

ROPE-WEIGHT/STRENGTH TABLE

Weight and Strength Tables for 3 Strand Regular Lay Rope

		Sea-Worthy Best Pure Manila			707 Nylon			Polyester			Monofilament Polypropylene		
Dia.	Circ	Lbs./100'	Feet/lb.	Breaking Strength	Lbs./100'	Feet/lb.	Breaking Strength	Lbs./100'	Feet/lb.	Breaking Strength	Lbs/100'	Feet/lb.	Breaking Strength
3/16"	5/8"	1.5	66.6	450	1.25	80.0	1,100	1.41	70.9	1050	.75	133.3	720
1/4"	3/4"	2.0	50	600	1.90	52.6	1,700	2.08	48.1	1500	1.1	90.9	1,050
5/16"	1"	2.9	34.5	1,000	3.08	32.5	2,700	3.67	27.2	2600	1.8	55.6	1,700
3/8"	1-1/8"	4.1	24.4	1,350	4.00	25.0	3,500	4.50	22.2	3300	2.9	34.5	2,450
7/16"	1-1/4"	5.3	19.0	1,750	5.00	20.0	4,300	5.58	17.9	3800	3.8	26.3	3,150
1/2"	1-1/2"	7.5	13.1	2,650	7.00	14.3	5,950	8.00	12.5	5450	4.5	22.2	3,600
9/16"	1-3/4"	10.4	9.6	3,450	9.33	10.7	7,900	10.7	9.3	7250	5.9	16.9	4,400
5/8"	2"	13.3	7.5	4,400	10.5	9.5	8,800	14.0	7.1	8700	7.5	13.3	5,500
3/4"	2-1/4"	16.7	6.0	5,400	15.4	6.5	12,700	17.8	5.6	11,400	11.4	8.8	8,000
13/16"	2-1/2"	19.5	5.1	6,500	19.2	5.2	15,700	21.9	4.6	14,000	12.7	7.9	8,900
7/8"	2-3/4"	22.5	4.4	7,700	23.1	4.3	18,000	25.0	4.0	15,950	15.0	6.7	10,400
1"	3"	27.0	3.7	9,000	27.5	3.6	22,000	31.0	3.2	19,600	17.7	5.6	12,250
1-1/16"	3-1/4"	31.3	3.2	10,500	31.9	3.1	25,300	37.1	2.7	23,450	21.0	4.8	14,800
1-1/8"	3-1/2"	36.0	2.8	12,000	37.4	2.7	29,600	43.1	2.3	*27,250	25.4	3.9	17,300
1-1/4"	3-3/4"	41.8	2.4	13,500	43.0	2.3	33,700	49.3	2.0	31,350	30.0	3.3	20,375
1-5/16"	4"	48.0	2.1	15,000	49.0	2.0	38,200	56.1	1.8	35,650	34.0	2.9	23,100
1-1/2"	4-1/2"	60.0	1.7	18,500	62.0	1.6	47,700	71.1	1.4	45,150	42.5	2.4	28,850
1-5/8"	5"	74.4	1.3	22,500	76.0	1.3	58,000	87.7	1.1	55,650	53.3	1.9	36,200
1-3/4"	5-1/2"	89.5	1.1	26,500	92.4	1.1	70,000	106.2	.94	67,600	57.0	1.8	38,700
2"	6"	108.0	.93	31,000	108.5	.92	81,400	126.3	.79	80,000	69.0	1.4	45,800
2-1/4"	7"	146.0	.68	41,000	149.5	.67	110,000	172.0	.58	103,650	96.5	1.0	64,100
2-1/2"	7-1/2"	167.0	.60	46,500	172.0	.58	125,500	197.5	.51	119,000	108.0	.93	71,750
2-5/8"	8"	191.0	.52	52,000	196.0	.51	142,000	224.5	.45	135,000	120.0	.83	79,700
3"	9"	242.0	.41	64,000	247.5	.40	177,700	284.3	.35	171,000	155.0	.65	99,400
3-1/4"	10"	299.0	.33	77,000	306.0	.33	219,000	327.1	.31	197,000	190.0	.53	123,400

NOTES: All "lbs./100" figures listed are average and maximum weights are 5% higher. The strength figures shown apply to new rope.

	Sea-Worthy Best Pure Manila	707 Nylon	Polyester	Monofilament Polypropylene
Elongation (Stretch)	Least	Most	Second Lowest	Medium
Resistance to Shock Load	Least	Greatest	Good	Great
Mildew Resistance	Poor	Excellent	Excellent	Excellent
Acid Resistance	Poor	Fair	Good	Excellent
Alkali Resistance	Poor	Excellent	Fair	Excellent
Sunlight Resistance	Fair	Good	Good	Fair
Organic Solvent Resistance	Good	Good	Good	Fair
Critical Temperature	300°F	350°F	350°F	250°F
Floatability	None	None	None	Floats Indefinitely

Recommended Safety Factors

Product	3/16" - 3/8"	7/16" - 1/2"	9/16" - 5/8"	3/4" & UP
Manila, Sisal, Polyester, Polypropylene	10	9	8	7
Nylon	12	11	10	9

To determine working load, divide breaking strength by Safety Factor.

CAUTION: Use of Safety Factors

Because of the wide range of rope use, rope condition, 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, Safety Factors are tabulated for rope in good condition with appropriate splices in non-critical applications and under normal service conditions,

Product	Standard Lengths	3/16"	1/4"	5/16"	3/8"	1/2" & UP
Sea-worthy Manila	Full coils	-	2470	1700	1225	1200
Silver Sisal	Half coils	-	1235	850	610	600
Hardware Manila	Full coils	-	2470	1700	1225	1200
	Half coils	-	1235	850	610	600
Synthetics	Full coils	* 1800 Nylon	1200	1200	1200	1200
	Half coils	2400 Polypropylene Polyester	-	-	600	600

Hardware Manila and Silver Sisal also available in cartons in the following length: 1/4"; 5/16" (Sisal only), and 3/8" - 1000'; 1/2" 500'.