



## DENVER ROPE - BOAT LINE SELECTION GUIDE

The Best Custom Boat Lines, Custom Colored Ropes, & Special Assemblies made to Your Specifications

Boat Line Selection Guide							
Dock Line Selection Guide					Anchor Line Selection Guide		
Boat Length	Diameter	Stern & Bow Lines	Spring Lines	Short Lines	Length	Diameter	Mooring Pendant
<= 19 ft	3/8"	(2) 10 ft	(2) 24 ft	(2) 10 ft	75 - 150 ft	3/8"	1/2"
20 - 30 ft	1/2"	(2-4) 12 ft	(2) 30 ft	(2) 10 ft	75 - 150 ft	1/2"	5/8"
31 - 40 ft	5/8"	(2-4) 15 ft	(2) 40 ft	(2) 10 ft	100 - 200 ft	1/2" - 5/8"	3/4" - 7/8"
41 - 50 ft	3/4"	(2-4) 20 ft	(2) 50 ft	(2) 15 ft	100 - 200 ft	3/4" - 7/8"	1-0"
51 - 60 ft	7/8"	(2-4) 25 ft	(2) 60 ft	custom	100 - 200 ft	1-0"	1-1/4"
61 - 70 ft	1-0"	(2-4) 30 ft	(2) 70 ft	custom	>= 200 ft	1-0" - 1-1/4"	1-1/4" - 1-1/2"
Houseboat	3/4"	(2-4) 15-20 ft	custom	(4-8) 8-10 ft	(4) 100 - 200 ft	3/4"	1-1/2" - 2-0"
71 - 90 ft	1-0"	custom	custom	custom	custom	custom	custom
91 - 110 ft	1-1/8"	custom	custom	custom	custom	custom	custom
111 - 130 ft	1-1/4"	custom	custom	custom	custom	custom	custom
131 - 150 ft	1-1/2"	custom	custom	custom	custom	custom	custom
151 - 200 ft	1-3/4"	custom	custom	custom	custom	custom	custom
201 - 300 ft	2-0"	custom	custom	custom	custom	custom	custom
> 300 ft	custom	custom	custom	custom	custom	custom	custom

These are suggestions only. Check with your boat manufacture / dealer / neighbor's / harbor master to help with your selection.

Verify the distance between your boat's cleats and the dock's cleats.

Expected weather conditions, windage, weight, and application (lake, ocean, MY, houseboat, qty of cleats, etc.) affect your line selection.

Having a set of back-up storm lines is recommended.

We are a custom made-to-order rigging shop so please customize your lines for what you need.

For customer service and inquiries please call John 303-809-7274 or email [john@denverrope.com](mailto:john@denverrope.com);

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# DENVER ROPE - DBN / HARDWARE STRENGTH GUIDE

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NYLON DOUBLE BRAID (DBN) Single Leg Line				S/S Bow Shackle	S/S Safety Bolted Shackle	GALV Safety Bolted Shackle	S/S Swivel Eye Hook	S/S Spring - Harness Clip	Quick Release Snap Shackle	Trigger Release LB Shackle	Rope Connector c/w Spool, Shield, & Shackle
Diameter		Tensile	WLL 5:1	<i>Note: If a thimble is used, the shackle needs to match the width / size of the thimble to match the diameter of the rope. 1-0" rope = 1-0" thimble = 1-0" shackle. Dry fit required.</i>							
inches	mm	pounds	pounds								
1/2"	13	7,300	1,460	3/8", 7/16"	3/8"	3/8"	5/16"	1/2", 1/2"	W2776	T20	SZ 1
5/8"	16	14,600	2,920	1/2"	7/16", 1/2"	7/16"	3/8"	na, 1/2"	W2776	T20	SZ 2
3/4"	19	19,000	3,800	1/2", 5/8"	1/2", 5/8"	1/2"	1/2"		W2776	T20	SZ 3
7/8"	22	28,100	5,620	3/4", 7/8"	5/8", 3/4"	1/2"			W2776	T30	SZ 4
1-0"	25	33,200	6,640	1-0"	3/4", 7/8"	5/8"			W2777	T30	SZ 4
1-1/4"	32	52,000	10,400	1-1/4"	1-0"	3/4"			W2778	T30	SZ 5
1-1/2"	38	74,000	14,800		1-1/4"	7/8"				T30	SZ 6
1-5/8"	41	92,100	18,420			1-0"				T40	SZ 6
1-3/4"	45	109,500	21,900			1-1/8"				T40	SZ 6
2-0"	51	129,700	25,940			1-1/4"				T50	SZ 7
2-1/4"	57	179,400	35,880			1-1/2"					SZ 7
2-1/2"	64	196,000	39,200			1-3/4"					SZ 8
2-5/8"	67	221,000	44,200			1-3/4"					SZ 8
2-3/4"	70	237,000	47,400			1-3/4"					SZ 9
3-0"	76	274,000	54,800			1-3/4"					SZ 9
3-1/4"	83	339,000	67,800			2-0"					SZ 9

These figures are for brand new rope. Age, wear, sunlight exposure, splices, and fraying will further reduce these figures over time

All hardware sizing is approximate where thimble size and rope thickness may require a larger shackle to fit properly

Heavy Duty Towing Thimbles are available to include NEWCO, Blue Line, NAVSEA, GN Rope Fittings, Rope Connectors, etc.

We also supply towing plates, wire rope assemblies, stud link chain, and additional hardware as required

Additional fiber and rope construction styles are available

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Diameter	Diameter	Diameter	Circumference	Circumference
fractional inches	decimal inches	mm	inches	mm
1/8"	0.125	3.2	0.4	10.0
3/16"	0.1875	4.8	0.6	15.0
1/4"	0.25	6.4	0.8	20.0
5/16"	0.3125	7.9	1.0	24.9
3/8"	0.375	9.5	1.2	29.9
7/16"	0.4375	11.1	1.4	34.9
1/2"	0.5	12.7	1.6	39.9
9/16"	0.5625	14.3	1.8	44.9
5/8"	0.625	15.9	2.0	49.9
3/4"	0.75	19.1	2.4	59.9
7/8"	0.875	22.2	2.8	69.8
1-0"	1.0	25.4	3.1	79.8
1-1/8"	1.1875	30.2	3.7	94.8
1-1/4"	1.25	31.8	3.9	99.8
1-1/2"	1.5	38.1	4.7	119.7
1-5/8"	1.625	41.3	5.1	129.7
1-3/4"	1.75	44.5	5.5	139.7
2-0"	2.0	50.8	6.3	159.7
2-1/8"	2.2	55.6	6.9	174.6
2-1/4"	2.25	57.2	7.1	179.6
2-1/2"	2.5	63.5	7.9	199.6
2-5/8"	2.625	66.7	8.2	209.6
2-3/4"	2.75	69.9	8.6	219.5
3-0"	3.0	76.2	9.4	239.5
3-1/4"	3.25	82.6	10.2	259.4
3-1/2"	3.5	88.9	11.0	279.4
3-5/8"	3.625	92.1	11.4	289.4
3-3/4"	3.75	95.3	11.8	299.4
4-0"	4.0	101.6	12.6	319.3
4-1/4"	4.25	108.0	13.4	339.3
4-1/2"	4.5	114.3	14.1	359.2
4-5/8"	4.625	117.5	14.5	369.2
4-3/4"	4.75	120.7	14.9	379.2
5-0"	5.0	127.0	15.7	399.1



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## Conversion Factors and Information

1 inch = 25.4 mm  
12 inches = 1 foot  
1 foot = 304.8 mm  
1 meter = 3.28 ft

## Circumference of a Circle

Circular =  $\text{PI} \times \text{Diameter}$

## Weight

1 Pound = 0.4536 kG  
1 kG = 2.2046 lbs

## Force

1 Newton = 0.2248 lbs  
1 kN = 224.8 lbs

## Standard Hawser Lengths

50 ft / 100 ft / 300 ft / 600 ft / 720 ft / 900 ft / Custom  
Where 1 Fathom = 6 feet

## Minimum Breaking Strength (MBS) to Working Load Limit (WLL)

WLL for Very Conservative =  $\text{MBS}/10$   
WLL for Standard Conservative =  $\text{MBS}/5$  (Denver Rope Selection)  
WLL for Less Conservative =  $\text{MBS}/3$   
WLL = Engineered Calculation

MBS = Tensile Strength

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