hyrope

KISWIRE
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KISWIRE

hyrope

Introduction

Kiswire is the largest wire rope manufacturer in the world with 60 years special experience.
Kiswire's special experience & comprehensive know-how made it possible to introduce 'hyrope series' which enables us to approach to the special wire rope market and finally become a strong player in this area.
'hyrope series' are made of the finest raw materials available, featuring excellent mechanical characteristics which conform to the requirements of the special wire rope market.
To keep up position in the SWR-market and to play the role of market leader in the future, Kiswire is investing into hyrope with large extent by dedicating a R&D team on a permanent basis for the SWR-market.
Kiswire will never rest.

Advantages of Hyrope

- Excellent strength to weight ratio
- Long fatigue life
- Good abrasion and wear resistance
- High torsional strength
- Easy rope handling
- Excellent corrosion resistance
- Reliable quality assurance

Contents

Hyfil 6

Regular Lay	Lang's Lay	Compacted	Rotary Swaged	PI
•	•	•		•

• Benefits of Hyfil 6

- Hyfil 6 has a plastic layer between the core and the compacted outer strands.
- Hyfil 6 has a high breaking load and good structural stability.
- Hyfil 6 is fully lubricated and made out of galvanized/ungalvanized wires.
- Hyfil 6 is suitable for multy layer spooling
- Hyfil 6 has a good resistance against drum crushing. - Hyfil 6 must not be used with a swivel.

• Discard criteria

(The number of break in the load bearing wires in outer strands)

Length	Regular Lay		Lang's Lay	
	6xd	30xd	6xd	30xd
discard	14	29	7	14

• The basic designed data of hyfil 6

Size	12~ 34	12~ 38	12~ 45
Total number of wire	205	235	265
Number of load-bearing wires in outer strands	156	186	216
The number of outer wire in outer strand	60	72	84
Average fill factor		0.68	

Nominal rope diameter		Diameter tolerance		Approximate unit Wt.		Minimum breaking force (Fmin, MBF)							
						Mertic unit				Imperial unit			
		min.	max.			1960 Grade		2160 Grade		1960 Grade		2160 Grade	
mm	inch	mm	mm	kg/m	lb/ft	kN	t(metric)	kN	t(metric)	klb	t(short)	klb	t(short)
12		12.0	12.5	0.680		120.7	12.3	128.0	13.0				
(12.7)	1/2	12.7	13.2		0.51					30.4	15.2	32.2	16.1
13		13.0	13.5	0.798		141.6	14.4	150.2	15.3				
14		14.0	14.6	0.926		164.2	16.7	174.2	17.8				
(14.3)	9/16	14.3	14.9		0.65					38.5	19.3	40.9	20.4
15		15.0	15.6	1.06		188.5	19.2	200.0	20.4				
(15.9)	5/8	15.9	16.5		0.81					48.2	24.1	51.1	25.6
16		16.0	16.6	1.21		214.5	21.9	227.5	23.2				
18		18.0	18.7	1.53		271.5	27.7	288.0	29.4				
19		19.0	19.8	1.71		302.5	30.8	320.8	32.7				
(19.1)	3/4	19.1	19.9		1.15					68.0	34.0	72.1	36.1
20		20.0	20.8	1.89		335.2	34.2	355.5	36.2				
22		22.0	22.9	2.29		405.5	41.4	430.2	43.9				
(22.2)	7/8	22.2	23.1		1.56					92.8	46.4	98.5	49.2
24		24.0	25.0	2.72		482.6	49.2	511.9	52.2				
25		25.0	26.0	2.95		523.7	53.4	555.5	56.6				
(25.4)	1	25.4	26.4		2.05					121.5	60.8	128.9	64.4
26		26.0	27.0	3.19		566.4	57.8	600.8	61.3				
27		27.0	28.1	3.44		610.8	62.3	647.9	66.1				
28		28.0	29.1	3.70		656.9	67.0	696.8	71.0				
(28.6)	1-1/8	28.6	29.7		2.60					154.1	77.0	163.4	81.7
29		29.0	30.2	3.97		704.7	71.9	747.4	76.2				
30		30.0	31.2	4.25		754.1	76.9	799.9	81.6				
31		31.0	32.2	4.54		805.2	82.1	854.1	87.1				
(31.8)	1-1/4	31.8	33.1		3.25					192.9	96.4	204.6	102.3
32		32.0	33.3	4.84		858.0	87.5	910.1	92.8				
33		33.0	34.3	5.14		912.5	93.0	967.9	98.7				
34		34.0	35.4	5.46		968.6	98.8	1,027.4	104.8				
(34.9)	1-3/8	34.9	36.3		3.89					230.7	115.4	244.7	122.4
35		35.0	36.4	5.79		1,026.4	104.7	1,088.7	111.0				
36		36.0	37.4	6.12		1,085.9	110.7	1,151.8	117.4				
38		38.0	39.5	6.82		1,209.9	123.4	1,283.4	130.9				
(38.1)	1-1/2	38.1	39.6		4.58					272.0	136.0	288.5	144.2
40		40.0	41.6	7.56		1,340.6	136.7	1,422.0	145.0				
(41.3)	1-5/8	41.3	43.0		5.15					305.8	152.9	324.4	162.2
42		42.0	43.7	8.33		1,478.0	150.7	1,567.8	159.9				
44		44.0	45.8	9.14		1,622.1	165.4	1,720.6	175.4				
(44.5)	1-3/4	44.5	46.3		6.29					373.0	186.5	395.6	197.8
45		45.0	46.8	9.57		1,696.7	173.0	1,799.7	183.5				

: Available upon request

Hyfil 8

Regular Lay	Lang's Lay	Compacted	Rotary Swaged	PI
•	•	•		•

• Benefits of Hyfil 8

- Hyfil 8 has a plastic layer between the core and the compacted outer strands.
- Hyfil 8 has a high breaking load and good structural stability.
- Hyfil 8 is fully lubricated and made out of galvanized/ungalvanized wires.
- Hyfil 8 is suitable for multy layer spooling
- Hyfil 8 has a good resistance against drum crushing. - Hyfil 8 must not be used with a swivel.

• Discard criteria

(The number of break in the load bearing wires in outer strands)

Length	Regular Lay		Lang's Lay	
	6xd	30xd	6xd	30xd
discard	18	35	9	18

• The basic designed data of hyfil 8

Size	12~ 42	42~ 48	42~ 54
Total number of wire	341	381	421
Number of load-bearing wires in outer strands	208	248	288
The number of outer wire in outer strand	80	96	112
Average fill factor		0.67	

Nominal rope diameter		Diameter tolerance		Approximate unit Wt.		Minimum breaking force (Fmin, MBF)							
						Mertic unit				Imperial unit			
		min.	max.			1960 Grade		2160 Grade		1960 Grade		2160 Grade	
mm	inch	mm	mm	kg/m	lb/ft	kN	t(metric)	kN	t(metric)	klb	t(short)	klb	t(short)
12		12.0	12.5	0.660		126.7	12.9	135.5	13.8				
(12.7)	1/2	12.7	13.2		0.50					31.9	15.9	34.1	17.1
13		13.0	13.5	0.775		148.7	15.2	159.0	16.2				
14		14.0	14.6	0.899		172.4	17.6	184.5	18.8				
(14.3)	9/16	14.3	14.9		0.63					40.4	20.2	43.3	21.6
15		15.0	15.6	1.03		197.9	20.2	211.7	21.6				
(15.9)	5/8	15.9	16.5		0.79					50.6	25.3	54.1	27.1
16		16.0	16.6	1.17		225.0	22.9	240.7	24.5				
18		18.0	18.7	1.49		284.7	29.0	304.6	31.1				
19		19.0	19.8	1.66		317.2	32.3	339.4	34.6				
(19.1)	3/4	19.1	19.9		1.11					71.3	35.7	76.3	38.1
20		20.0	20.8	1.83		351.5	35.8	376.1	38.3				
22		22.0	22.9	2.22		425.3	43.4	455.0	46.4				
(22.2)	7/8	22.2	23.1		1.52					97.4	48.7	104.2	52.1
24		24.0	25.0	2.64		506.2	51.6	541.5	55.2				
25		25.0	26.0	2.87		548.7	55.9	587.0	59.9				
(25.4)	1	25.4	26.4		1.99					127.3	63.7	136.2	68.1
26		26.0	27.0	3.10		593.4	60.5	634.9	64.7				
27		27.0	28.1	3.34		640.0	65.3	684.7	69.8				
28		28.0	29.1	3.59		688.2	70.2	736.4	75.1				
(28.6)	1-1/8	28.6	29.7		2.52					161.4	80.7	172.7	86.4
29		29.0	30.2	3.86		738.3	75.3	789.9	80.5				
30		30.0	31.2	4.13		790.1	80.6	845.3	86.2				
31		31.0	32.2	4.41		843.6	86.0	902.6	92.0				
(31.8)	1-1/4	31.8	33.1		3.16					202.1	101.0	216.2	108.1
32		32.0	33.3	4.70		898.9	91.7	961.8	98.1				
33		33.0	34.3	4.99		956.0	97.5	1,022.8	104.3				
34		34.0	35.4	5.30		1,014.8	103.5	1,085.8	110.7				
(34.9)	1-3/8	34.9	36.3		3.77					241.7	120.9	258.6	129.3
35		35.0	36.4	5.62		1,075.4	109.7	1,150.6	117.3				
36		36.0	37.4	5.94		1,137.7	116.0	1,217.2	124.1				
38		38.0	39.5		4.45	1,267.6	129.3	1,356.3	138.3				
(38.1)	1-1/2	38.1	39.6	6.62						285.0	142.5	304.9	152.4
40		40.0	41.6	7.34		1,404.6	143.2	1,502.8	153.2				
(41.3)	1-5/8	41.3	43.0		5.26					336.6	168.3	360.1	180.1
42		42.0	43.7	8.09		1,548.6	157.9	1,656.8	168.9				
44		44.0	45.8	8.88		1,699.6	173.3	1,818.4	185.4				
(44.5)	1-3/4	44.5	46.3		6.10					390.8	195.4	418.1	209.1
45		45.0	46.8	9.57		1,777.7	181.3	1,901.9	193.9				
46		46.0	47.8	9.70		1,857.6	189.4	1,987.4	202.7				
(47.6)	1-7/8	47.6	49.5		6.95					445.3	222.6	476.4	238.2
48		48.0	49.9	10.56		2,022.6	206.2	2,164.0	220.7				
50		50.0	52.0	11.46		2,194.7	223.8	2,348.1	239.4				
(50.8)	2	50.8	52.8		7.95					509.3	254.6	544.9	272.4
52		52.0	54.1	12.40		2,373.8	242.0	2,539.7	259.0				
54		54.0	56.2	13.37		2,559.9	261.0	2,738.8	279.3				

Available upon request :

Hyfil T6

Regular Lay	Lang's Lay	Compacted	Rotary Swaged	PI
•		•	•	•

Benefits of Hyfil T6

- Hyfil T6 is a flexible steel-plastic combination rope with double parallel layed strands. All strands are compacted and rotary swaged.
- Hyfil T6 has an extremely high breaking strength and is very resistant against abrasion.
- Hyfil T6 is suitable for multi layer spooling systems with guided loads.
- Hyfil T6 is fully lubricated and made out of galvanized/ungalvanized wires.
- Hyfil T6 must not be used with a swivel.

Discard criteria

(The number of break in the load bearing wires in outer strands)

Length	Lang's Lay	
	6xd	30xd
discard	19	38

The basic designed data of hyfil T6

Size	12~ 32
Total number of wire	224
Number of load-bearing wires in outer strands	156
The number of outer wire in outer strand	60
Average fill factor	0.72

Nominal rope diameter		Diameter tolerance		Approximate unit Wt.		Minimum breaking force (Fmin, MBF)			
						Mertic unit		Imperial unit	
		min.	max.			1960 Grade		1960 Grade	
mm	inch	mm	mm	kg/m	lb/ft	kN	t(metric)	klb	t(short)
12		12.0	12.5	0.711		135.6	13.8		
(12.7)	1/2	12.7	13.2		0.54			34.1	17.1
13		13.0	13.5	0.835		159.0	16.2		
14		14.0	14.6	0.968		184.4	18.8		
(14.3)	9/16	14.3	14.9		0.68			43.2	21.6
15		15.0	15.6	1.11		211.7	21.6		
(15.9)	5/8	15.9	16.5		0.85			54.1	27.1
16		16.0	16.6	1.26		240.8	24.6		
18		18.0	18.7	1.60		304.8	31.1		
19		19.0	19.8	1.78		339.2	34.6		
(19.1)	3/4	19.1	19.9		1.20			76.3	38.1
20		20.0	20.8	1.98		375.9	38.3		
22		22.0	22.9	2.39		454.8	46.4		
(22.2)	7/8	22.2	23.1		1.64			104.1	52.1
24		24.0	25.0	2.84		541.3	55.2		
25		25.0	26.0	3.09		587.3	59.9		
(25.4)	1	25.4	26.4		2.14			136.3	68.1
26		26.0	27.0	3.34		635.3	64.8		
27		27.0	28.1	3.60		685.1	69.9		
28		28.0	29.1	3.87		736.8	75.1		
(28.6)	1-1/8	28.6	29.7		2.71			172.8	86.4
29		29.0	30.2	4.15		790.3	80.6		
30		30.0	31.2	4.44		845.8	86.2		
31		31.0	32.2	4.75		903.1	92.1		
(31.8)	1-1/4	31.8	33.1		3.40			216.3	108.2
32		32.0	33.3	5.06		962.3	98.1		

: Available upon request

Hyfil T8

Regular Lay	Lang's Lay	Compacted	Rotary Swaged	PI
•		•	•	•

Benefits of Hyfil T8

- Hyfil T8 is a flexible steel-plastic combination rope with double parallel layed strands. All strands are compacted and rotary swaged.
- Hyfil T8 has an extremely high breaking strength and is very resistant against abrasion.
- Hyfil T8 is most suitable for multy layer spooling systems with guided loads.
- Hyfil T8 is fully lubricated and made out of galvanized/ungalvanized wires.
- Hyfil T8 must not be used with a swivel.

Discard criteria

(The number of break in the load bearing wires in outer strands)

Length	Lang's Lay	
	6xd	30xd
discard	18	35

The basic designed data of hyfil T8

Size	12~ 32
Total number of wire	290
Number of load-bearing wires in outer strands	208
The number of outer wire in outer strand	80
Average fill factor	0.75

Nominal rope diameter		Diameter tolerance		Approximate unit Wt.		Minimum breaking force (Fmin, MBF)			
						Mertic unit		Imperial unit	
		min.	max.			1960 Grade		1960 Grade	
mm	inch	mm	mm	kg/m	lb/ft	kN	t(metric)	klb	t(short)
12		12.0	12.5	0.719		144.7	14.8		
(12.7)	1/2	12.7	13.2		0.54			36.4	18.2
13		13.0	13.5	0.844		169.8	17.3		
14		14.0	14.6	0.979		196.9	20.1		
(14.3)	9/16	14.3	14.9		0.69			46.2	23.1
15		15.0	15.6	1.12		226.1	23.1		
(15.9)	5/8	15.9	16.5		0.86			57.8	28.9
16		16.0	16.6	1.28		257.0	26.2		
18		18.0	18.7	1.62		325.2	33.2		
19		19.0	19.8	1.80		362.4	37.0		
(19.1)	3/4	19.1	19.9		1.21			81.5	40.7
20		20.0	20.8	2.00		401.5	40.9		
22		22.0	22.9	2.42		485.8	49.5		
(22.2)	7/8	22.2	23.1		1.65			111.2	55.6
24		24.0	25.0	2.88		577.6	58.9		
25		25.0	26.0	3.12		626.8	63.9		
(25.4)	1	25.4	26.4		2.17			145.4	72.7
26		26.0	27.0	3.38		677.9	69.1		
27		27.0	28.1	3.64		731.0	74.5		
28		28.0	29.1	3.92		786.2	80.2		
(28.6)	1-1/8	28.6	29.7		2.75			184.4	92.2
29		29.0	30.2	4.20		843.4	86.0		
30		30.0	31.2	4.49		902.5	92.0		
31		31.0	32.2	4.80		963.7	98.3		
(31.8)	1-1/4	31.8	33.1		3.44			230.8	115.4
32		32.0	33.3	5.11		1,026.9	104.7		

Available upon request :

Hyfil 12

Regular Lay	Lang's Lay	Compacted	Rotary Swaged	PI
•	•	•		•

Benefits of Hyfil 12

- Hyfil 12 is suitable rope for high lifting height application with semi rotation resistance.
- Hyfil 12 has a plastic layer between the inner strands and outer strands and all strands are compacted.
- The steel-plastic combination increases structual stability.
- The rope is fully lubricated and made out of galvanized/ungalvanized wires.

Discard criteria

(The number of break in the load bearing wires in outer strands)

Length	Lang's Lay	
	6xd	30xd
discard	19	38

The basic designed data of hyfil 12

Size	8~ 40
Total number of wire	361
Number of load-bearing wires in outer strands	228
The number of outer wire in outer strand	108
Average fill factor	0.64

Nominal rope diameter		Diameter tolerance		Approximate unit Wt.		Minimum breaking force (Fmin, MBF)							
						Mertic unit				Imperial unit			
		min.	max.			1960 Grade		2160 Grade		1960 Grade		2160 Grade	
mm	inch	mm	mm	kg/m	lb/ft	kN	t(metric)	kN	t(metric)	klb	t(short)	klb	t(short)
8		8.0	8.3	0.312		53.3	5.4	58.4	6.0				
9		9.0	9.4	0.395		67.5	6.9	73.9	7.5				
(9.5)	3/8	9.5	9.9		0.30					16.9	8.4	18.5	9.3
10		10.0	10.4	0.488		86.3	8.8	94.6	9.6				
(11.1)	7/16	11.1	11.5		0.40					23.5	11.7	25.7	12.9
12		12.0	12.5	0.703		123.1	12.6	134.9	13.8				
(12.7)	1/2	12.7	13.2		0.53					31.1	15.5	34.0	17.0
13		13.0	13.5	0.825		147.7	15.1	161.7	16.5				
14		14.0	14.6	0.956		171.3	17.5	187.6	19.1				
(14.3)	9/16	14.3	14.9		0.67					40.2	20.1	44.0	22.0
15		15.0	15.6	1.10		196.6	20.0	215.3	22.0				
(15.9)	5/8	15.9	16.5		0.84					49.5	24.8	54.2	27.1
16		16.0	16.6	1.25		220.2	22.5	241.2	24.6				
18		18.0	18.7	1.58		276.5	28.2	302.8	30.9				
19		19.0	19.8	1.76		310.9	31.7	340.6	34.7				
(19.1)	3/4	19.1	19.9		1.18					69.9	34.9	76.6	38.3
20		20.0	20.8	1.95		346.9	35.4	379.9	38.7				
22		22.0	22.9	2.36		417.1	42.5	456.8	46.6				
(22.2)	7/8	22.2	23.1		1.62					95.5	47.7	104.6	52.3
24		24.0	25.0	2.81		499.1	50.9	546.7	55.7				
25		25.0	26.0	3.05		540.1	55.1	591.5	60.3				
(25.4)	1	25.4	26.4		2.12					125.9	63.0	137.9	69.0
26		26.0	27.0	3.30		589.0	60.1	645.2	65.8				
27		27.0	28.1	3.56		635.2	64.8	695.8	70.9				
28		28.0	29.1	3.83		679.6	69.3	744.3	75.9				
(28.6)	1-1/8	28.6	29.7		2.68					159.4	79.7	174.6	87.3
29		29.0	30.2	4.10		729.0	74.3	798.4	81.4				
30		30.0	31.2	4.39		777.2	79.2	851.3	86.8				
31		31.0	32.2	4.69		829.9	84.6	909.0	92.7				
(31.8)	1-1/4	31.8	33.1		3.36					198.9	99.4	217.8	108.9
32		32.0	33.3	5.00		884.8	90.2	969.1	98.8				
33		33.0	34.3	5.31		940.9	95.9	1,030.6	105.1				
34		34.0	35.4	5.64		998.2	101.8	1,093.3	111.5				
(34.9)	1-3/8	34.9	36.3		4.02					238.5	119.2	261.2	130.6
35		35.0	36.4	5.98		1,060.8	108.2	1,161.9	118.5				
36		36.0	37.4	6.32		1,125.3	114.7	1,232.6	125.7				
38		38.0	39.5	7.05		1,254.1	127.9	1,373.7	140.1				
(38.1)	1-1/2	38.1	39.6		4.73					281.9	141.0	308.8	154.4
40		40.0	41.6	7.81		1,363.6	139.0	1,493.6	152.3				

: Available upon request

Hylift 16

Regular Lay	Lang's Lay	Compacted	Rotary Swaged	PI
	•	•		

Benefits of Hylift 16

- Hylift 16 is the most suitable rope for high lifting height application.
- Hylift 16 is a rotation resistant rope, and made with compacted both parts of outer strands and inner strands
- Hylift 16 has an extremely high breaking strength with a very strong resistance against drum crushing.
- The rope is fully lubricated and made of galvanized/ungalvanized wires.

Discard criteria

(The number of break in the load bearing wires in outer strands)

Length	Lang's Lay	
	6xd	30xd
discard	5	10

The basic designed data of hylift 16

Size	10~ 40
Total number of wire	245
Number of load-bearing wires in outer strands	112
The number of outer wire in outer strand	96
Average fill factor	0.74

Nominal rope diameter		Diameter tolerance		Approximate unit Wt.		Minimum breaking force (Fmin, MBF)							
						Mertic unit				Imperial unit			
		min.	max.			1960 Grade		2160 Grade		1960 Grade		2160 Grade	
mm	inch	mm	mm	kg/m	lb/ft	kN	t(metric)	kN	t(metric)	klb	t(short)	klb	t(short)
10		10.0	10.4	0.510		91.8	9.4	97.9	10.0				
(11.1)	7/16	11.1	11.5		0.41					25.0	12.5	26.6	13.3
12		12.0	12.5	0.735		132.2	13.5	141.0	14.4				
(12.7)	1/2	12.7	13.2		0.55					33.3	16.6	35.5	17.8
13		13.0	13.5	0.862		155.1	15.8	165.5	16.9				
14		14.0	14.6	1.00		179.9	18.3	192.0	19.6				
(14.3)	9/16	14.3	14.9		0.70					42.2	21.1	45.0	22.5
15		15.0	15.6	1.15		206.5	21.1	220.4	22.5				
(15.9)	5/8	15.9	16.5		0.88					52.8	26.4	56.4	28.2
16		16.0	16.6	1.31		235.0	24.0	250.7	25.6				
18		18.0	18.7	1.65		297.4	30.3	317.3	32.4				
19		19.0	19.8	1.84		331.0	33.8	353.2	36.0				
(19.1)	3/4	19.1	19.9		1.24					74.4	37.2	79.4	39.7
20		20.0	20.8	2.04		366.8	37.4	391.4	39.9				
22		22.0	22.9	2.47		443.8	45.3	473.6	48.3				
(22.2)	7/8	22.2	23.1		1.69					101.6	50.8	108.4	54.2
24		24.0	25.0	2.94		528.2	53.9	563.6	57.5				
25		25.0	26.0	3.19		573.1	58.4	611.5	62.4				
(25.4)	1	25.4	26.4		2.21					133.0	66.5	141.9	71.0
26		26.0	27.0	3.45		619.9	63.2	661.4	67.4				
27		27.0	28.1	3.72		668.5	68.2	713.3	72.7				
28		28.0	29.1	4.00		718.9	73.3	767.1	78.2				
(28.6)	1-1/8	28.6	29.7		2.80					168.4	84.2	179.7	89.9
29		29.0	30.2	4.29		770.4	78.6	822.1	83.8				
30		30.0	31.2	4.59		824.4	84.1	879.7	89.7				
31		31.0	32.2	4.90		880.3	89.8	939.4	95.8				
(31.8)	1-1/4	31.8	33.1		3.51					210.9	105.4	225.0	112.5
32		32.0	33.3	5.23		938.0	95.6	1,000.9	102.1				
33		33.0	34.3	5.56		997.6	101.7	1,064.5	108.5				
34		34.0	35.4	5.90		1,058.9	108.0	1,130.0	115.2				
(34.9)	1-3/8	34.9	36.3		4.20					252.3	126.1	269.2	134.6
35		35.0	36.4	6.25		1,122.1	114.4	1,197.4	122.1				
36		36.0	37.4	6.61		1,187.2	121.1	1,266.8	129.2				
38		38.0	39.5	7.37		1,322.8	134.9	1,411.5	143.9				
(38.1)	1-1/2	38.1	39.6		4.95					297.4	148.7	317.3	158.6
40	40.0	41.6	8.16			1,465.7	149.4	1,564.0	159.5				

Available upon request :

Hyfil 18

Regular Lay	Lang's Lay	Compacted	Rotary Swaged	PI
	•	•		•

• Benefits of Hyfil 18

- Hyfil 18 is most suitable rope for multi spooling systems with rotation resistant ropes are required especially in the marine enviroment.
- Hyfil 18 has a plastic layer between the inner strands and outer strands and all strands are compacted.
- The steel-plastic combination increases structual stability.
- Hyfil 18 has an extremely high breaking strength with good resistance to drum crushing.
- The rope is fully lubricated and made out of galvanized /ungalvanizedwires.

• Discard criteria

(The number of break in the load bearing wires in outer strands)

Length	Lang's Lay	
	6xd	30xd
discard	6	11

• The basic designed data of hyfil 18

Size	16~ 40
Total number of wire	259
Number of load-bearing wires in outer strands	126
The number of outer wire in outer strand	108
Average fill factor	0.73

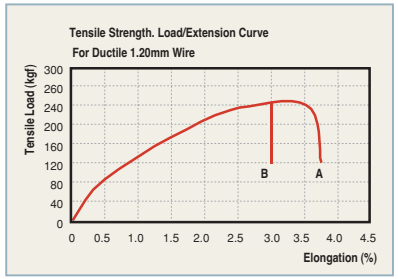
Nominal rope diameter		Diameter tolerance		Approximate unit Wt.		Minimum breaking force (Fmin, MBF)							
						Mertic unit				Imperial unit			
		min.	max.			1960 Grade		2160 Grade		1960 Grade		2160 Grade	
mm	inch	mm	mm	kg/m	lb/ft	kN	t(metric)	kN	t(metric)	klb	t(short)	klb	t(short)
(15.9)	5/8	15.9	16.5		0.89					52.6	26.3	56.1	28.1
16		16.0	16.6	1.33		234.0	23.9	249.7	25.5				
18		18.0	18.7	1.68		296.2	30.2	316.0	32.2				
19		19.0	19.8	1.88		330.0	33.6	352.1	35.9				
(19.1)	3/4	19.1	19.9		1.26					74.2	37.1	79.2	39.6
20		20.0	20.8	2.08		365.3	37.2	389.8	39.7				
22		22.0	22.9	2.52		442.0	45.1	471.6	48.1				
(22.2)	7/8	22.2	23.1		1.72					101.2	50.6	108.0	54.0
24		24.0	25.0	2.99		526.0	53.6	561.3	57.2				
25		25.0	26.0	3.25		570.8	58.2	609.0	62.1				
(25.4)	1	25.4	26.4		2.25					132.4	66.2	141.3	70.7
26		26.0	27.0	3.51		617.3	62.9	658.7	67.2				
27		27.0	28.1	3.79		665.7	67.9	710.4	72.4				
28		28.0	29.1	4.07		716.0	73.0	764.0	77.9				
(28.6)	1-1/8	28.6	29.7		2.86					167.9	84.0	179.2	89.6
29		29.0	30.2	4.37		768.0	78.3	819.5	83.6				
30		30.0	31.2	4.68		821.1	83.7	876.1	89.3				
31		31.0	32.2	4.99		876.7	89.4	935.5	95.4				
(31.8)	1-1/4	31.8	33.1		3.58					210.0	105.0	224.1	112.0
32		32.0	33.3	5.32		934.2	95.3	996.8	101.6				
33		33.0	34.3	5.66		993.5	101.3	1,060.1	108.1				
34		34.0	35.4	6.01		1,054.6	107.5	1,125.3	114.7				
(34.9)	1-3/8	34.9	36.3		4.28					251.2	125.6	268.1	134.0
35		35.0	36.4	6.37		1,117.6	114.0	1,192.5	121.6				
36		36.0	37.4	6.74		1,182.3	120.6	1,261.6	128.6				
38		38.0	39.5	7.50		1,317.4	134.3	1,405.7	143.3				
(38.1)	1-1/2	38.1	39.6		5.04						148.1	316.0	158.0
40		40.0	41.6	8.32		1,459.7	148.8	1,557.6	158.8				

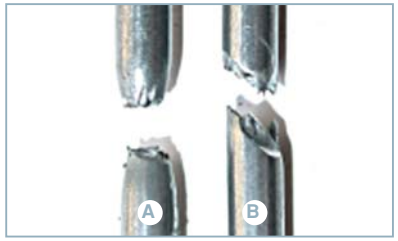
: Available upon request

hyrope

Wire Quality

- The quality and performance of Hyrope is fundamentally determined by the quality of component wires. It is absolutely impossible to achieve high performance when the rope is produced with inferior quality wires.
- The process of controlling the quality of wire begins with selection of high quality steel wire rods that can be manufactured by handful of world-class steel mills. Any defect or inconsistent microstructure of the rod is difficult to remove during wire production process, and could affect the quality of the final rope product.
- The wires are produced on modern, well cooled wire drawing machines, enabling the wires to retain the highest possible level of ductility. This is essential in order to deliver the maximum possible translation of wire strength into rope breaking load. Ductility of component wires is also a key factor in prolonged service life of rope.





Ductile Brittle

Comparison of Breaking Load

Hyrope products are designed not only to achieve greater tensile strength of the individual wires but also a combination of relative factors with high technology.

- Used only high quality wires that are produced in Kiswire's own drawing factory.
- Increased fill factor/metallic area of the rope through optimal compacting of the strands.
- Parallel lay with a plastic layer that substantially reduces the internal stresses of the rope.

Standard breaking strength of Hyrope is around 20~40% higher than a conventional rope to international standards of the same tensile grade and construction categories.

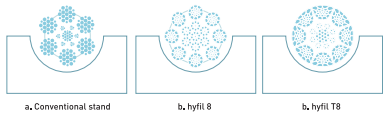
Items	ISO2408	Hylift 16	Hyfil 8	Hyfil 18	Hyfil T8	Hyfil T6
Ratio	1.00	1.31	1.26	1.31	1.43	1.34

Compacted and rotary Swaged Strands

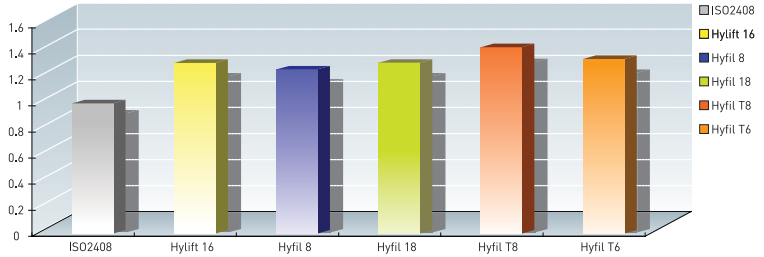
Most Hyrope products are made out of compacted strands. The strands are properly roller-compacted during the production process to improve the contact conditions between both the strands and the individual wires.

Benefits of Hyrope compacted strands

-Smooth Surface
-Linear contact between individual wires
-Much higher breaking load with higher metallic area
-Better contact between the rope surface and the sheaves
-Far more resistant to abrasion and corrosion
-Good constructional stability for the multi-layer spooling system



Breaking Load of Hyrope

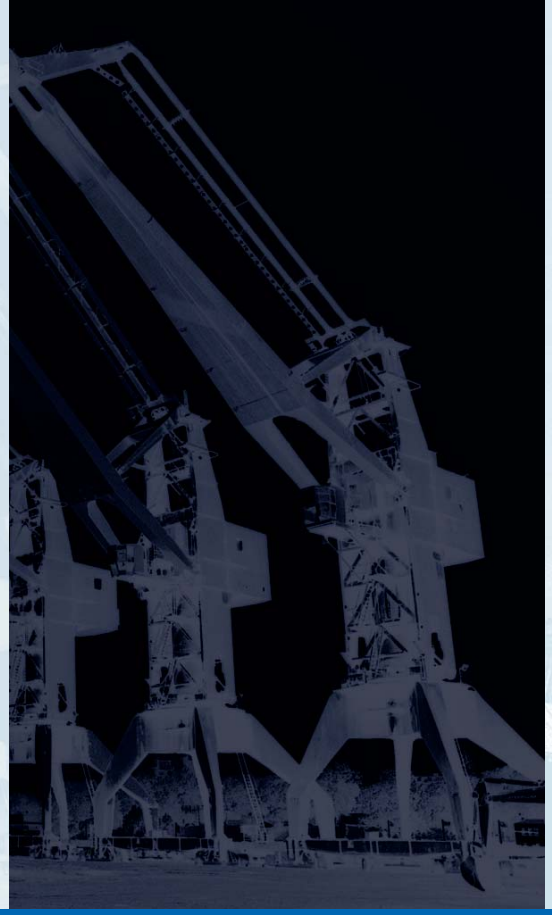


Plastic Layer

Steel-Plastic combination Long fatigue life
The plastic layer of Hyrope acts as a cushion between the layers.

This plastic layer has many advantages ;

- prevents direct metal-to-metal contact
- Stabilizes the rope construction during installation and actual service
- Keeps out water and harmful elements
- Seals in rope lubricant
- Removes the incidence of birdcaging
- Prevents internal wire breaks
- Absorbs dynamic energy
- Extremely reduces internal stress



Torque Factor

Hylift 16 and Hyfil 12 & 18 are rotation-resistant ropes with a steel core closed in the opposite direction to the outer strands.

When a load is applied, the core has the tendency to twist in one direction while the outer strands tend to rotate in the opposite direction.

The created moments in the core versus the created moments in the outer strands add to zero over a wide load spectrum.

Torque factor of Hyrope

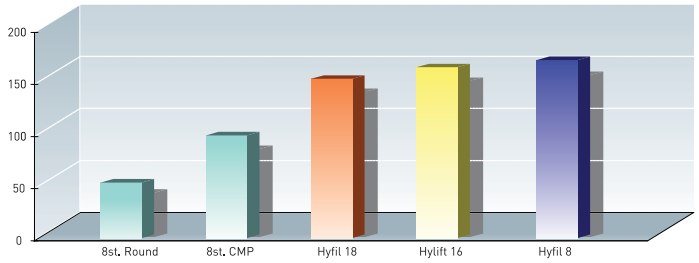
of MBL	Hylift16	Hyfil12&18	Hyfil6&8	HyfilT8
5%	0.006	0.004	0.051	0.067
10%	0.007	0.006	0.069	0.075
15%	0.007	0.008	0.073	0.082
20%	0.008	0.008	0.075	0.085

Bending Fatigue

Fatigue test result of Hyrope(in-house test)

D/d=20, 20% of MBL x 1000 Cycles

8st. Round	8st. CMP	Hyfil 18	Hylift 16	Hyfil T8
50	95	149	153	162



Relationship between service life of the wire rope and the grooves is shown in the figure. Experience has clearly demonstrated that the service life of the wire rope will be materially increased by strict adherence to these standards.

Torque Factor of Hyrope