

Wire Rope Specifications

999 SERIES 2, 3

Liftcrane - Luffing Jib No. 149 on Boom No. 82

Boom Length		MAXIMUM REQUIRED PARTS OF LINE																	
		Luffing Jib Length																	
		Ft. (Meters)																	
Ft.	Meters	70 (21.3)	80 (24.4)	90 (27.3)	100 (30.5)	110 (33.5)	120 (36.6)	130 (39.6)	140 (42.7)	150 (45.7)	160 (48.8)	170 (51.8)	180 (54.9)	190 (57.9)	200 (61.0)	210 (64.0)	220 (67.1)	230 (70.1)	240 (73.2)
80	24.4	6	6	5	5	5	4	4	4	4	3	3	3	3	2	2	2	2	2
90	27.4	6	6	5	5	5	4	4	4	4	3	3	3	3	2	2	2	2	2
100	30.5	5	5	5	5	4	4	4	4	3	3	3	3	2	2	2	2	2	2
110	33.5	5	5	5	4	4	4	4	4	3	3	3	3	2	2	2	2	2	2
120	36.6	5	5	5	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2
130	39.6	5	4	4	4	4	4	4	3	3	3	3	2	2	2	2	2	2	2
140	42.7	5	4	4	4	4	4	4	3	3	3	3	2	2	2	2	2	2	2
150	45.7	4	4	4	4	4	4	3	3	3	3	2	2	2	2	2	2	2	2
160	48.8	4	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	2	2
170	51.8	4	4	4	4	3	3	3	3	3	2	2	2	2	2	2	2	2	1
180	54.9	4	4	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2	1
190	57.9	4	3	3	3	3	3	3	2	2	2	2	2	2	2	2			
200	61.0	3	3	3	3	3	3	2	2	2	2	2	2	2	2				

WIRE ROPE LENGTHS (Includes All Luffing Jib Lengths)											
Boom Length		Hoist Line Front Drum		Whip Line Front Drum or Auxiliary Drum				Intermediate Fall Line Auxiliary Drum			
				1 Part		2 Part		1 Part		2 Part	
				Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters
80	24.4	1250	381	690	210	1025	312	460	140	690	210
90	27.4	1300	396	710	216	1075	328	480	146	720	219
100	30.5	1300	396	730	223	1100	335	500	152	750	229
110	33.5	1350	411	750	229	1125	343	520	158	780	238
120	36.6	1350	411	770	235	1150	351	540	165	810	247
130	39.6	1400	427	790	241	1175	358	560	171	840	256
140	42.7	1450	442	810	247	1225	373	580	177	870	265
150	45.7	1450	442	830	253	1250	381	600	183	900	274
160	48.8	1450	442	850	259	1275	389	620	189	930	283
170	51.8	1450	442	870	265	1300	396	640	195	960	293
180	54.9	1450	442	890	271	1325	404	660	201	990	302
190	57.9	1450	442	910	277	1375	419	680	207	1020	311
200	61.0	1450	442	930	283	1400	427	700	213	1050	320

Note: Hoist line lengths given in table include all luffing jib lengths. Hoist, whip and intermediate fall 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.

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Hoist Reeving for Main Load Block - Front Drum						
No. Parts of Line	1	2	3	4	5	6
Maximum Load - Lbs.	29,500	59,000	88,500	118,000	147,500	160,000
Maximum Load - kg	13 380	26 760	40 140	53 520	66 900	72 500

Hoist Reeving for Intermediate Fall Line Auxiliary Drum		
No. Parts of Line	1	2
Maximum Load - Lbs.	20,000	40,000
Maximum Load - kg	9 070	18 140

Maximum Spooling Capacities	
Front Drum: (Hoist Line)	26 mm Wire Rope - 7 Layers - 1,727 Ft. (526m)
Auxiliary Drum: (Intermediate Fall Line)	26 mm Wire Rope - 6 Layers - 1,323 Ft. (403m) 6 Layers - 1,415 Ft. (431m) with 21-1/4 in. (540 mm) Dia. Lagging
	1 in. Wire Rope - 6 Layers - 1,335 Ft. (407m) 6 Layers - 1,428 Ft. (435m) with 21-1/4 in. (540 mm) Dia. Lagging
17 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.

Refer to drum and lagging chart **No. 8222-A**.

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Wire Rope Specifications

Rotation Resistant Wire Rope - 5:1 Safety Factor

Hoist Line:	26 mm -	2 160 N/mm ² Wire Rope With Pad Eye (MCC Part No. 719430) Minimum Breaking Strength Required = 147,500 Lbs. (656.1 kN) Maximum Load = 29,500 Lbs. (13 380 kg) Per Line Approx. Weight = 2.13 Lbs Per Ft. (3.17 kg/m) No Load Dia. = 1.033 in. (26.24 mm) to 1.045 in. (26.54 mm)
	Or	
	26 mm -	Wire Rope With Pad Eye (MCC Part No. 719432) Minimum Breaking Strength Required = 147,500 Lbs. (656.1 kN) Maximum Load = 29,500 Lbs. (13 380 kg) Per Line Approx. Weight = 2.39 Lbs Per Ft. (3.56 kg/m) No Load Dia. = 1.034 in. (26.26 mm) to 1.054 in. (26.77 mm)
Intermediate Fall Line: (Auxiliary Drum)	26 mm -	1 960 N/mm ² Wire Rope (MCC Part No. 719378) Minimum Breaking Strength Required = 100,000 Lbs. (445.0 kN) Maximum Load = 20,000 Lbs. (9 070 kg) Per Line Approx. Weight = 2.13 Lbs. Per Ft. (3.17 kg/m) No Load Dia. (required for lagging) = 1.033 in. (26.24 mm) to 1.045 in. (26.54 mm)
	Or	
	26 mm -	Wire Rope With Pad Eye (MCC Part No. 719432) Minimum Breaking Strength Required = 100,000 Lbs. (445.0 kN) Maximum Load = 20,000 Lbs. (9 070 kg) Per Line Approx. Weight = 2.39 Lbs. Per Ft. (3.56 kg/m) No Load Dia. (required for lagging) = 1.034 in. (26.26 mm) to 1.054 in. (26.77 mm)
	Or	
	1 in. -	1 960 N/mm ² Wire Rope (MCC Part No. 719393) Minimum Breaking Strength Required = 100,000 Lbs. (445.0 kN) Maximum Load = 20,000 Lbs. (9 070 kg) Per Line Approx. Weight = 2.03 Lbs. Per Ft. (3.02 kg/m) No Load Dia. (required for lagging) = 1.012 in. (25.70 mm) to 1.028 in. (26.11 mm)
	Or	
	1 in. -	Wire Rope (MCC Part No. 719436) Minimum Breaking Strength Required = 100,000 Lbs. (445.0 kN) Maximum Load = 20,000 Lbs. (9 070 kg) Per Line Approx. Weight = 2.26 Lbs. Per Ft. (3.26 kg/m) No Load Dia. (required for lagging) = 1.020 in. (25.91 mm) to 1.036 in. (26.31 mm)



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Wire Rope Specifications		
<u>Optional Wire Rope - 3.5 : 1 Safety Factor</u>		
Hoist Line:	26 mm -	6 X 25 Filler Wire, Extra Improved Plow Steel Right Regular Lay, IWRC (MCC Part No. 719387) Minimum Breaking Strength Required = 103,250 Lbs. (459.5 kN) Approx. Weight = 1.94 Lbs. Per. Ft. (2.89 kg/m) No Load Dia. = 1.034 in. (26.26 mm) to 1.054 in. (26.77 mm)
Intermediate Fall Line: (Auxiliary Drum)	26 mm -	6 X 25 Filler Wire, Extra Improved Plow Steel Right Regular Lay, IWRC (MCC Part No. 719387) Minimum Breaking Strength Required = 70,000 Lbs. (311.5 kN) Maximum Load = 20,000 Lbs. (9 070 kg) Per Line Approx. Weight = 1.94 Lbs. Per. Ft. (2.89 kg/m) No Load Dia. (required for lagging) = 1.034 in. (26.26 mm) to 1.054 in. (26.77 mm) Or
	1 in. -	6 X 25 Filler Wire, Improved Plow Steel Right Regular Lay, IWRC (MCC Part No. 719433) Minimum Breaking Strength Required = 70,000 Lbs. (311.5 kN) Maximum Load = 20,000 Lbs. (9 070 kg) Per Line Approx. Weight = 1.85 Lbs. Per. Ft. (2.75 kg/m) No Load Dia. (required for lagging) = 1.020 in. (25.91 mm) to 1.038 in. (26.37 mm)

Note: Block spin may occur with 6 X 25 construction wire rope under certain operating conditions.