



Braided Ropes



Nylon Double Braid is the preferred choice for applications requiring high strength with excellent shock absorbing properties. Nylon Double Braid has good resistance to abrasion, sunlight and chemicals. Due to its high elongation, nylon is almost always used in applications involving shock loading such as anchor lines and mooring lines.

Nylon Double Braid comes standard with an overlay marine finish.

- High stretch
- High strength
- Excellent shock absorption
- Soft hand
- Torque free
- Meets MIL-DTL-24050E

D/S Composite Double Braid

D/S Composite is a double braided rope with the inner core made of Spectra® and the outer sleeve of polyester. D/S Composite has very low elongation, high strength and the feel and handling of polyester double braid.

D/S Composite comes standard with an overlay marine finish and is available on special order with a spliceable polyurethane finish in clear or any of six colors.

- High Strength
- Low Stretch
- Soft Hand
- Torque Free
- Easy Splicing

Nylon Double Braid

Nom. Diameter		Size Number (Circ)	Approx. Weight		Min. Tensile Strength	
(in.)	(mm)		Lbs/100ft	Kg/100m	Pounds	kN
5/8	16	2	11.6	17.2	14,800	65.8
3/4	18	2-1/4	14.7	21.9	19,000	84.5
7/8	22	2-3/4	21.8	32.4	28,300	125.9
1	24	3	26.0	38.7	33,500	149.0
1-1/4	30	3-3/4	40.7	60.6	52,300	232.6
1-1/2	36	4-1/2	58.4	86.9	74,000	329.2
1-5/8	40	5	72.3	107.6	92,400	411.0
1-3/4	44	5-1/2	87.7	130.5	110,900	493.3
2	48	6	103.9	154.6	131,500	584.9

Tensile Strengths are determined in accordance with Cordage Institute 1500, Test Methods for Fiber Rope. With extended immersion in water, all nylon ropes will lose up to 10% of their strength. Weights are calculated at linear density under standard preload (200d²) plus 7%. ABS and DNV type approved sizes. Available in other diameters.

D/S Composite Double Braid

Nom. Diameter		Size Number (Circ)	Approx. Weight		Min. Tensile Strength	
(in.)	(mm)		Lbs/100ft	Kg/100 M	Pounds	kN
1/2	12	1-1/2	8.3	12.3	13,950	62.0
5/8	16	2	12.5	18.6	24,600	109.4
3/4	18	2-1/4	15.9	23.7	31,500	140.1
7/8	22	2-3/4	24.9	37.1	44,800	199.3
1	24	3	30.8	45.8	51,600	229.5
1-1/8	28	3-1/2	36.8	54.8	65,500	291.4
1-1/4	30	3-3/4	42.6	63.4	72,700	323.4
1-1/2	36	4-1/2	64.0	95.2	100,000	444.8
2	48	6	107	159.2	165,000	734.0

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%. Available in other diameters.

CORDAGE

Note

Please refer to the Warning notice at the end of this section concerning Working Load Limits



Plasma 12® Strand



Plasma® 12 Strand is the highest strength synthetic rope available. Plasma® 12 strand is manufactured from Honeywell Spectra® Fiber that has been enhanced by a patented recrystallization process. This process is especially effective in medium to large diameter ropes where strengths are over 50% higher and creep is significantly less than that of standard Spectra® 12 strand.

Plasma® 12 Strand comes 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:

- Highest Strength
- Lowest Stretch
- Low Creep
- Soft Hand
- Torque Free
- Easy Splicing
- Floats

ABS & DNV Type Approved Sizes

Nom. Diameter *		Size Number (Circ)	Approx. Weight		Min. Tensile Strength **	
(in.)	(mm)		Lbs/100ft	Kg/100 M	Pounds	kN
1/2	12	1-1/2	6.4	9.5	31,300	139.2
5/8	16	2	10.6	15.8	51,400	228.6
3/4	18	2-1/4	13.3	19.8	68,500	304.7
7/8	22	2-3/4	19.6	29.2	92,600	411.9
1	24	3	23.4	34.8	110,000	489.3
1-1/8	28	3-1/2	31.9	47.5	147,000	653.9
1-1/4	30	3-3/4	36.2	53.9	165,000	734.0
1-1/2	36	4-1/2	51.7	76.9	221,000	983.1
2	48	6	91.4	136	355,000	1579.1
3	72	9	214	318.5	780,000	3469.6
4	96	12	394	586.4	1,520,000	6761.3

* Available in other diameters.
 ** 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%.

Rope Fiber Selection Guide: Fiber Properties - Typical Values

	Manila	Sisal	Cotton	Nylon	Polyester	Polypropylene	Polyethylene	Aramid1	UHMWPE2
STRENGTH: Breaking Tenacity-Dry (grams/denier) Wet Strength vs. Dry Strength Shock-load Absorption Ability	5.0-6.0 Up to 120% Poor	4.0-5.0 Up to 120% Poor	2.0-3.0 Up to 120% Very Poor	7.0-9.5 85-90% Excellent	7.0-9.5 100% Good	6.5 100% Very Good	6.0 100% Fair	18-26.5 95% Poor	30.0 100% Fair
WEIGHT: Specific Gravity Floats	1.38 No	1.38 No	1.54 No	1.14 No	1.38 No	0.91 Yes	0.95 Yes	1.44 Yes	0.97 Yes
ELONGATION: Percent at Break Creep (extension under sustained load)	10-12% Very Low	10-12% Very Low	5-12% Very Low	18-25% Moderate	12-15% Low	15-25% High	15-25% High	1.5%-3.6% Very Low	3.5% Moderate
EFFECTS OF MOISTURE: Water Absorption of Individual Fibers Dielectric Properties	Up to 100% Very Poor	Up to 100% Very Poor	Up to 100% Very Poor	2-8% Poor	<1% Good	None Excellent	None Excellent	3.5-7% Poor	None Excellent
DEGRADATION: Resistance to UV in Sunlight Resistance to Rot and Mildew Storage Requirements	Good Poor Dry only	Good Poor Dry only	Good Poor Dry only	Good Excellent Dry only	Excellent Excellent Dry only	Poor (Black is best) Excellent Wet or Dry	Poor (Black is best) Excellent Wet or Dry	Fair Excellent Wet or Dry	Fair Excellent Wet or Dry
ROPE ABRASION RESISTANCE: Surface Internal	Good Fair	Fair Fair	Poor Fair	Very Good Excellent	Excellent Excellent	Good Good	Good Good	Fair Fair	Very Good Excellent
THERMAL PROPERTIES: Melts at (degrees)	Does not melt Chars at 350°F	Does not melt Chars at 350°F	Does not melt Chars at 300°F	420°-480°F	490°-500°F	330°F	275°F	800°F-Begins to decompose	297°F
RESISTANCE3: Resistance to Acids Resistance to Alkalis Resistance to Oils and Gas	Poor Poor Poor	Poor Poor Fair	Poor Fair Poor	Fair Very Good Very Good	Good Fair Very Good	Excellent Excellent Very Good	Excellent Excellent Very Good	Fair Fair Very Good	Excellent Excellent Very Good

1. Based on Dupont Kevlar Data.
 2. Based on Allied/Signal Spectra Data-Type 900. Ultra High Molecular Weight Polyethylene.
 3. Resistance is relative to the length of exposure, percent of concentration and temperature.

Warning !

- WORKING LOADS

Because of the wide range of rope use, rope condition, exposure to the factors affecting rope behavior, and the degree of risk of life and property involved, it is not realistic to make standard recommendations as to design factors or working loads. However, to provide guidelines, a range of design factors and working loads are provided for rope in good condition with appropriate splices, in non-critical applications and under normal service condition. Normal service is generally considered to be used under static or very modest dynamic load conditions. Design factors range from 5:1 to 12:1 for normal service and modest dynamic loading, and should be higher for critical applications. Finally, minimum breaking strengths vary greatly among manufacturers. Check the manufacturer's minimum break strength for the specific rope being considered.