

# Spectra® 12 Strand & 12x12

**Spectra® 12 strand provides very high strength, low stretch and excellent abrasion resistance in a single braid construction.** The equivalent weight rope is more than 3 times as strong as polyester and has less than one half of the elongation.

Spectra® 12 strand is delivered standard with a polyurethane finish and is easily spliced using a simple lockstitch type splice, 4-3-2 or 5-4-3 Tuck Splice. Its soft, torque free braided construction provides easy handling.

## Features & Benefits

- Very low stretch
- Very high strength
- Soft hand
- Torque free
- Easy splicing
- Floats

## Applications

- Vessel mooring lines
- Tug winch lines
- Emergency tows
- Utility winch and pulling lines
- Recreational vehicle winch lines
- Theatrical rigging lines

## Type approved product

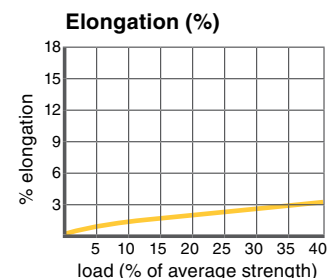


	Nominal Diameter		Size (circ in.)	Approximate Weight		Minimum Tensile Strength	
	Inch	MM		Lbs/100ft	Kg/100m	Lbs	kN
12 Strand	7/64	2.5	5/16	.33	0.5	1,125	5.0
	1/8	3	3/8	.53	0.8	1,800	8.0
	3/16	5	9/16	1.0	1.5	3,600	16.0
	1/4	6	3/4	1.6	2.4	6,000	26.7
	5/16	8	15/16	2.6	3.9	9,000	40.0
ABS and DNV Type Approved Sizes							
12 Strand	3/8	9	1-1/8	3.7	5.5	13,900	61.8
	7/16	11	1-1/4	4.2	6.3	14,800	65.8
	1/2	12	1-1/2	6.4	9.5	22,500	100.1
	9/16	14	1-3/4	7.9	11.8	27,700	123.2
	5/8	16	2	10.6	15.8	36,600	162.8
	3/4	18	2-1/4	13.3	19.8	43,200	192.2
	7/8	22	2-3/4	19.6	29.2	61,000	271.3
	1	24	3	23.4	34.8	72,000	320.3
	1-1/16	26	3-1/4	27.6	41.1	81,000	360.3
	1-1/8	28	3-1/2	31.9	47.5	91,800	408.3
12x12 Strand	1-1/4	30	3-3/4	36.2	53.9	102,600	456.4
	1-5/16	32	4	41.7	62.1	114,300	508.4
	1-1/2	36	4-1/2	51.7	76.9	141,300	628.5
	1-5/8	40	5	65.7	97.8	167,400	744.6
	1-3/4	44	5-1/2	78.4	116.7	198,000	880.7
	2	48	6	91.4	136.0	225,000	1000.8
	2-1/8	52	6-1/2	109.0	162.2	270,000	1201.0
	2-1/4	56	7	122.0	181.6	317,700	1413.2
	2-1/2	60	7-1/2	148.0	220.3	360,000	1601.4
	2-5/8	64	8	167.0	248.5	370,800	1649.4
12x12 Strand	2-3/4	68	8-1/2	187.0	278.3	405,000	1801.5
	3	72	9	214.0	318.5	508,500	2261.9
	3-1/4	80	10	261.0	388.4	616,500	2742.3
	3-5/8	88	11	324.0	482.2	765,000	3402.9
	4	96	12	394.0	586.4	900,000	4003.4

Sizes available up to 8-1/4" diameter (200mm). Tensile Strengths are determined in accordance with Cordage Institute 1500, Test Methods for Fiber Rope. Weights are calculated at linear density under standard preload (200d2) plus 4%. See reverse side for application and safety information.

Specific gravity	0.98*
Melting point	284°F (140°C)
Critical temp.	150°F (65°C)
Coefficient of friction	0.09-.12*
Elongation at break	6%-8%
Fiber water absorption	0%
UV resistance	moderate
Wet abrasion	superior
Dry abrasion	superior

\* value based on data supplied by the fiber manufacturer for new, dry fiber



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## Rope Specifications

**Minimum Tensile Strength** Minimum Tensile Strengths shown are for new (unused) rope and will decrease after use. All tests are performed in accordance with Cordage Institute Standard CI 1500-2. The rope strength will be reduced after use due to heat, abrasion, ultraviolet or chemical exposure. The tensile strengths may be further reduced by up to 50% as a result of knots or kinks. Minimum Tensile Strengths are defined as two standard deviations (typical about 10%) below the average.

**Maximum Working Loads** Maximum Working Loads are determined by dividing the tensile strength by the safety factor. The safety factor is a function of the physical properties of the rope, the age and history of the rope, the type of service it will be subjected to and the risks involved if failure occurs. For a rope manufacturer to give blanket working load recommendations would be like a car manufacturer giving the “safe driving speed” of their cars. Obviously the conditions of use far outweigh the design characteristics of the rope. Typically safety factors vary from 3:1 (for new rope used in applications with uniform loading and where failure would cause little or no risk to equipment or personnel) to 20:1 (for conditions involving moderate shock loading, possibility of snags or kinks or where failure could cause severe risk to equipment or personnel).

**Rope Weights** Rope Weights shown are average and may vary plus or minus 5%.

**Working Elongation** Working Elongation is shown from a preload tension of 200 times the diameter squared per the Cordage Institute Standard.

## Special Requirements

**Factory Splicing** Various types are available for all of our ropes. Splices can be provided with various types of chafe protection or coatings.

**Custom Lengths** Special constructions are available on request.

**Rope Terminations** Cortland can provide custom terminations such as thimbles, links, rings and custom hardware. Terminations are available in plastic, bronze, stainless steel and galvanized steel. Please call or fax your requirements for a quotation.

**Special Coatings** Coatings such as polyurethane, polyethylene and vinyl esters may be applied to any of the synthetic ropes to improve snag resistance, sunlight resistance or for color coding. Cortland can provide ropes with a variety of finishes to meet your needs.

**Commercial and Military Specifications** Certificates of compliance are supplied at no charge if requested when placing the order. Certified test reports can be provided at an additional charge when requested at the time of the order.

## Terms & Shipping Information

**Payment Terms** Net 30 days from the invoice date with approved credit.

**Minimum Billing** \$100 based on net prices.

**Prices and Specifications** Subject to change without notice.

**Freight All prices are FOB factory** – Anacortes, WA USA. Full freight allowance will be given on all surface shipments meeting minimum requirements based on delivery location, provided the invoice is paid within the 30 day terms.

**Returned Goods** Subject to a minimum 20% restocking charge upon inspection. No returns will be accepted without prior authorization.

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