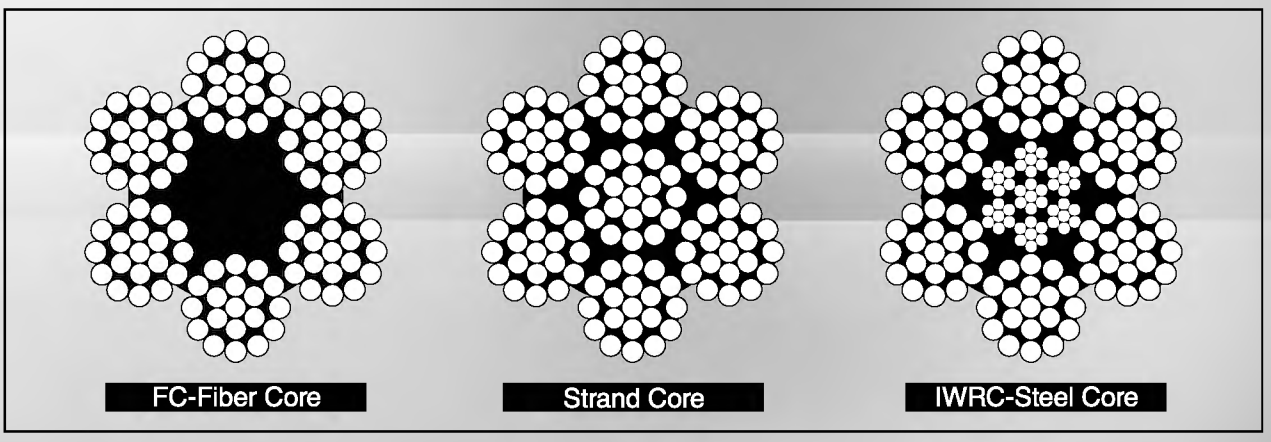
Measurement of the Diameter of Steel Wire Rope

The diameter of the steel wire rope encircles the outer wires and strands including the cross section. The measuring device must touch extreme outer wires of two strands.



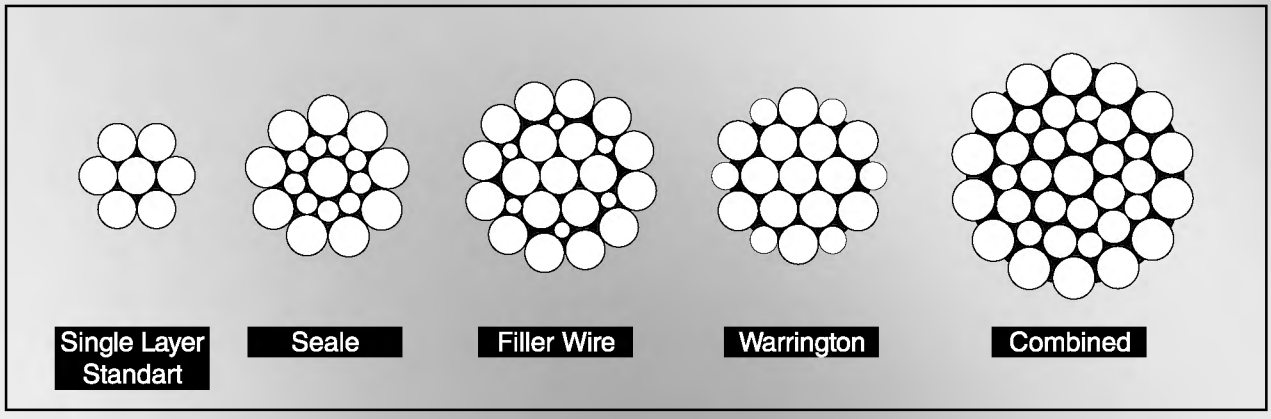
Wire Rope Core

Wire rope cores are divided into 3 different groups; fiber core (FC), strand core and steel core (IWRC).



Fundamental Constructions

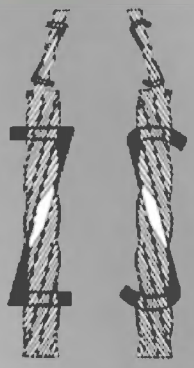
There are four different stranding constructions. Also some constructions can be formed by combining these ones.



Lay of Direction of Wire Ropes

Regular Lay Wire Rope

The direction of the wire lay in the strand is opposite to the direction of the lay in the rope. It is two kind; right regular lay "s/Z", and left regular lay "z/S".



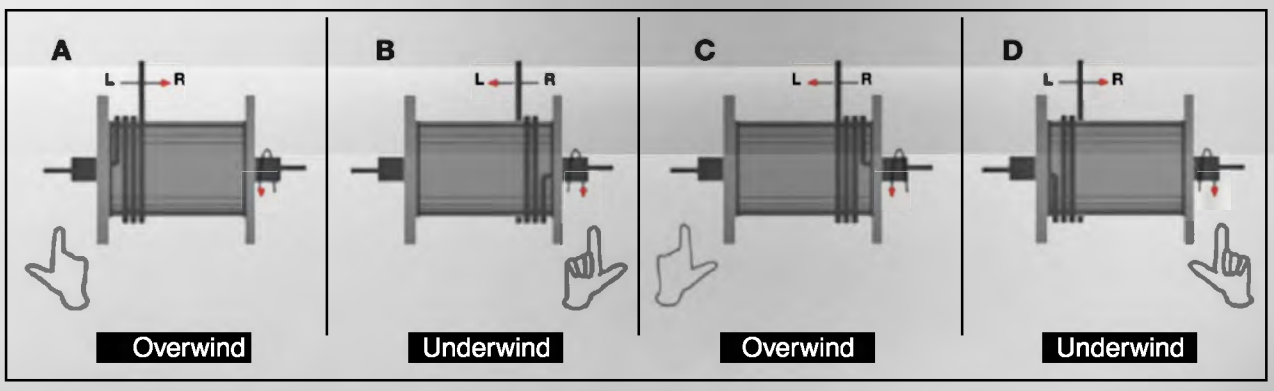
Land Lay Wire Rope

Both strand lay and rope lay are in the same direction. There are two types; right land lay "z/Z" and left lang lay "s/S".

Spooling/Anchorage of Rope on Drum

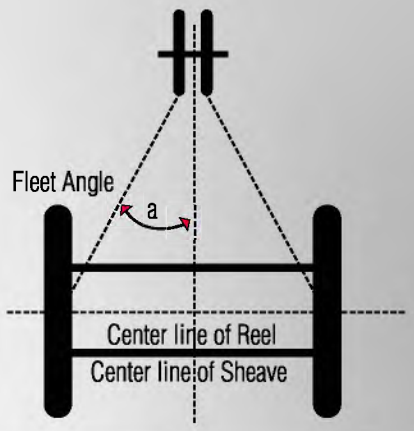
Wires are produced with no inner stress. Inappropriate spooling causes stress and decreases life time of the wire.

A. Right hand regular lay - Upper spooling should be right to left.
B. Right hand regular lay - Lower spooling should be left to right.
C. Left hand regular lay - Upper spooling should be right to left.
D. Left hand regular lay - Upper spooling should be left to right.



Fleet Angle

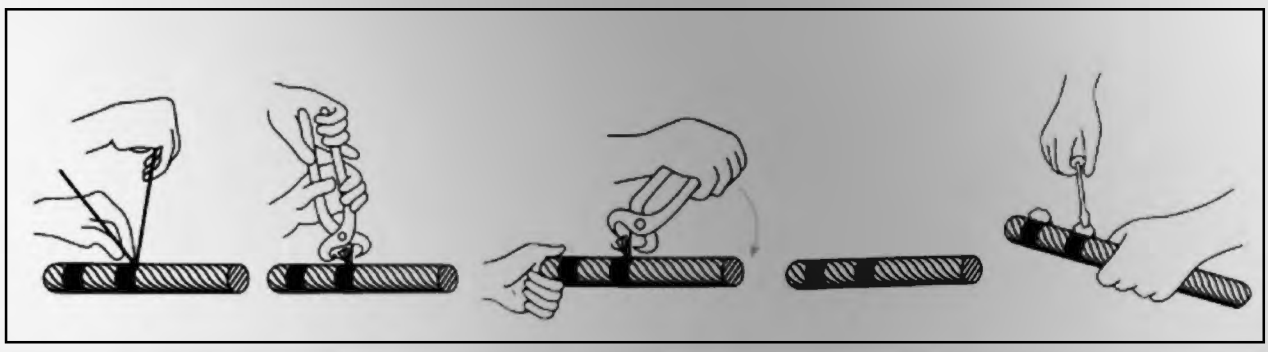
Fleet angle is the angle shown by the perpendicular line that goes from the center of the chase to the drum flange and the drum center. Categorized as left and right. The angle is expected to be in the recommended tolerance rates. Otherwise it affects the wire's service life. To increase the performance and service life of wire, fleet of angle should be 1,5 angle on flat drums, and should not be more than 2,5 angle on grooved drums.



Recommended Angle
Grooved Drum: $a \leq 2.5^0$
Flat Drum: $0.5^0 \leq a \leq 1.5^0$

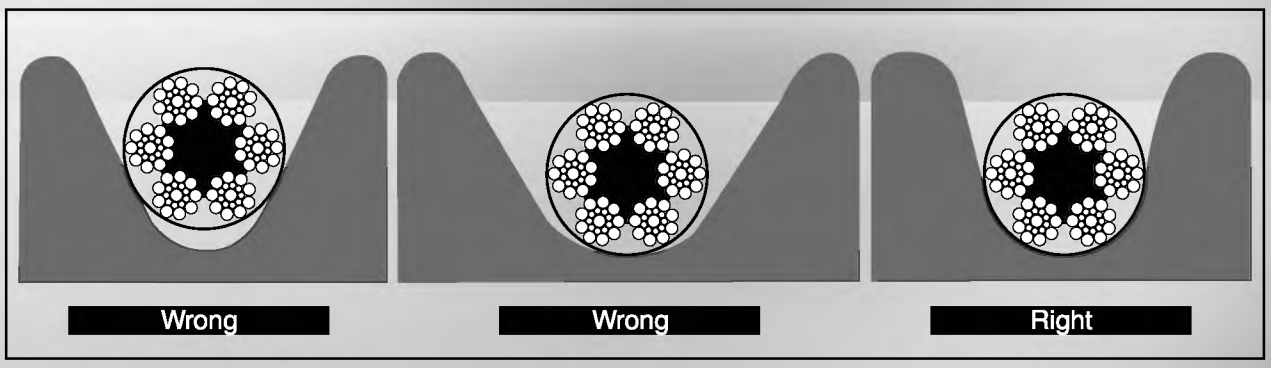
Rope Cutting Process

Before cutting ropes, both sides of rope should be wrapped with low carbon steel wire. After that, the process is applied respectively as seen in the figure.



Ideal Pulley Groove

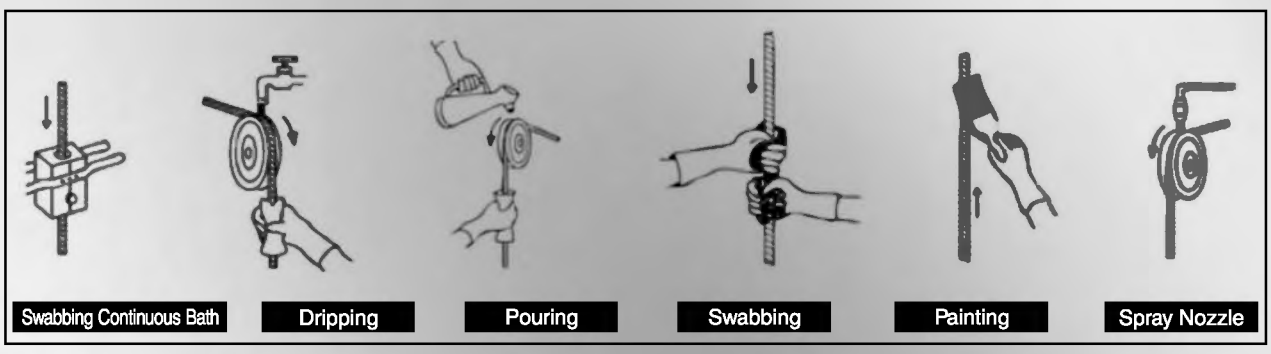
Greater contact area between the rope and the pulley reduces abrasion and enhances service life. The diameter of the groove is measured with diameter straightedge. If the wire rope tolerance of an open chase is considered 5%, the ideal chase Groove should be 5% greater than the minimum nominal diameter of the rope. The maximum groove tolerance is 5%. For proper use, the groove has to be in contact with 33% of the rope.



Lubricacation of Wire Ropes

Lubrication is a vital process for the performance and service life of wire ropes. Besides, it is also important to use the proper lubricant depending on the application area. Basic purposes of lubrication are to protect oxidization and to reduce friction between wires and strands. In stranding and roping process, all wires are lubricated. The type of lubrication may vary by usage of wire rope.

Lubrication which is made in the manufacturing process may not be enough for some application. Some of them requires lubrication again periodically. In the figure, there are shown some lubrication-in-use methods.



DIAMETER CONVERSION

in.	mm.	in.	mm.
5/32	3.97	15/16	23.8
3/16	4.76	1	25.4
7/32	5.56	1 1/16	27.0
1/4	6.35	1 1/8	28.6
5/16	7.94	1 3/16	30.2
3/8	9.53	1 1/4	31.8
7/16	11.1	1 3/8	34.9
1/2	12.7	1 1/2	38.1
9/16	14.3	15/16	41.3
5/8	15.9	1 3/4	44.5
11/16	17.5	1 7/8	47.6
3/4	19.0	2	50.8
13/18	20.6	2 1/8	54.0
7/8	22.2	2 1/4	57.2

UNIT CONVERSION TABLE

Length	1m	= 1000 mm	= 3,281ft	= 39,37 inch
Force	1kN	= 101,97kp	= 0,10197 MT-f	= 224lbs-f
Tensile Strength	1N/mm^2	= 0,10197 kp/mm^2	= 145,04 p.s.i.	= 10 bar
Cross Section	1 mm^2	= 0,00155 in^2		
Weight	1 metric t	= 1000 kg = 1,102 short t	= 0,9842 long t	= 2204,6 lbs
Weight per Length Unit	1 kg/m	= 0,672 lbs/ft		

HOW TO ORDER WIREROPES

To provide a better service, please indicate following technical information below when ordering steel wire rope. If you have any specific inquiry, please contact us.

1. **Construction of Rope**
2. **Type of Core**
3. **Type of Coating**
4. **Diameter of Rope**
5. **Direction of Lay**
6. **Type of Lubrication**
7. **Tensile Strength**
8. **Packing**
9. **Delivery Adress**

Example Order Form
1. 6x19 Standard
2. Fiber Core (FC)
3. Galvanized
4. 24.00 mm
5. RHOL (Right-Hand Regular Lay) (s/Z)
6. A-2
7. 180 Kg/mm^2
8. Wooden Drum
9. Çerkeşli Köyü OSB Mahallesi, İMES Bulvarı, No:20 Dilovası / Kocaeli / Turkey Evyap Port

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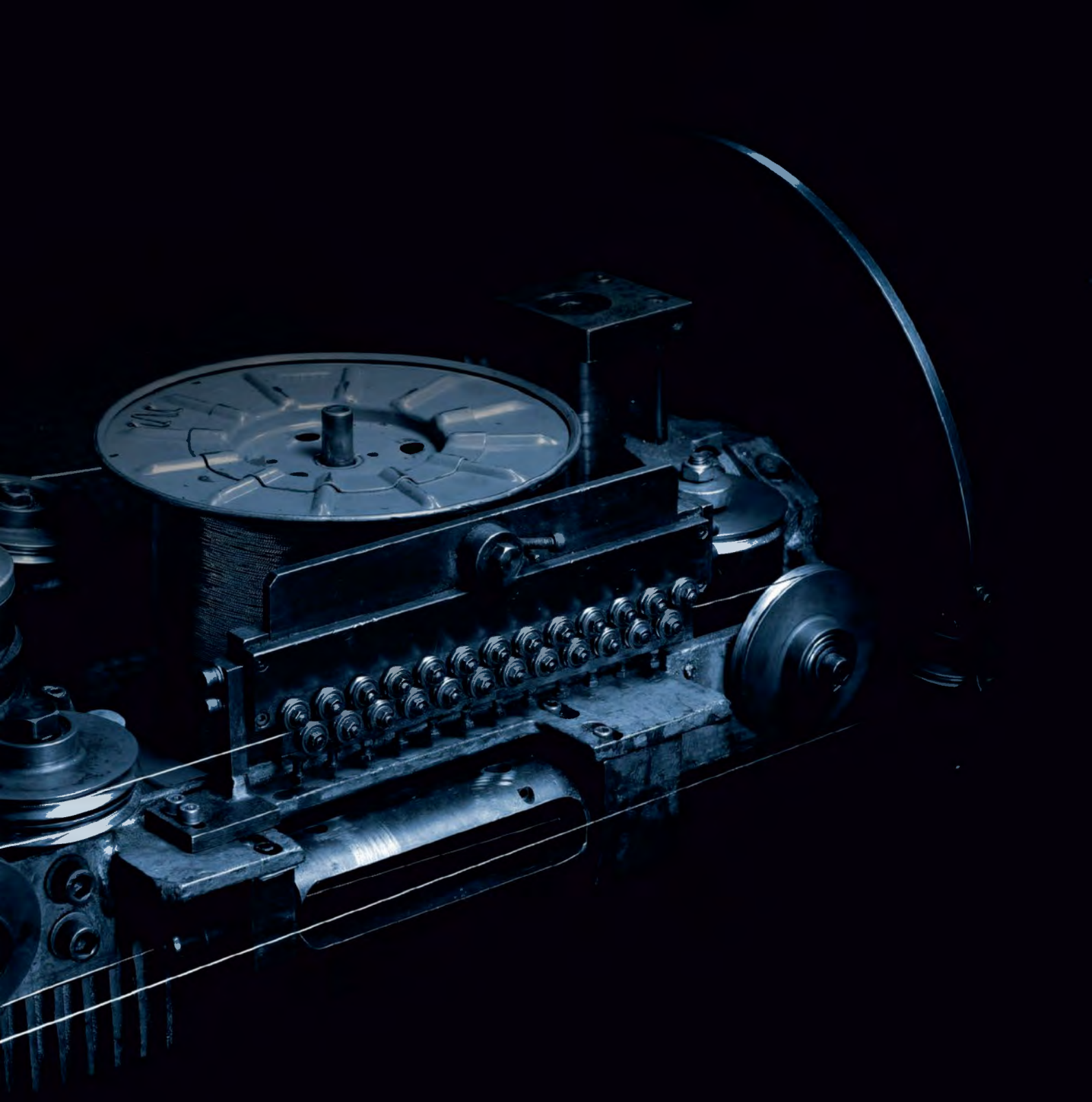
QUALITYCERTIFICATES



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