

Wire Rope Specifications

999 SERIES 1, 2, 3

Liftcrane - Boom No. 82 or 22EL
1-1/8 in. Wire Rope

Wire Rope Lengths						
Boom or Boom and Jib Length		Whip Line Front or Auxiliary Drum		Hoist Line Rear Drum		Maximum Required Parts of Line
		1 Part				
Ft.	Meters	Ft.	Meters	Ft.	Meters	
70	21.3	180	55	1100	335	13
80	24.4	200	61	1150	351	12
90	27.4	220	67	1200	366	11
100	30.5	240	73	1200	366	10
110	33.5	260	79	1200	366	9
120	36.6	280	85	1300	396	9
130	39.6	300	91	1300	396	8
140	42.7	320	98	1350	411	8
150	45.7	340	104	1350	411	7
160	48.8	360	110	1350	411	6
170	51.8	380	116	1350	411	6
180	54.9	400	122	1350	411	6
190	57.9	420	128	1350	411	5
200	61.0	440	134	1350	411	5
210	64.0	460	140	1350	411	5
220	67.1	480	146	1350	411	4
230	70.1	500	152	1350	411	4
240	73.2	520	158	1350	411	4
250	76.2	540	165	1350	411	3
260	79.2	560	171	1350	411	3
270	82.3	580	177	1350	411	3
280	85.3	600	183	1350	411	3
290	88.4	620	189	1350	411	2
300	91.4	640	195			
310	94.5	660	201			
320	97.5	680	207			
330	100.6	700	213			

Note: Hoist line and whip line lengths given in table will allow hook to touch ground. When block travel below ground is required, add additional rope equal to parts of line times added travel distance. Hoisting distance or line pull may be limited when block travel below ground is required. Load block hoisting distance will be restricted using wire rope lengths shown. Maximum block travel may be restricted when hoist line length exceeds 850 Ft. (259m) with bare rear drum or 875 Ft. (267m) using 21-7/8 in. (556 mm) Dia. welded on lagging on rear drum. Maximum hook travel for upper boom point application may be restricted when whip line length exceeds 660 Ft. (201m) with bare front drum or 700 Ft. (213m) using 21-7/8 in. (556 mm) Dia. welded on lagging on front drum.



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Hoist Reeving for Main Load Block							
No. Parts of Line	1	2	3	4	5	6	7
Maximum Load Lbs.	40,000	80,000	120,000	160,000	200,000	240,000	280,000
Maximum Load kg	18 140	36 290	54 430	72 570	90 720	108 860	127 010
No. Parts of Line	8	9	10	11	12	13	
Maximum Load Lbs.	320,000	360,000	400,000	440,000	480,000	500,000	
Maximum Load kg	145 150	163 290	181 440	199 580	217 720	226 700	

Maximum Spooling Capacities	
Rear Drum:	1-1/8 in. Wire Rope - 3 Layers - 566 Ft. (173m)
(Hoist Line)	3 Layers - 592 Ft. (180m) with 21-7/8 in. (556 mm) Dia. Lagging
Front Drum:	1-1/8 in. Wire Rope - 3 Layers - 566 Ft. (173m)
(Whip Line)	3 Layers - 592 Ft. (180m) with 21-7/8 in. (556 mm) Dia. Lagging
18 Ft. (5m) is deducted from maximum spooling capacities for 3 dead wraps per drum or lagging.	

Note: When optional laggings are used, the recommended lagging for specific wire rope dia. must be used.

Maximum spooling capacity is 3 layers with 40,000 Lb. line pull. Line pull goes back to 29,500 Lbs. after 3 layers.

Welded on lagging No. A01466 grooved for 1-1/8 in. wire rope with 21-7/8 in. (556 mm) root Dia. and with spacer No. A01463 is optional for liftcrane application on front and rear drum No. A01522.



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<u>3.5 : 1 Safety Factor</u>		
Hoist Line:	1-1/8 in. -	6 X 31 Warrington-Seale, Extra Extra Improved Plow Steel, Regular Lay, IWRC (MCC Part No. 719284) Minimum Breaking Strength 143,000 Lbs. (64 860 kg) Approx. Weight = 2.34 Lbs. Per Ft. (3.48 kg/m)
Whip Line:	1-1/8 in. -	6 X 31 Warrington-Seale, Extra Extra Improved Plow Steel, Regular Lay, IWRC (MCC Part No. 719284) Minimum Breaking Strength 143,000 Lbs. (64 860 kg) Maximum Load = 40,000 Lbs. (18 140 kg) Approx. Weight = 2.34 Lbs. Per Ft. (3.48 kg/m)
Note: Block Spin May Occur With 6 X 31 Construction Wire Rope Under Certain Operating Conditions.		

Warning: Two part whip line not allowed with 1-1/8 in. wire rope for upper boom point application.

Jib capacity with single part whip line is limited to 29,500 Lbs. (13 380 kg) or 59,000 Lbs. (26 760 kg) with two part whip line for 1-1/8 in. wire rope. 40,000 Lb. (18 140 kg) line pull not allowed.