

Wire Rope Specifications

999 SERIES 1, 2, 3

Liftcrane - Boom No. 22E With Open Throat Top

Wire Rope Lengths											
Boom or Boom and Jib Length		Rear Drum				Front Drum			Auxiliary Drum		
		Whip Line				Hoist Line		Maximum Required Parts of Line	Full Hoisting Range		
		1 Part		2 Part					Auxiliary Hoist Line		Maximum Required Parts of Line
Ft.	Meters	Ft.	Meters	Ft.	Meters	Ft.	Meters		Ft.	Meters	
70	21.3	180	55	260	79	1150	351	14	—	—	—
80	24.4	200	61	290	88	1300	396	14	1300	396	14
90	27.4	220	67	320	98	1350	411	13	1450	442	14
100	30.5	240	73	350	107	1500	457	13	1500	457	13
110	33.5	260	79	380	116	1500	457	11	1525	465	12
120	36.6	280	85	410	125	1525	465	11	1525	465	11
130	39.6	300	91	440	134	1525	465	10	1525	465	10
140	42.7	320	98	470	143	1525	465	9	1525	465	9
150	45.7	340	104	500	152	1575	480	9	1575	480	9
160	48.8	360	110	530	162	1575	480	8	1575	480	8
170	51.8	380	116	560	171	1600	488	8	1600	488	8
180	54.9	400	122	590	180	1600	488	7	1600	488	7
190	57.9	420	128	620	189	1600	488	7	1600	488	7
200	61.0	440	134	650	198	1600	488	6	1600	488	6
210	64.0	460	140	680	207	1600	488	6	1600	488	6
220	67.1	480	146	710	216	1600	488	6	1600	488	6
230	70.1	500	152	740	226	1600	488	5	1600	488	5
240	73.2	520	158	770	235	1600	488	5	1600	488	5
250	76.2	540	165	800	244	1600	488	4	1600	488	5
260	79.2	560	171	830	253	1600	488	4	1600	488	4
270	82.3	580	177	860	262	1600	488	4	1600	488	4
280	85.3	600	183	890	271	1600	488	3	1600	488	4
290	88.4	620	189	920	280	1600	488	3	1600	488	4
300	91.4	640	195	950	290						
310	94.5	660	201								
320	97.5	680	207								

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. Auxiliary drum can not be used with 70 Ft. (21.3m) boom length.

Capacity chart restrictions will occur when auxiliary drum is used. Maximum capacity is 280,000 Lbs. (127 010 kg) with 14 parts line.

Hoist Reeving for Main Load Block - Front Drum							
No. Parts of Line	1	2	3	4	5	6	7
Maximum Load Lbs.	29,500	59,000	88,500	118,000	147,500	177,000	206,500
Maximum Load kg	13 380	26 760	40 140	53 520	66 900	80 290	93 670
No. Parts of Line	8	9	10	11	12	13	14
Maximum Load Lbs.	236,000	265,500	295,000	324,500	354,000	383,500	460,000
Maximum Load kg	107 050	120 430	133 810	147 190	160 570	173 950	208 600



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Hoist Reeving for Main Load Block - Auxiliary Drum							
No. Parts of Line	1	2	3	4	5	6	7
Maximum Load Lbs.	20,000	40,000	60,000	80,000	100,000	120,000	140,000
Maximum Load kg	9 070	18 140	27 220	36 290	45 360	54 430	63 500
No. Parts of Line	8	9	10	11	12	13	14
Maximum Load Lbs.	160,000	180,000	200,000	220,000	240,000	260,000	280,000
Maximum Load kg	72 570	81 650	90 720	99 790	108 860	117 930	127 010

Maximum Spooling Capacities	
Front Drum: (Hoist Line)	26 mm Wire Rope - 7 Layers - 1,727 Ft. (526m)
Rear Drum: (Whip Line)	26 mm Wire Rope - 7 Layers - 1,727 Ft. (526m)
Auxiliary Drum: (Aux. Hoist 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/mm² Wire Rope With Pad Eye (MCC Part No. 719430)
Right Hand Regular Lay
Minimum Breaking Strength = 161,200 Lbs. (717.0 kN)
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)
Right Hand Lang Lay
Minimum Breaking Strength = 156,400 Lbs. (695.7 kN)
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)

Note: 26 mm rotation resistant wire rope not available for 460,000 Lb. (208 600 kg) maximum capacity with 14 parts of line.

Whip Line: 26 mm - 2 160 N/mm² Wire Rope With Pad Eye (MCC Part No. 719430)
Right Hand Regular Lay
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)
Right Hand Lang Lay
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)



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Wire Rope Specifications

Rotation Resistant Wire Rope - 5:1 Safety Factor

Auxiliary Line:	26 mm -	1 960 N/mm ² Wire Rope (MCC Part No. 719378) Right Hand Regular Lay 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) Right Hand Lang Lay 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) Right Hand Regular Lay 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) Right Hand Lang Lay 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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Optional Wire Rope - 3.5 : 1 Safety Factor

Hoist Line:	26 mm -	6 X 25 Filler Wire, Extra Improved Plow Steel Right Hand Regular Lay, IWRC (MCC Part No. 719387) Minimum Breaking Strength Required = 103,250 Lbs. (459.5 kN) Maximum Capacity With 16 Parts Hoist Line = 472,000 Lbs. (214 100 kg) 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)
Whip Line:	26 mm -	6 X 25 Filler Wire, Extra Improved Plow Steel Right Hand Regular Lay, IWRC (MCC Part No. 719387) Minimum Breaking Strength Required = 103,250 Lbs. (459.5 kN) Maximum Load = 29,500 Lbs. (13 380 kg) Per Line 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)
Auxiliary Line:	26 mm -	6 X 25 Filler Wire, Extra Improved Plow Steel Right Hand 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 Hand 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)

Wire rope required for 460,000 Lb. (208 600 kg) maximum capacity with 14 parts of line:

Hoist Line:	26 mm -	6 X 25 Filler Wire, Extra Extra Improved Plow Steel Right Regular Lay, IWRC (MCC Part No. 719383) Minimum Breaking Strength Required = 115,000 Lbs. (52 160 kg) 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)
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Note: Block spin may occur with 6 X 25 construction wire rope under certain operating conditions.