YOUNG HEUNG IRON & STEEL CO., LTD.

High Performance Crane Ropes

Youngwire

YOUNG HEUNG IRON & STEEL CO.,LTD.

is among the premier producers in the field of
steel wire products, striving always to beat industry standard.
The motto of our company has been HONESTY, ORIGINALITY and SERVICE since established in 1977.

As the leading supplier of innovative and dynamic wire rope, we, YOUNG HEUNG, taps extensive rationalization potential for commerce, industry and research.

What YOUNG HEUNG Wire Ropes offers to its customers are not only high-quality wire ropes, but also a excellent service capable of solving various lifting devices in the fields.

Our special wire ropes are developed at our factory in the accumulated technical know-how, approved on high durability and high breaking strength in various testing facilities.
Due to our continuous research and development, it would be useful in your appropriate application.

The concept of our special rope is to provide excellent high quality special wire ropes for multi-application to the world market.
There are certain unique jobs that require a special type of rope.

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Contents

Rotation Resistant Rope - category1

Rotation Resistant Rope - category2

Semi Rotation Resistant Rope

Non-Rotation Resistant Rope

Rope Selection[1] by Rope Function

Rope construction details	Rope category	*Category 1* – Rotation Resistant Rope			*Category 2*– Rotation Resistant Rope			Semi-Rotation Resistant Rope	Non-Rotation Resistant Rope				
Crane type	Crane Rope Function	DURA*hoist* 35	DURA*hoist* 34C	DURA*hoist* 34SP	DURA*hoist* 24C	DURA*hoist* 21SP	DURA*hoist* 19C	DURA*hoist* 4CS	DURA*plus* 8CP	DURA*plus* 8P	DURA*plus* 8SP	DURA*plus* 6SP	DURA*uniq* 8C
Crane Drum Type	Single layer drums	○	○		○		○	○	○	○			
	Multi–layer drums	NO	○	○	○	○	○	○	○	NO	○	○	
Truck mounted Crane	Load Hoist	○	○		○[2]		○[2]						
Mobile Crane	Load Hoist	○	○					○					
	Auxiliary Load Hoist	○	○										
	Main Boom Hoist								○		○[5]	○[5]	
	Boom Pendants								○				○
Crawler Crane	Load Hoist	○	○					○					
	Auxiliary Load Hoist	○	○										
	Main Boom Hoist								○		○[5]	○[5]	
	Boom Pendants								○				○
Tower Crane– top slewing	Load Hoist	○	○		○[2]	○[2,5]	○[2]						
	Trolley Hoist								○	○			
	Boom Pendants								○				○
Fast–Erecting Crane – bottom slewing	Load Hoist	○	○		○[2]		○[2]						
	Trolley Hoist								○	○			
	Tower Erection Hoist								○	○	○[5]	○[5]	
	Boom Pendants								○				○
Luffing–Jib Tower Crane	Load Hoist	○	○										
	Main Boom Hoist								○		○[5]	○[5]	
	Boom Pendants								○				○
STS – Container Crane	Load Hoist								○[3]	○[3]			
	Trolley Hoist								○	○			
	Main Boom Hoist								○		○[5]	○[5]	
Dockside Crane	Load Hoist	○[4]	○[4]						○[3]	○[3]	○[3,5]	○[3,5]	
	Main Boom Hoist								○		○[5]	○[5]	
	Boom Pendants								○				○
Mobile Harbor Crane	Load Hoist	○[4]	○[4]						○[3]	○[3]	○[3,5]	○[3,5]	
	Main Boom Hoist								○		○[5]	○[5]	
Rubber Tired Gantry Crane (RTGC) / Rail Mounted Gantry Crane (RMGC)	Load Hoist								○[3]	○[3]			
Straddle Carrier	Load Hoist								○[3]	○[3]			
Deck Crane–Container Handling	Load Hoist		○ With Plastic	○[5]									
	Main Boom Hoist								○		○[5]	○[5]	
Overhead Crane	Load Hoist	○[4]	○[4]		○[2,4]		○[2,4]		○	○	○		

1 – All rope selection tables are intended for general guidance purposes only without guarantee or warranty as to its accuracy. The final rope selection commonly depends on additional information about the crane, e.g. lifting height, reeving configuration and drum but also on the typical wear characteristics. If in doubt please contact us for further information.

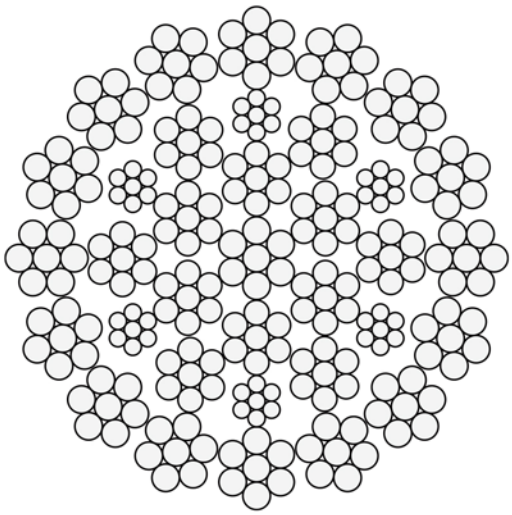
2 – If the rotational behavior of the rope is suitable considering the crane design and crane utilization.

3 – For load hoist operation the ropes are commonly used in pairs means equal number of right–hand and left–hand ropes.

4 – If rotation resistant rope is required.

5 – Recommended on multi–layer drums if crushing resistance is most critical.

DURA*hoist* 35[1]



DURA*hoist* 35
is a un-compacted rotation resistant rope with 16 outer strands.

Generic Application Advice[2]

DURA*hoist* 35 is a high performance rotation resistant rope suitable for all hoist applications that meet the rope´s breaking force.

- Recommended for single layer coiling
- Can be used both with and without swivel

Main Properties

- Category1 rotation resistant rope in accordance to ASTM A1023
- High breaking force
- Good bending fatigue performance
- Very flexible rope construction

Technical Data

- Load bearing wires in the outer strands and the corresponding RCN(Rope Category Number)according to ISO4309 for cranes.
  * 112 wires : RCN 23-2
- Average fill factor : 0.628
- Standard tolerance on diameter : +1% to +4% (other tolerances upon agreement)

Product Types available

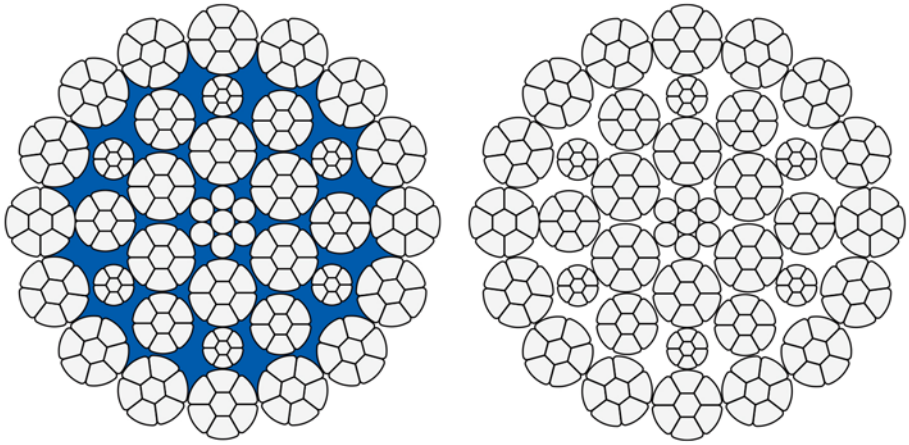
- Bright or galvanized
- Regular or Lang´s Lay

• [1] The former MultiDF MDF 35R • [2] Please ask if in doubt about choosing a rope. Youngwire is happy to assist.

Nominal diameter		Minimum breaking load						Metallic area	Weight
		1960 N / mm²			2160 N / mm²				
mm	in	kN	ton	lbs	kN	ton	lbs	mm²	kg/m
8.0	5/16	47.6	4.85	10,690	52.3	5.33	11,760	31.6	0.29
9.0		60.2	6.14	13,530	66.2	6.75	14,880	39.9	0.37
9.5	3/8	67.1	6.84	15,080	73.8	7.52	16,580	44.5	0.41
10.0		74.3	7.58	16,700	81.7	8.33	18,370	49.3	0.45
11.0	7/16	89.9	9.17	20,210	98.9	10.1	22,230	59.7	0.55
12.0		107	10.9	24,050	118	12.0	26,460	71.0	0.65
12.7	1/2	121	12.4	27,250	133	13.6	29,970	79.5	0.73
13.0		127	13.0	28,550	140	14.2	31,410	83.3	0.77
14.0		147	15.0	33,110	162	16.5	36,420	96.6	0.88
14.3	9/16	154	15.7	34,550	169	17.2	38,000	100.8	0.93
15.0		169	17.2	38,010	186	19.0	41,810	110.9	1.02
16.0	5/8	192	19.6	43,250	212	21.6	47,570	126.2	1.16
17.0		217	22.1	48,820	239	24.4	53,710	142.5	1.31
18.0		243	24.8	54,740	268	27.3	60,210	159.8	1.47
19.0	3/4	271	27.7	60,990	298	30.4	67,090	178.0	1.64
20.0		301	30.7	67,580	331	33.7	74,330	197.2	1.82
21.0		331	33.8	74,500	365	37.2	81,950	217.4	2.01
22.0	7/8	364	37.1	81,770	400	40.8	89,940	238.6	2.20
23.0		398	40.5	89,370	437	44.6	98,300	260.8	2.41
24.0		433	44.1	97,310	476	48.6	107.040	284.0	2.62
25.0		470	47.9	105,590	517	52.7	116,140	308.2	2.84
25.4	1	485	49.4	108,990	533	54.4	119,890	318.1	2.94
26.0		508	51.8	114,200	559	57.0	125,620	333.3	3.07
27.0		548	55.9	123,160	603	61.4	135,470	359.4	3.32
28.0		589	60.1	132,450	646	65.9	145,230	386.6	3.57
28.6	1+1/8	615	62.7	138,180	664	67.7	149,240	403.3	3.72
29.0		632	64.4	142,080	683	69.6	153,440	414.7	3.83
30.0		676	69.0	152,040	730	74.5	164,210	443.8	4.10
31.0		722	73.6	162,350	780	79.5	175,340	473.8	4.37
32.0	1+1/4	770	78.5	172,990	831	84.7	186,830	504.9	4.66
33.0		818	83.4	183,970	884	90.1	198,690	536.9	4.95
34.0		869	88.6	195,290	938	95.7	210,920	570.0	5.26
35.0	1+3/8	921	93.9	206,950	994	101.4	223,500	604.0	5.57
36.0		974	99.3	218,940	1,060	108.1	238,300	639.0	5.89
38.0	1+1/2	1,085	110.7	243,950	1,172	119.5	263,460	712.0	6.57
40.0		1,202	122.6	270,300	1,300	132.6	292,250	788.9	7.28
41.3	1+5/8	1,282	130.7	288,160	1,384	141.2	311,210	841.0	7.76
42.0		1,326	135.2	298,010	1,432	146.0	321,850	869.8	8.02
44.0	1+3/4	1,455	148.4	327,060	1,571	160.2	353,230	954.6	8.80

Revision:01/2017

DURA*hoist* 34C[1]



DURA*hoist* 34C

is a multifunctional, compacted rotation resistant rope with 16 outer strands

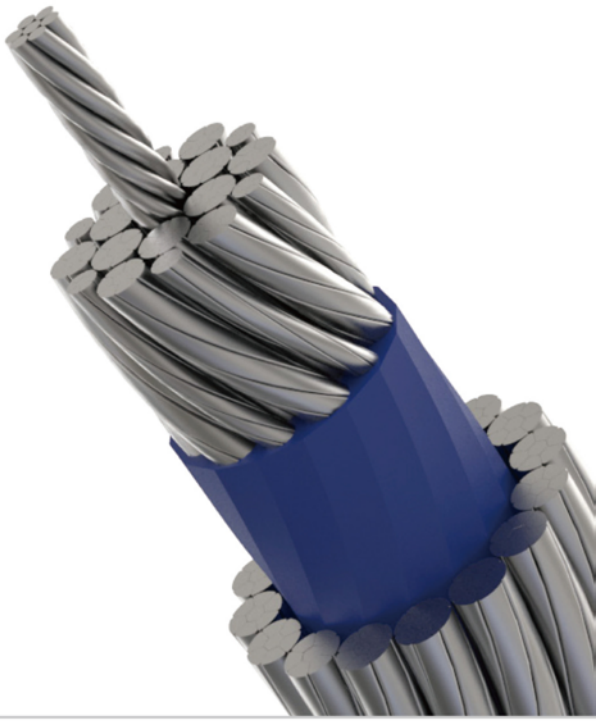
Generic Application Advice[2]

DURA*hoist* 34C is a high performance rotation resistant rope suitable for all hoist applications. DURA*hoist* 34C is available both with and without plastic coated steel core.

- DURA*hoist* 34C without plastic is recommended for high lifting operations
- Suitable for single part and multi-part reeving
- Recommended for multilayer coiling
- The DURA*hoist* 34C with plastic coated steel core is intended to be used for demanding reeving systems and/or severe operation conditions where rotation resistant ropes are required.
- Can be used both with and without swivel

Main Properties

- Category1 rotation resistant rope in accordance to ASTM A1023
- Very high breaking force
- High bending fatigue performance
- Crush resistant
- Stable rope structure
- Good resistance to wear



Technical Data

- Load bearing wires in the outer strands and the corresponding RCN(RopeCategoryNumber)according to ISO4309 for cranes.
  * 112 wires : RCN 23-2
- Average fill factor : 0.720
- Standard tolerance on diameter : +1% to +4% (other tolerances upon agreement)

Product Types available

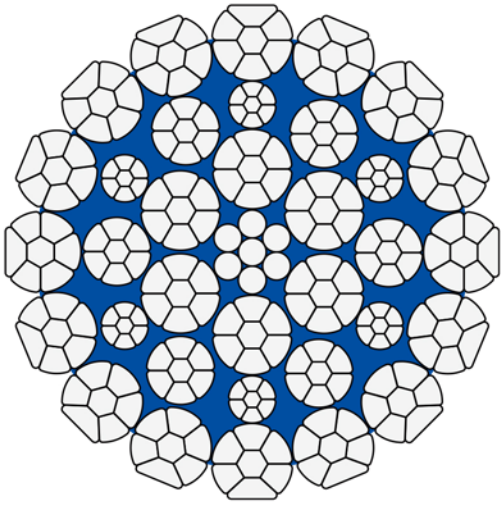
- Bright or galvanized
- Regular Lay or Lang's Lay (Lang's Lay is standard)
- Option : Plastic coated steel core

• [1]The former MultiDF MDF 34C • [2]Please ask if in doubt about choosing a rope. Youngwire is happy to assist.

Nominal diameter		Minimum breaking load						Metallic area	Weight
		1960 N / mm²			2160 N / mm²				
mm	in	kN	ton	lbs	kN	ton	lbs	mm²	kg/m
8.0	5/16	58.0	5.91	13,040	62.0	6.32	13,940	36.0	0.31
9.0		74.0	7.55	16,640	79.0	8.06	17,760	46.0	0.39
9.5	3/8	82.5	8.41	18,540	88.0	8.98	19,790	51.3	0.43
10.0		91.0	9.28	20,460	97.0	9.89	21,810	57.0	0.48
11.0	7/16	109	11.1	24,500	115	11.7	25,850	68.8	0.60
12.0		131	13.4	29,450	138	14.1	31,100	81.5	0.71
12.7	1/2	146	14.9	32,820	154	15.7	34,650	92.0	0.80
13.0		154	15.7	34,560	162	16.5	36,430	95.6	0.83
14.0		178	18.2	40,080	189	19.3	42,490	110.9	0.97
14.3	9/16	186	19.0	41,820	197	20.1	44,330	115.7	1.01
15.0		205	20.9	46,020	216	22.1	48,640	127.3	1.11
16.0	5/8	233	23.7	52,350	246	25.1	55,310	144.9	1.26
17.0		263	26.8	59,100	276	28.1	62,050	163.6	1.42
18.0		295	30.1	66,260	311	31.7	69,960	183.4	1.60
19.0	3/4	328	33.5	73,830	347	35.4	77,960	204.3	1.78
20.0		364	37.1	81,800	384	39.2	86,400	226.4	1.97
21.0		401	40.9	90,190	424	43.2	95,320	249.6	2.17
22.0	7/8	440	44.9	98,980	465	47.5	104,610	273.9	2.39
23.0		481	49.1	108,190	508	51.8	114,160	299.4	2.61
24.0		524	53.4	117,800	553	56.4	124,380	326.0	2.84
25.0		569	58.0	127,820	601	61.3	135,040	353.7	3.08
25.4	1	587	59.8	131,940	620	63.2	139,400	365.1	3.18
26.0		615	62.7	138,250	654	66.7	147,020	382.6	3.33
27.0		663	67.6	149,090	705	71.9	158,550	412.6	3.59
28.0		713	72.7	160,340	756	77.1	169,950	443.7	3.87
28.6	1+1/8	743	75.8	167,030	785	80.1	176,580	463.0	4.04
29.0		764	77.9	171,740	808	82.4	181,550	476.0	4.15
30.0		819	83.5	184,060	864	88.1	194,230	509.4	4.44
31.0		874	89.1	196,540	923	94.1	207,450	543.9	4.74
32.0	1+1/4	932	95.0	209,420	984	100.3	221,220	579.6	5.05
33.0		991	101.0	222,710	1,047	106.7	235,260	616.3	5.37
34.0		1,052	107.2	236,420	1,111	113.3	249,760	654.3	5.70
35.0	1+3/8	1,100	112.2	247,290	1,164	118.7	261,670	689.0	6.00
36.0		1,179	120.2	265,050	1,245	126.9	279,860	733.5	6.39
38.0	1+1/2	1,314	134.0	295,310	1,382	140.9	310,680	817.3	7.12
40.0		1,456	148.4	327,220	1,530	156.0	343,950	905.6	7.89
41.3	1+5/8	1,552	158.2	348,830	1,631	166.3	366,670	965.4	8.41
42.0		1,605	163.6	360,760	1,689	172.3	379,810	998.4	8.70
44.0	1+3/4	1,760	179.5	395,660	1,850	188.6	415,890	1,096.0	9.55

Revision:01/2017

DURA*hoist* 34SP[1]
(Flatten 34SP)



DURA*hoist* 34SP

is a rotary swaged rotation resistant rope with 16 compacted outer strands and a plastic coated steel core.

Generic Application Advice [2]

DURA*hoist* 34SP is a specialty high performance rotation resistant rope with enhanced crush and wear resistance for exceedingly difficult conditions.

- Suitable for single part and multi-part reeving
- Recommended for multilayer coiling
- Can be used both with and without swivel

Main Properties

- Category1 rotation resistant rope in accordance to ASTM A1023
- Highest breaking force within category1 rotation resistant ropes
- Superior crushing resistance
- Considerably stable rope structure
- Excellent resistance to wear

Technical Data

- Load bearing wires in the outer strands and the corresponding RCN (RopeCategoryNumber) according to ISO4309 for cranes.
  * 112 wires : RCN 23-2
- Average fill factor : 0.735
- Standard tolerance on diameter : +1% to +4% (other tolerances upon agreement)

Product Types available

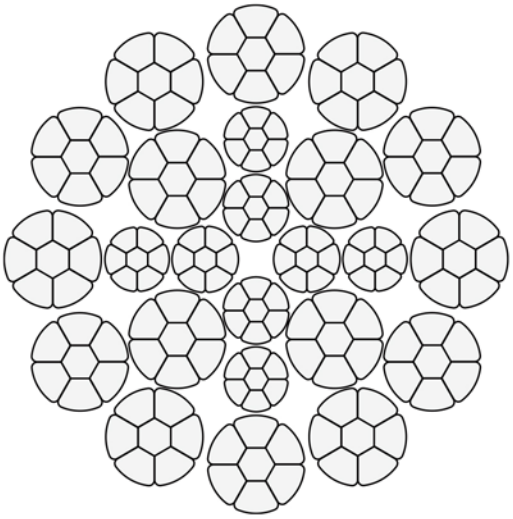
- Galvanized is standard, bright on request
- Regular Lay or Lang´s Lay

• [1]A new rope construction • [2]Please ask if in doubt about choosing a rope. Youngwire is happy to assist.

Nominal diameter		Minimum breaking load						Metallic area	Weight
		1960 N / mm²			2160 N / mm²				
mm	in	kN	ton	lbs	kN	ton	lbs	mm²	kg/m
10.0		92.6	9.44	20,820	97.5	9.94	21,920	57.9	0.50
11.0	7/16	112	11.4	25,240	118	12.1	26,630	70.2	0.61
12.0		135	13.8	30,330	144	14.7	32,420	83.1	0.72
12.7	1/2	150	15.3	33,810	161	16.4	36,120	93.8	0.82
13.0		158	16.1	35,600	169	17.2	37,970	97.6	0.85
14.0		184	18.7	41,290	197	20.1	44,230	113.1	0.99
14.3	9/16	192	19.5	43,080	205	20.9	46,140	118.1	1.03
15.0		211	21.5	47,400	226	23.0	50,710	129.9	1.13
16.0	5/8	240	24.5	53,930	256	26.2	57,660	147.8	1.29
17.0		271	27.6	60,880	288	29.4	64,830	166.8	1.45
18.0		304	31.0	68,250	324	33.1	72,940	187.0	1.63
19.0	3/4	338	34.5	76,040	362	36.9	81,270	208.4	1.82
20.0		375	38.2	84,260	401	40.9	90,070	230.9	2.01
21.0		413	42.1	92,900	442	45.1	99,340	254.6	2.22
22.0	7/8	454	46.2	101,950	485	49.5	109,060	279.4	2.43
23.0		496	50.5	111,430	529	54.0	119,020	305.4	2.66
24.0		540	55.0	121,330	577	58.8	129,670	332.5	2.90
25.0		586	59.7	131,650	626	63.9	140,780	360.8	3.14
25.4	1	605	61.6	135,900	646	65.9	145,320	372.4	3.24
26.0		633	64.6	142,400	677	69.0	152,130	390.2	3.40
27.0		683	69.7	153,560	730	74.4	164,060	420.8	3.67
28.0		735	74.9	165,150	785	80.0	176,470	452.6	3.94
28.6	1+1/8	765	78.0	172,040	819	83.5	184,080	472.3	4.12
29.0		788	80.4	177,150	842	85.9	189,270	485.5	4.24
30.0		843	86.0	189,580	901	91.9	202,610	519.6	4.53
31.0		900	91.8	202,430	962	98.1	216,270	554.8	4.83
32.0	1+1/4	960	97.8	215,700	1,026	104.6	230,620	591.1	5.15
33.0		1,020	104.1	229,390	1,091	111.3	245,260	628.7	5.48
34.0		1,083	110.5	243,510	1,158	118.1	260,260	667.3	5.81
35.0	1+3/8	1,133	115.5	254,710	1,215	123.9	273,230	702.8	6.12
36.0		1,214	123.8	273,000	1,298	132.3	291,750	748.2	6.52
38.0	1+1/2	1,353	138.0	304,170	1,442	147.0	324,170	833.6	7.26
40.0		1,499	152.9	337,040	1,602	163.3	360,060	923.7	8.05
41.3	1+5/8	1,598	163.0	359,300	1,707	174.1	383,850	984.7	8.58
42.0		1,653	168.5	371,580	1,761	179.6	395,950	1,018.3	8.87

Revision:01/2017

DURA*hoist* 24C[1]



DURA*hoist* 24C
is a rotation resistant rope
with 12 compacted outer strands.

Generic Application Advice [2]

DURA*hoist* 24C is an enhanced rotation resistant rope regarding its rotational behavior and flexibility. DURA*hoist* 24C can be used for various multi-part reeving hoist applications if the rotational behavior provided is appropriate.

- Suitable for multi-part reeving with unguided load and medium lifting heights
- Note : Not to be used for single fall hoist applications with an unguided load.
- Recommended for multilayer coiling.
- Must not be used with a swivel!

Main Properties

- Category2 rotation resistant rope in accordance to ASTM A1023
- Enhanced breaking force
- Very Flexible rope construction
- Good bending fatigue performance
- Crush resistant
- Good resistance to wear

Technical Data

- Load bearing wires in the outer strands and the corresponding RCN (RopeCategoryNumber) according to ISO4309 for cranes.
  * 84 wires : RCN 23-1
- Average fill factor : 0.717
- Standard tolerance on diameter: +1% to +4% (other tolerances upon agreement)

Product Types available

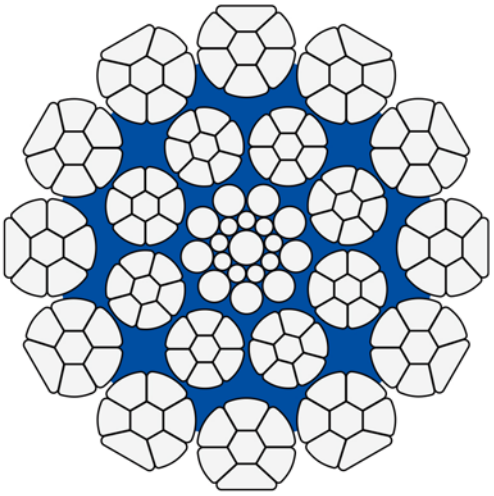
- Bright or galvanized
- Lang´s Lay as standard, Regular Lay on request

• [1]The former MultiDF MDF 24C • [2]Please ask if in doubt about choosing a rope. Youngwire is happy to assist.

Nominal diameter		Minimum breaking load						Metallic area	Weight
		1960 N / mm²			2160 N / mm²				
mm	in	kN	ton	lbs	kN	ton	lbs	mm²	kg/m
8.0	5/16	56.4	5.75	12,680	60.2	6.14	13,540	35.8	0.31
9.0		71.4	7.28	16,050	76.2	7.77	17,130	45.4	0.40
9.5	3/8	79.6	8.11	17,890	84.9	8.66	19,090	50.5	0.44
10.0		88.2	8.99	19,820	94.1	9.59	21,150	56.0	0.49
11.0	7/16	107	10.9	23,980	114	11.6	25,590	67.8	0.59
12.0		127	12.9	28,540	135	13.8	30,460	80.6	0.71
12.7	1/2	142	14.5	31,920	151	15.4	33,950	90.3	0.80
13.0		149	15.2	33,500	159	16.2	35,740	94.6	0.83
14.0		173	17.6	38,850	184	18.8	41,450	109.8	0.96
14.3	9/16	180	18.4	40,530	192	19.6	43,250	114.5	1.00
15.0		198	20.2	44,600	212	21.6	47,590	126.0	1.10
16.0	5/8	226	23.0	50,740	241	24.6	54,150	143.4	1.25
17.0		255	26.0	57,280	280	28.6	62,950	161.8	1.42
18.0		286	29.1	64,220	305	31.1	68,530	181.4	1.59
19.0	3/4	318	32.5	71,550	340	34.6	76,350	202.2	1.77
20.0		353	36.0	79,280	376	38.4	84,600	224.0	1.96
21.0		389	39.6	87,410	415	42.3	93,270	247.0	2.16
22.0	7/8	427	43.5	95,930	455	46.4	102,370	271.0	2.37
23.0		466	47.6	104,850	498	50.8	111,890	296.2	2.59
24.0		508	51.8	114,160	542	55.3	121,830	322.6	2.82
25.0		551	56.2	123,880	588	60.0	132,190	350.0	3.06
25.4	1	569	58.0	127,870	607	61.9	136,450	361.3	3.16
26.0		596	60.8	133,980	636	64.9	142,980	378.6	3.31
27.0		643	65.5	144,490	686	69.9	154,190	408.2	3.57
28.0		691	70.5	155,390	738	75.2	165,820	439.0	3.84
28.6	1+1/8	720	73.4	161,860	769	78.4	172,880	458.1	4.00

Revision:01/2017

DURA*hoist* 21SP[1]
(Flatten 21SP)



DURA*hoist* 21SP
is a rotary swaged rotation resistant rope with 12compacted outer strands and a plastic coated steel core.

Generic Application Advice[2]

DURA*hoist* 21SP is a specialty rotation resistant rope with enhanced crush and wear resistance. DURA*hoist* 21SP is suitable for multi-part reeving hoist applications if the rotational behavior provided is appropriate.

- Suitable for multi-part reeving with unguided load but limited lifting heights
- Note : Not to be used for single fall hoist applications with an unguided load.
- Recommended for multilayer coiling.
- Must not be used with a swivel!

Main Properties

- Category2 rotation resistant rope in accordance to ASTM A1023
- Highest breaking force within category2 rotation resistant ropes
- Superior crushing resistance
- Considerably stable rope structure
- Excellent resistance to wear

Technical Data

- Load bearing wires in the outer strands and the corresponding RCN (RopeCategoryNumber) according to ISO4309 for cranes.
  * 84 wires : RCN 23-1
- Average fill factor: 0.688
- Standard tolerance on diameter : +1% to +4% (other tolerances upon agreement)

Product Types available

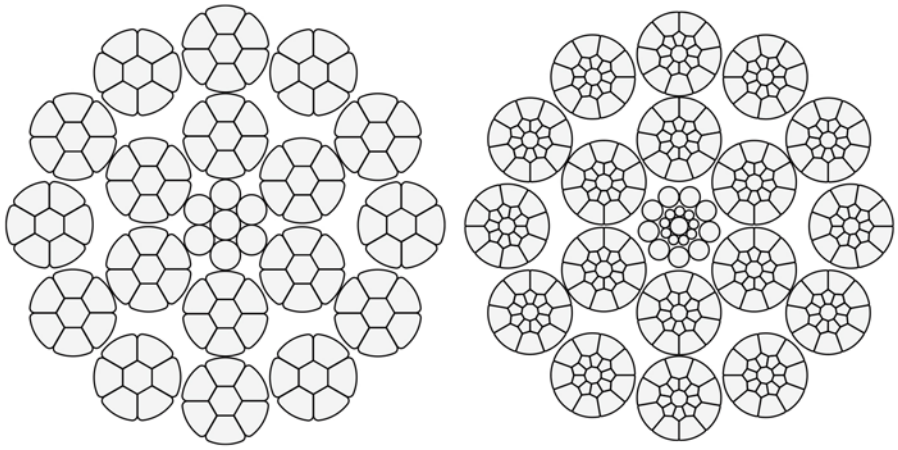
- Bright or galvanized
- Regular Lay or Lang's Lay

•[1]The former MultiDF MDF 21SP •[2]Please ask if in doubt about choosing a rope. Youngwire is happy to assist.

Nominal diameter		Minimum breaking load						Metallic area	Weight
		1960 N / mm²			2160 N / mm²				
mm	in	kN	ton	lbs	kN	ton	lbs	mm²	kg/m
8.0	5/16	57.0	5.81	12,810	62.0	6.32	13,940	35.2	0.30
9.0		71.3	7.27	16,020	77.8	7.93	17,490	43.7	0.38
9.5	3/8	79.4	8.10	17,850	86.7	8.84	19,480	48.7	0.42
10.0		88.0	8.97	19,780	96.0	9.79	21,590	54.0	0.47
11.0	7/16	106	10.8	23,830	116	11.8	26,080	65.3	0.57
12.0		129	13.1	28,930	141	14.3	31,600	77.8	0.68
12.7	1/2	143	14.5	32,050	154	15.7	34,720	87.1	0.76
13.0		149	15.2	33,610	162	16.6	36,500	91.3	0.79
14.0		174	17.8	39,170	189	19.3	42,510	105.8	0.92
14.3	9/16	182	18.5	40,860	197	20.1	44,300	110.4	0.96
15.0		200	20.4	44,960	217	22.1	48,740	121.5	1.06
16.0	5/8	229	23.3	51,410	248	25.3	55,860	138.2	1.20
17.0		264	27.0	59,420	287	29.3	64,540	156.1	1.36
18.0		297	30.3	66,770	323	32.9	72,550	175.0	1.52
19.0	3/4	326	33.2	73,220	354	36.1	79,680	194.9	1.70
20.0		355	36.2	79,900	385	39.3	86,580	216.0	1.88
21.0		395	40.3	88,800	430	43.8	96,590	238.1	2.07
22.0	7/8	434	44.2	97,480	471	48.1	105,940	261.4	2.27
23.0		477	48.7	107,270	519	52.9	116,620	285.7	2.49
24.0		521	53.1	117,070	566	57.7	127,300	311.0	2.71
25.0		561	57.2	126,190	610	62.2	137,100	337.5	2.94
25.4	1	585	59.6	131,480	636	64.8	142,950	348.4	3.03
26.0		613	62.5	137,760	666	67.9	149,780	365.0	3.18
27.0		660	67.3	148,380	717	73.1	161,210	393.7	3.43
28.0		710	72.4	159,570	771	78.6	173,370	423.4	3.68
28.6	1+1/8	741	75.5	166,470	804	82.0	180,720	441.7	3.84
29.0		760	77.5	170,950	825	84.1	185,510	454.1	3.95
30.0		814	83.0	182,940	883	90.0	198,520	486.0	4.23

Revision:01/2017

DURAhoist 19C[1]



DURA*hoist* 19C
is an elementary rotation resistant rope with 12compacted outer strands.

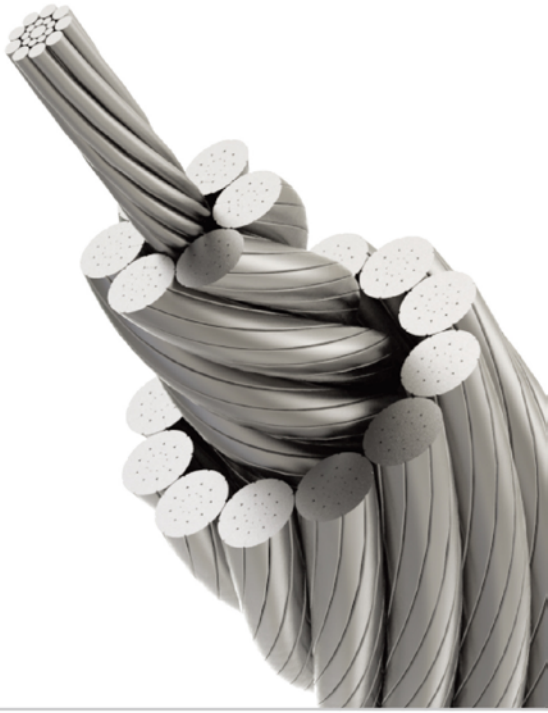
Generic Application Advice[2]

DURA*hoist* 19C is a cost-effective solution for multi-part reeving hoist applications if the rotational behavior provided is appropriate. The rope is available in two versions as shown in the data table : 19x7 and 19x19. The construction of the outer strands differs and consequently also the RCN to be applied.

- Suitable for multi-part reeving with unguided load but limited lifting heights.
- Note : Not to be used for single fall hoist applications with an unguided load.
- Recommended for multilayer coiling.
- Must not be used with a swivel!

Main Properties

- Category2 rotation resistant rope in accordance to ASTM A1023
- High breaking force
- Flexible rope construction
- Good resistance to wear



Technical Data

- Load bearing wires in the outer strands and the corresponding RCN (RopeCategoryNumber) according to ISO4309 for cranes.
  - *84 wires : RCN 23-1
  - *228 wires : RCN 26
- Average fill factor : 0.721
- Standard tolerance on diameter : +1% to +4% (other tolerances upon agreement)

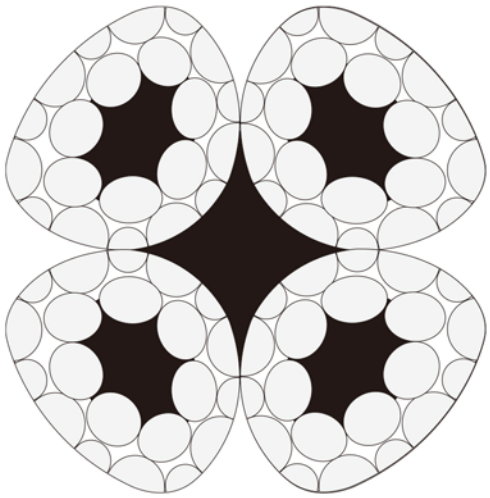
Product Types available

- Bright or galvanized
- Regular or Lang´s Lay

Nominal diameter		Minimum breaking load						Metallic area	Weight
		1960 N / mm²			2160 N / mm²				
mm	in	kN	ton	lbs	kN	ton	lbs	mm	kg/m
6.0		30.7	3.13	6,900	34.0	3.47	7,640	20.5	0.18
7.0		41.7	4.25	9,360	45.0	4.59	10,120	27.9	0.24
8.0	5/16	54.4	5.55	12,230	60.0	6.12	13,490	36.4	0.31
9.0		68.9	7.02	15,480	75.0	7.65	16,860	46.1	0.39
9.5	3/8	76.7	7.82	17,250	84.2	8.59	18,930	51.4	0.44
10.0		85.0	8.67	19,110	93.3	9.51	20,970	56.9	0.49
11.0	7/16	104	10.6	23,420	114	11.7	25,690	68.9	0.59
12.0		124	12.6	27,880	136	13.9	30,570	82.0	0.70
12.7	1/2	139	14.2	31,220	152	15.5	34,240	91.8	0.78
13.0		145	14.8	32,600	160	16.3	35,880	96.2	0.82
14.0		168	17.1	37,800	185	18.9	41,610	111.6	0.95
14.3	9/16	175	17.9	39,440	193	19.7	43,420	116.4	0.99
15.0		193	19.7	43,400	213	21.7	47,770	128.1	1.09
16.0	5/8	220	22.4	49,380	242	24.7	54,350	145.8	1.24
17.0		248	25.3	55,740	273	27.8	61,360	164.6	1.40
18.0		278	28.3	62,490	306	31.2	68,790	184.5	1.58
19.0	3/4	310	31.6	69,630	341	34.8	76,650	205.6	1.75
20.0		343	35.0	77,150	378	38.5	84,930	227.8	1.94
21.0		378	38.6	85,060	417	42.5	93,630	251.1	2.14
22.0	7/8	415	42.3	93,350	457	46.6	102,760	275.6	2.35
23.0		454	46.3	102,030	500	50.9	112,320	301.2	2.57
24.0		494	50.4	111,100	544	55.5	122,290	328.0	2.80
25.0		536	54.7	120,550	590	60.2	132,700	355.9	3.04
25.4	1	554	56.4	124,440	609	62.1	136,980	367.4	3.14
26.0		580	59.1	130,390	638	65.1	143,530	384.9	3.29
27.0		625	63.8	140,610	689	70.2	154,780	415.1	3.54
28.0		673	68.6	151,220	740	75.5	166,460	446.4	3.81
28.6	1+1/8	702	71.6	157,770	773	78.8	173,670	465.8	3.98
29.0		722	73.6	162,210	794	81.0	178,560	478.9	4.09
30.0		772	78.7	173,590	850	86.7	191,090	512.5	4.38
31.0		825	84.1	185,360	908	92.6	204,040	547.2	4.67
32.0	1+1/4	879	89.6	197,510	967	98.6	217,410	583.1	4.98
33.0		934	95.3	210,050	1,029	104.9	231,210	620.1	5.29
34.0		992	101.1	222,970	1,092	111.3	245,440	658.3	5.62
35.0	1+3/8	1,051	107.2	236,280	1,157	118.0	260,090	697.6	5.95
36.0		1,110	113.2	249,540	1,220	124.4	274,260	738.0	6.30

Revision:01/2017

DURAhoist 4CS[1]
(Flatten 4CS)



DURA*hoist* 4CS
is a rotary swaged semi-rotation resistant rope with 4 compacted strands.

Generic Application Advice[2]

DURA*hoist* 4CS is a very robust rope construction particularly designed for severe operational conditions.

- Usually chosen for specific applications that require a very robust rope construction able to withstand severe operational conditions.
- DURA*hoist* 4CS exhibits rotational-resistant properties and is therefore classified as semi-rotation resistant.

Main Properties

- Semi-rotation resistant rope
- Very high breaking force
- Very robust rope construction
- Excellent resistance to wear
- Superior crush resistance

Technical Data

- Load bearing wires in the outer strands and the corresponding RCN (RopeCategoryNumber) according to ISO4309 for cranes.
  * For all diameters : RCN 21
- Average fill factor : 0.640
- Standard tolerance on diameter : +1% to +4% (other tolerances upon agreement)

Product Types available

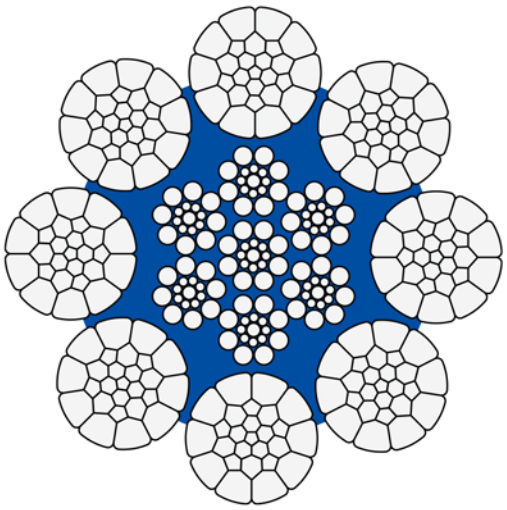
- Galvanized
- Regular Lay

•[1]he former UltraPac UP4S •[2]Please ask if in doubt about choosing a rope. Youngwire is happy to assist.
Errors and omissions excepted! The cross section shown is just an example and may vary.
Data sheet information is subject to modification without prior notice. The valid data is published on our website.

Nominal diameter		Minimum breaking load						Metallic area	Weight
		1960 N / mm²			2160 N / mm²				
mm	in	kN	ton	lbs	kN	ton	lbs	mm²	kg/m
8.0	5/16	56.1	5.72	12,610	58.1	5.93	13,070	32.4	0.27
8.3		60.0	6.12	13,490	62.0	6.32	13,940	34.0	0.29
9.0		71.0	7.24	15,960	73.8	7.52	16,580	41.1	0.35
9.5	3/8	78.8	8.04	17,720	81.8	8.35	18,400	45.5	0.39
10.0		86.6	8.83	19,470	89.8	9.15	20,180	50.0	0.43
11.0	7/16	106	10.8	23,720	109	11.1	24,530	61.0	0.53
12.0		124	12.7	27,920	128	13.1	28,880	72.2	0.63
12.7	1/2	140	14.3	31,510	145	14.8	32,650	81.8	0.71
13.0		146	14.9	32,780	152	15.5	34,120	85.5	0.73
14.0		168	17.2	37,860	175	17.8	39,350	98.9	0.84
14.3	9/16	176	17.9	39,500	183	18.6	41,050	103.1	0.88
15.0		193	19.7	43,460	201	20.5	45,170	113.5	0.97
16.0	5/8	221	22.5	49,700	229	23.4	51,490	129.3	1.12
17.0		251	25.5	56,110	259	26.4	58,120	145.9	1.27
18.0		281	28.7	63,240	292	29.8	65,720	164.5	1.44
19.0	3/4	318	32.4	71,490	326	33.2	73.250	183.5	1.61
20.0		351	35.8	78,890	359	36.6	80,790	202.5	1.78
21.0		387	39.5	86,970	396	40.4	89,070	223.2	1.96
22.0	7/8	426	43.5	95,810	438	44.6	98,370	246.2	2.13
23.0		466	47.5	104,720	478	48.8	107,510	269.1	2.33
24.0		506	51.6	113,790	518	52.8	116,370	291.8	2.54
25.0		549	56.0	123,470	562	57.3	126,270	316.7	2.76
25.4	1	566	57.8	127,320	581	59.2	130,600	327.0	2.84
26.0		594	60.5	133,460	608	62.0	136,670	342.2	2.98
27.0		640	65.3	143,920	656	66.9	147,380	369.0	3.21
28.0		690	70.3	155,030	708	72.2	159,060	398.3	3.46
28.6	1+1/8	720	73.4	161,800	739	75.4	166,180	416.4	3.63
29.0		740	75.5	166,350	760	77.5	170,860	428.1	3.73
30.0		781	79.6	175,480	799	81.5	179,650	455.9	3.94
31.0		833	85.0	187,370	853	87.0	191,830	486.7	4.20
32.0	1+1/4	889	90.7	199,870	910	92.8	204,630	519.2	4.51
33.0		946	96.4	212,560	968	98.7	217,620	552.2	4.80
34.0		1,016	103.6	228,330	1,028	104.8	231,090	586.4	5.14

Revision:01/2017

DURA*plus* 8CP[1]



DURA*plus* 8CP
is a multifunctional, compacted 8-strand, non-rotation resistant rope.
The IWRC-steel core is made of regular strands and plastic coated.

Generic Application Advice[2]

DURA*plus* 8CP achieves a long service life because of its excellent bending fatigue resistance and provides a firm rope structure.

- Suitable for a variety of applications that dont require rotation resistant ropes e.g.:
  - Multi-part reeving hoist applications
    - with right-hand and left-hand ropes operating in pairs
    - limited lifting heights if one rope is used
  - Luffing application
  - Boom pendant rope
- Recommended for multilayer coiling.
- Must not be used with a swivel! Rope ends are always secured to prevent rotation.

Main Properties

- Non-rotation resistant rope
- Very high breaking force
- Excellent bending fatigue performance
- Crush resistant
- Very stable rope structure
- Good resistance to wear

Technical Data

- Load bearing wires in the outer strands and the corresponding RCN(RopeCategoryNumber) according to ISO4309 for cranes.
  - 152 wires 8-12mm RCN 04
  - 208 wires 13-32mm RCN 09
  - 248 wires 34-48mm RCN 11
  - 288 wires 50-56mm RCN 13
- Average fill factor : 0.675
- Standard tolerance on diameter : +1% to +4% (other tolerances upon agreement)

Product Types available

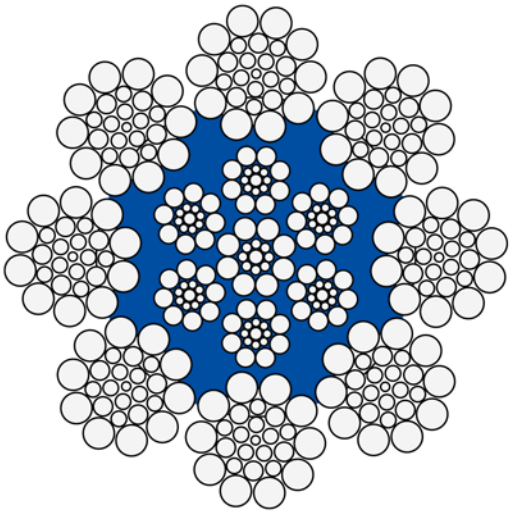
- Bright or galvanized
- Regular or Lang´s Lay

• [1]The former DuraPlus DPC8P • [2]Please ask if in doubt about choosing a rope. Youngwire is happy to assist.

Nominal diameter		Minimum breaking load						Metallic area	Weight
		1960 N / mm²			2160 N / mm²				
mm	in	kN	ton	lbs	kN	ton	lbs	mm²	kg/m
8.0	5/16	55.4	5.65	12,450	58.0	5.91	13,040	34.0	0.29
9.0		70.2	7.16	15,780	73.6	7.51	16,550	43.0	0.37
9.5	3/8	78.2	7.98	17,580	82.0	8.36	18,440	47.9	0.41
10.0		86.8	8.85	19,510	92.4	9.42	20,770	53.0	0.46
11.0	7/16	105	10.7	23,600	112	11.4	25,130	77.6	0.56
12.0		125	12.7	28,100	131	13.4	29,450	76.0	0.66
12.7	1/2	140	14.3	31,470	149	15.2	33,500	95.3	0.74
13.0		148	15.1	33,270	156	15.9	35,070	90.0	0.78
14.0		171	17.4	38,440	181	18.5	40,690	104.0	0.90
14.3	9/16	178	18.2	40,110	189	19.3	42,450	108.5	0.94
15.0		196	20.0	44,060	208	21.2	46,760	119.0	1.04
16.0	5/8	224	22.8	50,360	236	24.1	53,050	136.0	1.18
17.0		253	25.8	56,850	266	27.2	59,890	153.5	1.33
18.0		282	28.8	63,400	300	30.6	67,440	172.0	1.49
19.0	3/4	314	32.0	70,590	334	34.1	75,090	192.0	1.66
20.0		348	35.5	78,230	375	38.2	84,300	212.0	1.84
21.0		384	39.1	86,250	413	42.2	92,940	233.7	2.03
22.0	7/8	424	43.2	95,320	451	46.0	101,390	257.0	2.23
23.0		463	47.3	104,180	493	50.3	110,810	280.9	2.43
24.0		504	51.4	113,300	538	54.9	120,950	305.0	2.65
25.0		547	55.8	122,970	580	59.1	130,390	331.0	2.88
25.4	1	565	57.6	126,940	599	61.1	134,590	341.7	2.97
26.0		595	60.7	133,760	629	64.1	141,400	358.0	3.11
27.0		642	65.4	144,250	678	69.2	152,490	386.1	3.35
28.0		683	69.6	153,540	725	73.9	162,980	416.0	3.61
28.6	1+1/8	712	72.6	160,060	755	77.0	169,730	434.0	3.76
29.0		732	74.6	164,570	776	79.2	174,510	446.2	3.87
30.0		785	80.0	176,470	844	86.1	189,740	477.0	4.14
31.0		838	85.5	188,430	901	91.9	202,600	509.3	4.42
32.0	1+1/4	900	91.8	202,330	960	97.9	215,810	543.0	4.71
33.0		957	97.6	215,170	1,021	104.1	229,510	577.5	5.01
34.0		1,020	104.0	229,300	1,084	110.5	243,690	613.0	5.32
35.0	1+3/8	1,074	109.5	241,440	1,140	116.2	256,280	679.6	5.60
36.0		1,129	115.1	253,810	1,205	122.9	270,890	687.0	5.96
38.0	1+1/2	1,262	128.7	283,710	1,349	137.6	303,260	766.0	6.64
40.0		1,395	142.3	313,610	1,480	150.9	332,710	848.0	7.36
41.3	1+5/8	1,487	151.6	334,320	1,578	160.9	354,690	904.0	7.84
42.0		1,543	157.3	346,880	1,640	167.2	368,680	935.0	8.11
44.0	1+3/4	1,693	172.6	380,600	1,800	183.5	404,650	1,026.0	8.91
46.0		1,845	188.1	414,770	1,967	200.6	442,190	1,121.0	9.73
48.0	1+7/8	2,010	205.0	451,860	2,140	218.2	481,090	1,220.0	10.6
50.0		2,120	216.2	476,590	2,290	233.5	514,810	1,323.8	11.5
50.8	2	2,180	222.3	490,080	2,350	239.6	528,300	1,366.5	11.9
52.0		2,270	231.5	510,310	2,420	246.8	544,030	1,431.8	12.4
54.0	1+1/8	2,430	247.8	546,280	2,600	265.1	584,500	1,544.1	13.4
56.0		2,600	265.1	584,500	2,750	280.4	618,220	1,660.6	14.4

Revision:01/2017

DURAplus 8P[1]



DURA*plus* 8P
is an un-compacted 8-strand,
non-rotation resistant rope.
The IWRC-steel core is made of
regular strands and plastic coated.

Generic Application Advice[2]

DURA*plus* 8P is very flexible and offers a long service life in all single layer drum applications that meet the rope,s breaking force.

- Suitable for all applications that dont require rotation resistant ropes and highest breaking forces such as e.g.:
  - *Multi-part reeving hoist application on single layer drums with
    - limited lifting heights if one rope is used
    - right-hand and left-hand ropes operating in pairs
  - *Auxiliary and stationary rope applications that dont require mechanical wear resistance
- Recommended for single layer drums
- Must not be used with a swivel! Rope ends are always secured to prevent rotation.

Main Properties

- Non-rotation resistant rope
- High breaking force
- Very high bending fatigue performance
- Stable rope structure
- Very flexible rope construction

Technical Data

- Load bearing wires in the outer strands and the corresponding RCN(RopeCategoryNumber) according to ISO4309 for cranes.
  - *152 wires 8-15mm RCN 04
  - *208 wires 16-29mm RCN 09
  - *248 wires 30-44mm RCN 11
  - *288 wires 46-58mm RCN 13
- Average fill factor : 0.630
- Standard tolerance on diameter : +1% to +4% (other tolerances upon agreement)

Product Types available

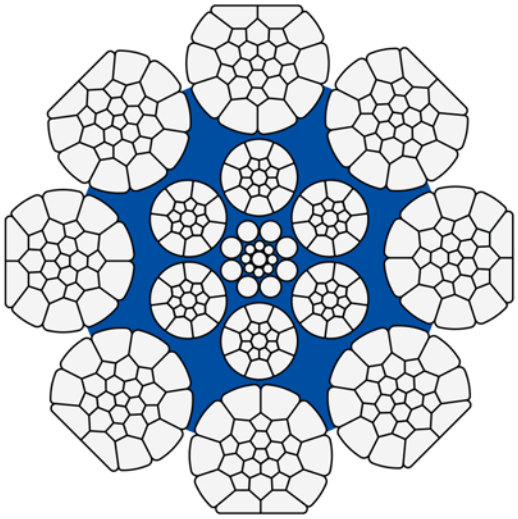
- Bright or galvanized
- Regular or Lang´s Lay
- Tensile grade 1770 on request

•[1]A new rope construction •[2]Please ask if in doubt about choosing a rope. Youngwire is happy to assist.

Nominal diameter		Minimum breaking load						Metallic area	Weight
		1770 N / mm²			1960 N / mm²				
mm	in	kN	ton	lbs	kN	ton	lbs	mm²	kg/m
8.0	5/16	47.4	4.83	10,650	51.0	5.20	11,470	30.5	0.26
9.0		59.9	6.11	13,470	65.0	6.63	14,610	38.9	0.33
9.5	3/8	66.8	6.81	15,010	72.4	7.39	16,280	43.3	0.37
10.0		74.0	7.55	16,640	80.0	8.16	17,980	49.0	0.42
11.0	7/16	89.5	9.13	20,130	96.0	9.79	21,580	59.0	0.51
12.0		107	10.9	23,960	118	12.0	26,530	70.5	0.61
12.7	1/2	119	12.2	26,830	129	13.2	29,000	80.0	0.68
13.0		125	12.8	28,110	138	14.1	31,020	82.5	0.72
14.0		145	14.8	32,610	160	16.3	35,970	96.4	0.84
14.3	9/16	151	15.4	34.020	167	17.0	37,530	100.6	0.88
15.0		167	17.0	37,430	180	18.4	40,470	110.5	0.96
16.0	5/8	189	19.3	42,590	209	21.3	46,980	128.5	1.12
17.0		214	21.8	48,080	236	24.1	53,040	145.1	1.26
18.0		240	24.4	53,900	265	27.0	59,570	161.3	1.40
19.0	3/4	267	27.2	60,050	293	29.9	65,870	177.8	1.55
20.0		296	30.2	66,540	325	33.1	73,060	199.5	1.74
21.0		326	33.3	73,360	358	36.5	80,550	219.9	1.92
22.0	7/8	358	36.5	80,520	393	40.1	88,350	240.4	2.10
23.0		391	39.9	88,000	430	43.8	96,560	262.8	2.30
24.0		426	43.5	95,820	468	47.7	105,210	286.0	2.48
25.0		463	47.2	103,970	492	50.2	110,600	310.3	2.69
25.4	1	477	48.7	107,330	507	51.7	113,980	324.5	2.79
26.0		500	51.0	112,460	555	56.6	124,770	332.5	2.90
27.0		539	55.0	121,270	599	61.0	134,550	358.6	3.13
28.0		580	59.2	130,420	638	65.1	143,430	391.5	3.42
28.6	1+1/8	605	61.7	136,070	666	67.9	149,720	409.2	3.54
29.0		622	63.5	139,910	685	69.8	153,940	420.7	3.64
30.0		666	67.9	149,720	737	75.2	165,680	450.0	3.90
31.0		711	72.5	159,870	787	80.2	176,910	480.5	4.16
32.0	1+1/4	758	77.3	170,350	837	85.4	188,160	506.0	4.40
33.0		806	82.2	181,160	890	90.8	200,110	538.1	4.68
34.0		855	87.2	192,310	945	96.4	212,440	569.0	4.96
35.0	1+3/8	907	92.4	203,790	1,000	102.0	224,810	620.0	5.33
36.0		959	97.8	215,600	1,054	107.5	236,950	646.0	5.60
38.0	1+1/2	1,069	109.0	240,220	1,180	120.3	265,270	721.0	6.23
40.0		1,184	120.7	266,170	1,308	133.4	294,050	769.0	6.90
41.3	1+5/8	1,262	128.7	283,750	1,394	142.2	313,470	819.8	7.36
42.0		1,305	133.1	293,450	1,445	147.3	324,850	872.0	7.66
44.0	1+3/4	1,433	146.1	322,070	1,580	161.1	355,190	958.0	8.36
46.0		1,566	159.7	352,010	1,723	175.7	387,340	1,075.0	9.86
48.0	1+7/8	1,705	173.9	383,290	1,880	191.7	422,640	1,183.0	10.1
50.0		1,850	188.6	415,890	2,040	208.0	458,610	1,286.0	11.0
50.8	2	1,910	194.7	429,310	2,106	214.7	473,400	1,327.5	11.4
52.0		2,001	204.0	449,830	2,210	225.4	496,820	1,391.0	11.7
54.0	2+1/8	2,158	220.0	485,100	2,380	242.7	535,040	1,500.0	12.7
56.0		2,321	236.6	521,700	2,560	261.0	575,500	1,593.0	13.5
58.0		2,489	253.8	559,620	2,740	279.4	615,970	1,705.0	14.6

Revision:01/2017

DURA*plus* 8SP[1]
(Flatten 8SP)



DURA*plus* 8SP

is a rotary swaged, compacted 8-strand regular lay, non-rotation resistant rope.
The IWRC-steel core is made of compacted strands and plastic coated.

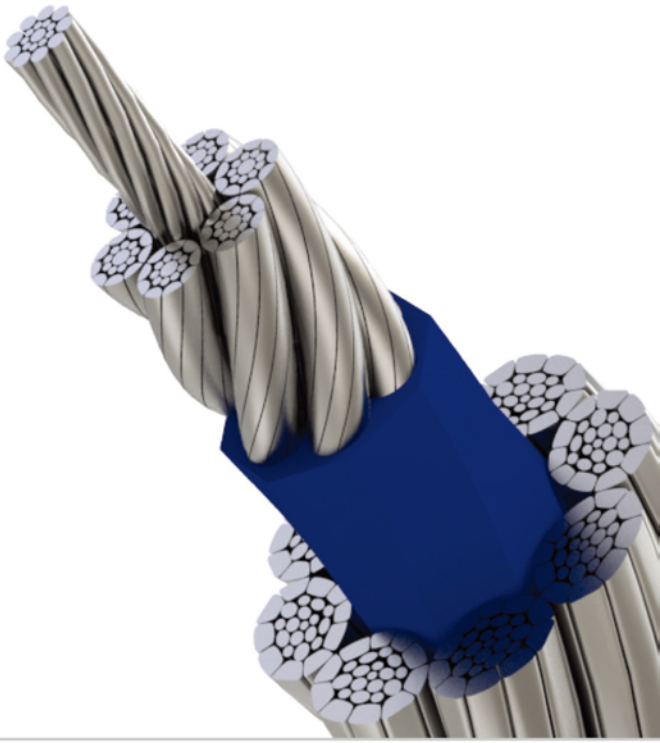
Generic Application Advice[2]

DURA*plus* 8SP is especially designed being robust and extremely crush resistant on multilayer drums.

- Suitable for applications that don't require rotation resistant ropes and highest bending fatigue resistance but ask for:
  - *superior crush resistance on multilayer drums as usually needed for boom hoist ropes
  - *excellent mechanical wear resistance
- Recommended for multilayer coiling.
- Must not be used with a swivel! Rope ends are always secured to prevent rotation.

Main Properties

- Non-rotation resistant rope
- Superior crush resistance
- Considerably stable structure
- Excellent resistance to mechanical wear
- Highest breaking force



Technical Data

- Load bearing wires in the outer strands and the corresponding RCN(RopeCategoryNumber) according to ISO4309 for cranes.
  - *152 wires 8-12mm RCN 04
  - *208 wires 13-32mm RCN 09
  - *248 wires 34-52mm RCN 11
- Average fill factor : 0.710
- Standard tolerance on diameter : +1% to +4% (other tolerances upon agreement)

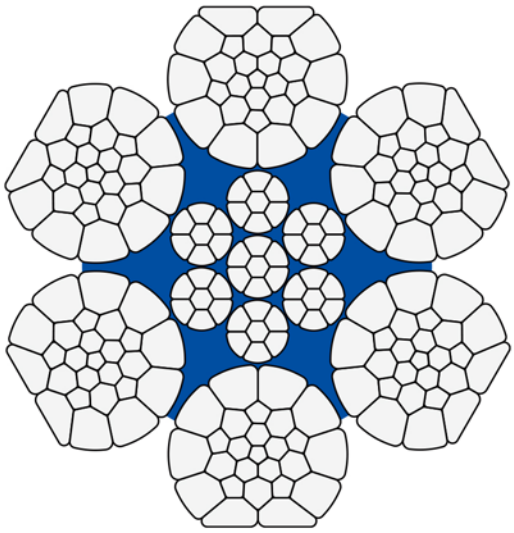
Product Types available

- Bright or galvanized
- Regular lay exclusively

Nominal diameter		Minimum breaking load						Metallic area	Weight
		1960 N / mm²			2160 N / mm²				
mm	in	kN	ton	lbs	kN	ton	lbs	mm²	kg/m
8.0	5/16	60.0	6.12	13,490	65.0	6.63	14,610	37.0	0.33
9.0		74.6	7.61	16,770	81.2	8.28	18,250	46.0	0.42
9.5	3/8	83.1	8.48	18,690	90.5	9.23	20,340	51.3	0.47
10.0		92.8	9.46	20,860	101	10.3	22,710	57.0	0.52
11.0	7/16	113	11.5	25,400	123	12.5	27,650	70.0	0.63
12.0		133	13.6	29,900	144	14.7	32,370	82.0	0.74
12.7	1/2	149	15.2	33,500	162	16.5	36,420	92.0	0.83
13.0		156	15.9	35,070	170	17.3	38,220	96.0	0.87
14.0		181	18.5	40,690	197	20.1	44,290	112.0	1.01
14.3	9/16	189	19.3	42,450	206	21.0	46,210	116.9	1.05
15.0		207	21.1	46,530	226	23.0	50,810	128.0	1.15
16.0	5/8	237	24.2	53,280	258	26.3	58,000	147.0	1.32
17.0		268	27.3	60,150	291	29.7	65,480	165.9	1.49
18.0		300	30.6	67,440	327	33.3	73,510	186.0	1.67
19.0	3/4	333	34.0	74,860	363	37.0	81,600	206.0	1.85
20.0		370	37.7	83,180	402	41.0	90,370	229.0	2.06
21.0		408	41.6	91,700	443	45.2	99,640	252.5	2.27
22.0	7/8	448	45.7	100,710	487	49.7	109,480	277.0	2.49
23.0		490	49.9	110,080	532	54.3	119,660	302.8	2.72
24.0		532	54.2	119,600	579	59.0	130,160	329.0	2.96
25.0		578	58.9	129,940	630	64.2	141,630	358.0	3.22
25.4	1	586	59.8	131,740	653	66.6	146,800	369.0	3.30
26.0		625	63.7	140,500	680	69.3	152,870	386.0	3.48
27.0		674	68.7	151,520	733	74.8	164,850	416.3	3.75
28.0		724	73.8	162,760	788	80.4	177,150	448.0	4.03
28.6	1+1/8	756	77.1	169,950	823	83.9	185,020	467.0	4.21
29.0		777	79.3	174,740	846	86.3	190,230	480.2	4.33
30.0		832	84.8	187,040	906	92.4	203,670	515.0	4.63
31.0		888	90.6	199,720	967	98.6	217,480	549.9	4.94
32.0	1+1/4	946	96.5	212,670	1,030	105.0	231,550	585.0	5.27
33.0		1,006	102.6	226,170	1,095	111.7	246,250	622.1	5.60
34.0		1,069	109.0	240,320	1,164	118.7	261,670	661.0	5.95
35.0	1+3/8	1,127	114.9	253,360	1,227	125.1	275,840	697.0	6.27
36.0		1,198	122.2	269,320	1,304	133.0	293,150	741.0	6.67
38.0	1+1/2	1,336	136.2	300,340	1,454	148.3	326,870	826.0	7.44
40.0		1,480	150.9	332,710	1,611	164.3	362,160	915.0	8.24
41.3	1+5/8	1,578	160.9	354,690	1,717	175.1	386,090	975.4	8.78
42.0		1,633	166.5	367,110	1,777	181.2	399,480	1,010.0	9.09
44.0	1+3/4	1,701	174.4	384,420	1,851	188.7	416,120	1,052.0	9.46
46.0		1,865	190.2	419,260	2,005	204.4	450,710	1,150.0	10.3
48.0		2,030	207.0	456,360	2,182	222.5	490,580	1,251.0	11.2
50.0		2,140	218.2	481,090	2,301	234.6	517,170	1,357.4	12.1
50.8	2	2,200	224.3	494,570	2,365	241.2	531,670	1,402.0	12.5
52.0		2,295	234.0	515,930	2,467	251.6	554,630	1,465.0	13.1

Revision:01/2017

DURAplus 6SP[1]
(Flatten 6SP)



DURA*plus* 6SP

is a compacted and rotary swaged 6-strand regular lay, non-rotation resistant rope. The IWRC-steel core is made of compacted strands and plastic coated.[2]

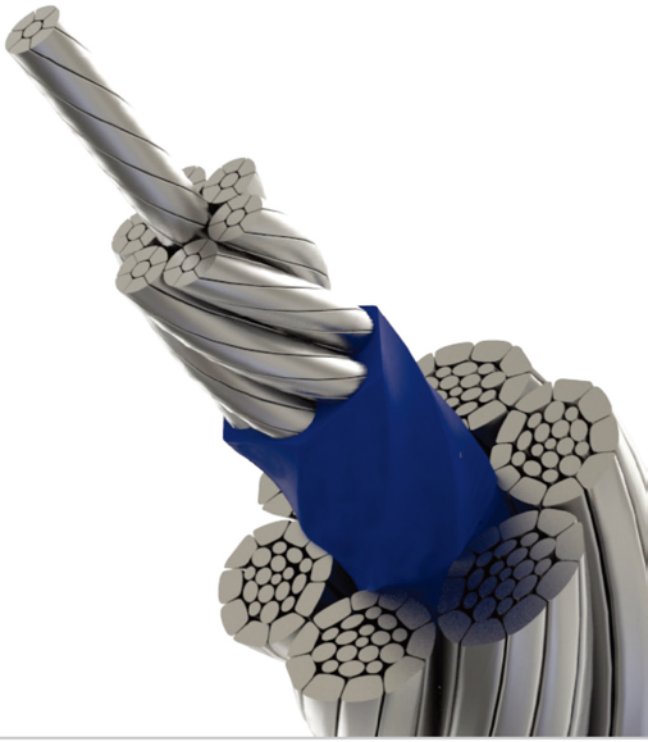
Generic Application Advice[3]

DURA*plus* 6SP is designed to achieve maximum resistance to mechanical damages and being excellent crush resistant on multilayer drums.

- Suitable for applications that don't require rotation resistant ropes but require rope properties conventional 6-strand ropes can't provide such as:
  - *superior crush resistance on multilayer drums
  - *enhancedmechanical wear resistance for improved service life
  - *reduced elongation
- Recommended for multilayer coiling.
- Must not be used with a swivel! Rope ends are always secured to prevent rotation.

Main Properties

- Non-rotation resistant rope
- Superior crush resistance
- Excellent resistance to wear
- Very robust rope structure
- Very high breaking force



Technical Data

- Load bearing wires in the outer strands and the corresponding RCN (RopeCategoryNumber) according to ISO4309 for cranes.
  - *114 wires 10-15mm RCN 02
  - *156 wires 16-22mm RCN 06
  - *186 wires 23-38mm RCN 08
  - *216 wires 39-52mm RCN 09
- Average fill factor : 0.690
- Standard tolerance on diameter : +1% to +4% (other tolerances upon agreement)

Product Types available

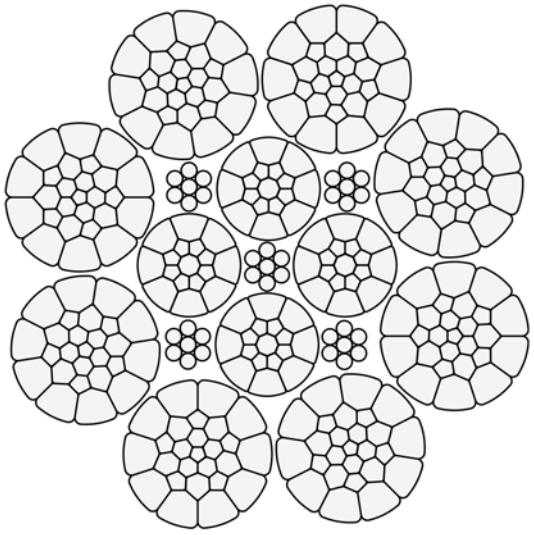
- Bright or galvanized
- Regular lay exclusively

• [1]A new rope construction • [2]The plastic coated IWRC is offered for the diameter range from 16mm to 52mm.
• [3]Please ask if in doubt about choosing a rope. Youngwire is happy to assist.

Nominal diameter		Minimum breaking load						Metallic area	Weight
		1960 N / mm²			2160 N / mm²				
mm	in	kN	ton	lbs	kN	ton	lbs	mm²	kg/m
10.0		86.0	8.77	19,330	94.0	9.59	21,130	55.0	0.45
11.0	7/16	104	10.6	23,380	112	11.4	25,180	66.4	0.55
12.0		126	12.8	28,330	134	13.7	30,120	78.8	0.65
12.7	1/2	141	14.4	31,730	150	15.3	33,740	88.3	0.73
13.0		148	15.1	33,270	156	15.9	35,070	92.4	0.76
14.0		172	17.5	38,670	180	18.4	40,470	107.0	0.89
14.3	9/16	179	18.3	40,340	188	19.1	42,220	111.6	0.93
15.0		198	20.2	44,510	207	21.1	46,530	123.0	1.02
16.0	5/8	225	22.9	50,580	235	24.0	52,830	140.0	1.16
17.0		254	25.9	57,100	265	27.1	59,640	158.0	1.31
18.0		287	29.3	64,520	300	30.6	67,440	178.0	1.48
19.0	3/4	318	32.4	71,490	332	33.9	74,640	198.0	1.65
20.0		354	36.1	79,580	370	37.7	83,180	219.0	1.82
21.0		390	39.8	87,740	408	41.6	91,700	241.4	2.01
22.0	7/8	428	43.6	96,220	446	45.5	100,260	266.0	2.20
23.0		468	47.7	105,160	487	49.7	109,590	290.7	2.40
24.0		510	52.0	114,650	532	54.2	119,600	316.0	2.60
25.0		552	56.3	124,090	576	58.7	129,490	343.0	2.82
25.4	1	570	58.1	128,140	595	60.7	133,760	354.0	2.92
26.0		598	61.0	134,430	625	63.7	140,500	370.0	3.07
27.0		645	65.8	144,970	674	68.7	151,520	399.0	3.31
28.0		692	70.6	155,570	722	73.6	162,310	430.0	3.56
28.6	1+1/8	720	73.4	161,860	752	76.7	169,050	448.0	3.72
29.0		740	75.5	166,420	773	78.8	173,820	460.6	3.82
30.0		795	81.1	178,720	830	84.6	186,590	494.0	4.10
31.0		849	86.6	190,830	886	90.4	199,240	527.5	4.38
32.0	1+1/4	904	92.2	203,230	944	96.3	212,220	562.0	4.65
33.0		961	98.0	216,130	1,004	102.4	225,690	597.7	4.95
34.0		1,020	104.0	229,300	1,065	108.6	239,420	632.0	5.20
35.0	1+3/8	1,081	110.2	242,990	1,129	115.1	253,710	669.7	5.51
36.0		1,146	116.9	257,630	1,196	122.0	268,870	712.0	5.88
38.0	1+1/2	1,275	130.0	286,630	1,330	135.6	298,990	792.0	6.58
40.0		1,410	143.8	316,980	1,475	150.4	331,590	878.0	7.22
41.3	1+5/8	1,503	153.3	337,920	1,572	160.3	353,490	936.0	7.70
42.0		1,558	158.9	350,250	1,626	165.8	365,540	968.0	8.04
44.0	1+3/4	1,705	173.9	383,300	1,784	181.9	401,060	1,062.0	8.62
46.0		1,790	182.5	402,400	1,870	190.7	420,390	1,130.0	9.24
48.0	1+7/8	1,900	193.7	427,130	2,030	207.0	456,360	1,224.0	10.1
50.0		2,130	217.2	478,840	2,276	232.1	511,660	1,372.0	11.2
50.8	2	2,199	224.2	494,280	2,349	239.6	528,160	1,416.3	11.6
52.0		2,228	227.2	500,870	2,380	242.7	535,040	1,435.0	12.0

Revision:01/2017

DURA*uniq* 8C[1]



DURA*uniq* 8C
is a compacted 8-strand double parallel lay rope, non-rotation resistant.
The IWRC-steel core is made of compacted strands.

Generic Application Advice[2]

DURA*uniq* 8C offers very high breaking force, reduced elongation and excellent flexibility.

- Suitable for applications that dont require rotation resistant ropes but high breaking forces e.g.:
  - Stationary ropes such as boom pendants
- Must not be used with a swivel! Rope ends are always secured to prevent rotation.

Main Properties

- Non-rotation resistant rope
- Very high breaking force
- Good resistance to wear
- Very flexible rope construction
- Reduced elongation

Technical Data

- Load bearing wires in the outer strands and the corresponding RCN(RopeCategoryNumber) according to ISO4309 for cranes.
  - 152 wires 8-12mm RCN 04
  - 208 wires 13-28mm RCN 09
- Average fill factor : 0.720
- Standard tolerance on diameter : +1% to +4% (other tolerances upon agreement)

Product Types available

- Bright or galvanized
- Regular Lay exclusively

[1]The former Uniq WS8C [2]Please ask if in doubt about choosing a rope. Youngwire is happy to assist.

Nominal diameter		Minimum breaking load						Metallic area	Weight
		1960N / mm²			2160N / mm²				
mm	in	kN	ton	lbs	kN	ton	lbs	mm²	kg/m
8.0	5/16	58.0	5.91	13,040	64.0	6.53	14,390	36.0	0.31
8.5		66.0	6.73	14,840	72.0	7.34	16,190	40.7	0.35
9.0		73.0	7.44	16,410	81.0	8.26	18,210	45.6	0.39
9.5	3/8	81.3	8.29	18,280	90.3	9.20	20,290	50.8	0.43
10.0		91.0	9.28	20,460	100	10.2	22,480	56.3	0.48
11.0	7/16	110	11.2	24,750	121	12.3	27,200	68.1	0.58
12.0		131	13.4	29,460	144	14.7	32,370	81.1	0.69
12.7	1/2	146	14.9	32,820	161	16.4	36,190	91.0	0.77
13.0		154	15.7	34,570	169	17.2	37,990	95.1	0.81
14.0		178	18.2	40,100	196	20.0	44,060	110.3	0.94
14.3	9/16	186	19.0	41,830	204	20.9	45,970	115.1	0.98
15.0		205	20.9	46,030	225	22.9	50,580	126.7	1.08
16.0	5/8	233	23.8	52,370	256	26.1	57,550	144.1	1.23
17.0		263	26.8	59,120	289	29.5	64,970	162.7	1.39
18.0		295	30.1	66,280	324	33.0	72,840	182.4	1.56
19.0	3/4	329	33.5	73,850	361	36.8	81,160	203.2	1.73
20.0		364	37.1	81,830	400	40.8	89,920	225.2	1.92
21.0		401	40.9	90,220	441	45.0	99,140	248.3	2.12
22.0	7/8	440	44.9	99,010	484	49.4	108,810	272.5	2.32
23.0		480	48.9	107,910	528	53.8	118,700	297.0	2.54
24.0		524	53.4	117,830	576	58.7	129,490	324.3	2.76
25.0		569	58.0	127,860	625	63.7	140,500	351.9	3.00
25.4	1	587	59.9	131,980	645	65.8	145,040	363.2	3.10
26.0		615	62.7	138,290	676	68.9	151,970	380.6	3.24
27.0		663	67.6	149,130	729	74.3	163,880	410.4	3.50
28.0		713	72.8	160,390	784	79.9	176,250	441.4	3.76

Revision:01/2017

DISCARD CRITERIA

Single-layer and parallel-closed ropes

Number of wire breaks, reached or exceeded, of visible broken wires occurring in single-layer and parallel-closed ropes, signalling discard of rope

Table 3

Rope category number RCN	Total number of load-bearing wires in the outer layer of strands in the rope[a] n	Number of visible broken outer wires[b]					
		Sections of rope working in steel sheaves and/or spooling on a single-layer drum (wire breaks randomly distributed)				Sections of rope spooling on a multi-layer drum[c]	
		Classes M1 to M4 or class unknown[d]				All classes	
		Ordinary lay		Lang lay		Ordinary and Lang lay	
		Over a length of $6d$[e]	Over a length of $30d$[e]	Over a length of $6d$[e]	Over a length of $30d$[e]	Over a length of $6d$[e]	Over a length of $30d$[e]
01	$n \leq 50$	2	4	1	2	4	8
02	$51 \leq n \leq 75$	3	6	2	3	6	12
03	$76 \leq n \leq 100$	4	8	2	4	8	16
04	$101 \leq n \leq 120$	5	10	2	5	10	20
05	$121 \leq n \leq 140$	6	11	3	6	12	22
06	$141 \leq n \leq 160$	6	13	3	6	12	26
07	$161 \leq n \leq 180$	7	14	4	7	14	28
08	$181 \leq n \leq 200$	8	16	4	8	16	32
09	$201 \leq n \leq 220$	9	18	4	9	18	36
10	$221 \leq n \leq 240$	10	19	5	10	20	38
11	$241 \leq n \leq 260$	10	21	5	10	20	42
12	$261 \leq n \leq 280$	11	22	6	11	22	44
13	$281 \leq n \leq 300$	12	24	6	12	24	48
	$n > 300$	$0.04xn$	$0.08xn$	$0.02xn$	$0.04xn$	$0.08xn$	$0.16xn$

NOTE Ropes having outer strands of Seale construction where the number of wires in each strand is 19 or less (e.g. 6 x 19 Seale) are placed in this table two rows above that row in which the construction would normally be placed based on the number of load bearing wire in the outer layer of strands.

a For the purposes of this International Standard, filler wires are not regarded as load-bearing wires and are not included in the values of n.

b A broken wire has two ends(counted as one wire)

c The values apply to deterioration that occurs at the cross-over zones and interference between wraps due to fleet angle effects (and not to those sections of rope that only work in sheaves and do not spool on the drum).

d Twice the number of broken wires listed may be applied to ropes on mechanisms whose classification is known to be M5 to M8.

e d = nominal diameter of rope

Rotation-resistant ropes

Number of wire breaks, reached or exceeded, of visible broken wires occurring in rotation-resistant ropes, signalling discard of rope

Table 4

Rope category number RCN	Number of outer strands and total number of load-bearing wires in the outer layer of strands in the rope[a] n	Number of visible broken outer wires[b]			
		Sections of rope working in steel sheaves and/or spooling on a single-layer drum (wire breaks randomly distributed)		Sections of rope spooling on a multi-layer drum[c]	
		Over a length of $6d$[d]	Over a length of $30d$[d]	Over a length of $6d$[d]	Over a length of $30d$[d]
21	4 strands $n \leq 100$	2	4	2	4
22	3 or4 strands $n \geq 100$	2	4	4	8
	At least 11 outer strands				
23-1	$71 \leq n \leq 100$	2	4	4	8
23-2	$101 \leq n \leq 120$	3	5	5	10
23-3	$121 \leq n \leq 140$	3	5	6	11
24	$141 \leq n \leq 160$	3	6	6	13
25	$161 \leq n \leq 180$	4	7	7	14
26	$181 \leq n \leq 200$	4	8	8	16
27	$201 \leq n \leq 220$	4	9	9	18
28	$221 \leq n \leq 240$	5	10	10	19
29	$241 \leq n \leq 260$	5	10	10	21
30	$261 \leq n \leq 280$	6	11	11	22
31	$281 \leq n \leq 300$	6	12	12	24
	$n > 300$	6	12	12	24

NOTE Ropes having outer strands of Seale construction where the number of wires in each strand is 19 or less (e.g. 18 x 19 Seale –WSC) are placed in this table two rows above that row in which the construction would normally be placed based on the number of wires in the outer layer of strands

a For the purposes of this International Standard, filler wires are not regarded as load- bearing wires and not included in the values ofn.

b A broken wire has two ends

c The values apply to deterioration that occurs at the cross-over zones and interference between wraps due to fleet angle effects (and not to those sections of rope that only work in sheaves and do not spool on the drum).

d d=nominal diameter of rope

SI Units and MKS Weight(Former) Unit Conversion Table(units used daily)

Volume	SI unit	former unit
Strength(breaking load)	1N	0.101972 kgf
	9.80665 N	1kgf
Tension(pull strength)and flexibility coefficient	1N/mm² [=1Mpa = 0.1hbar]	0.101972 kgf/mm²
	9.80665N/mm²	1kgf/mm²
Torque	1N · m	0.101972kgf · m
	9.80665 N · m	1kgf · m
Production volume and amount used	1kg(1t)	1kg(1t)
Unit mass	1kg/m(mass)	1kg/m(weight)
Coating adherence volume	1g/m²	1g/m²
Heat value, job, energy	1J	0.238889cal[=0.101972x10⁺¹kgf · m]
	4.18605J	1cal
	9.80665J	1kgf · m
Plane angle	1 rad	57° 17′ 44″ 8
	0.01744 rad	1°

Conversion Table

1) Conversion of the thickness

Circumference X 0.3183=Diameter
Diameter(in) X 25.4=Diameter(mm)
Diameter X 3.1416=Circumference
Dimeter X 0.1237=Circumference(in)
Circumference(in) X 8.0851=Diameter(mm)
Diameter(mm) X 0.03937=Diameter(in)

2) Conversion of unit mass

kg/m X 0.67196=1b/ft
1b/ft X 1.4882=kg/m
Unit mass of 100-meter steel wire=[wire diameter (mm)]² X 0.6126(kg)
[the weight shall be set as 7.8]

3) Conversion of the pull strength

kgf/mm² X 0.635=t/in²
kgf/mm² ² X 1422.3=1b/in²
t/in² ² X 1.5748=kgf/mm²
1b/in² ² X 0.0007031=kgf/mm²(100.0001b/in² =70.31kgf/mm²)

4) Conversion of coating adhesion volume

g/m² X 0.0033=oz(ounce)ft²
oz/ft² X 305.152=g/m²

Weights and Measures Comparison Table

1) Comparison table of length

Yard · Pound method				Meter method	
Mile	Yard	Feet	Inch	Meter	Millimeter
2.4403	4,294.9	12,885		3,927.3	
	119.3	357.92		3,927.3	
	1.988	5.965		1.818	1,818
		0.9942	11.931	0.303	303
1	1,760	5,280		1,609.3	
	1	3	36	0.9144	914.38
		1	12	0.30479	304.79
		0.0833	1	0.0254	25.4
	1.0936	3.281	39.371	1	1,000
			0.0394	0.001	1

One nautical mile =1,852meters
One fathom=6.0feet=1.829meters
One mil=0.001inch=0.0254millimeters

2) Unit mass comparison table

Yard · Pound method				Meter method	
Ton (English)	Pound	Ounce	Ton	Kilogram	Cram
	1.32277	21.1641		0.6	600
0.00369	8.2673	132.277	0.00375	3.75	3.750
		0.13227			3.75
1	2,240	35.840	1.01605	1,016.05	
	1	16		0.4536	453.59
		1			28.349
0.98420	2,204.62		1	1,000	
	2.2046		0.001	1	1,000
		0.03527		0.001	1

One ton(U.S.)(short ton)=2,000pounds=907.185kilograms

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