

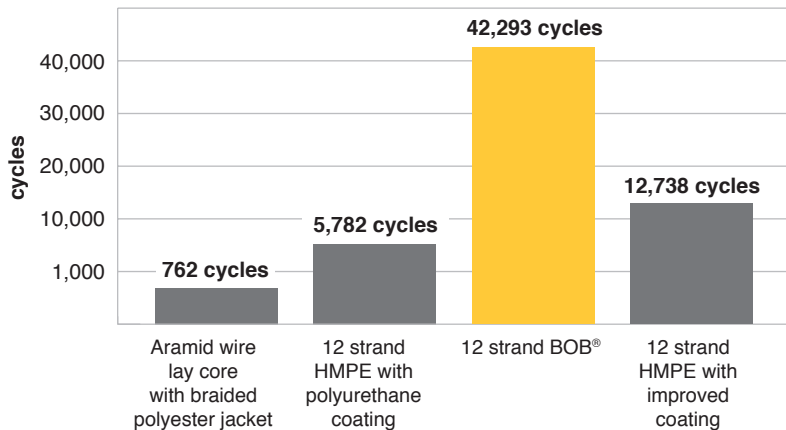
# BOB<sup>®</sup> Rope

## for continuous bend-over-sheave applications

Heavy marine cyclic bend-over-sheave (CBOS) applications call for rope constructions with high fatigue resistance performance and long-term creep resistance. Rope failures can cause considerable vessel downtime cost.

Cortland's exclusive Braid Optimized for Bending (BOB<sup>®</sup>) UHMWPE fiber rope construction was developed specifically for use where ropes cycle continuously back-and-forth across sheave applications. BOB offers superior cyclic fatigue resistance performance, especially in dynamic bend-over-sheave applications, as well as excellent long-term creep resistance.

### BOB<sup>®</sup> Bend Over Sheave Test Data



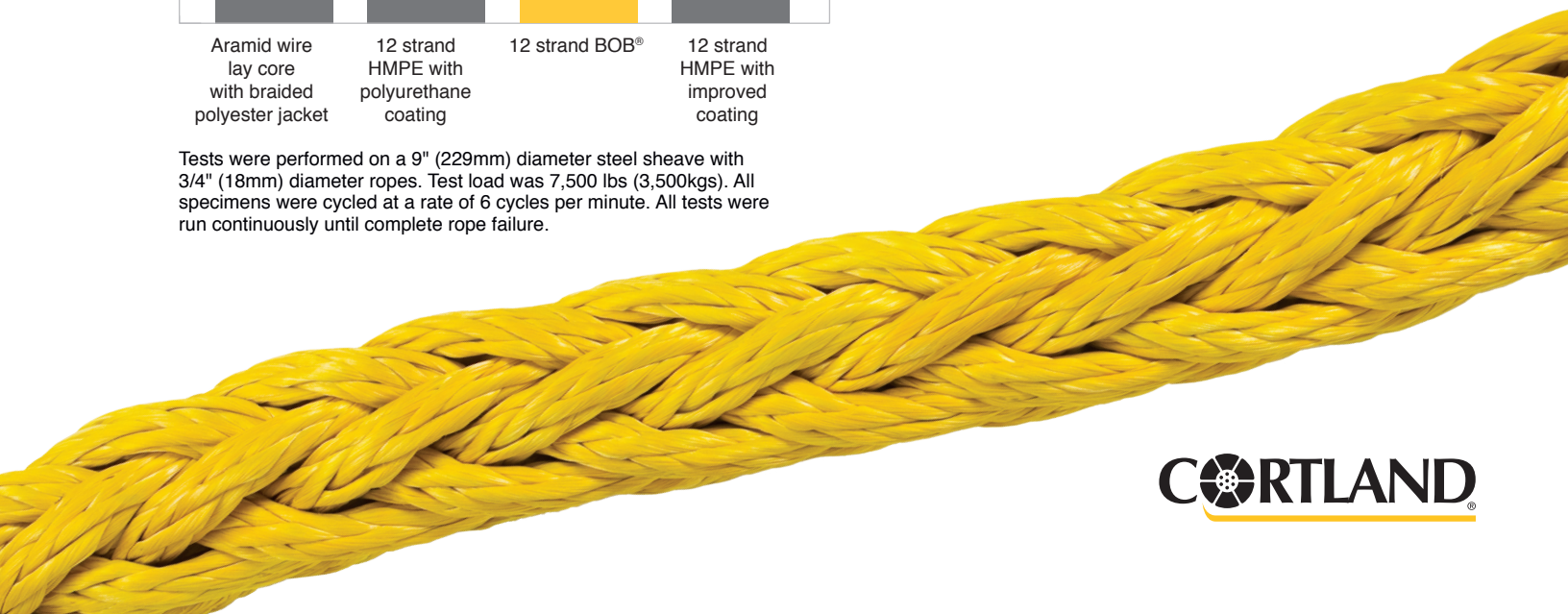
Tests were performed on a 9" (229mm) diameter steel sheave with 3/4" (18mm) diameter ropes. Test load was 7,500 lbs (3,500kgs). All specimens were cycled at a rate of 6 cycles per minute. All tests were run continuously until complete rope failure.

### Features

- High strength
- Low stretch
- Ultra low creep
- Soft hand
- Torque free
- Easy splicing

### Applications

- Replacement for wire rope in deep water lifting applications
- Use on drum and traction winches
- Active heave compensation systems
- Heavy lift slings
- High fatigue applications
- Seismic tow cables
- Tether applications
- Theatrical rigging



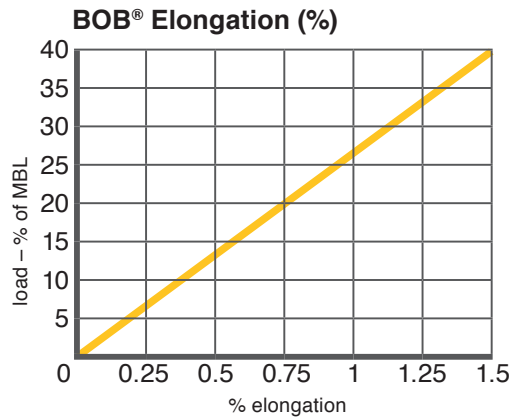
# BOB® Rope

The patented blend of high performance fibers, available in either 12-strand or 12x12 strand designs, features high strength, low stretch and ultra low creep to maximize durability in bending situations. These features translate into less downtime and cost efficiencies in situations such as seismic tow arrays, where rope failures cause array recovery downtime and possible data loss.

BOB® ropes can be supplied with multiple coating finishes to suit specific applications. For more information email [cortland@cortlandcompany.com](mailto:cortland@cortlandcompany.com).

Specific gravity	1.18*
Melting point	284°F (140°C)
Critical temp.	150°F (65°C)
Coefficient of friction	0.12–0.15*
Elongation at break	3%–4%
Fiber water absorption	<0.1%
UV resistance	moderate
Wet abrasion	superior
Dry abrasion	superior

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



**Size:** Diameter and circumference are nominal. A new unused rope in relaxed state will measure larger; loading and use compacts ropes, sets splices and lessens rope size. This is especially prevalent in sizes above 4" diameter. Published nominal sizes from 4-1/8" and larger represent stabilized or preloaded size. **Weights:** Published weights of sizes 1-5/8"-4" diameter are calculated at linear density under stated preload (200d²) plus 4%. For this chart, sizes 4-1/8"-8-1/4" diameter represent un-cycled, (non-stabilized) weights. **Tensile Strengths:** Tensile strength determined in accordance with Cordage Institute 1500 Test Methods for Fiber Ropes and ISO 2307.

	Nominal Diameter		Size (circ in.)	Approximate Weight		Minimum Tensile Strength Spliced Rope		Minimum Tensile Strength ISO Unspliced Rope	
	inch	mm		lbs/100ft	kg/100m	lbs	MT (tonnes)	lbs	MT (tonnes)
12-Strand	0.1	2.5	0.3	0.3	0.5	1,260	0.6	1,400	0.6
	1/8	3	3/8	0.6	0.9	1,900	0.9	2,100	1.0
	3/16	5	9/16	1.3	1.9	5,400	2.5	6,000	2.7
	1/4	6	3/4	2.2	3.2	7,700	3.5	8,600	3.9
	5/16	8	15/16	3.1	4.7	13,900	6.3	15,400	7.0
	3/8	9	1-1/8	4.5	6.7	17,300	7.8	19,200	8.7
	7/16	11	1-1/4	5.9	8.9	23,900	10.8	26,600	12.1
	1/2	12	1-1/2	8.4	12.6	28,100	12.7	31,200	14.2
	9/16	14	1-3/4	10.3	15.4	40,100	18.2	44,600	20.2
	5/8	16	2	12.9	19.3	51,400	23.3	57,100	25.9
	3/4	18	2-1/4	16.9	25.1	68,500	31.1	76,100	34.5
	13/16	20	2-1/2	19.6	29.2	74,000	33.6	82,200	37.2
	7/8	22	2-3/4	24.9	37.0	92,600	42	102,900	46.7
	1	24	3	30.0	44.7	110,000	49.9	122,200	55.4
	1-1/8	28	3-1/2	40.7	60.5	147,000	66.7	163,300	74.1
	1-1/4	30	3-3/4	43.4	64.6	165,000	75	183,300	83
	1-5/16	32	4	53.2	79.2	196,000	89	217,800	99
	1-1/2	36	4-1/2	66.6	99.1	221,000	100	245,600	111
	1-5/8	40	5	81.8	121.8	291,000	132	323,300	147
	1-3/4	44	5-1/2	95.9	142.7	314,000	142	348,900	158
12x12 Strand	2	48	6	120.6	179.4	355,000	161	394,400	179
	2-1/8	52	6-1/2	141.6	210.8	428,000	194	475,600	216
	2-1/4	56	7	158.2	235.4	481,000	218	534,400	242
	2-1/2	60	7-1/2	191.3	284.7	530,000	240	588,900	267
	2-5/8	64	8	210.9	313.8	596,000	270	662,200	300
	2-3/4	68	8-1/2	227.9	339.3	660,000	299	733,300	333
	3	72	9	269.9	401.7	780,000	354	866,700	393
	3-1/4	80	10	314.5	468.0	940,000	426	1,044,000	474
	3-1/2	84	10-1/2	375.0	558.1	1,108,000	503	1,231,000	559
	3-5/8	88	11	403.3	600.2	1,250,000	567	1,389,000	630
	4	96	12	531.9	791.6	1,520,000	690	1,689,000	766
	4-1/8	100	12-1/2	620	923	1,622,000	736	1,802,000	818
	4-1/4	104	13	697	1037	1,697,000	770	1,886,000	856
	4-1/2	108	13-1/2	719	1070	1,827,000	829	2,030,000	921
	4-5/8	112	14	740	1101	1,880,000	853	2,089,000	948
	4-3/4	116	14-1/2	796	1185	1,927,000	874	2,141,000	971
	5	120	15	822	1223	2,069,500	939	2,299,000	1043
	5-1/8	124	15-1/2	891	1326	2,212,000	1004	2,458,000	1115
	5-1/4	128	16	953	1418	2,355,000	1069	2,617,000	1187
	5-1/2	132	16-1/2	1015	1511	2,497,500	1133	2,775,000	1259
5-5/8	136	17	1102	1640	2,640,000	1198	2,933,000	1331	
5-3/4	140	17-1/2	1181	1758	2,782,500	1262	3,092,000	1403	
6	144	18	1264	1881	2,925,000	1327	3,250,000	1475	
6-1/8	148	18-1/2	1335	1987	3,068,000	1392	3,409,000	1547	
6-1/4	152	19	1407	2094	3,210,500	1457	3,567,000	1618	
6-1/2	156	19-1/2	1495	2225	3,353,000	1521	3,726,000	1691	
6-5/8	160	20	1571	2338	3,496,000	1586	3,884,000	1762	
6-3/4	164	20-1/2	1663	2475	3,638,500	1651	4,043,000	1834	
7	168	21	1741	2591	3,781,000	1716	4,201,000	1906	
7-1/8	172	21-1/2	1809	2692	3,963,500	1798	4,404,000	1998	
7-1/4	176	22	1887	2808	4,066,000	1845	4,518,000	2050	
7-1/2	180	22-1/2	1969	2930	4,209,000	1910	4,677,000	2122	
7-5/8	184	23	2070	3081	4,351,500	1974	4,835,000	2194	
7-3/4	188	23-1/2	2154	3206	4,494,000	2039	4,993,000	2265	
8	192	24	2241	3335	4,637,000	2104	5,152,000	2338	
8-1/8	196	24-1/2	2348	3494	4,779,000	2168	5,310,000	2409	
8-1/4	200	25	2438	3628	4,922,000	2233	5,469,000	2481	