

Wire Rope Specifications

Liftcrane - Boom No. 78

777 SERIES 1

777 SERIES 2

Wire Rope Lengths														
Boom or Boom and Jib Length		Whip Line				Front or Rear Drum			Front Drum			Auxiliary Drum		
		Front, Rear or Auxiliary Drum				26 mm or 1 in. Hoist Line		Maximum Required Parts of Line	1-1/4 in. or 32 mm Hoist Line		Maximum Required Parts of Line	Auxiliary Hoist Line		Maximum Required Parts of Line
		1 Part		2 Part										
Ft.	Meters	Ft.	Meters	Ft.	Meters	Ft.	Meters		Ft.	Meters		Ft.	Meters	
60	18.3	160	49	230	70	875	267	12	625	191	8	----	---	--
70	21.3	180	55	260	79	925	282	11	700	213	8	1000	305	12
80	24.4	200	61	290	88	975	297	10	725	221	7	1150	351	12
90	27.4	220	67	320	98	975	297	9	725	221	6	1275	389	12
100	30.5	240	73	350	107	975	297	8	775	236	6	1400	427	12
110	33.5	260	79	380	116	1075	328	8	775	236	5	1400	427	11
120	36.6	280	85	410	125	1075	328	7	775	236	5	1400	427	10
130	39.6	300	91	440	134	1075	328	6	850	259	5	1400	427	9
140	42.7	320	98	470	143	1075	328	6	850	259	4	1400	427	8
150	45.7	340	104	500	152	1125	343	6	850	259	4	1425	434	8
160	48.8	360	110	530	162	1125	343	5	850	259	4	1425	434	7
170	51.8	380	116	560	171	1125	343	5	900	274	4	1425	434	7
180	54.9	400	122	590	180	1150	351	5	900	274	3	1500	457	7
190	57.9	420	128	620	189	1150	351	4	900	274	3	1500	457	6
200	61.0	440	134	650	198	1150	351	4	900	274	3	1500	457	6
210	64.0	460	140	680	207	1150	351	4	900	274	3	1525	465	6
220	67.1	480	146	710	216	1150	351	4	925	282	3	1600	488	6
230	70.1	500	152	740	226	1200	366	4	975	297	3	1600	488	5
240	73.2	520	158	770	235	1200	366	3	1000	305	3	1600	488	5
250	76.2	540	165	800	244	1200	366	3	1000	305	2	1600	488	5
260	79.2	560	171	830	253	1200	366	3	1000	305	2	1600	488	4
270	82.3	580	177	860	262	1200	366	3	1000	305	2	1600	488	4
280	85.3	600	183	890	271									
290	88.4	620	189											
300	91.4	640	195											

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 60 Ft. (18.3m) boom length.

Maximum block travel with maximum parts of line may be restricted when hoist line length exceeds 700 Ft. (213 mm) using 1-1/4 in. or 32 mm wire rope.

Maximum capacity with 2 part whip line using 1-1/4 in. or 32 mm wire rope is 59,000 Lbs. (26 760 kg).

Capacity chart restrictions will occur when auxiliary drum is used. Maximum capacity is 240,000 Lbs. (108 860 kg) with 12 parts line.

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Hoist Reeving for Main Load Block 26 mm or 1 in. Wire Rope - Front or Rear Drum						
No. Parts of Line	1	2	3	4	5	6
Maximum Load Lbs.	29,500	59,000	88,500	118,000	147,500	177,000
Maximum Load kg	13 380	26 760	40 140	53 520	66 900	80 290
No. Parts of Line	7	8	9	10	11	12
Maximum Load Lbs.	206,500	236,000	265,500	295,000	324,500	352,800
Maximum Load kg	93 670	107 050	120 430	133 810	147 190	160 000

Hoist Reeving for Main Load Block 32 mm or 1-1/4 in. Wire Rope - High Line Pull Front Drum				
No. Parts of Line	1	2	3	4
Maximum Load Lbs.	44,000	88,000	132,000	176,000
Maximum Load kg	19 960	39 920	59 870	79 830
No. Parts of Line	5	6	7	8
Maximum Load Lbs.	220,000	264,000	308,000	352,800
Maximum Load kg	99 790	119 750	139 710	160 000

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

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Maximum Spooling Capacities	
Front Drum: (Hoist or Whip Line)	26 mm Wire Rope - 6 Layers - 1,074 Ft. (327m) 5 Layers - 918 Ft. (280m) with 21-1/4 in. (540 mm) Dia. Lagging 1 in. Wire Rope - 6 Layers - 1,084 Ft. (330m) 5 Layers - 928 Ft. (283m) with 21-1/4 in. (540 mm) Dia. Lagging 32 mm Wire Rope - 3 Layers - 475 Ft. (145m) with 25-1/4 in. (641 mm) Dia. Lagging 1-1/4 in. Wire Rope - 3 Layers - 478 Ft. (146m) with 25-1/4 in. (641 mm) Dia. Lagging
Rear Drum (Hoist or Whip Line)	26 mm Wire Rope - 6 Layers - 1,074 Ft. (327m) 5 Layers - 918 Ft. (280m) with 21-1/4 in. (540 mm) Dia. Lagging 1 in. Wire Rope - 6 Layers - 1,084 Ft. (330m) 5 Layers - 928 Ft. (283m) with 21-1/4 in. (540 mm) Dia. Lagging
Auxiliary Drum: (Hoist or Whip 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.
32 mm or 1-1/4 in. Dia. wire rope required for high line pull arrangement.

Refer to drum and lagging chart **No. 6123-A**.

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Wire Rope Specifications		
<u>Rotation Resistant Wire Rope - 5:1 Safety Factor</u>		
Hoist Line:	26 mm -	2 160 N/mm ² Wire Rope (Ref. MCC Part No. 719379) Minimum Breaking Strength Required = 147,500 Lbs. (656.1 kN) Approx. Weight = 2.13 Lbs. Per Ft. (3.17 kg/m)
Hoist Line: (High Line Pull)	32 mm -	2 160 N/mm ² Wire Rope - Right Regular Lay (MCC Part No. 719413) Minimum Breaking Strength = 244,000 Lbs. (1085.3 kN) Approx. Weight = 3.23 Lbs. Per Ft. (4.81 kg/m)
Whip Line:	26 mm -	2 160 N/mm ² Wire Rope (Ref. MCC Part No. 719379) 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)
Whip Line: (High Line Pull)	32 mm -	2 160 N/mm ² Wire Rope - Right Regular Lay (MCC Part No. 719413) Minimum Breaking Strength = 244,000 Lbs. (1085.3 kN) Maximum Load = 44,000 Lbs. (19 960 kg) Per Line. Approx. Weight = 3.23 Lbs. Per Ft. (4.81 kg/m)
Auxiliary Line	26 mm -	1 960 N/mm ² Wire Rope (MCC Part No. 719378) Minimum Breaking Strength = 146,200 Lbs. (650.6 kN) Maximum Load = 20,000 Lbs. (9 070 kg) Per Line. Approx. Weight = 2.13 Lbs. Per Ft. (3.17 kg/m)
Or		
Hoist Line:	1 in. -	2 160 N/mm ² Wire Rope (MCC Part No. 719392) Minimum Breaking Strength = 153,800 Lbs. (684.2 kN) Approx. Weight = 2.03 Lbs Per Ft. (3.02 kg/m)
Whip Line:	1 in. -	2 160 N/mm ² Wire Rope (MCC Part No. 719392) Minimum Breaking Strength = 153,800 Lbs. (684.2 kN) Maximum Load= 29,500 Lbs. (13 380 kg) Per Line Approx. Weight = 2.03 Lbs. Per Ft. (3.02 kg/m)
Auxiliary Line:	1 in. -	1 960 N/mm ² Wire Rope (MCC Part No. 719393) Minimum Breaking Strength =139,600 Lbs. (620.9 kN) Maximum Load= 20,000 Lbs. (9 070 kg) per line Approx. Weight = 2.03 Lbs. Per Ft. (3.02 kg/m)

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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 108,600 Lbs. (483.1 kN) Approx. Weight = 1.94 Lbs. Per. Ft. (2.89 kg/m)
Whip Line:	26 mm -	6 X 25 Filler Wire, Extra Improved Plow Steel, Right Regular Lay, IWRC (MCC part No. 719387) Minimum Breaking Strength 108,600 Lbs. (483.1 kN) Maximum Load = 29,500 Lbs. (13 380 kg) per line Approx. Weight = 1.94 Lbs. Per. Ft. (2.89 kg/m)
Auxiliary Line:	26 mm -	6 X 25 Filler Wire, Extra Improved Plow Steel, Right Regular Lay, IWRC (MCC Part No. 719387) Minimum Breaking Strength 108,600 Lbs. (483.1 kN) Maximum Load = 20,000 Lbs. (9 070 kg) Per Line Approx. Weight = 1.94 Lbs. Per. Ft. (2.89 kg/m)
Or		
Hoist Line:	1 in.-	6 X 25 Filler Wire, Extra Improved Plow Steel, Right Regular Lay, IWRC (MCC Part No. 719060) Minimum Breaking Strength 103,400 Lbs. (460 kN) Approx. Weight = 1.85 Lbs. Per. Ft. (2.75 kg/m)
Hoist Line: (High Line Pull)	1-1/4 in.-	6 X 31 Warrington-Seale, Extra Improved Plow Steel, Regular Lay, IWRC (MCC Part No. 719278) Minimum Breaking Strength 159,800 Lbs. (72 480 kg) Approx. Weight = 2.89 Lbs. Per. Ft. (4.30 kg/m)
Whip Line:	1 in.-	6 X 25 Filler Wire, Extra Improved Plow Steel, Right Regular Lay, IWRC (MCC Part No. 719060) Minimum Breaking Strength 103,400 Lbs. (460 kN) Maximum Load = 29,500 Lbs. (13 380 kg) Per Line Approx. Weight = 1.85 Lbs. Per. Ft. (2.75 kg/m)
Whip Line: (High Line Pull)	1-1/4 in.-	6 X 31 Warrington-Seale, Extra Improved Plow Steel, Regular Lay, IWRC (MCC Part No. 719278) Minimum Breaking Strength 159,800 Lbs. (72 480 kg) Maximum Load = 44,000 Lbs. (19 960 kg) Per Line Approx. Weight = 2.89 Lbs. Per. Ft. (4.30 kg/m)
Auxiliary Line:	1 in.-	6 X 25 Filler Wire, Improved Plow Steel, Right Regular Lay, IWRC (MCC Part No. 719073) Minimum Breaking Strength= 89,800 Lbs. (40 730 kg) Maximum Load = 20,000 Lbs. (9 070 kg) Per Line Approx. Weight = 1.85 Lbs. Per. Ft. (2.75 kg/m)
Note: Block Spin May Occur With 6 X 25 Construction Wire Rope Under Certain Operating Conditions.		