

Liftcrane Boom Capacities

Boom No. B10:680

300 000 kg VPC (Variable Position Counterweight)

Crawler Machine on a Barge

0 Degree thru 3 Degree Static Machine List

No Travel - 360 Degree Rating - Three Swing Drives

MLC650 SERIES 2



LIFTING CAPACITIES: Lifting capacities are for a crawler machine when operating on a barge. Machine shall be positively secured to prevent shifting. Lifting capacities for various boom lengths and operating radii are for freely suspended loads and may be based on percent of static tipping or strength of structural components. Capacities must be reduced by applicable deducts.

Upper boom point capacity for liftcrane service with single part whip line from Drum 3 is 13 600 kg or 27 200 kg with two part whip line. When Drum 1 or Drum 2 is used, capacity with single part whip line is 22 100 kg, or 33 300 kg with two part whip line. In all cases, upper boom point capacities cannot exceed those listed for main boom capacity.

Weight of all load blocks, hooks, weight ball, slings, hoist lines, etc., beneath boom and jib point sheaves is considered part of load. Boom is not to be lowered beyond radii where combined weights are greater than rated capacity. Where no capacity is shown, operation is not intended or approved.

BOOM BACKWARD STABILITY: Capacities indicated by (b) require 5 440 kg minimum weight suspended beneath boom point and (c) require 10 880 kg minimum weight. **Caution: Do not operate in areas indicated by (b) or (c) without required minimum weight. Boom may not lower and boom hoist wire rope may go slack causing wire rope damage or failure.**

OPERATING CONDITIONS: Machine to operate on a firm and uniformly supporting surface with machine list not to exceed degrees noted. Refer to Boom Rigging **No. 81018141**, Wire Rope Specifications chart **No. 9359-A**, Counterweight Arrangements chart **No. 9349-A**, and Wind Conditions chart **No. 9358-A**. Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, wind conditions, as well as adverse operating conditions and physical machine depreciation. Refer to the Operator Manual for operating guidelines.



OPERATING RADIUS: Operating radius is horizontal distance from axis of rotation at barge deck to center of vertical hoist line or load block.



BOOM ANGLE: Boom angle in degrees (°) is angle between horizontal and centerline of boom butt and inserts, and is an indication of operating radius. In all cases, operating radius shall govern capacity.



BOOM POINT ELEVATION: Boom point elevation is vertical distance from barge deck to centerline of boom point shaft.

MACHINE EQUIPMENT: Machine equipped with three swing drives, 11 125 mm crawlers, 1 524 mm or 2 032 mm treads, 11 m live mast, 30 part boom hoist reeving, boom support straps, and 300 000 kg VPC.

Warning: Luffing jib backstay straps must be removed before use of this chart. *Crane tipping or structural damage can occur.*

Consult chart **No. 9671-AM** when Jib No. 148 is attached.

Deduct From Capacities When Jib No. 148 Is Attached	
Jib Length (m)	Deduct (kg)
12,0	8 600
18,0	10 700
24,0	13 400
30,0	16 100
36,0	19 300
42,0	21 900
Weight of jib and 3 000 kg suspended beneath jib point have been included in determination of deduct.	

Refer to Tables 1 and 2 for raising ability with the maximum weight of all load blocks, hooks, weight ball, slings, and hoist lines beneath boom point sheaves. For block weights shown with #, load blocks, hooks, weight ball, and slings must remain on barge deck until combined weights are within rated capacity of chart. For boom lengths shown with (a), upper boom point must be removed and boom top equipped with a maximum of eight (8) sheaves in lower boom point. Raising is not permitted in shaded areas of table.

Combined weight beneath boom point sheaves must not exceed block weight shown.

Table 1

Over End or Side of Crawlers				
Boom Length (m)	Machine List			
	0°	1°	2°	3°
	Block Weight (kg)			
32,0 - 68,0	21 000	21 000	21 000	21 000
74,0	10 200	10 200	10 200	10 200
80,0	10 200	10 200	10 200	10 200
86,0	7 300	#	#	#
92,0	#	#	#	#
98,0 - 104,0	Raising Not Permitted			

Table 2

Over End of Blocked Crawlers				
Boom Length (m)	Machine List			
	0°	1°	2°	3°
	Block Weight (kg)			
32,0 - 68,0	21 000	21 000	21 000	21 000
74,0	10 200	10 200	10 200	10 200
80,0	10 200	10 200	10 200	10 200
86,0	7 300	7 300	7 300	7 300
92,0	#	#	#	#
98,0	#	#	#	Raising Not Permitted
(a)104,0	#	Raising Not Permitted		
Warning: Crane must remain in-line with crawlers when raising over end of blocked crawlers until operating radius is within 360 degree chart. Crane tipping or structural damage can occur.				

Explanation of Symbols



Boom No. B10:680



VPC (Variable Position Counterweight)



360 Degree Rating



Boom Length



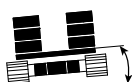
Operating Radius
(see page 1)



Boom Angle
(see page 1)



Boom Point Elevation
(see page 1)



Machine List



Lifting Capacities
(see page 1)

B10



300 000 kg



360°

m	°	m	kg	kg	kg	kg	m
5,8	84,9	34,9	650 000c				5,8
6,0	84,5	34,8	591 800c				6,0
6,5	83,6	34,8	518 500c				6,5
7,0	82,7	34,7	505 600c				7,0
7,5	81,8	34,6	477 800b	438 700c			7,5
8,0	80,9	34,5	452 800b	416 900b	385 400c		8,0
8,5	80,0	34,4	430 200b	397 400b	368 400c	341 400c	8,5
9,0	79,0	34,3	409 700b	379 600b	352 700b	328 800c	9,0
9,5	78,1	34,1	391 100	363 300b	338 400b	315 900b	9,5
10,0	77,2	34,0	374 000	348 300b	325 200b	304 200b	10,0
10,5	76,3	33,9	358 300	334 500	312 900	293 200b	10,5
11,0	75,3	33,7	343 900	321 700	301 500	283 000	11,0
11,5	74,4	33,6	330 500	309 800	290 900	272 900	11,5
12,0	73,4	33,4	318 100	298 800	281 000	260 200	12,0
12,5	72,5	33,2	306 600	287 900	270 600	246 400	12,5
13,0	71,5	33,0	295 800	276 800	258 600	234 600	13,0
13,5	70,6	32,8	285 800	265 400	245 200	224 100	13,5
14,0	69,6	32,6	275 200	254 000	232 800	214 300	14,0
14,5	68,6	32,4	263 100	242 600	222 500	205 300	14,5
15,0	67,7	32,2	250 300	231 300	213 100	197 200	15,0
16,0	65,7	31,7	228 000	211 500	196 400	182 500	16,0
17,0	63,6	31,2	209 600	195 500	182 200	169 900	17,0
18,0	61,6	30,6	194 000	181 600	169 800	158 900	18,0
19,0	59,5	30,0	180 500	169 500	159 000	149 200	19,0
20,0	57,3	29,3	168 700	158 900	149 500	140 600	20,0
21,0	55,1	28,6	158 300	149 500	141 000	132 900	21,0
22,0	52,8	27,8	149 100	141 100	133 400	126 000	22,0
23,0	50,4	26,9	140 800	133 600	126 600	119 900	23,0
24,0	48,0	25,9	133 400	126 800	120 400	114 200	24,0
25,0	45,4	24,9	126 600	120 700	114 800	109 100	25,0
26,0	42,7	23,8	120 500	115 100	109 700	104 500	26,0
27,0	39,9	22,5	114 900	110 000	105 000	100 200	27,0
28,0	36,8	21,2	109 800	105 300	100 800	96 400	28,0
29,0	33,5	19,6	105 100	101 000	96 900	92 800	29,0
30,0	29,8	17,8	100 800	97 000	93 300	89 500	30,0
32,0	20,5	13,0	93 100	90 000	87 000	83 900	32,0



m	°	m	kg	kg	kg	kg	m
6,7	84,3	40,8	514 500c				6,7
7,0	83,9	40,8	497 900c				7,0
7,5	83,1	40,7	470 500b	425 800c			7,5
8,0	82,3	40,6	446 400b	405 400b	370 300c		8,0
8,5	81,6	40,5	424 600	387 100b	354 600b	325 300c	8,5
9,0	80,8	40,4	404 800	370 300	340 200b	313 900c	9,0
9,5	80,0	40,3	386 700	354 800	326 900b	302 200b	9,5
10,0	79,3	40,2	370 100	340 600	314 500b	291 400b	10,0
10,5	78,5	40,1	354 800	327 400	303 100	281 300b	10,5
11,0	77,7	40,0	340 700	315 200	292 400	271 900	11,0
11,5	76,9	39,8	327 700	303 800	282 400	263 100	11,5
12,0	76,1	39,7	315 600	293 200	273 100	252 100	12,0
12,5	75,4	39,5	304 300	283 100	263 500	240 100	12,5
13,0	74,6	39,4	293 700	273 400	252 800	229 100	13,0
13,5	73,8	39,2	283 900	263 900	241 100	218 800	13,5
14,0	73,0	39,0	273 900	254 000	230 000	209 300	14,0
14,5	72,2	38,9	263 200	243 000	220 200	200 700	14,5
15,0	71,4	38,7	252 200	231 500	210 900	192 900	15,0
16,0	69,8	38,3	231 400	211 600	194 400	178 800	16,0
17,0	68,1	37,9	212 200	195 800	180 600	166 700	17,0
18,0	66,5	37,4	196 400	181 900	168 400	156 100	18,0
19,0	64,8	36,9	182 800	169 900	157 800	146 700	19,0
20,0	63,1	36,4	170 900	159 400	148 500	138 400	20,0
21,0	61,3	35,8	160 300	150 000	140 100	130 900	21,0
22,0	59,6	35,2	151 000	141 600	132 600	124 200	22,0
23,0	57,8	34,5	142 700	134 100	125 900	118 200	23,0
24,0	55,9	33,8	135 200	127 300	119 800	112 700	24,0
25,0	54,0	33,0	128 400	121 200	114 300	107 700	25,0
26,0	52,1	32,2	122 200	115 600	109 200	103 100	26,0
27,0	50,1	31,4	116 600	110 500	104 600	98 900	27,0
28,0	48,0	30,4	111 400	105 800	100 300	95 000	28,0
29,0	45,9	29,4	106 700	101 500	96 400	91 400	29,0
30,0	43,7	28,3	102 300	97 500	92 700	88 100	30,0
32,0	38,9	25,9	94 500	90 300	86 200	82 200	32,0
34,0	33,5	22,9	87 700	84 200	80 600	77 100	34,0
36,0	27,1	19,2	81 800	78 800	75 700	72 700	36,0
38,0	18,6	13,9	76 600	74 100	71 600	69 100	38,0

B10



300 000 kg



360°

m	°	m	kg	kg	kg	kg	m
7,3	84,3	46,8	471 000b				7,3
7,5	84,0	46,7	462 300b				7,5
8,0	83,4	46,7	438 700	393 000b			8,0
8,5	82,7	46,6	417 800	375 700b	339 300b		8,5
9,0	82,1	46,5	398 600	359 900	327 100b		9,0
9,5	81,4	46,4	381 100	345 300	314 700	288 200b	9,5
10,0	80,7	46,3	365 100	331 900	303 200	278 300b	10,0
10,5	80,1	46,2	350 300	319 400	292 600	269 100b	10,5
11,0	79,4	46,1	336 600	307 800	282 600	260 500	11,0
11,5	78,7	46,0	323 900	296 900	273 300	252 300	11,5
12,0	78,1	45,9	312 100	286 800	264 500	243 300	12,0
12,5	77,4	45,8	301 100	277 300	255 700	233 400	12,5
13,0	76,7	45,6	290 700	268 400	246 200	223 400	13,0
13,5	76,1	45,5	281 100	260 100	236 300	213 100	13,5
14,0	75,4	45,3	271 800	251 100	226 400	203 600	14,0
14,5	74,7	45,2	262 300	240 900	217 100	195 400	14,5
15,0	74,0	45,0	253 100	230 100	207 900	188 000	15,0
16,0	72,7	44,7	233 600	211 000	191 600	174 600	16,0
17,0	71,3	44,3	213 700	195 100	178 200	163 000	17,0
18,0	69,9	44,0	197 800	181 400	166 300	152 700	18,0
19,0	68,5	43,5	184 100	169 400	156 000	143 600	19,0
20,0	67,0	43,1	172 100	159 000	146 800	135 600	20,0
21,0	65,6	42,6	161 500	149 700	138 600	128 400	21,0
22,0	64,1	42,1	152 100	141 300	131 200	121 900	22,0
23,0	62,7	41,6	143 700	133 900	124 600	116 000	23,0
24,0	61,2	41,0	136 100	127 100	118 600	110 600	24,0
25,0	59,6	40,4	129 300	121 000	113 100	105 700	25,0
26,0	58,1	39,7	123 100	115 500	108 100	101 200	26,0
27,0	56,5	39,0	117 400	110 300	103 500	97 100	27,0
28,0	54,9	38,3	112 200	105 600	99 300	93 300	28,0
29,0	53,2	37,5	107 400	101 300	95 400	89 800	29,0
30,0	51,6	36,7	103 000	97 300	91 800	86 500	30,0
32,0	48,0	34,9	95 100	90 200	85 300	80 600	32,0
34,0	44,3	32,9	88 300	84 000	79 700	75 500	34,0
36,0	40,3	30,5	82 300	78 500	74 700	71 000	36,0
38,0	35,9	27,8	77 100	73 700	70 400	67 100	38,0
40,0	30,9	24,5	72 400	69 500	66 500	63 600	40,0
42,0	25,0	20,5	68 200	65 700	63 100	60 600	42,0
44,0	17,1	14,7	63 400	62 000	60 200	58 100	44,0

B10



300 000 kg



360°

m	°	m	kg	kg	kg	kg	m
7,3	85,0	52,8	461 500				7,3
7,5	84,8	52,8	453 100				7,5
8,0	84,2	52,7	430 800				8,0
8,5	83,6	52,6	410 700	363 000			8,5
9,0	83,0	52,6	392 400	349 400			9,0
9,5	82,4	52,5	375 500	335 700	302 600		9,5
10,0	81,9	52,4	360 100	323 000	291 900		10,0
10,5	81,3	52,3	345 800	311 300	282 100	257 000b	10,5
11,0	80,7	52,2	332 500	300 300	272 800	249 100	11,0
11,5	80,1	52,1	320 200	290 000	264 200	241 700	11,5
12,0	79,5	52,0	308 700	280 400	256 000	234 700	12,0
12,5	78,9	51,9	298 000	271 400	248 000	227 200	12,5
13,0	78,4	51,8	288 000	262 900	240 000	218 200	13,0
13,5	77,8	51,7	278 600	254 900	232 000	208 100	13,5
14,0	77,2	51,5	269 800	246 700	223 600	198 700	14,0
14,5	76,6	51,4	261 500	237 900	214 700	190 900	14,5
15,0	76,0	51,3	253 700	228 900	205 500	183 800	15,0
16,0	74,8	51,0	235 900	211 400	189 500	170 900	16,0
17,0	73,6	50,7	216 100	195 000	176 300	159 700	17,0
18,0	72,4	50,3	200 000	181 400	164 800	149 900	18,0
19,0	71,2	50,0	186 100	169 600	154 600	141 100	19,0
20,0	69,9	49,6	174 000	159 200	145 600	133 400	20,0
21,0	68,7	49,2	163 300	149 900	137 600	126 300	21,0
22,0	67,5	48,7	153 800	141 600	130 400	120 000	22,0
23,0	66,2	48,3	145 300	134 200	123 800	114 300	23,0
24,0	64,9	47,8	137 600	127 500	117 900	109 100	24,0
25,0	63,6	47,3	130 700	121 400	112 500	104 300	25,0
26,0	62,3	46,7	124 500	115 800	107 600	99 900	26,0
27,0	61,0	46,1	118 700	110 700	103 000	95 900	27,0
28,0	59,7	45,5	113 500	106 000	98 900	92 100	28,0
29,0	58,3	44,9	108 700	101 700	95 000	88 700	29,0
30,0	56,9	44,2	104 200	97 700	91 400	85 400	30,0
32,0	54,1	42,8	96 300	90 500	85 000	79 700	32,0
34,0	51,1	41,1	89 400	84 300	79 300	74 600	34,0
36,0	48,0	39,3	83 300	78 800	74 400	70 200	36,0
38,0	44,8	37,3	78 000	74 000	70 000	66 200	38,0
40,0	41,3	35,1	73 200	69 700	66 200	62 700	40,0
42,0	37,6	32,5	68 200	65 700	62 700	59 600	42,0
44,0	33,5	29,5	63 000	61 200	59 200	56 800	44,0
46,0	28,8	26,0	58 300	56 700	55 200	53 600	46,0
48,0	23,3	21,6	54 100	52 700	51 400	50 000	48,0

B10



300 000 kg



360°

m	°	m	kg	kg	kg	kg	m
7,9	84,9	58,8	425 800				7,9
8,0	84,8	58,7	423 000				8,0
8,5	84,3	58,7	403 700				8,5
9,0	83,8	58,6	386 100				9,0
9,5	83,3	58,6	369 900	326 400			9,5
10,0	82,7	58,5	355 000	314 400	281 100		10,0
10,5	82,2	58,4	341 200	303 300	271 900		10,5
11,0	81,7	58,3	328 400	292 900	263 400	238 600	11,0
11,5	81,2	58,2	316 500	283 200	255 300	231 500	11,5
12,0	80,7	58,1	305 300	274 100	247 700	225 000	12,0
12,5	80,1	58,0	294 900	265 500	240 500	218 300	12,5
13,0	79,6	57,9	285 100	257 400	233 700	210 600	13,0
13,5	79,1	57,8	276 000	249 800	227 200	202 200	13,5
14,0	78,6	57,7	267 400	242 300	220 100	194 100	14,0
14,5	78,1	57,6	259 300	234 900	211 900	186 800	14,5
15,0	77,5	57,5	251 700	227 600	203 000	179 800	15,0
16,0	76,5	57,2	235 600	211 800	187 400	167 300	16,0
17,0	75,4	56,9	218 800	195 000	174 500	156 600	17,0
18,0	74,3	56,6	202 600	181 500	163 200	147 100	18,0
19,0	73,3	56,3	188 100	169 700	153 300	138 600	19,0
20,0	72,2	56,0	175 900	159 400	144 500	131 100	20,0
21,0	71,1	55,6	165 100	150 100	136 600	124 300	21,0
22,0	70,0	55,2	155 500	141 900	129 500	118 200	22,0
23,0	68,9	54,8	146 900	134 500	123 100	112 600	23,0
24,0	67,8	54,4	139 200	127 800	117 200	107 500	24,0
25,0	66,7	54,0	132 200	121 700	111 900	102 800	25,0
26,0	65,5	53,5	125 900	116 200	107 000	98 600	26,0
27,0	64,4	53,0	120 100	111 000	102 500	94 600	27,0
28,0	63,2	52,5	114 800	106 400	98 400	91 000	28,0
29,0	62,1	51,9	109 900	102 000	94 600	87 600	29,0
30,0	60,9	51,3	105 400	98 000	91 000	84 400	30,0
32,0	58,5	50,1	97 400	90 900	84 600	78 700	32,0
34,0	56,0	48,7	90 400	84 600	79 100	73 700	34,0
36,0	53,5	47,3	84 300	79 200	74 100	69 400	36,0
38,0	50,8	45,6	78 900	74 300	69 800	65 400	38,0
40,0	48,1	43,8	72 700	69 900	65 900	62 000	40,0
42,0	45,2	41,8	67 000	64 500	62 000	58 800	42,0
44,0	42,1	39,6	62 000	59 700	57 500	55 300	44,0
46,0	38,9	37,2	57 300	55 300	53 400	51 400	46,0
48,0	35,4	34,4	53 100	51 400	49 600	47 900	48,0
50,0	31,5	31,2	49 300	47 700	46 200	44 700	50,0
52,0	27,1	27,4	45 700	44 400	43 000	41 700	52,0
54,0	21,9	22,7	42 400	41 200	40 100	38 900	54,0



m	°	m	kg	kg	kg	kg	m
8,5	84,8	64,7	393 900				8,5
9,0	84,4	64,7	378 700				9,0
9,5	83,9	64,6	363 100				9,5
10,0	83,5	64,5	348 900	304 700			10,0
10,5	83,0	64,5	335 700	294 300			10,5
11,0	82,5	64,4	323 400	284 600	253 500		11,0
11,5	82,1	64,3	312 000	275 500	245 700		11,5
12,0	81,6	64,2	301 200	267 000	238 700	214 900	12,0
12,5	81,1	64,1	291 200	258 900	232 000	208 900	12,5
13,0	80,6	64,1	281 700	251 200	225 700	202 700	13,0
13,5	80,2	64,0	272 900	244 000	219 700	196 200	13,5
14,0	79,7	63,9	264 600	237 200	213 400	189 500	14,0
14,5	79,2	63,8	256 600	230 700	206 600	182 800	14,5
15,0	78,8	63,6	249 200	224 500	199 500	175 900	15,0
16,0	77,8	63,4	235 100	210 600	185 600	163 600	16,0
17,0	76,9	63,2	221 300	195 000	172 600	153 300	17,0
18,0	75,9	62,9	205 000	181 600	161 500	144 200	18,0
19,0	74,9	62,6	190 100	169 800	151 800	136 000	19,0
20,0	74,0	62,3	177 800	159 500	143 200	128 800	20,0
21,0	73,0	62,0	166 800	150 300	135 400	122 200	21,0
22,0	72,0	61,6	157 100	142 100	128 500	116 200	22,0
23,0	71,0	61,3	148 500	134 700	122 200	110 800	23,0
24,0	70,1	60,9	140 700	128 000	116 400	105 900	24,0
25,0	69,1	60,5	133 600	122 000	111 200	101 300	25,0
26,0	68,1	60,1	127 300	116 400	106 400	97 200	26,0
27,0	67,1	59,7	121 400	111 300	101 900	93 300	27,0
28,0	66,0	59,2	116 100	106 700	97 900	89 700	28,0
29,0	65,0	58,7	111 100	102 300	94 100	86 400	29,0
30,0	64,0	58,2	106 600	98 300	90 600	83 300	30,0
32,0	61,9	57,1	98 500	91 200	84 300	77 800	32,0
34,0	59,7	55,9	91 500	85 000	78 700	72 900	34,0
36,0	57,5	54,7	84 800	79 500	73 900	68 500	36,0
38,0	55,3	53,3	77 800	74 000	69 500	64 700	38,0
40,0	53,0	51,7	71 500	68 200	65 000	61 200	40,0
42,0	50,6	50,1	65 800	62 900	60 100	57 400	42,0
44,0	48,1	48,3	60 800	58 200	55 600	53 200	44,0
46,0	45,5	46,3	56 200	53 800	51 600	49 400	46,0
48,0	42,8	44,2	52 000	49 900	47 800	45 900	48,0
50,0	39,9	41,8	48 200	46 300	44 400	42 700	50,0
52,0	36,8	39,1	44 600	43 000	41 300	39 700	52,0
54,0	33,5	36,2	41 400	39 900	38 400	37 000	54,0
56,0	29,9	32,7	38 300	37 000	35 700	34 400	56,0
58,0	25,7	28,7	35 500	34 300	33 200	32 100	58,0
60,0	20,8	23,8	32 800	31 800	30 800	29 900	60,0

MLC650 S-2



B10



300 000 kg



360°

9,1	84,8	70,7	364 200				9,1
9,5	84,5	70,7	354 200				9,5
10,0	84,0	70,6	340 600				10,0
10,5	83,6	70,5	328 100	283 800			10,5
11,0	83,2	70,5	316 500	274 800			11,0
11,5	82,8	70,4	305 600	266 400			11,5
12,0	82,3	70,3	295 300	258 400	228 800		12,0
12,5	81,9	70,2	285 700	250 900	222 600		12,5
13,0	81,5	70,2	276 600	243 700	216 800		13,0
13,5	81,1	70,1	268 100	236 900	211 300		13,5
14,0	80,6	70,0	260 100	230 500	205 900	183 900	14,0
14,5	80,2	69,9	252 500	224 400	200 400	177 400	14,5
15,0	79,8	69,8	245 300	218 600	194 900	170 900	15,0
16,0	78,9	69,6	232 100	206 400	182 800	159 300	16,0
17,0	78,0	69,3	219 600	193 700	169 600	149 400	17,0
18,0	77,2	69,1	204 900	180 500	158 900	140 600	18,0
19,0	76,3	68,8	190 700	168 500	149 400	132 700	19,0
20,0	75,4	68,6	178 100	158 300	141 000	125 700	20,0
21,0	74,6	68,3	167 100	149 200	133 400	119 400	21,0
22,0	73,7	68,0	157 300	141 100	126 500	113 600	22,0
23,0	72,8	67,7	148 700	133 800	120 400	108 400	23,0
24,0	71,9	67,3	140 800	127 100	114 700	103 500	24,0
25,0	71,0	67,0	133 700	121 100	109 600	99 100	25,0
26,0	70,1	66,6	127 300	115 600	104 800	95 100	26,0
27,0	69,2	66,2	121 500	110 500	100 500	91 300	27,0
28,0	68,3	65,8	116 100	105 900	96 500	87 800	28,0
29,0	67,4	65,3	111 100	101 600	92 700	84 600	29,0
30,0	66,4	64,9	106 600	97 600	89 300	81 600	30,0
32,0	64,6	63,9	98 400	90 500	83 000	76 100	32,0
34,0	62,7	62,9	91 400	84 300	77 600	71 300	34,0
36,0	60,7	61,7	84 700	78 800	72 800	67 100	36,0
38,0	58,8	60,5	77 700	73 500	68 500	63 300	38,0
40,0	56,7	59,2	71 400	67 700	64 300	59 900	40,0
42,0	54,7	57,8	65 700	62 500	59 300	56 400	42,0
44,0	52,5	56,2	60 700	57 700	54 900	52 200	44,0
46,0	50,4	54,6	56 100	53 500	50 900	48 400	46,0
48,0	48,1	52,8	51 900	49 500	47 200	45 000	48,0
50,0	45,7	50,8	48 100	45 900	43 900	41 800	50,0
52,0	43,3	48,7	44 600	42 600	40 700	38 900	52,0
54,0	40,7	46,4	41 300	39 600	37 900	36 200	54,0
56,0	38,0	43,8	38 300	36 800	35 200	33 700	56,0
58,0	35,1	41,0	35 500	34 100	32 700	31 300	58,0
60,0	31,9	37,9	32 900	31 700	30 400	29 100	60,0
62,0	28,4	34,2	30 500	29 400	28 200	27 100	62,0
64,0	24,5	30,0	28 200	27 200	26 200	25 200	64,0
66,0	19,8	24,8	26 000	25 100	24 300	23 400	66,0



m	°	m	kg	kg	kg	kg	m
9,8	84,7	76,7	339 100				9,8
10,0	84,5	76,6	333 100				10,0
10,5	84,1	76,6	321 200				10,5
11,0	83,7	76,5	310 200	265 900			11,0
11,5	83,4	76,5	299 800	257 700			11,5
12,0	83,0	76,4	290 100	250 300			12,0
12,5	82,6	76,3	280 900	243 300	213 800		12,5
13,0	82,2	76,2	272 200	236 600	208 600		13,0
13,5	81,8	76,2	264 100	230 300	203 400		13,5
14,0	81,4	76,1	256 400	224 300	198 400	176 300	14,0
14,5	81,0	76,0	249 000	218 500	193 700	171 200	14,5
15,0	80,6	75,9	242 100	213 100	189 300	166 200	15,0
16,0	79,8	75,7	229 300	202 800	179 100	156 100	16,0
17,0	79,0	75,5	217 500	192 900	167 700	146 100	17,0
18,0	78,2	75,3	205 700	180 400	157 300	137 700	18,0
19,0	77,4	75,0	193 200	168 500	147 800	130 100	19,0
20,0	76,6	74,8	179 800	158 300	139 600	123 300	20,0
21,0	75,8	74,5	168 700	149 200	132 100	117 200	21,0
22,0	75,0	74,2	158 900	141 100	125 400	111 600	22,0
23,0	74,2	73,9	150 100	133 800	119 400	106 500	23,0
24,0	73,4	73,6	142 200	127 200	113 800	101 800	24,0
25,0	72,6	73,3	135 100	121 200	108 700	97 500	25,0
26,0	71,8	73,0	128 600	115 700	104 100	93 600	26,0
27,0	71,0	72,6	122 700	110 700	99 800	89 900	27,0
28,0	70,1	72,2	117 200	106 100	95 800	86 500	28,0
29,0	69,3	71,8	112 300	101 800	92 100	83 300	29,0
30,0	68,5	71,4	107 600	97 800	88 700	80 400	30,0
32,0	66,8	70,6	99 400	90 700	82 600	75 000	32,0
34,0	65,1	69,6	91 400	84 500	77 200	70 300	34,0
36,0	63,3	68,6	83 300	78 300	72 400	66 200	36,0
38,0	61,6	67,5	76 200	71 700	67 400	62 500	38,0
40,0	59,8	66,3	69 900	65 900	62 100	58 600	40,0
42,0	57,9	65,1	64 300	60 700	57 300	54 000	42,0
44,0	56,1	63,7	59 200	56 000	52 900	50 000	44,0
46,0	54,2	62,3	54 700	51 700	48 900	46 200	46,0
48,0	52,2	60,7	50 500	47 800	45 300	42 800	48,0
50,0	50,2	59,1	46 700	44 300	41 900	39 700	50,0
52,0	48,1	57,3	43 100	41 000	38 900	36 800	52,0
54,0	45,9	55,3	39 900	37 900	36 000	34 100	54,0
56,0	43,7	53,2	36 900	35 100	33 400	31 600	56,0
58,0	41,4	51,0	34 100	32 500	30 900	29 300	58,0
60,0	38,9	48,5	31 600	30 100	28 600	27 200	60,0
62,0	36,3	45,8	29 100	27 800	26 400	25 100	62,0
64,0	33,5	42,8	26 900	25 600	24 400	23 200	64,0
66,0	30,5	39,5	24 700	23 600	22 500	21 400	66,0
68,0	27,2	35,7	22 700	21 700	20 700	19 700	68,0
70,0	23,4	31,2	20 800	19 900	19 000	18 100	70,0
72,0	18,9	25,7	19 000	18 200	17 400	16 700	72,0

B10



300 000 kg



360°

m	°	m	kg	kg	kg	kg	m
10,4	84,7	82,6	318 800				10,4
10,5	84,6	82,6	315 900				10,5
11,0	84,2	82,6	305 200				11,0
11,5	83,9	82,5	295 300				11,5
12,0	83,5	82,4	285 900	234 400			12,0
12,5	83,1	82,4	277 100	233 100			12,5
13,0	82,8	82,3	268 700	229 900			13,0
13,5	82,4	82,2	260 800	225 100			13,5
14,0	82,0	82,2	253 300	219 800	180 800		14,0
14,5	81,7	82,1	246 200	214 700	180 500		14,5
15,0	81,3	82,0	239 500	209 100	180 300		15,0
16,0	80,6	81,8	227 000	198 800	175 500	144 900	16,0
17,0	79,9	81,6	215 800	189 600	165 800	143 600	17,0
18,0	79,1	81,4	205 400	179 100	155 600	135 700	18,0
19,0	78,4	81,2	194 100	168 400	146 000	127 400	19,0
20,0	77,7	81,0	181 200	157 900	138 000	120 900	20,0
21,0	76,9	80,7	170 000	148 900	130 700	114 900	21,0
22,0	76,2	80,5	160 000	140 900	124 100	109 500	22,0
23,0	75,4	80,2	151 200	133 700	118 200	104 600	23,0
24,0	74,7	79,9	143 300	127 100	112 700	100 000	24,0
25,0	74,0	79,6	136 100	121 100	107 700	95 900	25,0
26,0	73,2	79,3	129 600	115 700	103 200	92 000	26,0
27,0	72,5	79,0	123 600	110 600	98 900	88 400	27,0
28,0	71,7	78,6	118 100	106 000	95 000	85 100	28,0
29,0	70,9	78,3	113 100	101 800	91 400	82 000	29,0
30,0	70,2	77,9	108 500	97 800	88 000	79 200	30,0
32,0	68,6	77,1	99 800	90 700	82 000	73 900	32,0
34,0	67,1	76,3	90 600	84 300	76 600	69 300	34,0
36,0	65,5	75,3	82 600	77 100	71 600	65 300	36,0
38,0	63,9	74,3	75 500	70 600	66 000	61 600	38,0
40,0	62,3	73,3	69 200	64 800	60 700	56 900	40,0
42,0	60,6	72,1	63 600	59 700	55 900	52 500	42,0
44,0	59,0	70,9	58 500	55 000	51 600	48 400	44,0
46,0	57,2	69,6	53 900	50 700	47 700	44 800	46,0
48,0	55,5	68,3	49 700	46 800	44 100	41 400	48,0
50,0	53,7	66,8	45 900	43 300	40 700	38 300	50,0
52,0	51,9	65,2	42 400	40 000	37 700	35 500	52,0
54,0	50,0	63,5	39 200	37 000	34 900	32 800	54,0
56,0	48,1	61,7	36 200	34 200	32 200	30 300	56,0
58,0	46,1	59,8	33 400	31 600	29 800	28 100	58,0
60,0	44,1	57,7	30 800	29 200	27 500	25 900	60,0
62,0	41,9	55,5	28 400	26 900	25 400	23 900	62,0
64,0	39,7	53,1	26 200	24 800	23 400	22 000	64,0
66,0	37,3	50,5	24 100	22 800	21 500	20 200	66,0
68,0	34,8	47,7	22 100	20 900	19 700	18 600	68,0
70,0	32,2	44,5	20 200	19 100	18 000	17 000	70,0
72,0	29,3	41,0	18 400	17 400	16 400	15 500	72,0
74,0	26,1	37,0	16 700	15 800	14 900	14 100	74,0
76,0	22,5	32,4	15 100	14 300	13 500	12 700	76,0



86,0 m							
m	°	m	kg	kg	kg	kg	m
11,0	84,6	88,6	274 000				11,0
11,5	84,3	88,6	273 300				11,5
12,0	83,9	88,5	272 600				12,0
12,5	83,6	88,4	270 500	197 400			12,5
13,0	83,3	88,4	265 400	197 100			13,0
13,5	82,9	88,3	257 600	196 700			13,5
14,0	82,6	88,2	249 800	196 400	151 100		14,0
14,5	82,3	88,2	243 300	196 000	150 900		14,5
15,0	81,9	88,1	236 500	195 600	150 700		15,0
16,0	81,3	87,9	224 100	192 300	150 200	120 000	16,0
17,0	80,6	87,7	213 200	185 800	149 800	119 700	17,0
18,0	79,9	87,5	203 200	178 000	149 400	119 400	18,0
19,0	79,2	87,3	193 300	168 500	145 300	119 100	19,0
20,0	78,5	87,1	183 000	157 700	136 500	118 300	20,0
21,0	77,9	86,9	171 900	148 800	129 400	113 200	21,0
22,0	77,2	86,7	161 500	140 800	122 900	107 400	22,0
23,0	76,5	86,4	152 600	133 600	117 000	102 600	23,0
24,0	75,8	86,2	144 600	127 000	111 700	98 100	24,0
25,0	75,1	85,9	137 300	121 100	106 800	94 100	25,0
26,0	74,4	85,6	130 800	115 700	102 300	90 400	26,0
27,0	73,7	85,3	124 700	110 700	98 100	86 900	27,0
28,0	73,0	85,0	119 200	106 100	94 300	83 700	28,0
29,0	72,3	84,6	114 100	101 800	90 700	80 700	29,0
30,0	71,6	84,3	108 800	97 900	87 400	77 800	30,0
32,0	70,2	83,6	98 300	90 500	81 400	72 800	32,0
34,0	68,8	82,8	89 100	82 300	75 900	68 300	34,0
36,0	67,3	81,9	81 000	75 100	69 600	64 100	36,0
38,0	65,9	81,0	73 900	68 700	63 800	59 200	38,0
40,0	64,4	80,1	67 600	62 900	58 500	54 400	40,0
42,0	62,9	79,0	62 000	57 800	53 800	50 100	42,0
44,0	61,4	77,9	56 900	53 100	49 500	46 100	44,0
46,0	59,8	76,8	52 300	48 900	45 600	42 500	46,0
48,0	58,2	75,5	48 100	45 000	42 000	39 200	48,0
50,0	56,6	74,2	44 300	41 400	38 700	36 100	50,0
52,0	55,0	72,8	40 800	38 200	35 700	33 300	52,0
54,0	53,4	71,3	37 600	35 200	32 900	30 600	54,0
56,0	51,7	69,7	34 600	32 400	30 200	28 200	56,0
58,0	49,9	68,0	31 800	29 800	27 800	25 900	58,0
60,0	48,1	66,2	29 200	27 400	25 500	23 800	60,0
62,0	46,3	64,3	26 800	25 100	23 400	21 800	62,0
64,0	44,4	62,3	24 600	23 000	21 400	19 900	64,0
66,0	42,4	60,1	22 500	21 000	19 600	18 200	66,0
68,0	40,3	57,7	20 500	19 100	17 800	16 500	68,0
70,0	38,2	55,2	18 600	17 400	16 100	14 900	70,0
72,0	35,9	52,4	16 900	15 700	14 600	13 500	72,0
74,0	33,5	49,5	15 200	14 100	13 100	12 100	74,0
76,0	31,0	46,2	13 600	12 600	11 700	10 700	76,0
78,0	28,2	42,5	12 100	11 200	10 300	9 500	78,0
80,0	25,1	38,4	10 600	9 900	9 100	8 300	80,0
82,0	21,6	33,5	8 500	8 100			82,0

B10



300 000 kg



360°

m	°	m	kg	kg	kg	kg	kg	m
11,0	85,0	94,6	235 000					11,0
11,5	84,7	94,6	234 300					11,5
12,0	84,3	94,5	233 700					12,0
12,5	84,0	94,5	233 000					12,5
13,0	83,7	94,4	232 400					13,0
13,5	83,4	94,3	231 800					13,5
14,0	83,1	94,3	231 200	166 900				14,0
14,5	82,8	94,2	230 600	166 600				14,5
15,0	82,5	94,1	230 000	166 200				15,0
16,0	81,8	94,0	223 200	165 600	126 500			16,0
17,0	81,2	93,8	210 400	164 900	126 100	99 700		17,0
18,0	80,6	93,6	200 800	164 300	125 700	99 400		18,0
19,0	79,9	93,4	191 900	162 200	125 300	99 200		19,0
20,0	79,3	93,2	183 400	157 800	124 900	98 900		20,0
21,0	78,7	93,0	173 000	149 300	124 500	98 600		21,0
22,0	78,0	92,8	162 700	140 400	121 800	98 300		22,0
23,0	77,4	92,6	153 700	133 300	115 800	97 900		23,0
24,0	76,7	92,3	145 600	126 800	110 600	95 900		24,0
25,0	76,1	92,1	138 300	120 900	105 700	92 700		25,0
26,0	75,5	91,8	131 700	115 500	101 300	88 700		26,0
27,0	74,8	91,5	125 600	110 500	97 200	85 300		27,0
28,0	74,2	91,2	119 800	105 900	93 400	82 200		28,0
29,0	73,5	90,9	114 100	101 700	89 900	79 300		29,0
30,0	72,9	90,6	108 200	97 800	86 600	76 500		30,0
32,0	71,5	89,9	97 500	89 200	80 700	71 600		32,0
34,0	70,2	89,2	88 300	81 100	74 600	67 200		34,0
36,0	68,9	88,4	80 200	73 900	68 000	62 700		36,0
38,0	67,5	87,6	73 100	67 500	62 300	57 500		38,0
40,0	66,2	86,7	66 800	61 800	57 100	52 700		40,0
42,0	64,8	85,7	61 100	56 600	52 400	48 500		42,0
44,0	63,4	84,7	56 100	52 000	48 100	44 500		44,0
46,0	62,0	83,6	51 400	47 700	44 200	41 000		46,0
48,0	60,5	82,5	47 300	43 900	40 700	37 700		48,0
50,0	59,1	81,3	43 400	40 400	37 400	34 700		50,0
52,0	57,6	80,0	39 900	37 100	34 400	31 900		52,0
54,0	56,1	78,7	36 700	34 100	31 600	29 300		54,0
56,0	54,6	77,3	33 700	31 300	29 000	26 800		56,0
58,0	53,0	75,7	30 900	28 700	26 600	24 600		58,0
60,0	51,4	74,1	28 400	26 300	24 400	22 500		60,0
62,0	49,8	72,4	26 000	24 100	22 300	20 500		62,0
64,0	48,1	70,6	23 700	22 000	20 300	18 600		64,0
66,0	46,4	68,7	21 600	20 000	18 400	16 900		66,0
68,0	44,6	66,7	19 600	18 100	16 700	15 300		68,0
70,0	42,8	64,6	17 800	16 400	15 000	13 700		70,0
72,0	40,9	62,3	16 000	14 700	13 500	12 200		72,0
74,0	38,9	59,8	14 400	13 200	12 000	10 800		74,0
76,0	36,8	57,1	12 800	11 700	10 600	9 500		76,0
78,0	34,7	54,3	11 300	10 300	9 300			78,0
80,0	32,3	51,1	9 900	8 900				80,0
82,0	29,9	47,7	8 500					82,0



11,6	84,9	100,6	201 600			11,6
12,0	84,7	100,6	201 200			12,0
12,5	84,4	100,5	200 600			12,5
13,0	84,1	100,4	200 100			13,0
13,5	83,8	100,4	199 500			13,5
14,0	83,5	100,3	199 000	142 000		14,0
14,5	83,2	100,3	198 500	141 800		14,5
15,0	82,9	100,2	197 900	141 500		15,0
16,0	82,3	100,0	196 900	140 900	106 200	16,0
17,0	81,7	99,9	195 800	140 300	105 900	17,0
18,0	81,1	99,7	194 800	139 700	105 500	18,0
19,0	80,6	99,5	190 700	139 200	105 100	19,0
20,0	80,0	99,4	182 600	138 600	104 800	20,0
21,0	79,4	99,2	174 600	138 100	104 400	21,0
22,0	78,8	99,0	165 700	136 900	104 100	22,0
23,0	78,2	98,7	156 000	134 400	103 800	23,0
24,0	77,6	98,5	147 900	128 300	103 400	24,0
25,0	77,0	98,3	140 500	121 700	102 700	25,0
26,0	76,4	98,0	133 700	116 300	101 100	26,0
27,0	75,8	97,7	126 300	111 300	97 500	27,0
28,0	75,2	97,5	119 100	106 600	93 200	28,0
29,0	74,5	97,2	112 600	101 800	89 800	29,0
30,0	73,9	96,9	106 600	96 700	86 500	30,0
32,0	72,7	96,3	96 000	87 200	79 400	32,0
34,0	71,5	95,6	86 800	79 100	72 200	34,0
36,0	70,2	94,9	78 700	71 900	65 800	36,0
38,0	69,0	94,1	71 600	65 600	60 000	38,0
40,0	67,7	93,2	65 200	59 900	54 900	40,0
42,0	66,4	92,4	59 600	54 700	50 200	42,0
44,0	65,1	91,4	54 400	50 100	46 000	44,0
46,0	63,8	90,4	49 800	45 900	42 200	46,0
48,0	62,5	89,4	45 600	42 000	38 600	48,0
50,0	61,2	88,3	41 800	38 500	35 400	50,0
52,0	59,8	87,1	38 300	35 200	32 400	52,0
54,0	58,5	85,9	35 000	32 300	29 600	54,0
56,0	57,1	84,6	32 000	29 500	27 000	56,0
58,0	55,6	83,2	29 300	26 900	24 600	58,0
60,0	54,2	81,8	26 700	24 500	22 400	60,0
62,0	52,7	80,2	24 300	22 300	20 300	62,0
64,0	51,2	78,6	22 000	20 200	18 300	64,0
66,0	49,7	76,9	19 900	18 200	16 500	66,0
68,0	48,1	75,1	18 000	16 300	14 700	68,0
70,0	46,5	73,2	16 100	14 600	13 100	70,0
72,0	44,8	71,2	14 400	12 900	11 500	72,0
74,0	43,1	69,1	12 700	11 400	10 100	74,0
76,0	41,4	66,8	11 100	9 900	8 700	76,0
78,0	39,5	64,4	9 600			78,0
80,0	37,6	61,8	8 200			80,0

B10



300 000 kg



360°

12,2	84,9	106,6	174 400
12,5	84,7	106,5	174 100
13,0	84,4	106,5	173 600
13,5	84,2	106,4	173 100
14,0	83,9	106,4	172 600
14,5	83,6	106,3	172 100
15,0	83,3	106,2	171 700
16,0	82,8	106,1	170 700
17,0	82,2	106,0	169 800
18,0	81,7	105,8	168 900
19,0	81,1	105,6	168 000
20,0	80,5	105,5	167 100
21,0	80,0	105,3	166 200
22,0	79,4	105,1	163 300
23,0	78,9	104,9	157 300
24,0	78,3	104,7	149 400
25,0	77,7	104,4	140 900
26,0	77,2	104,2	133 000
27,0	76,6	104,0	125 300
28,0	76,0	103,7	118 200
29,0	75,5	103,4	111 700
30,0	74,9	103,1	105 700
32,0	73,7	102,6	95 100
34,0	72,6	101,9	85 800
36,0	71,4	101,2	77 800
38,0	70,2	100,5	70 600
40,0	69,1	99,7	64 300
42,0	67,9	98,9	58 600
44,0	66,7	98,1	53 500
46,0	65,5	97,1	48 900
48,0	64,2	96,2	44 700
50,0	63,0	95,1	40 800
52,0	61,7	94,1	37 300
54,0	60,5	92,9	34 100
56,0	59,2	91,7	31 100
58,0	57,9	90,5	28 300
60,0	56,6	89,1	25 700
62,0	55,2	87,7	23 300
64,0	53,9	86,3	21 100
66,0	52,5	84,7	19 000
68,0	51,1	83,1	17 000
70,0	49,6	81,4	15 100
72,0	48,1	79,6	13 400
74,0	46,6	77,7	11 700
76,0	45,0	75,7	10 200
78,0	43,4	73,6	8 700