YALE CORDAGE

INDUSTRIAL FOURTH EDITION

Yale Cordage began in 1950 with a belief that synthetic material and high-quality braiding techniques could transform the cordage industry. Rooted in applications engineering, our end-to-end approach allows us to deliver the best products and services customized to solve your unique problems. With durable materials, industry-recognized coatings and wear resistance, Yale's expert engineering produces a superior product from core to finish.

A rope industry leader in expertise and innovation - Yale is passion for the pursuit of better performance.

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Note on tolerances: All published rope diameters and weights are nominal and are subject to plus or minus (+/-) 5%.

The below infomation corresponds with asterisks on product data tables (unless otherwise noted)

* Knots and abrupt bends significantly reduce the strength of all ropes and lower the maximum working load.
** Working load is based on static or moderately dynamic lifting/pulling operations. Instantaneous changes in load, up or down, in excess of 10% of the rope's rated working load constitute hazardous shock load and would void the normal working-load recommendation. Consult Yale Cordage for guidelines for working loads and the safe use of rope.

Share your photos, videos, and projects with us by tagging #yalecordage on social media. Instructional splicing videos and company information can be found on our YouTube channel.

Complete technical information and product data sheets can be found on our website. Scan the code to browse the site now!

Industries Served

- ARBORIST
- COMMERCIAL MARINE
- CRANE
- ELECTRIC UTILITY
- ENTERTAINMENT
- GENERAL/MISC
- GOVERNMENT/DEFENSE
- HEAVY LIFT
- INLAND MARINE
- MINING
- MOORING
- OIL & GAS
- PLEASURE MARINE
- SAFETY & RESCUE

Rope Constructions

3-Strand

The simplest type of rope is formed by twisting fiber into a strand, and then twisting three strands into rope. Its conversion efficiency is relatively low since this construction technique is the hardest on fiber.

Plaited Rope

Eight-strand “Square Braid” is comprised of eight individual strands, which are woven together as four pairs. Its major advantages are nonrotation and high energy absorption.

Single Braid

This construction leaves a void in the center and utilizes strand counts of 8, 12 or 16. The hollow is instrumental in making it easy to splice. Hollow braids are nonrotating and are an extremely efficient way to utilize fiber.

Double Braid

This is really two separate ropes in one: the core, which is a single braid, is over-braided with a sleeve. This construction allows the rope to be used for more applications; the same or dissimilar fibers can be engineered into a rope suited for many specific applications. This construction entirely shields one of the two elements in the rope from abrasion.

Parallel Core

This construction consists of a core of parallel yarns that are held together by a wide variety of different means from extrusion to braiding. Due to their low twist level, these linear cables achieve the highest fiber-strength efficiency.

Sierra 78

Fiber Type: Dyneema® SK78

Elongation at WL: 0.6%

Elongation at Ult Break: 3.2 - 3.7%

Specific Gravity: 0.97 g/cc

Sustainable manufacturing with a low carbon footprint

3x the service life of generic HMPE fiber

Improved fatigue performance

4x the creep life of generic HMPE fiber

4x better abrasion resistance than generic HMPE

ISCC certified eco sustainable fiber

Berry compliant

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
1/16	2	0.1	0.2	840	380	756	342	168	76
1/8	3	0.3	0.5	2,310	1,045	2,079	941	462	209
5/32	4	0.5	0.8	3,570	1,620	3,213	1,458	714	324
3/16	5	1.0	1.5	6,300	2,862	5,670	2,574	1,260	572
1/4	6	1.7	2.5	10,500	4,765	9,450	4,289	2,100	953
5/16	8	2.4	3.6	15,540	7,055	13,986	6,350	3,108	1,411
3/8	10	3.6	5.3	21,000	9,530	18,900	8,577	4,200	1,906
7/16	11	4.6	6.8	27,825	12,630	25,043	11,367	5,565	2,526
1/2	13	6.4	9.6	39,270	17,825	35,343	16,043	7,854	3,565
9/16	14	8.0	11.9	47,250	21,450	42,525	19,305	9,450	4,290
5/8	16	9.5	14.1	55,650	25,265	50,085	22,739	11,130	5,053
3/4	19	14.0	20.8	78,750	35,750	70,875	32,175	15,750	7,150
7/8	22	17.9	26.7	102,900	46,715	92,610	42,044	20,580	9,343
1	25	24.2	36.0	126,000	57,200	113,400	51,480	25,200	11,440
1-1/8	29	28.8	42.9	155,400	70,550	139,860	63,495	31,080	14,110
1-1/4	32	33.9	50.5	180,600	81,990	162,540	73,791	36,120	16,398
1-5/16	33	41.8	62.2	193,200	87,710	173,880	78,939	38,640	17,542
1-1/2	38	55.4	82.5	257,775	117,025	231,998	105,323	51,555	23,405

BIO-BASED DYNEEMA® FIBER AT HEART

DSM

Ultrex

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
1/16	2	0.1	0.2	800	360	720	324	160	72
1/8	3	0.3	0.5	2,200	995	1,980	896	440	199
5/32	4	0.5	0.8	3,400	1,540	3,060	1,386	680	308
3/16	5	1.0	1.5	6,000	2,720	5,400	2,448	1,200	544
1/4	6	1.7	2.5	10,000	4,540	9,000	4,086	2,000	908
5/16	8	2.4	3.6	14,800	6,715	13,320	6,044	2,960	1,343
3/8	10	3.6	5.3	20,000	9,080	18,000	8,172	4,000	1,816
7/16	11	4.6	6.8	26,500	12,030	23,850	10,827	5,300	2,406
1/2	13	6.4	9.6	37,400	16,975	33,660	15,278	7,480	3,395
9/16	14	8.0	11.9	45,000	20,430	40,500	18,387	9,000	4,086
5/8	16	9.5	14.1	53,000	24,060	47,700	21,654	10,600	4,812
3/4	19	14.0	20.8	75,000	34,050	67,500	30,645	15,000	6,810
7/8	22	17.9	26.7	98,000	44,490	88,200	40,041	19,600	8,898
1	25	24.2	36.0	120,000	54,480	108,000	49,032	24,000	10,896
1-1/8	29	28.8	42.9	148,000	67,190	133,200	60,471	29,600	13,438
1-1/4	32	33.9	50.5	172,000	78,085	154,800	70,277	34,400	15,617
1-5/16	33	41.8	62.2	184,000	83,535	165,600	75,182	36,800	16,707
1 -1/2	38	55.4	82.5	254,000	115,315	228,600	103,784	50,800	23,063

Fiber Type: UHMWPE from DSM Protective Materials

Elongation at WL: 0.6%

Elongation at Ult Break: 2.7 - 3.0%

Specific Gravity: 0.97 g/cc

Low elongation

Zero water absorption

Light weight allows rope to be set in by helicopter

Superior abrasion resistance with Maxijacket HP coating

Maintains flexibility even in freezing conditions

High tensile strength

Superior wear life

DSM

Yellow Jacket 12

Fiber Type: Dyneema® SK75

Elongation at WL: 0.6%

Elongation at Ult Break: 3.2 - 3.7%

Specific Gravity: 0.97 g/cc

Sustainable manufacturing with a low carbon footprint

Enhanced creep life

Superior abrasion resistance with maxijacket coating

Color pattern made for twist identification

3-5% higher break strength lb for lb over generic HMPE

ISCC certified eco sustainable fiber

Berry compliant

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
7/16	11	4.6	6.8	27,295	12,390	24,566	11,151	5,459	2,478
1/2	13	6.4	9.6	38,522	17,485	34,670	15,737	7,704	3,497
9/16	14	8.0	11.9	46,350	21,040	41,715	18,936	9,270	4,208
5/8	16	9.5	14.1	54,590	24,780	49,131	22,302	10,918	4,956
3/4	19	14.0	20.8	77,250	35,070	69,525	31,563	15,450	7,014
7/8	22	17.9	26.7	100,940	45,825	90,846	41,243	20,188	9,165
1	25	24.2	36.0	123,600	56,110	111,240	50,499	24,720	11,222
1-1/8	29	28.8	42.9	152,440	69,205	137,196	62,285	30,488	13,841
1-1/4	32	33.9	50.5	177,160	80,430	159,444	72,387	35,432	16,086
1-5/16	33	41.8	62.2	189,520	86,040	170,568	77,436	37,904	17,208
1-1/2	38	55.4	82.5	262,444	119,145	236,200	107,231	52,489	23,829

BIO-BASED DYNEEMA® FIBER AT HEART

DSM

Maxibraid

Fiber Type: UHMWPE from DSM Protective Materials

Elongation at WL: 0.7%

Elongation at Ult Break: 3.0 - 3.5%

Specific Gravity: 0.97 g/cc

Increased twist and tighter braid angles for added durability

Retains roundness and spliceability for extended service life

Floats on water

Lightweight

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
1/8	3	0.4	0.6	1,800	815	1,620	734	360	163
5/32	4	0.6	0.9	2,700	1,225	2,430	1,103	540	245
3/16	5	0.9	1.3	4,300	1,950	3,870	1,755	860	390
1/4	6	1.6	2.4	6,600	2,995	5,940	2,696	1,320	599
5/16	8	2.3	3.4	13,000	5,900	11,700	5,310	2,600	1,180
3/8	10	3.6	5.3	17,350	7,875	15,615	7.088	3,470	1,575
7/16	11	3.8	5.6	18,560	8,425	16,704	7,538	3,712	1,685
1/2	13	6.1	9.1	30,350	13,775	27,315	12,398	6,070	2,755
9/16	14	7.7	11.5	38,750	17,590	34,875	15,831	7,750	3,518
5/8	16	9.1	13.5	45,540	20,675	40,986	18,608	9,108	4,135
3/4	19	12.4	18.5	55,770	25,315	50,193	22,784	11,154	5,063
7/8	22	16.4	24.5	70,540	32,025	63,486	28,823	14,108	6,405
1	25	20.2	30.0	84,750	38,475	76,275	34,628	16,950	7,695
1-1/8	29	26.5	39.5	108,000	49,020	97,200	44,127	21,600	9,806
1-1/4	32	34.7	51.7	120,000	54,480	108,000	49,032	24,000	10,896
1-5/16	33	39.5	58.8	130,000	59,020	117,000	53,118	26,000	11,804
1-1/2	38	45.5	67.8	156,000	70,820	140,400	63,738	31,200	14,164

DSM

PE-12

Fiber Type: High performance polyester

Elongation at WL: 3%

Elongation at Ult Break: 13.0 - 13.5%

Specific Gravity: 1.38 g/cc

Single-end-per carrier

Easy to splice

Field repairs are easy to accomplish

High twist and braid angles improve wear resistance

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
5/16	8	2.8	4.2	4,050	1,835	3,645	1,652	810	367
3/8	10	3.9	5.8	6,200	2,810	5,580	2,529	1,240	562
7/16	11	6.5	9.7	10,000	4,540	9,000	4,086	2,000	908
1/2	13	8.4	12.5	13,940	6,325	12,546	5,693	2,788	1,265
9/16	14	10.2	15.2	16,590	7,530	14,931	6,777	3,318	1,506
5/8	16	11.5	17.1	19,640	8,915	17,676	8,024	3,928	1,783
3/4	19	15.7	23.4	23,250	10,555	20,925	9,500	4,650	2,111
7/8	22	22.9	34.1	38,300	17,385	34,470	15,647	7,660	3,477
1	25	27.2	40.5	42,900	19,475	38,610	17,528	8,580	3,895

Yalex

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
1/4	6	1.7	2.5	3,300	1,495	2,970	1,346	660	299
5/16	8	2.4	3.1	5,350	2,425	4,815	2,813	1,070	485
3/8	10	3.6	4.1	6,600	2,995	5,940	2,696	1,320	599
7/16	11	4.6	6.4	11,990	5,440	10,791	4,896	2,398	1,088
1/2	13	6.4	8.4	15,370	6,975	13,833	6,278	3,074	1,395
9/16	14	8.0	10.3	18,860	8,560	16,974	7,704	3,772	1,712
5/8	16	9.5	11.6	20,900	9,485	18,810	8,537	4,180	1,897
3/4	19	14.0	15.5	27,000	12,255	24,300	11,030	5,400	2,451
7/8	22	17.9	23.0	42,100	19,110	37,890	17,199	8,420	3,822
1	25	24.2	32.3	48,950	22,220	44,055	19,998	9,790	4,444
1-1/8	29	28.8	34.6	61,600	27,965	55,440	25,169	12,320	5,593
1-1/4	32	33.9	38.9	72,050	32,710	64,845	29,439	14,410	6,542
1-5/16	33	41.8	46.1	82,220	37,325	73,998	33,593	16,444	7,465
1-1/2	38	55.4	59.4	102,850	46,690	92,565	42,021	20,570	9,338
1-5/8	41	62.0	82.2	123,750	56,180	111,375	50,562	24,750	11,236
1-3/4	44	75.4	93.1	132,000	59,925	118,800	53,933	26,400	11,985
2	51	91.3	115.8	146,520	66,520	131,868	59,868	29,304	13,304

Fiber Type: Premium over finish polyester

Elongation at WL: 3%

Elongation at Ult Break: 15.8 - 16.3%

Specific Gravity: 1.38 g/cc

Easy to splice

Maxijacket urethane coating reduces snagging

Option to color code for application or load rating

Yarn treated with marine grade finish prior to twisting

2-ply construction helps retain shape; used rope easy to splice

Optimus

Fiber Type: Solution-dyed polyester

Elongation at WL: 3.5%

Elongation at Ult Break: 14.5 - 15.0%

Specific Gravity: 1.38 g/cc

Provides optimal UV and weather resistance

Specifically designed for slings and splicing

Option to color code for application or load rating

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
3/8	10	4.0	6.0	6,000	2,720	5,400	2,448	1,200	544
1/2	13	9.2	13.7	13,500	6,125	12,150	5,513	2,700	1,225
5/8	16	11.7	17.4	19,000	8,625	17,100	7,763	3,800	1,725
3/4	19	16	23.8	25,000	11,350	22,500	10,215	5,000	2,270
7/8	22	25	37.2	36,000	16,340	32,400	14,706	7,200	3,268

Pilot Line

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
5/16	8	2.3	3.4	3,600	1,630	3,240	1,467	720	326

Fiber Type: Polyester

Elongation at WL: 3%

Elongation at Ult Break: 13.0 - 13.5%

Specific Gravity: 1.38 g/cc

Best in class value

Industry standard for pilot line systems and stringing applications

Maxijacket coating for improved abrasion resistance

PolyPlus

Fiber Type: Polyester / Polyolefin Blend

Elongation at WL: 3.4%

Elongation at Ult Break: 14.3 - 15.0%

Specific Gravity: 1.25 g/cc

High-tenacity polyester plied over "para-ep" polyolefin

Good handling characteristics

Strongest single-braid polyester/ polyolefin blended rope available

Manufactured with a single red strand

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
1/4	6	1.6	2.5	2,820	1,280	2,538	1,152	564	256
3/8	10	3.6	5.4	5,880	2,665	5,292	2,399	1,176	533
7/16	11	4.3	6.4	7,250	3,290	6,525	2,961	1,450	658
1/2	13	5.9	8.8	9,600	4,355	8,640	3,920	1,920	871
5/8	16	9.3	13.8	14,200	6,445	12,780	5,801	2,840	1,289
3/4	19	12.3	18.3	20,500	9,305	18,450	8,375	4,100	1,861

Vectrus

Fiber Type: Vectran™ LCP (Liquid Crystal Polymer)

Elongation at WL: 0.6%

Elongation at Ult Break: 2.7 - 3.2%

Specific Gravity: 1.40 g/cc

LCP is more tolerant of tighter bending radii in terminations than other high-modulus fibers

Enhanced UV resistance

Little to no creep

620°F (325°C) melt point allows for high temperature applications previously exclusive to wire rope

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
1/16	2	0.2	0.3	800	360	720	324	160	72
1/8	3	0.4	0.6	2,790	1,265	2,511	1,139	558	253
5/32	4	0.9	1.3	4,820	2,185	4,338	1,976	964	437
3/16	5	1.2	1.8	5,600	2,540	5,040	2,286	1,120	508
1/4	6	1.9	2.8	8,200	3,720	7,380	3,348	1,640	744
5/16	8	2.8	4.2	16,260	7,380	14,634	6,642	3,252	1,476
3/8	10	4.0	6.0	19,470	8,835	17,523	7,952	3,894	1,767
7/16	11	5.5	8.2	26,390	11,980	23,751	10,782	5,278	2,396
1/2	13	7.5	11.2	32,000	14,525	28,800	13,073	6,400	2,905
9/16	14	10.0	14.9	38,000	17,250	34,200	15,525	7,600	3,450
5/8	16	12.7	18.8	52,500	23,835	47,250	21,452	10,500	4,767
3/4	19	19.4	28.9	70,000	31,780	63,000	28,602	14,000	6,356
7/8	22	24.5	36.5	89,000	40,405	80,100	36,365	17,800	8,081
1	25	31.1	46.4	109,000	49,485	98,100	44,537	21,800	9,897
1-1/4	32	46.1	68.6	147,000	66,735	132,300	60,062	29,400	13,347
1-3/8	35	58.4	87.0	187,000	84,895	168,300	76,406	37,400	16,979
1-1/2	38	67.9	101.1	210,000	95,340	189,000	85,806	42,000	19,068
1-5/8	41	79.9	119.0	245,000	111,230	220,500	100,107	49,000	22,246

Aracom 100

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
1/8	3	0.5	0.7	2,200	995	1,980	896	440	199
5/32	4	0.9	1.3	3,640	1,650	3,276	1,485	728	330
3/16	5	1.1	1.6	5,590	2,535	5,031	2,282	1,118	507
1/4	6	2.0	3.0	9,150	4,150	8,235	3,735	1,830	830
5/16	8	3.1	4.6	13,600	6,170	12,240	5,553	2,720	1,234
3/8	10	4.4	6.6	17,600	7,990	15,840	7,191	3,520	1,598
7/16	11	5.6	8.3	23,650	10,735	21,285	9,662	4,730	2,147
1/2	13	6.8	10.1	28,600	12,980	25,740	11,682	5,720	2,596
9/16	14	10.3	15.3	37,590	17,065	33,831	15,359	7,518	3,413
5/8	16	12.5	18.6	51,000	23,150	45,900	20,835	10,200	4,630
3/4	19	18.5	27.5	66,300	30,100	59,670	27,090	13,260	6,020
7/8	22	24.1	35.9	85,680	38,895	77,112	35,006	17,136	7,779
1	25	29.6	44.1	102,000	46,305	91,800	41,675	20,400	9,261

Fiber Type: Technora® Aramid

Elongation at WL: 0.9%

Elongation at Ult Break: 3.5 - 4.0%

Specific Gravity: 1.44 g/cc

Inherent temperature resistance

Low creep

Technora®
The power of Aramid

Lugger Line

Fiber Type: Olefin copolymer
Elongation at WL: 2.2%
Elongation at Ult Break: 13.0 - 13.5%
Specific Gravity: 0.95 g/cc

Lightweight and floats
Remains flexible in freezing conditions
Will not kink or hockle

Shark Byte 12

Fiber Type: Olefin copolymer & Vectran LCP (Liquid Crystal Polymer) Blend
Elongation at WL: 1.2%
Elongation at Ult Break: 4.0 - 4.5%
Specific Gravity: 1.10 g/cc

Torque free
Neutrally buoyant
Hard to cut through
Easy to splice

Shark Byte 8

Higher specific gravity to ensure sinking
Made to match existing mooring line systems

Fiber Type: Olefin copolymer / Polyester Blend
Elongation at WL: 3.3%
Elongation at Ult Break: 16.0 - 16.5%
Specific Gravity: 1.14 g/cc

Phantom 12

Fiber Type: Technora® Aramid
Elongation at WL: 1%
Elongation at Ult Break: 3.8 - 4.3%
Specific Gravity: 1.4 g/cc

Grips winch surfaces securely so you can use fewer wraps to control loads more easily
Grips in your hand comfortably, making rigging and set work easier to hold, adjust, and control
Grip will hold highly loaded knots and hitches
Glides when released from stoppers and cam devices without kinking or hooking
Glides through block easily

Hy-Dee Brait

Nubby texture provides excellent grip
Treated with a proprietary chemical mixture Yale calls Aralube-dielectric
Highest dielectric-strength rope commercially available

Fiber Type: Bi-polymer
Elongation at WL: 2.7%
Elongation at Ult Break: 22.0 - 22.5%
Specific Gravity: 0.93 g/cc

Maxibraid Plus

Fiber Type: UHMWPE from DSM Protective Materials, Polyester Sleeve

Elongation at WL: 0.6%

Elongation at Ult Break: 2.8 - 3.2%

Specific Gravity: 1.18 g/cc

Provides more abrasion resistance in high-wear applications

Extraordinary strength, low elongation, and sleeve toughness deliver outstanding control

Expertly engineered strength and elasticity specifications

Superior wear life - 100% of load bearing capacity accomplished by the core alone

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
1/4	6	2.1	3.1	5,400	2,450	4,860	2,205	1,080	490
5/16	8	3.2	4.7	10,270	4,660	9,243	4,194	2,054	932
3/8	10	4.3	6.4	13,180	5,980	11,862	5,382	2,636	1,196
7/16	11	5.5	8.2	16,150	7,330	14,535	6,597	3,230	1,466
1/2	13	7.3	10.9	21,000	9,530	18,900	8,577	4,200	1,906
9/16	14	9.1	13.6	28,000	12,710	25,200	11,439	5,600	2,524
5/8	16	11.0	16.4	34,000	15,435	30,600	13,892	6,800	3,087
3/4	19	14.2	21.1	44,000	19,975	39,600	17,978	8,800	3,995
7/8	22	21.3	31.7	63,000	28,600	56,700	25,740	12,600	5,720
1	25	25.8	38.3	75,000	34,050	67,500	30,645	15,000	6,810
1-1/8	29	32.2	47.9	100,000	45,400	90,000	40,860	20,000	9,080
1-1/4	32	37.9	56.5	123,000	55,840	110,700	50,256	24,600	11,168

Ultrex Plus

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
1/4	6	2.4	3.6	6,180	2,805	5,562	2,525	1,236	561
5/16	8	2.9	4.3	9,580	4,345	8,622	3,911	1,916	869
3/8	10	3.8	5.7	13,080	5,935	11,772	5,342	2,616	1,187
7/16	11	4.9	7.3	15,760	7,155	14,184	6,440	3,152	1,431
1/2	13	7.3	10.9	22,660	10,285	20,394	9,257	4,532	2,057
9/16	14	9.0	13.4	30,000	13,620	27,000	12,258	6,000	2,724
5/8	16	11.6	17.3	35,020	15,895	31,518	14,306	7,004	3,179
3/4	19	14.1	21.0	46,350	21,040	41,715	18,936	9,270	4,208
7/8	22	22.8	34.0	64,890	29,460	58,401	26,514	12,978	5,892
1	25	26.0	38.7	77,250	35,070	69,525	31,563	15,450	7,014
1-1/8	29	35.8	53.3	103,000	46,760	92,700	42,084	20,600	9,352
1-1/4	32	43.5	64.8	123,600	56,110	111,240	50,499	24,720	11,222
1-5/16	33	45.7	68.1	152,400	69,185	137,160	62,267	30,480	13,837
1-1/2	38	61.3	91.3	177,160	80,430	159,444	72,387	35,432	16,086
1-5/8	41	71.7	106.8	189,520	86,040	170,568	77,436	37,904	17,208
1-3/4	44	85.6	127.5	236,900	107,550	213,210	96,795	47,380	21,510
2	51	108.6	161.7	293,550	133,270	264,195	119,943	58,710	26,654

Fiber Type: Dyneema® SK78

Elongation at WL: 0.5%

Elongation at Ult Break: 2.6 - 3.1%

Specific Gravity: 1.18 g/cc

Inner load bearing core of bio-based SK78 Dyneema® fiber

Sleeved with high tenacity polyester

Maxijacket coating for enhanced toughness

Mega Max

Fiber Type: UHMWPE from DSM Protective Materials

Elongation at WL: 0.5%

Elongation at Ult Break: 2.6 - 3.1%

Specific Gravity: 0.97 g/cc

Unique design provides the ultimate abrasion protection while still providing the highest strength possible

Works well on winches, around bollards and through chocks

Great solution for lightweight handling on deck

Well suited for high-contact abrasion applications

Finished Diameter Inches	Core Diameter Inches	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
5/8	1/2	9.7	14.4	39,250	17,815	35,325	16,034	7,850	3,563
3/4	9/16	11.9	17.7	47,000	21,335	42,300	19,202	9,400	4,267
7/8	5/8	17.0	25.3	55,500	25,195	49,950	22,676	11,100	5,039
1	3/4	21.6	32.2	75,000	34,050	67,500	30,645	15,000	6,810
1-1/8	7/8	26.6	39.6	98,000	44,490	88,200	40,041	19,600	8,898
1-5/16	1	35.5	52.9	120,000	54,480	108,000	49,032	24,000	10,896
1-3/8	1-1/8	45	67	148,000	67,190	133,200	60,471	29,600	13,438
1-1/2	1 1/4	55.4	82.5	172,000	78,085	154,800	70,277	34,400	15,617

Crystalyne

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
3/16	5	1.4	2.1	3,440	1,560	3,096	1,404	688	312
1/4	6	2.2	3.3	5,790	2,625	5,211	2,363	1,158	525
5/16	8	3.0	4.5	8,730	3,960	7,857	3,564	1,746	792
3/8	10	4.4	6.6	13,360	6,065	12,024	5,459	2,672	1,213
7/16	11	6.1	9.1	16,800	7,625	15,120	6,863	3,360	1,525
1/2	13	8.5	12.7	21,590	9,800	19,431	8,820	4,318	1,960
9/16	14	11.1	16.5	26,000	11,800	23,400	10,620	5,200	2,360
5/8	16	12.0	17.9	30,000	13,620	27,000	12,258	6,000	2,724
11/16	17	18.8	28.0	40,000	18,160	36,000	16,344	8,000	3,632
3/4	19	20.0	29.8	45,000	20,430	40,500	18,387	9,000	4,086
7/8	22	24.4	36.3	63,000	28,600	56,700	25,740	12,600	5,720
1	25	33.3	49.6	80,000	36,320	72,000	32,688	16,000	7,264
1-1/8	29	41.6	61.9	100,000	45,400	90,000	40,860	20,000	9,080
1-1/4	32	46.0	68.5	120,000	54,480	108,000	49,032	24,000	10,896

Fiber Type: Vectran LCP (Liquid Crystal Polymer), Polyester Sleeve

Elongation at WL: 0.5%

Elongation at Ult Break: 2.6 - 3.1%

Specific Gravity: 1.40 g/cc

Inner load-bearing core of Vectran Liquid Crystal Polymer (LCP)

Tough polyester outer sleeve

LCP fiber has little or no tendency to creep

Can be used to hold tight tolerances in rope assemblies

Hydrophobic, will not absorb water

Aracom T

Fiber Type: Technora® Aramid, Polyester Sleeve

Elongation at WL: 0.7%

Elongation at Ult Break: 3.0 - 3.5%

Specific Gravity: 1.40 g/cc

Strength comes from the core, sleeve is meant to protect the core from abrasion

Less internal abrasion reduces lament breakage in processing and helps us manage fiber tensions in the factory as we ply up a strand

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
3/16	5	1.5	2.2	4,800	2,175	4,320	1,958	960	435
1/4	6	2.7	4.0	6,800	3,085	6,120	2,777	1,360	617
5/16	8	3.8	5.7	9,700	4,400	8,730	3,960	1,940	880
3/8	10	5.1	7.6	14,500	6,580	13,050	5,922	2,900	1,316
7/16	11	6.8	10.1	17,500	7,945	15,750	7,151	3,500	1,589
1/2	13	8.7	13.0	23,000	10,440	20,700	9,396	4,600	2,088
9/16	14	10.0	14.9	27,500	12,485	24,750	11,237	5,500	2,497
5/8	16	13.3	19.8	34,350	15,590	30,915	14,031	6,870	3,118
3/4	19	16.9	25.2	39,390	17,880	35,451	16,092	7,878	3,576
7/8	22	24.5	36.5	69,400	31,505	62,460	28,355	13,880	6,301
1	25	32.5	48.4	86,800	39,405	78,120	35,465	17,360	7,881
1-1/8	29	45.0	67.0	97,850	44,420	88,065	39,978	19,570	8,884
1-1/4	32	51.0	75.9	110,000	49,940	99,000	44,946	22,000	9,988

Technora®
The power of Aramid

Aracom Miniline

Fiber Type: Technora® Aramid & Polyester

Elongation at WL: 0.6%

Elongation at Ult Break: 2.5 - 3.0%

Specific Gravity: 1.40 g/cc

Maximum strength–to-weight ratio in a composite Aramid polyester construction

Can also be ordered with fuzz fairing

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
1/16	2	0.2	0.3	470	210	423	189	94	42
3/32	2.4	0.4	0.6	890	400	801	360	178	80
1/8	3	0.8	1.2	1,730	785	1,557	707	346	157
5/32	4	1.0	1.5	2,500	1,135	2,250	1,022	500	227
3/16	5	1.7	2.5	4,200	1,905	3,780	1,715	840	381
1/4	6	2.5	3.7	6,300	2,860	5,670	2,574	1,260	572
5/16	8	3.3	4.9	8,400	3,810	7,560	3,429	1,680	762
3/8	10	4.2	6.3	13,790	6,260	12,411	5,634	2,758	1,252
7/16	11	6.7	10.0	17,320	7,860	15,588	7,074	3,464	1,572
1/2	13	8.0	11.9	22,000	9,985	19,800	8,987	4,400	1,997
9/16	14	10.6	15.8	30,500	13,845	27,450	12,461	6,100	2,769
5/8	16	12.0	17.9	36,000	16,340	32,400	14,706	7,200	3,268
3/4	19	21.0	31.3	56,000	25,420	50,400	22,878	11,200	5,084
7/8	22	25.9	38.6	78,000	35,410	70,200	31,869	15,600	7,082
1	25	33.9	50.5	94,000	42,675	84,600	38,408	18,800	8,535

Technora®
The power of Aramid

Double Esterlon

Fiber Type: Premium over finish polyester core & sleeve

Elongation at WL: 2.2%

Elongation at Ult Break: 12.5 - 13.0%

Specific Gravity: 1.38 g/cc

Yarn treated with marine grade finish prior to twisting

Balanced double braid

High performance finish to reduce yarn-on-yarn abrasion

Low stretch

Excellent wear life

Easily spliced

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
1/4	6	2.4	3.6	2,940	1,330	2,646	1,197	588	266
5/16	8	3.2	4.8	3,750	1,700	3,375	1,530	750	340
3/8	10	4.2	6.3	5,740	2,605	5,166	2,345	1,148	521
7/16	11	5.7	8.5	7,690	3,490	6,921	3,141	1,538	698
1/2	13	7.8	11.6	11,000	4,990	9,900	4,491	2,200	998
9/16	14	9.8	14.6	13,290	6,030	11,961	5,658	2,658	1,206
5/8	16	13.9	20.8	17,540	7,960	15,786	5,427	3,508	1,592
3/4	19	16.5	24.6	20,800	9,440	18,720	7,164	4,160	1,888
7/8	22	23.8	35.4	33,000	14,980	29,700	8,496	6,600	2,996
1	25	33.7	50.2	46,200	20,970	41,580	13,482	9,240	4,194
1-1/16	27	39.1	58.2	47,500	21,565	42,750	18,873	9,500	4,313
1-1/8	29	44.7	66.5	54,100	24,560	48,690	19,409	10,820	4,912
1-1/4	32	50.9	75.5	63,700	28,915	57,330	22,104	12,740	5,783
1-5/16	33	57.4	85.5	70,360	31,940	63,324	26,024	14,072	6,388
1-1/2	38	70.1	104.4	88,890	40,355	80,001	28,746	17,778	8,071
1-5/8	41	83.2	123.9	93,710	42,540	84,339	36,320	18,742	8,508
1-3/4	44	103.0	153.3	111,930	50,815	100,737	45,734	22,386	10,163
2	51	123.5	183.9	133,450	60,585	120,105	54,527	26,690	12,117

Portland Braid

Fiber Type: Polyester Core, Polyester Sleeve

Elongation at WL: 2.0%

Elongation at Ult Break: 12.3 - 14.1%

Specific Gravity: 1.38 g/cc

Balanced double braid

Low stretch

Great wear life

Easily spliced

Built in the same manner as our Double Esterlon, this product offers consistent performance

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
1/4	6	2.2	3.3	2,440	1,105	2,196	995	488	221
5/16	8	3.5	5.2	3,740	1,695	3,366	1,526	748	339
3/8	10	5.0	7.4	4,990	2,265	4,491	2,039	998	453
7/16	11	6.3	9.4	7,270	3,300	6,543	2,970	1,454	660
1/2	13	7.9	11.8	10,000	4,540	9,000	4,086	2,000	908
9/16	14	10.0	14.9	12,450	5,650	11,205	5,085	2,490	1,130
5/8	16	13.0	19.4	15,180	6,890	13,662	6,201	3,036	1,378
3/4	19	16.4	24.4	18,900	8,580	17,010	7,722	3,780	1,716
7/8	22	27.1	40.4	31,050	14,095	27,945	12,686	6,210	2,819
1	25	36.6	54.5	40,320	18,305	36,288	16,475	8,064	3,661
1-1/8	29	43.5	64.8	52,360	23,770	47,124	21,393	10,472	4,754
1-1/4	32	54.0	80.4	54,600	24,785	49,140	22,307	10,920	4,957
1-1/2	38	69.2	103.0	67,670	30,720	60,903	27,648	13,534	6,144
1-3/4	44	103.0	153.4	96,000	43,580	86,400	39,222	19,200	8,716
2	51	132.0	196.6	125,240	56,855	112,716	51,170	25,048	11,371
2-1/4	57	155.0	230.8	150,000	68,100	135,000	61,290	30,000	13,620
2-1/2	64	172.6	257.0	168,200	76,360	151,380	68,724	33,640	15,272
2-5/8	67	220.0	327.6	210,000	95,340	189,000	85,806	42,000	19,068

Polydyne

Fiber Type: Nylon Core, Polyester Sleeve

Elongation at WL: 5.1%

Elongation at Ult Break: 20.8 - 21.8%

Specific Gravity: 1.24 g/cc

High break strength with more stretch in the working load range

Extraordinary dynamic capabilities

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
1/4	6	1.9	2.8	2,875	1,305	2,588	1,175	575	261
5/16	8	2.8	4.2	4,370	1,980	3,933	1,782	874	396
3/8	10	4.4	6.6	5,750	2,610	5,175	2,349	1,150	522
7/16	11	5.8	8.6	8,625	3,915	7,763	3,524	1,725	783
1/2	13	7.6	11.3	13,280	6,025	11,952	5,423	2,656	1,205
9/16	14	9.7	14.4	15,950	7,240	14,355	6,516	3,190	1,448
5/8	16	13.6	20.3	22,300	10,120	20,070	9,108	4,460	2,024
3/4	19	18.5	27.5	30,360	13,780	27,324	12,402	6,072	2,756
7/8	22	24.4	36.3	38,640	17,540	34,776	15,786	7,728	3,508
1	25	31.5	46.9	48,300	21,925	43,470	19,733	9,660	4,385
1-1/8	29	41.5	61.8	57,200	25,965	51,480	23,369	11,440	5,193
1-1/4	32	50.8	75.6	71,500	32,460	64,350	29,214	14,300	6,492
1-5/16	33	55.0	81.9	84,700	38,450	76,230	34,605	16,940	7,690
1-1/2	38	66.0	98.3	99,000	44,945	89,100	40,451	19,800	8,989

Yalon

Fiber Type: Nylon Core & Sleeve

Elongation at WL: 7%

Elongation at Ult Break: 19.0 - 21.0%

Specific Gravity: 1.14 g/cc

High energy absorption

Controlled stretch

Exceeds the strength requirements of MIL-DTL-24050

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
1/4	6	1.5	2.2	2,100	950	1,890	855	420	190
5/16	8	2.8	4.2	3,500	1,585	3,150	1,427	700	317
3/8	10	3.7	5.5	4,800	2,175	4,320	1,958	960	435
7/16	11	5.3	7.9	6,500	2,950	5,850	2,655	1,300	590
1/2	13	7.0	10.4	8,300	3,765	7,470	3,389	1,660	753
9/16	14	10.0	14.9	12,000	5,445	10,800	4,901	2,400	1,089
5/8	16	13.0	19.4	17,000	7,715	15,300	6,944	3,400	1,543
3/4	19	16.2	24.1	21,000	9,530	18,900	8,577	4,200	1,906
7/8	22	23.3	34.7	29,500	13,390	26,500	12,051	5,900	2,678
1	25	28.5	42.4	34,000	15,435	30,600	13,892	6,800	3,087
1-1/8	29	37.7	56.1	47,500	21,565	42,750	19,409	9,500	4,313
1-1/4	32	43.9	65.4	53,000	24,060	47,700	21,654	10,600	4,812
1-5/16	33	49.6	73.9	61,000	27,690	54,900	24,921	12,200	5,538
1-1/2	38	61.1	91.0	80,000	36,320	72,000	32,688	16,000	7,264
1-5/8	41	68.5	102.0	88,500	40,175	79,650	36,158	17,700	8,035
1-3/4	44	85.9	127.9	106,000	48,120	95,400	43,308	21,200	9,624
2	51	101.0	150.4	129,000	58,565	116,100	52,709	25,800	11,713
2-1/4	57	131.0	195.1	168,000	75,270	151,200	68,643	33,600	15,254

Kernmaster

Fiber Type: Nylon Core, Polyester Sleeve

Elongation at WL: 2.1 - 2.6%

Elongation at Ult Break: 18 - 20%

Specific Gravity: 1.23 g/cc

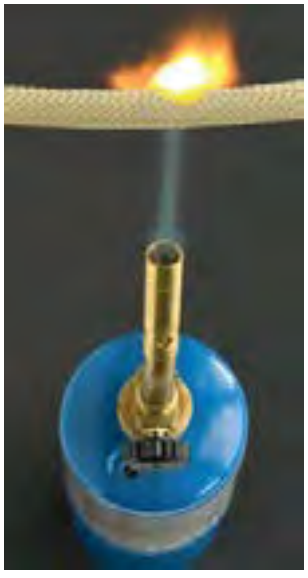
Static-rappelling line

Core is fully steam-stabilized to enhance the rope's flexibility and prevent hardening in service

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
3/8	10	4.0	6.0	3,250	1,475	2,925	1,328	325	148
7/16	11	5.5	8.2	7,300	3,310	6,570	2,979	730	331
1/2	13	7.6	11.3	8,800	3,995	7,920	3,596	880	400
5/8	16	11.4	17.0	11,000	4,990	9,900	4,491	1,100	499

Tech Kern

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
0.45	11.4	7.6	11.3	21,000	9,530	18,900	8,577	2,100	953



Fiber Type: Technora® Aramid Core, Technora® Sleeve

Elongation at WL: 0.5%

Elongation at Ult Break: 2.7 - 3.2%

Specific Gravity: 1.44 g/cc

Bringing the highest heat resistance to the market

Kernmantle style rope consisting of a braided technora aramid core covered by a 48-strand technora mantle

High-friction applications

Uniline

Fiber Type: Polyester Core, Polyester Sleeve
Elongation at WL: 3.5%

Elongation at Ult Break: 12.3 - 12.8%
Specific Gravity: 1.38 g/cc

Uniline is a parallel-core cable of PET (polyester) filament. The Uniline core is bonded together with a rubber-based adhesive, wrapped with red rubber tape, over-braided with a tough polyester sleeve and entirely saturated with another rubber solution.

The cable is then cured in an oven, causing the rubber to advance to a solid layer with very tough mechanical properties. The red rubber layer not only acts as a moisture barrier, but is also a wear indicator. This cable carries a 4:1 workload rating for overhead work and a 3:1 rating for underground work.

Uniline is the toughest conventional polyester stringing line you can buy and minimizes the elasticity and stretchiness seen in polyester ropes. Ropes removed from machines having seen 20 years of service regularly test at 75% of the original strength and above. Uniline can be spliced both in eyes and as a running splice, delivering the full strength as cataloged. Alternately, Uniline can be terminated and/or end-for-end joined together with our TechEye3 and TechJoin3 products.

Uniline Lifeline is a specialized construction utilizing a solution-dyed polyester sleeve and no additional external coating.

Uniline Lifeline is only available in 1/2" and 5/8" diameters in the following color options – solid orange, solid black and solid gray.

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 4:1 Lbs	Maximum** Work Load 4:1 Kg
15/32	12	8.3	12.4	7,900	3,585	7,100	3,227	1,580	717
7/16	11	8.1	12.1	7,900	3,585	7,100	3,227	1,975	896
3/8	10	7.0	10.4	6,000	2,720	5,400	2,448	1,500	680
1/2	13	10.0	14.9	10,500	4,765	9,450	4,289	2,625	1,191
5/8	16	15.6	23.2	17,200	7,805	15,480	7,025	4,300	1,951
3/4	19	21.7	32.3	24,200	10,985	21,780	9,887	6,050	2,746
7/8	22	30.6	45.6	32,800	14,890	29,520	13,401	8,200	3,723
1	25	38.7	57.6	42,200	19,155	37,980	17,240	10,550	4,789
1-1/8	29	48.8	72.7	53,000	24,060	47,700	21,654	13,250	6,015
1-1/4	32	60.4	89.9	64,500	29,280	58,050	26,352	16,125	7,320
1-3/8	35	73.1	108.9	78,000	35,410	70,200	31,869	19,500	8,853
1-1/2	38	86.9	129.4	92,000	41,765	82,800	37,589	23,000	10,441
1-5/8	41	102.1	152.0	108,000	49,030	97,200	44,127	27,000	12,258
1-3/4	44	118.4	176.3	125,000	56,750	112,500	51,075	31,250	14,188
1-7/8	48	135.3	201.5	144,000	65,375	129,600	58,838	36,000	16,344
2	51	155.0	230.8	164,000	74,455	147,600	67,010	41,000	18,614

Uniline T&D (double-wrap tape)

Uniline ND (single-wrap tape)

Unitrex

Fiber Type: UHMWPE from DSM Protective Materials
Elongation at WL: 0.5%

Elongation at Ult Break: 3.0 - 3.5%
Specific Gravity: 1.10 g/cc

Unitrex XS Max Wear, Uniline's high-tech cousin, is a parallel-core rope of Ultra High Molecular Weight Polyethylene (UHMWPE), wrapped with a neoprene tape and over-braided with a tough jacket of high-tenacity polyester. The result is a synthetic cable, somewhat stiffer than your usual rope, which is much like wire in its stretch characteristics.

Unlike wire, Unitrex is much lighter and easily handled. Due to its toughness, we are comfortable assigning it a higher working load rating, which is 25% of its breaking strength.

Unitrex XS Max Wear has high strength retention in service, which is supported by field studies and our long-standing track record with Uniline polyester. Unitrex's tough rubber layer protects its UHMWPE core, and the outer jacket is saturated with urethane, making it the toughest UHMWPE rope you can buy. All of Yale's parallel-core ropes are torque free, with bonded cores preventing contamination of the internal strength member. Unitrex XS can be quickly terminated and/or joined with a TechEye2 or TechJoin2.

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 4:1 Lbs	Maximum** Work Load 4:1 Kg
0.44	11	6.7	10.0	20,000	9,080	18,000	8,172	5,000	2,270
0.53	13	9.2	13.7	26,000	11,800	23,400	10,620	6,500	2,950
0.58	15	11.4	17.0	34,000	15,435	30,600	13,892	8,500	3,859
0.63	16	13.5	20.1	42,500	19,295	38,250	17,366	10,625	4,824
0.71	18	16.9	25.2	50,500	22,925	45,450	20,633	12,625	5,731
0.84	21	24.2	36.0	73,500	33,365	66,150	30,029	18,375	8,341
1.00	25	32.4	48.2	100,000	45,400	90,000	40,860	25,000	11,350
1.15	29	42.4	63.1	125,000	56,750	112,500	51,075	31,250	14,188
1.25	32	52.5	78.2	158,000	71,730	142,200	64,557	39,500	17,933
1.40	36	64.9	96.6	195,000	88,530	175,500	79,677	48,750	22,133
1.75	44	92.6	137.9	264,000	119,855	237,600	107,870	66,000	29,964
1.94	49	98.8	147.1	310,000	140,740	279,000	126,666	77,500	35,185
1.99	51	113.3	168.7	360,000	163,440	324,000	147,096	90,000	40,860
2.20	56	144.0	214.4	430,000	195,220	387,000	175,698	107,500	48,805

Unitrex XS-8

Fiber Type: UHMWPE from DSM Protective Materials Core, Polyester jacket

Specific Gravity: 1.10 g/cc

Very tough synthetic cable

8 unitrex ropes plied together to form an 8-strand plaited cable

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 4:1 Lbs	Maximum** Work Load 4:1 Kg
1-1/2	38	52	77	136,000	61,740	122,400	55,566	34,000	15,435
1-3/4	44	71	106	166,000	75,360	149,400	67,824	41,500	18,840
1-7/8	48	90	134	213,000	96,700	191,700	87,030	53,250	24,175
2-1/8	54	106	158	272,000	123,485	244,800	111,137	68,000	30,871
2-1/2	64	149	222	323,000	146,640	290,700	131,976	80,750	36,660
2-7/8	73	214	319	470,000	213,380	423,000	192,042	117,500	53,345
3-1/2	89	290	432	640,000	290,560	576,000	261,504	160,000	72,640
3-3/4	95	380	566	800,000	363,200	720,000	326,880	200,000	90,800
4-1/4	108	490	730	1,010,000	458,540	909,000	412,686	252,500	114,635
4-3/4	121	600	893	1,248,000	566,590	1,123,200	509,931	312,000	141,648

Nylon Brait

Fiber Type: Nylon

Elongation at WL: 10%

Elongation at Ult Break: 24 - 27%

Specific Gravity: 1.14 g/cc

High energy absorption

Can absorb (or mitigate) greater amounts of dynamic energy than 3-stranded rope structures with less damage

Spliced rope delivers 100% of the rope's advertised strength

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
3/8	10	3.8	5.7	4,000	1,800	3,600	1,620	800	360
1/2	13	6.1	9.1	8,300	3,750	7,470	3,375	1,660	750
17/32	13	6.4	9.6	9,200	4,150	8,280	3,735	1,840	830
5/8	16	9.4	14.0	12,200	5,500	10,980	4,950	2,440	1,100
21/32	17	9.6	14.3	12,900	5,850	11,610	5,265	2,580	1,170
11/16	17	11.0	16.4	15,000	6,800	13,500	6,120	3,000	1,360
3/4	19	14.0	20.8	17,000	7,700	15,300	6,930	3,400	1,540
7/8	22	19.0	28.3	22,000	10,000	19,800	9,000	4,400	2,000
1	25	23.7	35.3	27,000	12,250	24,300	11,025	5,400	2,450
1-1/8	29	30.5	45.4	34,750	15,750	31,275	14,175	6,950	3,150
1-1/4	32	35.6	53.0	40,500	18,350	36,450	16,515	8,100	3,670
1-1/2	38	49.8	74.2	56,700	25,700	51,030	23,130	11,340	5,140
1-5/8	41	59.5	88.6	67,700	30,700	60,930	27,630	13,540	6,140
1-3/4	44	74.0	110.2	84,700	38,450	76,230	34,605	16,940	7,690

Oceanographer's Brait

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
11/16	17	10.5	15.6	15,000	6.810	13,500	6,129	4,500	1,839
3/4	19	13.4	19.9	17,820	8,090	16,038	7,281	5,347	2,185
7/8	22	18.5	27.5	24,200	10,985	21,780	9,887	7,261	2,966
1	25	23.7	35.3	29,700	13,480	26,730	12,132	8,911	3,640
1-1/8	29	28.0	41.7	37,510	17,025	33,759	15,323	11,254	4,597
1-1/4	32	34.0	50.6	46,420	21,070	41,778	18,963	13,927	5,689

Fiber Type: Nylon

Elongation at WL: 17.5%

Elongation at Ult Break: 28 - 31%

Specific Gravity: 1.14 g/cc

The most predictable nylon rope on the market

Provides high energy absorption capability, which can be the difference between a mooring staying on station or getting lost

Better balanced strands makes a rope that is firm enough to be used over a less-than-perfect deck

No shrinkage or strength reduction due to an extensive steam stabilization period

Large Braits

Exceptional tension fatigue

Very low elongation

Geometry of the plaited fiber allows more substantial dynamic loads imparted on the rope without compromising longevity

Larger Nylon Brait™

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
2	51	100	149	101,000	45,850	90,900	41,265	20,200	9,170
2-1/4	57	132	197	136,000	61,740	122,400	55,566	27,200	12,348
2-5/8	67	170	253	173,000	78,540	155,700	70,686	34,600	15,708
3	76	220	328	215,000	97,610	193,500	87,849	43,000	19,522
3-1/4	83	282	420	271,000	123,030	243,900	110,727	54,200	24,606
4	102	402	599	383,000	173,880	433,700	156,492	76,600	34,776
5	127	604	899	603,000	273,760	542,700	246,384	120,600	54,752

Fiber Type: Nylon
Specific Gravity: 1.14 g/cc

Larger Polyester Brait

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
2	51	121	180	101,000	45,850	90,900	41,265	20,200	9,170
2-1/4	57	160	238	136,000	61,740	122,400	55,566	27,200	12,348
2-5/8	67	206	307	173,000	78,540	155,700	70,686	34,600	15,708
3	76	266	396	215,000	97,610	193,500	87,849	43,000	19,522
3-1/4	83	341	508	271,000	123,030	243,900	110,727	54,200	24,606
4	102	486	724	383,000	173,880	344,700	156,492	76,600	34,776
5	127	731	1,089	603,000	273,760	542,700	246,384	120,600	54,752

Fiber Type: Polyester
Specific Gravity: 1.38 g/cc

Larger UHMPE Brait

Diameter Inches	Diameter mm	Weight Lbs/100ft	Weight Kg/100m	Average Spliced Break Strength* Lbs	Average Spliced Break Strength* Kg	Minimum spliced Break Strength* Lbs	Minimum spliced Break Strength* Kg	Maximum** Work Load 5:1 Lbs	Maximum** Work Load 5:1 Kg
2	51	75	112	339,000	153,905	305,100	138,515	67,800	30,781
2-1/4	57	101	150	480,000	217,920	432,200	196,128	96,000	43,584
2-5/8	67	146	217	627,000	284,655	564,300	256,190	125,400	56,931
3-1/8	79	176	262	768,000	348,670	691,200	313,803	153,600	69,734
3-1/2	89	250	372	950,000	431,300	855,000	388,170	190,000	86,260
4	102	346	515	1,200,000	544,800	1,080,000	490,320	240,000	108,960

Fiber Type: UHMPE
Specific Gravity: 0.97 g/cc

Fortis²® Sling

U.S. Patent No. 9,296,593 B2 – Singapore Patent No. 11201507689 – China Patent No. CN 105209368 – Australia Patent No. 2014239887 – AU South Africa Patent No. 2015/07153 – European Patent No. EP 2969881 – Saudi Arabia Patent No. 7209

Fiber Type: UHMWPE from DSM Protective Materials Core, Polyester jacket

Fortis² Slings are heavy-lift, multipart slings made with our Unitrex XS Max Wear synthetic cable that has a core of Ultra High Molecular Weight Polyethylene (UHMWPE) fiber encased with neoprene and a tough braided jacket of high-tenacity polyester. The result is a heavy-lift sling of Unitrex XS that has the durability and stiffness of a wire rope sling at a fraction of the weight.

- 80% lighter than a comparable wire rope sling
- Stiff enough to push under objects
- More durable than traditional fiber slings
- One person able to lift eye to crane hook
- Easy to inspect for damage
- Will not corrode or rust
- Will not soak up water or freeze

The Chafe Pro® HB Series is constructed of multiple layers of FJORD, Inc.'s specially formulated and designed heavy-duty nylon weaves. Abrasion testing has shown the Chafe-Pro HB Series to be more resistant to chafe abrasion than marine-grade fire hose and chafing gear made from such materials as UHMWPE, Kevlar®, etc.

- Chafe-Pro HB series multi-layer design
- Easily removable for inspection
- Chafe-Pro Shore Grip Technology on inner layer prevents slipping on eye
- Easy latch system for quick opening of the material

Fortis² slings are tagged with the Etiflex tag.

- Ratings and warnings are molded into the tag, not printed
- Excellent abrasion resistance
- Resistant to most solvents and petroleum products
- Excellent UV resistance and all temperature performance
- High-visibility, two-color design
- Labels will not stain or mildew

Weight Comparison

15 Ft Sling	Rated Capacity Vertical Tons	Unit Weight in Lbs	Weight per Rated Ton
Fortis² Sling	50	44	0.9
9-Part Wire Rope	56	254	4.5
3-Part Wire Rope	46	200	4.4
Grade 80 Chain	36	363	10.1

Sling Model	Rated Capacity Lbs*			Weight Per Foot Lbs	Standard Eye Size Inches	Minimum Length Feet
	Vertical	Basket	Choker			
44	28,000	56,000	22,400	0.7	22	7
53	35,000	70,000	28,000	0.9	24	8
58	46,000	92,000	36,800	1.2	26	9
63	58,000	116,000	46,400	1.4	28	10
71	68,000	136,000	54,400	1.7	30	11
84	100,000	200,000	80,000	2.4	35	13
100	128,000	256,000	102,400	3.3	40	15
115	160,000	320,000	128,000	4.3	45	17
125	202,000	404,000	161,600	5.3	50	19
140	250,000	500,000	200,000	6.6	55	21
170	338,000	676,000	270,400	9.4	60	24
180	397,000	794,000	317,600	10.0	70	27
190	461,000	922,000	368,800	11.4	80	29
220	550,000	1,100,000	440,000	14.5	90	33

*Rated capacity is based on 5:1 Design Factor

All Fortis² models come with standard ChafePro HB Series chafe protection for the eye of the sling.

LOUPS™

Fiber Type: Dyneema® SK78 core, UHMWPE from DSM Protective Materials abrasion sleeve

LOUPS high-modulus endless slings, by Yale Cordage or a Yale Cordage licensee, significantly advance the technology of lifting slings by utilizing a strength-optimizing, multiple-strand endless braid of Ultra High Molecular Weight Polyethylene (UHMWPE) fiber from DSM Protective Materials, encased in a polyethylene abrasion sleeve.

LOUPS are the most efficient synthetic slings available and are far lighter than steel or conventional round slings. LOUPS bend gracefully; if you look inside a LOUP, you will find just one continuous looped piece of rope (Image 1), which has been end-for- end spliced to itself.

The core elements of the LOUP utilize bio-based Dyneema® fiber. Made with bio-based feedstock, this fiber maintains the unique properties of Dyneema® while providing a more sustainable solution without compromising final product performance. The diameter of the LOUP core and the number of wraps vary by the tensile strength of the LOUP Yale is building. Since the strength element is small, this product has a 1.1:1 D/d ratio (or bending radius) for Vertical WL. Simply put, LOUPS are less affected by sharp bending radii than larger ropes of comparable strength. LOUPS can be produced as small as 3” in length and as large as 5 million lbs. tensile.

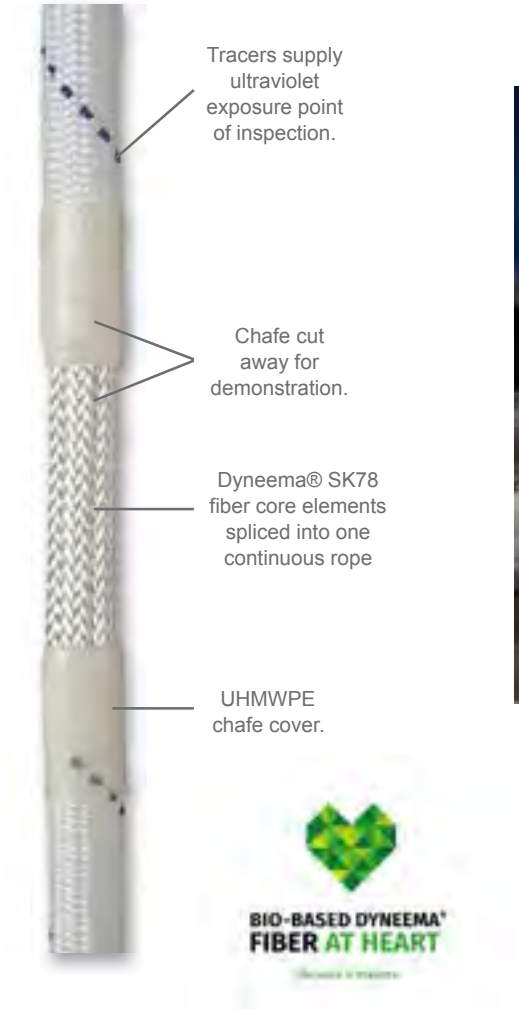


Image 1

LOUPS™ Specifications

Model	Diameter Inches	Diameter mm	Vertical Capacity* Lbs	Vertical Capacity* Kg	Choker Capacity* Lbs	Choker Capacity* Kg	Basket Capacity* Lbs	Basket Capacity* Kg	Base Length Ft
4A03	0.39	10	4,280	1,941	3,424	1,550	8,560	3,883	2
4A04	0.44	11	5,700	2,586	4,560	2,070	11,400	5,171	2
4A05	0.48	12	7,140	3,239	5,712	2,590	14,280	6,477	2
7A02	0.54	14	8,560	3,883	6,848	3,105	17,120	7,766	2
7A03	0.67	17	12,800	5,806	10,240	4,645	25,600	11,612	4
7A04	0.71	18	17,100	7,756	13,680	6,210	34,200	15,513	4
7A06	0.98	25	25,600	11,612	20,480	9,295	51,200	23,224	4
7A07	1.02	26	29,800	13,517	23,840	10,820	59,600	27,034	4
7A08	1.07	27	34,000	15,422	27,200	12,345	68,000	30,844	6
13A04	1.18	30	50,800	23,042	40,640	18,450	101,600	46,085	6
13A05	1.30	33	63,400	28,758	50,720	23,025	126,800	57,515	6
13A06	1.38	35	76,000	34,473	60,800	27,600	152,000	68,946	6

*Rated capacity is based on 5:1 Design Factor

Industrial LOUPS™

	Model	Diameter Inches	Diameter mm	Vertical Capacity* Lbs	Vertical Capacity* Kg	Choker Capacity* Lbs	Choker Capacity* Kg	Basket Capacity* Lbs	Basket Capacity* Kg	Base Length Ft
UHMPE Sleeve	13N08	1.7	44	83,776	38,001	67,021	30,425	167,552	76,002	6
	13N10	1.9	47	104,720	47,501	83,776	38,030	209,440	95,002	6
	19N06	2.3	58	126,000	57,154	100,800	45,760	252,000	114,307	6
	19N07	2.4	61	147,000	66,679	117,600	53,390	294,000	133,358	6
	19N08	2.6	65	168,000	76,205	134,400	61,015	336,000	152,410	6
	19N10	2.9	74	210,000	95,256	168,000	76,270	420,000	190,512	6
Polyester Sleeve	32N05	3.6	91	240,800	109,227	192,640	87,455	481,600	218,454	8
	32N06	3.9	99	288,960	131,072	231,168	104,950	577,920	262,145	8
	32N07	4.1	105	337,120	152,918	269,696	122,440	674,240	305,835	8

*Rated capacity is based on 5:1 Design Factor

Eye/Eye & Endless Slings

All slings are rated 5:1

Eye/Eye Slings

Standard eye and eye sling for general-purpose work.

Lightweight, very flexible, nonmarring and very strong.

Double Esterlon Eye/Eye Slings

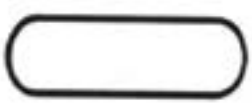
Diameter Inches	Diameter mm	Vertical Ratings Lbs	Vertical Ratings Kg	Choker Ratings Lbs	Choker Ratings Kg	Basket Ratings Lbs	Basket Ratings Kg
3/8	10	1,120	505	896	405	2,240	1,015
7/16	11	1,440	650	1,152	520	2,880	1,305
1/2	13	2,160	980	1,728	780	4,320	1,960
5/8	16	3,400	1,540	2,720	1,230	6,800	3,085
3/4	19	4,160	1,885	3,328	1,510	8,320	3,775
7/8	22	6,200	2,810	4,960	2,250	12,400	5,625
1	25	8,800	3,995	7,040	3,195	17,600	7,990
1-1/4	32	11,560	5,245	9,248	4,195	23,120	10,495
1-1/2	38	15,240	6,915	12,192	5,535	30,480	13,835

Yalex Eye/Eye Slings

Diameter Inches	Diameter mm	Vertical Ratings Lbs	Vertical Ratings Kg	Choker Ratings Lbs	Choker Ratings Kg	Basket Ratings Lbs	Basket Ratings Kg
3/8	10	1,320	595	1,056	475	2,640	1,195
7/16	11	2,180	985	1,744	790	4,360	1,975
1/2	13	2,784	1,260	2,227	1,010	5,568	2,525
5/8	16	3,800	1,725	3,040	1,380	7,600	3,450
3/4	19	5,200	2,360	4,160	1,885	10,400	4,720
7/8	22	7,680	3,485	6,144	2,785	15,360	6,970
1	25	9,400	4,265	7,520	3,410	18,800	8,535

Vectrus Eye/Eye Slings

Diameter Inches	Diameter mm	Vertical Ratings Lbs	Vertical Ratings Kg	Choker Ratings Lbs	Choker Ratings Kg	Basket Ratings Lbs	Basket Ratings Kg
3/8	10	3,840	1,740	3,072	1,390	7,680	3,485
7/16	11	4,900	2,220	3,920	1,775	9,800	4,445
1/2	13	6,400	2,905	5,120	2,320	12,800	5,810
9/16	14	7,600	3,450	6,080	2,760	15,200	6,900
5/8	16	10,500	4,765	8,400	3,810	21,000	9,530
3/4	19	14,000	6,355	11,200	5,080	28,000	12,710
7/8	22	17,800	8,080	14,240	6,460	35,600	16,160
1	25	21,800	9,895	17,440	7,915	43,600	19,790



Endless Slings

A complete loop increases the lift capacity of a sling without going to a larger-diameter line.

This sling makes an excellent choker with a wider “footprint” on the load for more positive control.

Double Esterlon Endless Slings

Diameter Inches	Diameter mm	Vertical Ratings Lbs	Vertical Ratings Kg	Choker Ratings Lbs	Choker Ratings Kg	Basket Ratings Lbs	Basket Ratings Kg
3/8	10	1,904	860	1,523	690	3,808	1,725
7/16	11	2,448	1,110	1,958	885	4,896	2,220
1/2	13	3,672	1,665	2,938	1,330	7,344	3,330
5/8	16	5,780	2,620	4,624	2,095	11,560	5,245
3/4	19	7,072	3,210	5,658	2,565	14,144	6,420
7/8	22	10,540	4,785	8,432	3,825	21,080	9,570
1	25	14,960	6,790	11,968	5,430	29,920	13,580
1-1/4	32	19,652	8,920	15,722	7,135	39,304	17,840
1-1/2	38	25,908	11,760	20,726	9,405	51,816	23,520

Yalex Endless Slings

Diameter Inches	Diameter mm	Vertical Ratings Lbs	Vertical Ratings Kg	Choker Ratings Lbs	Choker Ratings Kg	Basket Ratings Lbs	Basket Ratings Kg
3/8	10	2,244	1,015	1,795	815	4,488	2,035
7/16	11	3,706	1,680	2,965	1,345	7,412	3,365
1/2	13	4,733	2,145	3,786	1,715	9,466	4,295
5/8	16	6,460	2,930	5,168	2,345	12,920	5,865
3/4	19	8,840	4,010	7,072	3,210	17,680	8,025
7/8	22	13,056	5,925	10,445	4,740	26,112	11,850
1	25	15,980	7,250	12,784	5,800	31,960	14,505

Vectrus Endless Slings

Diameter Inches	Diameter mm	Vertical Ratings Lbs	Vertical Ratings Kg	Choker Ratings Lbs	Choker Ratings Kg	Basket Ratings Lbs	Basket Ratings Kg
3/8	10	6,144	2,785	4,915	2,230	12,288	5,575
7/16	11	7,840	3,555	6,272	2,845	15,680	7,115
1/2	13	10,240	4,645	8,192	3,715	20,480	9,295
9/16	14	12,160	5,520	9,728	4,415	24,320	11,040
5/8	16	16,800	7,625	13,440	6,100	33,600	15,250
3/4	19	22,400	10,165	17,920	8,135	44,800	20,335
7/8	22	28,480	12,925	22,784	10,340	56,960	25,855
1	25	34,880	15,835	27,904	12,665	69,760	31,670

Adjustable Slings

Choke only in the eye or body NEVER on the adjuster

Single Leg Adjustable Slings

Easily replaces a variety of different slings, accommodating different-sized loads.

Infinitely adjustable.

Yalex Adjustable Slings

Diameter Inches	Adjust. Length Minimum	Vertical Ratings Lbs	Vertical Ratings Kg	Choker Ratings Lbs	Choker Ratings Kg	Basket Ratings Lbs	Basket Ratings Kg
3/8	20”	1,162	525	929	420	2,292	1,040
7/16	24”	1,918	870	1,535	695	3,785	1,715
1/2	26”	2,450	1,110	1,960	885	4,834	2,190
5/8	32”	3,344	1,515	2,675	1,210	6,598	2,995
3/4	38”	4,576	2,075	3,661	1,660	9,028	4,095
7/8	46”	6,758	3,065	5,407	2,450	13,334	6,050
1	52”	8,272	3,755	6,618	3,000	16,321	7,405

Ultrex Adjustable Slings

Diameter Inches	Adjust. Length Minimum	Vertical Ratings Lbs	Vertical Ratings Kg	Choker Ratings Lbs	Choker Ratings Kg	Basket Ratings Lbs	Basket Ratings Kg
3/8	33”	3,200	1,450	2,560	1,160	6,400	2,905
7/16	36”	4,240	1,920	3,392	1,535	8,480	3,845
1/2	42”	5,984	2,715	4,787	2,170	11,968	5,430
5/8	57”	7,200	3,265	5,760	2,615	14,400	6,535
3/4	66”	8,480	3,845	6,784	3,075	16,960	7,695
7/8	75”	12,000	5,445	9,600	4,355	24,000	10,895
1	88”	15,680	7,115	12,544	5,690	31,360	14,235
1-1/8	105”	19,200	8,715	15,360	6,970	38,400	17,430
1-1/4	119”	23,680	10,750	18,944	8,600	47,360	21,500
1-1/2	140”	27,520	12.490	22,016	9,995	55,040	24,985

Vectrus Adjustable Slings

Diameter Inches	Adjust. Length Minimum	Vertical Ratings Lbs	Vertical Ratings Kg	Choker Ratings Lbs	Choker Ratings Kg	Basket Ratings Lbs	Basket Ratings Kg
3/8	31”	2,959	1,340	2,368	1,070	5,919	2,685
7/16	35”	4,011	1,820	3,209	1,455	8,023	3,640
1/2	40”	4,864	2,205	3,891	1,765	9,728	4,415
9/16	46”	5,776	2,620	4,621	2,095	11,552	5,240
5/8	55”	7,980	3,620	6,384	2,895	15,960	7,245
3/4	63”	10,640	4,830	8,512	3,860	21,280	9,660
7/8	72”	13,528	6,140	10,822	4,910	27,056	12,280
1	84”	16,568	7,520	13,254	6,015	33,136	15,040

4-Leg Adjustable Slings

Each leg adjusts to accommodate any-sized load or lift-point arrangement.

Lifts using less than four legs reduce the ratings proportionately.

Note: 4-leg adjustable slings have a vertical rating based on four legs at 5:1. **All Rated Capacities (WLL’s) on multiple-leg slings are based on EQUAL loading of all sling legs.**

Yalex 4-Leg Adjustable Slings

Diameter Inches	Adjust. Length Minimum	Vertical Ratings Lbs	Vertical Ratings Kg
3/8	20”	4,646	2,105
7/16	24”	7,674	3,480
1/2	26”	9,800	4,445
5/8	32”	13,376	6,070
3/4	38”	18,304	8,310
7/8	46”	27,034	12,270
1	52”	33,088	15,020

Vectrus 4-Leg Adjustable Slings

Diameter Inches	Adjust. Length Minimum	Vertical Ratings Lbs	Vertical Ratings Kg
3/8	30”	11,838	5,370
7/16	33”	16,045	7,280
1/2	38”	19,456	8,830
9/16	44”	23,104	10,485
5/8	52”	31,920	14,490
3/4	60”	42,560	19,320
7/8	68”	54,112	24,565
1	80”	66,272	30,085

PolyPlus 4-Leg Adjustable Slings

Diameter Inches	Adjust. Length Minimum	Vertical Ratings Lbs	Vertical Ratings Kg
3/8	20”	3,760	1,705
7/16	24”	4,640	2,105
1/2	26”	6,000	2,720
5/8	32”	8,440	3,830
3/4	38”	11,960	5,425

Optimus Slings

Fiber Type: Solution-dyed polyester

Diameter Inches	Diameter mm	Adj Length Min with 1 1/2" eyes	Vertical Ratings** Lbs	Vertical Ratings** Kg	Choker Ratings** Lbs	Choker Ratings** Kg	Basket Ratings* 15 Deg Lbs	Basket Ratings* 15 Deg Kg
3/8	10	20	1,055	475	845	380	675	305
1/2	13	26	2,200	995	1,780	805	1,400	635
5/8	16	30	3,200	1,450	2,560	1,160	2,100	950
3/4	19	37	4,225	1,915	3,380	1,530	2,700	1,225
7/8	22	43	6,250	2,835	5,000	2,270	4,000	1,815

Lightweight and infinitely adjustable to adapt to varying loads

Vibrant, colorfast fiber, resistant to fading

Adjustable eyes on both ends

Weather and UV resistant

Treated with abrasion-resistant Maxijacket™ to extend service life

Lifting portion protected by chafe sleeve

Customized options available

Navy RIB Boat Slings

Our Navy RIB Boat Slings were developed in conjunction with NSWC Carderock Division to handle RIB Boats. The initial goal was to eliminate wire rope from existing slings, reducing electronic interference, corrosion, wire fish hooks, and generally engineering a safer system.

The results are slings made with our Aracom T double braid rope consisting of a Technora® Aramid core and a high-tenacity polyester sleeve. It is then coated with our battleship gray Maxijacket urethane coating for added abrasion resistance. The hardware used in these assemblies are designed with ease of handling in mind and are tested and certified.

These slings are available as 11M RIB boat slings and 4-Leg RIB boat slings.
Our most popular sizes and constructions include:

11M Cabin Boat Sling 7/8 Aramid
11M Open Boat Sling 7/8 Aramid
11M NSW Boat Sling 7/8 Aramid
5.4m Rib Boat Sling – 3/8" Aramid
7m Rib Boat Short Sling – 5/8" Aramid
7m Rib Boat Long Sling – 5/8" Aramid
Other styles of boat slings are available – please contact us for more details.

Technora®
The power of Aramid

Tech Eye & Tech Join

Yale TechEye2

Part Number	UNITREX Size Range Inches	UNITREX Size Range mm	Color	Length Feet	Length Meters	Working Load Lbs	Working Load Kg	Weight Lbs	Weight Kg
940TE10	0.44	11	Red	8	2.4	5,000	2,268	1	0.45
940TE15	0.53	13	Yellow	9.5	2.8	6,600	2,993	1.5	0.68
940TE20	0.58	15	Blue	10.5	3.2	9,000	4,082	2	0.9
940TE25	0.63	16	Orange	11	3.4	10,625	4,819	3	1.4
940TE30	0.71	18	Green	13	4.0	12,700	5,761	4	1.8
940TE35	0.84	21	Red	14	4.3	18,500	8,391	7	3.2
940TE40	1	25	Yellow	17	5.2	25,000	11,340	9	4.1
940TE45	1.15-1.25	29-32	Blue	22	6.7	39,500	17,917	13	5.9
940TE50	1.40	36	Orange	26	7.9	49,000	22,225	19	8.6

Yale TechJoin2

Part Number	UNITREX Size Range Inches	UNITREX Size Range mm	Color	Length Feet	Length Meters	Working Load Lbs	Working Load Kg	Weight Lbs	Weight Kg
940TJ10	0.44	11	Red	16	4.9	5,000	2,268	2	0.9
940TJ15	0.53	13	Yellow	19	5.8	6,600	2,993	3	1.4
940TJ20	0.58	15	Blue	21	6.4	9,000	4,082	4	1.8
940TJ25	0.63	16	Orange	22	6.7	10,625	4,819	6	2.7
940TJ30	0.71	18	Green	26	7.9	12,700	5,761	8	3.6
940TJ35	0.84	21	Red	28	8.5	18,500	8,391	14	6.4
940TJ40	1.00	25	Yellow	34	10.4	25,000	11,340	19	8.6
940TJ45	1.15-1.25	29-32	Blue	44	13.4	39,500	17,917	26	11.8
940TJ50	1.40	36	Orange	52	15.8	49,000	22,225	38	17.2

Yale TechEye3

Part Number	UNITREX Size Range Inches	UNITREX Size Range mm	Color	Length Feet	Length Meters	Working Load Lbs	Working Load Kg	Weight Lbs	Weight Kg
94032TEU	1/2	13	Red/Gold	6	1.8	2,625	1,191	0.6	0.3
94040TEU	5/8	16	Green/Gold	7.5	2.3	4,300	1,951	1.2	0.5
94048TEU	3/4	19	Orange/Gold	8.6	2.6	6,050	2,746	2.0	0.9
94056TEU	7/8	22	Blue/Gold	10	3.0	8,200	3,723	3.1	1.4
94064TEU	1	25	Purple/Gold	11.5	3.5	10,550	4,789	4.4	2.0

Yale TechJoin3

Part Number	UNITREX Size Range Inches	UNITREX Size Range mm	Color	Length Feet	Length Meters	Working Load Lbs	Working Load Kg	Weight Lbs	Weight Kg
94032TJU	1/2	13	Red/Gold	11	3.4	2,625	1,191	1.1	1.1
94040TJU	5/8	16	Green/Gold	14	4.3	4,300	1,951	2.2	2.2
94048TJU	3/4	19	Orange/Gold	16	4.9	6,050	2,746	3.7	3.7
94056TJU	7/8	22	Blue/Gold	19	5.8	8,200	3,723	5.8	5.8
94064TJU	1	25	Purple/Gold	22	6.7	10,550	4,789	8.3	8.3

TechEye2

TechJoin2

TechEye3

TechJoin3

Tandem Stopper

An appropriately sized Tandem Stopper Assembly is the only recommended midspan termination technique for Unitrex. When properly configured, it is rated to the full working load of the underlying Unitrex. Other conventional termination devices / techniques have been demonstrated to cause an unacceptable amount of damage to Unitrex when tested.

The Tandem Stopper Assembly will be packaged to include all necessary materials and hardware for installation, including a single shackle matched to the total assembly working load. This shackle provides the best possible attachment point to the connecting sling, allowing the load to be evenly shared between the two applied Stoppers.

UNITREX Diameter Inches	UNITREX Diameter mm	Working Load Lbs	Working Load Kg
0.44	11	5,000	2,268
0.53	13	6,500	2,948
0.58	15	8,500	3,856
0.63	16	10,625	4,819
0.71	18	12,625	5,727
0.84	21	18,375	8,335
1.00	25	25,000	11,340
1.15	29	31,250	14,175

Zip Grip

U.S. Pat. No. 9,616,579 - Canada Patent No. 2,965,100 CN - UK Patent No. 3216031

ZipGrip Model	Min. Cable Diameter mm	Max. Working Load Lbs (5:1)	Working Load Kg (5:1)	Color	Eye Size Inches
7/16	64	6,800	3,070	Red	6
9/16	71	10,400	4,700	Blue	6
11/16	79	14,400	6,530	Green	6
7/8	102	19,800	9,000	Orange	8
1	119	31,000	14,070	Yellow	8
1-1/4	145	43,200	19,610	Black	12
1-1/2	168	67,600	30,670	Red	16
1-3/4	241	84,000	38,090	Blue	18
2	277	111,500	50,570	Green	18
2-1/4	343	159,000	72,140	Orange	20
2-1/2	384	192,000	87,110	Yellow	24

ZipGrip® is a patented system to allow the installation of a pulling or holdback eye on various cylindrical or nearly cylindrical substrates.

Developed for use in the offshore pipe lay and umbilical installation and maintenance arena, and have since been used successfully worldwide for the deployment of umbilicals, hard pipes, flex cables and armored cables.

Our ZipGrip® design is based on the same successful platform as our line of YaleGrips, and it utilizes the Aramid grip stock in a new design, which not only decreases the overall grip length by approximately 75%, but also significantly increases the working load and distributes the compressive forces, preventing damage to the pipe's outer layers.

ZipGrips® are very fast to install and even faster to remove. Install times are generally 10%–20% of a similar working load and diameter to YaleGrips. They also require less application space because you are not dealing with extremely long tails. The installation zone needed is only about 10% longer than the installed length.

Units are custom designed to the specific pipe or umbilical diameter and load requirements.

Construction: Standard product is made with Technora®. Technora® Aramid fiber is high strength, low stretch, heat resistant and lightweight.

Installation/Removal: Quick and easy to install and remove; temporary or permanent; install at any point along the pipeline.

Uses: Pipe lay install or holdback; umbilical install or holdback; pipeline catenary float attachment.

Technora®
The power of Aramid

Yale Grip

Diameter Inches	Diameter mm	Working Load Lbs	Working Load Kg	Average Break Strength Lbs	Average Break Strength Kg	Color	Eye Size	Tail Length Feet	Cable Diameter Range Min	Cable Diameter Range Max
7/16	11	1,200	544	6,000	2,722	Red	6"	4.5	3/16	1/2
9/16	14	2,400	1,089	12,000	5,443	Blue	6"	5.5	1/4	3/4
11/16	17	3,600	1,633	18,000	8,165	Green	6"	6.5	3/8	7/8
7/8	22	6,000	2,722	30,000	13,608	Orange	8"	8	1/2	1
1	25	9,600	4,355	48,000	21,773	Yellow	8"	10	5/8	1 1/8
1-1/4	32	14,400	6,532	72,000	32,659	Black	12"	16	7/8	1 3/4
1-1/2	38	24,400	10,886	120,000	54,432	Red	16"	22	1 1/8	3
1-3/4	44	36,000	16,330	180,000	81,648	Blue	18"	28	1 3/8	3 1/2
2	51	58,000	26,309	290,000	131,544	Green	18"	34	2	4
2-1/4	57	73,000	33,113	365,000	165,564	Orange	20"	40	3 1/4	5
2-1/2	64	90,000	40,824	450,000	204,120	Yellow	24"	52	4	6

Size the grip by anticipated loads, not the cable size they fit. When the anticipated load needs to be spread over a wider surface area, a six-leg grip is suggested.

YaleGrips are made from a Technora® Aramid fiber at braid and are assembled in a 4-leg configuration extending from a reinforcing, securing eye. The eye is covered entirely with an extra layer of braid, which is saturated with Maxijacket urethane, an abrasion-resistant coating for extended life.

YaleGrips are used as pulling and stopping grips for electrical-line construction work above and below ground, for deployment and retrieval of a variety of cables, as marine stoppers on hawsers and for temporary or permanent strain relief.

They are noncorrosive, have good dielectric properties and are compact and lightweight. Installed, the grip remains flexible and does less damage to mating surfaces than other types of grips.

YaleGrips are far stronger than wire mesh grips and do not form dangerous "fishhooks," as do wire mesh grips, making them safer to handle.

YaleGrips may be used for temporary or permanent eyes, both in midspan or on the end.

Usage

Storage and care
All rope should be stored clean, dry, out of direct sunlight and away from extreme heat. Some synthetic rope may be severely weakened by prolonged exposure to ultraviolet (UV) rays, unless specifically stabilized and/or pigmented to increase its UV resistance. UV degradation is indicated by discoloration and the presence of splinters and slivers on the surface of the rope. To properly unreel rope, a shaft should be inserted through the center of the reel, and the rope should be pulled off the top while the reel is free to rotate. Reverse rope ends regularly to promote even wear and assure a longer life. Apply a steady, even pull to achieve full strength from rope or synthetic cable. Formulas to determine reel and storage capacities (use inch reel dimentions):

$$\text{Rope length} = \frac{(\text{traverse width})(\text{flange diameter}^2 - \text{barrel diameter}^2)}{(16)(\text{rope diameter}^2)} \text{ feet}$$

Formulas to determine bin capacity: $V=(C)^2 \times (L) \times (R)$
V = volume in cubic inches
C = rope circumference in inches
L = length of rope in feet
R = 1.58 for carefully stores rope or 2.0 for random packing

CAUTIONS
Overloading and Use of Working Loads
Because of the wide range of rope use, exposure to the several factors affecting rope behavior and the degree of risk to life and property involved, it is impossible to make blanket recommendations as to working loads. However, to provide guidelines, working loads are tabulated for rope in good condition with appropriate splices, in noncritical applications and under normal service conditions.

A higher working load may be selected only with expert knowledge of conditions and professional estimate of risk, and if the rope has not been subject to dynamic loading or other excessive use; if the rope has been inspected and found to be in good condition, and is to be used in the recommended manner: and if the applications do not involve elevated temperatures, extended periods under load or obvious dynamic loading, such as sudden drops, snubs or pickups. For all such applications, consult Yale.

Many uses of rope involve serious risk of injury to personnel or damage to valuable property. ***This danger is often obvious, as when a heavy load is supported above one or more workers. An equally dangerous situation occurs if personnel are in line with a rope under tension. Should the rope fail, it may recoil with lethal force. Persons should be warned against the serious danger of standing in line with any rope under tension.***

In all cases where such risks are present, or there is any question about the loads involved or the conditions of use, the working load should be substantially reduced. Minimum breaking strength is based on test data of new, unused rope and is a value not greater than two standard deviations below the mean.

Dynamic loading voids normal working load
Normal working loads are not applicable when rope is subject to significant dynamic loading. Instantaneous changes in load constitute hazardous shock load and would void the normal working loads.

Whenever a load is picked up, stopped or swung, there is an increased force due to such dramatic loading. The more rapidly actions occur, the greater the increase will be. In extreme cases, the force put on the rope may be two, three, or even more times the normal load involved and may result in the rope parting. Examples could be picking up a tow on a slack line or using a rope to stop a falling object. Therefore, in all dynamic applications, working loads as given do not apply.

Users should be aware that dynamic effects are greater on a low-elongation, high-modulus rope such as Aramid and lesser on a higher-elongation, nylon-based product. Dynamic effects are greater on a shorter rope than on a longer one. The working load ratios listed contain provision for very modest dynamic loads. This means, however, that when the working load has been used to select a rope, the load must be handled slowly and smoothly to minimize effect and avoid exceeding provision for it.

Example:
A load of 3,500 lbs is being lowered using 5/8" diameter Double Esterlon, which has a maximum recommended working load of 3,400 lbs. With 15 feet of line in tension, the line accidentally slips, dropping the load 1 foot before arresting the fall.

Question:
How much energy did the rope have to absorb, and has the rope been overloaded or damaged?

Work done (ft lbs): (weight)(length of fall) = 3,500 ft lbs

Rated maximum working energy absorption

Capacity = (weight of the rope in use)(working energy absorption capacity rating for the rope used)

From the data page, Double Esterlon has a working energy absorption capacity of 291 ft lbs per pound of rope and a weight of 13.7 lbs per 100 ft of 0.137 lbs/ft.

Usage

Rated maximum working energy-absorption capacity of 16 feet of 5/8" Double Esterlon = (16 ft)(0.137 lbs/ft)(291 ft lbs/lb) = 638 ft lbs.

In this example, 2.19 lbs of rope (16ft x 0.137 lbs/ft) in use must absorb 3,500 ft lbs : or 3,500 ÷ 2.19 lbs equals 1,596 ft lbs/lb of rope.

In this example, the maximum working energy-absorption capacity has been exceeded by nearly six (6) times. The effect is to drive the maximum load the rope encounters until it arrests the load or breaks.

Rated ultimate energy absorption of 16 feet of 5/8" Double Esterlon = (16 ft)(0.137 lbs/ft) (7,711 ft/lbs/lb) = 16,902 ft lbs, and any dynamic load exceeding this total would break the line. Note that there is a linear relationship between the weight of the rope in tension versus its energy-absorption capability. In the above example, some degree of the rope's integrity has been compromised, and the prudent safety practice would call for downgrading or discarding the line.

Abrasion: Avoid all abrasive situations. Rope can be severely damaged if subjected to rough surfaces or sharp edges. Chocks, bits, winches, drums and other surfaces must be kept in good condition and free of burrs and rust. Sheaves must be free to rotate and should be of proper size to avoid excessive wear. Clamps and similar devices will damage and weaken the rope and should be used with the extreme caution. Do not drag rope over rough ground. Dirt and grit picked up by rope can work into strands, cutting the inside fibers and reducing the rope's strength.

Chemicals: Avoid chemical exposure, as rope is apt to be damaged. Consult Yale for recommendations when a rope will be used where chemical exposure can occur.

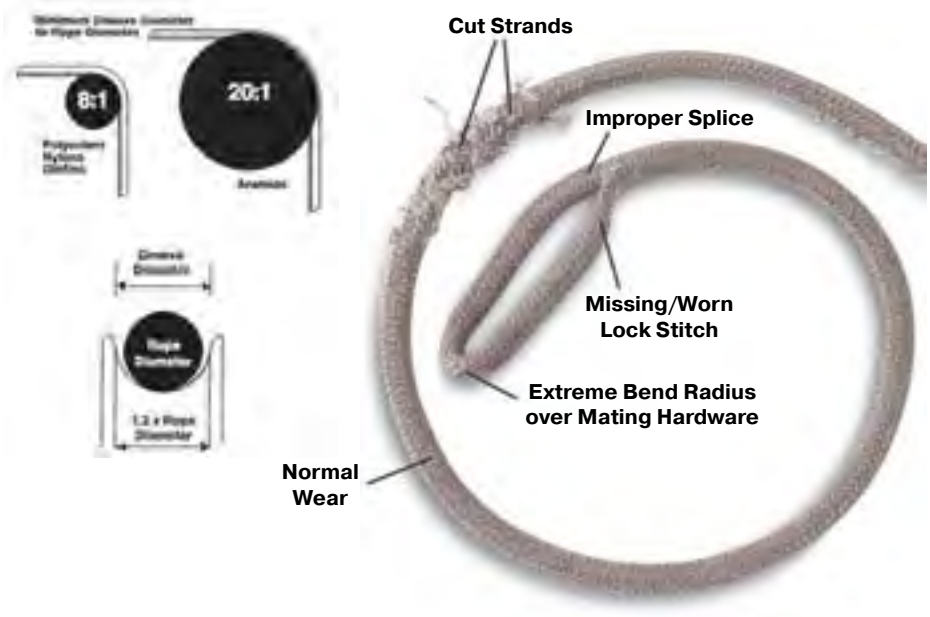
Temperature: The tensile strength charts apply to ropes tested at normal room temperature (70°F). Ropes have lower tensile strengths at higher temperatures. Continued exposure at elevated temperatures can melt and part synthetic ropes or cause permanent damage.

Dielectric Strength, as shown in the catalog, is offered as a guideline to help you compare various fibers and constructions. We recommend that you consider all ropes, regardless of their initial new rated dielectric strength, as conductive in service.

Splicing: Join rope by splicing. Use Yale's recommended splices for maximum efficiency. The strengths shown in this catalog are for spliced lengths. Other terminations can be used, but their strength loss with a particular type of rope and construction should be determined and not assumed.

Knots and abrupt bends significantly reduce the strength of all ropes and lower the maximum working load.

Avoid using rope that shows signs of aging and wear. If there is any question, destroy the used rope. No type of visual inspection can be guaranteed to accurately and precisely determine actual residual strength. When the fibers show wear in any given area, the rope should be respliced, eliminating the damaged area; downgraded; or replaced. Check the line regularly for frayed strands and broken yarn. Pulled strands should be rethreaded into the rope if possible. A pulled strand can snag during a rope operation. Both the outer and inner rope fibers contribute to the strength of rope. When either is worn, or the rope is compacted or hard, this indicates reduced strength. The dielectric strength of rope in this condition is also reduced.



Inspection Criteria

Single Braid

Protruding Strand

THE REPAIR: Work the strand back into the rope as soon as you notice it by carefully tugging on adjacent strands until the excess is distributed evenly. A protruding strand in service could easily snag or break, causing further complications.

Abrasion

THE REPAIR: There isn't a repair for abrasion, but you should still inspect for it. If the strength loss is minimal, go ahead and continue use. If the strength loss is moderate, consult Yale or retire the rope. If it's excessive, always retire.

Melting or Glazing

THE REPAIR: If possible, remove the affected section and re-splice with an end-for-end splice. Otherwise – or if you suspect the rope has experienced shock loading – retire the rope.

Cut Strand

THE REPAIR: If possible, remove the affected section and re-splice with an end-for-end splice. If re-splicing is not possible, retire the rope. As a general rule, 12-strand ropes should be retired when more than three broken strands are visible.

Diameter Change

THE REPAIR: If the diameter is reduced by less than 10 percent, it is still able to remain in service. If the diameter reduction is 11—20 percent, downgrade the rope. Should the diameter reduction from new to used exceed 20 percent, retire the rope.

Incorrect End to End Splice

THE REPAIR: Re-splice the rope correctly.

Balanced Double Braid

Protruding Strand

THE REPAIR: One to four strands spaced out by several feet can be removed and rewoven into the line with minimal impact on strength (less than 12 percent).

Deeply Abraded Spot

THE REPAIR: If you encounter a deeply abraded spot, where more than 50 percent of the strand is affected, you can re-splice the rope to repair it.

Worn-Out Eye

THE REPAIR: To repair a worn-out eye, you'll want to shorten, re-splice and reverse the rope. Proceed by putting the unused end into service.

Discontinuity in Rope Diameter

THE REPAIR: Open the rope sleeve to remove and inspect the core. If the core is parted, you will need to retire the rope.

High-Modulus Double Braid

Flat Spot Inside Rope

THE REPAIR: Open the rope sleeve to remove and inspect the core. If the core is parted, you will need to retire the rope.

Bumps on Cover

THE REPAIR: This rope can be returned to service. Simply flex the rope to remove the compression.

Cut Strand

THE REPAIR: As long as the core remains covered, you can repair cut strands by whipping into place, without impact on the strength.

8-Strand Plaited

Abraded Spot

THE REPAIR: As long as the core remains covered, you can repair cut strands by whipping into place, without impact on the strength.

Cut Strand

THE REPAIR: If possible, remove the affected section and re-splice with an end-for-end splice. If re-splicing is not possible, retire the rope.

Brait Lay Length Change

THE REPAIR: If permanent deformation results in a longer lay length in excess of 15 percent, retire the line.

Parallel Core

Protruding Strand

THE REPAIR: To repair a protruding strand on a parallel core rope, you'll need to cut off excess strand, execute a careful heat seal and whip with twine.

Abrasion

Abraded Spot

Deep abrasions through the rubber but not into the core

Deep abrasions through the rubber and damaging the core

THE REPAIR: To repair an abraded spot, evaluate the depth of the abrasion. If the rubber jacket is not compromised, whip and return to service. If you notice deep abrasions through the rubber but not into the core, you can repair the rubber layer and then whip the area. Abrasions and cuts through the rubber layer and damaging the core should be cut out and repaired with TechJoin™.

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