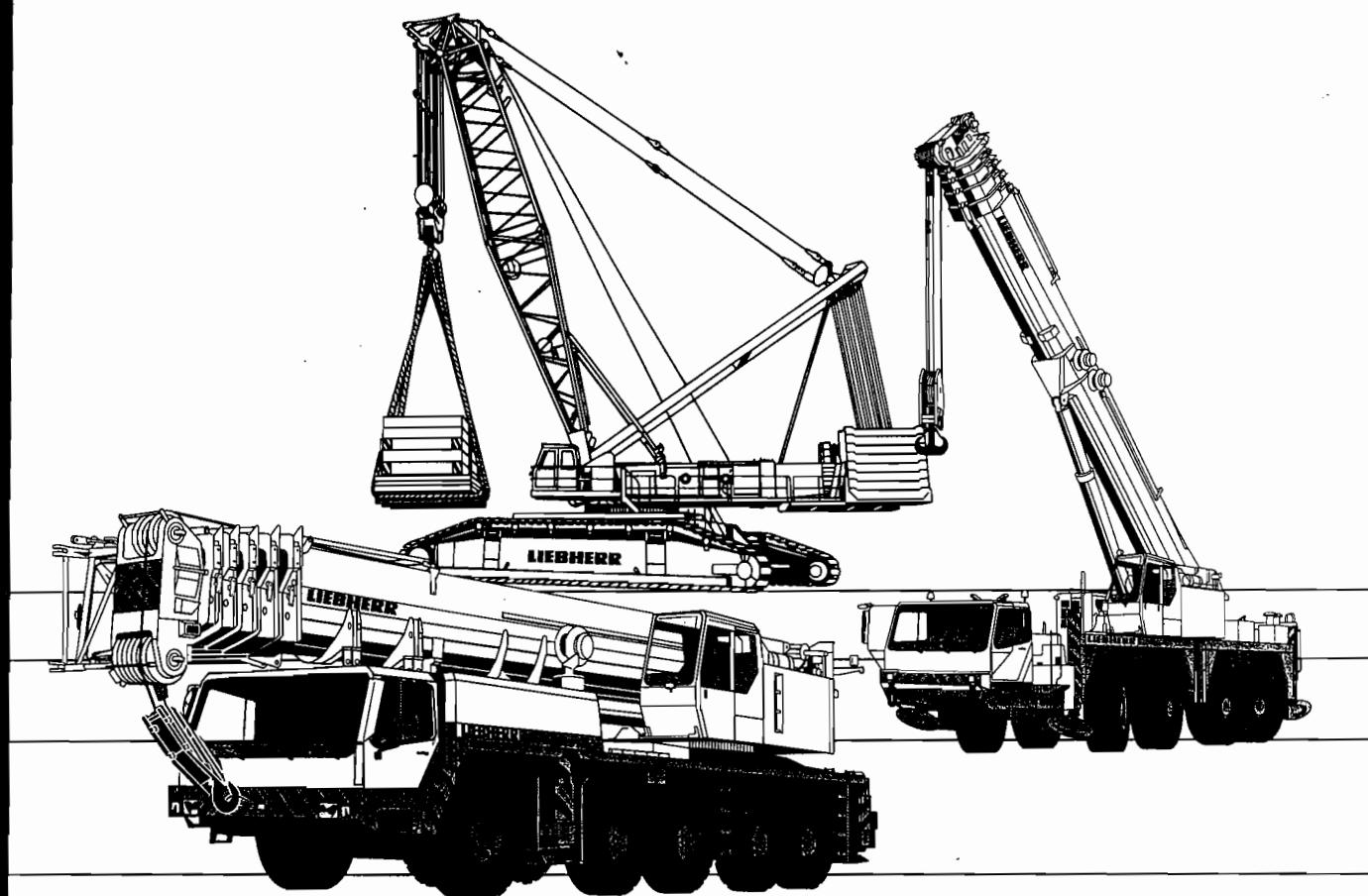




# LTM 1120

## Load charts Traglasttabellen



02

# LIEBHERR



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**LIEBHERR**  
**TELESCOPIC BOOM- MOBILE CRANE**  
**TYPE LTM 1120**

**Load charts  
and notes for using the load charts**

<b>crane number</b>	<b>0016365</b>
<b>date</b>	<b>Januar 30, 2001</b>



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## I. INFORMATION FOR USING THE LOAD CAPACITY TABLES

**DANGER:** The regulations specifications in the operating instructions for crane operations are decisive and final. If these are not observed, there is an extremely high risk of ACCIDENTS!

### 1. Explanations

- 1.1 The load capacity value in the load capacity tables are indicated in metric tons.
- 1.2 The working radius is the horizontal distance between the center of gravity of the load from the slewing axis of the crane superstructure as measured from the ground. This also applies when the crane is subjected to loads; i.e., this includes boom flexure.
- 1.3 Crane operations are only permitted with the crane supported. Here, the sliding arms must always be extended to the dimensions specified in the respective load capacity table.
- 1.4 Boom positions other than those specified in the load capacity tables are prohibited.
- 1.5 The boom must only be moved in those ranges for which load capacity values are given, even without a load, as otherwise the crane can topple. In normal operations, this is prevented by the overload safety device. When "Assembly" is engaged, (with the assembly key-operated switch), the boom must only be luffed or lowered within the specified working radius ranges.
- 1.6 The given load capacities include the weight of the slinging tackle, hoisting and take-up tackle. The possible weight of the load to be hoisted is thus less than the weights above.
- 1.7 The number values in the table "Extension condition of the telescopic section in percent" indicate how far the individual telescopic sections must be extended in order to reach a certain boom length (0 = completely retracted, 100 = completely extended). Any extension conditions other than those indicated are prohibited.
- 1.8 If the crane is equipped with tires of size 14.00-25, an additional central ballast is mounted on the crane chassis.

### 2. Crane operating mode "Crane supported"

- 2.1 Before the crane is raised on its supports, the axle suspension must be blocked.
- 2.2 The sliding arms of the hydraulic support jack must be extended (simultaneously on both sides) to the precise dimension specified in the applicable load capacity table.
- 2.3 The sliding arms must be secured by pins.
- 2.4 It is necessary to place stable underlay material under the support pads of the support jacks over a large surface area according to ground conditions.
- 2.5 All wheels must be raised clear of the ground.
- 2.6 The crane must be aligned horizontally with the aid of the level gauges. The horizontal crane position must be checked occasionally, and if necessary corrected, during crane operation.



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**3. There is a danger of overloading or toppling the crane if:**

- 3.1 the crane is unsupported and the slewing platform is rotated out of the crane's longitudinal axis. Before slewing the superstructure, the crane must be supported;
- 3.2 the crane is not properly supported on all 4 hydraulic supports and aligned;
- 3.3 the sliding arms are not extended to the precise dimension specified in the correct load capacity table (simultaneously on both sides);
- 3.4 the sliding arms are not secured with pins;
- 3.5 the support pads are not provided with a suitable foundation of stable material in accordance with the relevant ground conditions;
- 3.6 the load specified in the load capacity tables and/or working radii are not strictly adhered to;
- 3.7 there is insufficient distance from trenches, cellars, and holes;
- 3.8 the load begins to swing due to improper control of crane movements;
- 3.9 loads are pulled at an angle. Pulling diagonally to the boom's longitudinal axis is the most dangerous movement, and must never be carried out. Pulling at an angle is prohibited.

**4. Telescopic boom**

- 4.1 The lifting capacity of the telescopic boom with its 3 extendable telescopic sections is limited. The loads stated in the load capacity tables must not be exceeded.
- 4.2 The specifications for the telescopic sections to be extended according to load and required boom length must be observed under all circumstances.
- 4.3 As a general rule, the boom should first be extended to the required length, and then loaded. However, it is possible to extend and retract the boom under partial load. The weight of this partial load is dependent on bearing pad lubrication and the available useable lengths of the telescopic sections.
- 4.4 Even without a load, the telescopic boom may only be moved within the working radius ranges for which values are listed in the load capacity table.

**DANGER : Failure to observe this regulation may lead to accidents**

**5. Rope winches**

**5.1 Winch 1 (main hoisting gear)**

Winch 1 is designed for a maximum rope tension of 78.5 kN. This rope tension must not be exceeded under any circumstances. Accordingly, the minimum number of hoisting rope lines (rope reeving) should be selected according to the weight of the load to be lifted (see Table "Hoisting rope reeving" in Chapter II).

**5.2 Winch 2 (Auxiliary hoisting gear)**

The information given under point 7.1 applies here also.

**5.3 Prevention of rope slack formation:**

**5.3.1** When retracting the telescopic boom, the winch must be operated in the direction of lifting simultaneously, in order to prevent the hook block from descending to the ground and creating rope slack. The speed of the hoisting rope movement should matched to that used for retraction.

**5.3.2** The rope guides on the winches must be supervised by a member of the workforce when additional equipment is being mounted.



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## 6. Hoisting rope reeving

6. The hoisting rope must be reeved in between boom head and hook block in accordance with the maximum rope tension of the winch and the weight of the load to be lifted.
- 6.2 If several hoisting rope lines are reeved in, the efficiency of the hook block is reduced due to pulley friction and rope flexure.  
In consequence, with a rope tension of e.g. 78.5 kN, only 742 kN (74.2 t) can be pulled with a 10-fold line reeving, instead of 785 kN (78.5 t).
- 6.3 Consult the table "Hoisting rope reeving" in Chapter II of this manual for the maximum loads in dependence on the number of hoisting rope lines.
- 6.4 The number of hoisting rope lines reeved must be set on the control and display unit of the LICCON overload safety device according to the current hoisting rope reeving total.

## 7. Changing between material handling and installation operation

### 7.1 Load carrying capacity of the crane

The load carrying members of the crane have been designed according to the load criteria for installation /set up operations (load collective classification = "light" = Q1 or L1). Stress collective S1 according to DIN 15018 Part 3 and stress margin range N1 according to DIN 15018 Part 1 or ISO 4301, group A1.

If an installaton / set up crane is used material handling, the stress margin rangs increases. Therefore the loads must be reduced since a higher stress group now be applicable. This is especially true if the calculated loads are limited by strength values.

**CAUTION:** For crane value calculation, it has been assumed that the crane will be utilized as an installation crane (load collective classification = "light" = Q1 or L1). If the crane is also used in material handling application, premature wear of all drive sections must be expected, and cracks may occur in load carrying steel members. We therefore strongly recommend, that if the crane is utilized in material handling application, the load values are reduced by 50 %, as compared to the data given in the corresponding load carrying capacity chart.

For details, have material handling data ready and then contact your Liebherr Service Dept.

The size of the cables as well as drive sections of hoist gears are configured according to the load collectives applicable for installation operation (load collective classification = "light" = Q1 or L1):

**ISO 4301/2 or 4308/2  
Group A1  
Hoist gears M3  
Intake gears M2**

If an installaton / set up crane is used material handling (load collective classification = "light" = Q1 or L1), the stress margin range increases, the rope runs must therefore be reduced. If this in not assured, then the hoist rope wear out rate will be reached much earlier, and / or the hoist gear must be rebuilt / serviced much earlier.

Please refer to the information regarding wear out criteria for ropes according to DIN 15020, part 2 or ISO 4309 in chapter 8.01 "Repeat crane inspections" in the crane's Operating Instructions.

**NOTE:** In order to keep wear out rate of hoist ropes as low as possible during material handling operation (load collective classification = "medium" or higher), we recommend the use of a special length rope, so that during material handling operation the rope is rolled onto drum of the hoist winch in only one rope layer.  
If several layers are on the rope drum, the wear rate increases. In addition, the winch drive will run cooler, if the crane is operated with only one rope layer.



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## 8. LICCON Overload safety device and Limit switch

If the permissible load moment is exceeded, the electronic LICCON overload safety device shuts down the hoisting, boom topping and boom extension movements. It is possible to decrease the load by means of movements in the opposite direction. The LICCON overload safety device must be checked for correct operation on each occasion before operating the crane.

- 8.1 The LICCON overload safety device must be set to the current equipment mode of the crane by means of function keys or by entering the corresponding 2-digit code (see separate operating instructions "LICCON Overload Safety Device for Liebherr Mobile Cranes").
- 8.2 The LICCON overload limit switch is a safety device and must not be used as a shutdown device for operating purposes. The crane operator must assure himself of the weight of a load before attempting to lift it. The fact that the crane is equipped with the LICCON overload safety device does not free the operator from responsibility with regard to operating safety.
- 8.3 The control and display unit of the LICCON overload safety device indicates among other things the working radius, boom length, pulley height, load and degree of crane load utilization. This provides the operator with a constant overview of the working range and crane utilization.
- 8.4 Hoisting limit switches at the head of the telescopic boom and folding fly jib prevent the hook block from running up against the boom head. The hoisting limit switches must be checked for correct operation on each occasion before the crane is operated.
- 8.5 Gear cam limit switches on the cable winches ensure that 3 safety turns remain on the rope drums. When the final cable layer is reached, a visual check is also necessary to ensure that the 3 safety turns are available. If the hoisting gears have been overturned in the lifting direction, or if the hoisting cable has been changed, then the corresponding limit switch must be reset before resuming operation.
- 8.6 The crane operator must check correct operation of the LICCON overload safety device on each occasion before operating the crane. The crane manufacturer will accept no liability for damage to the crane and consequential damage resulting from non-function or disactivation of the LICCON overload safety device.

## 9. Hook blocks and load hooks

Load [t]	Own weight [t]	Number of rope pulley
125	1.08	9
100	1.00	7
80	0.80	5
63	0.56	3
25	0.44	1
8.5	0.12	--



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**10. Reductions in load capacity of telescopic boom when folding fly jib is fitted**

- 10.1 The load capacity values stated for the telescopic boom in the load capacity tables apply to the boom without installation of a folding fly jib for transport or operating purposes.
- 10.2 If the folding fly jib is mounted on the telescopic boom, the possible loads which the boom can lift are reduced according to the values given in the table below.

Location of the folding fly jib	T-14,0	T-18,8	T-22,0	T-23,5	T-28,3	T-32,0	T-37,8	T-42,5	T-45,0
Complete folding fly jib at the side of pivot section	0,95	0,71	0,60	0,56	0,47	0,40	0,35	0,31	0,30
Folding fly jib K-12 at pulley head of telescopic boom, rest at the side of pivot section	2,71	2,46	2,36	2,32	2,22	2,15	2,10	2,06	2,04
Folding fly jib K-18 at pulley head of telescopic boom	2,91	2,64	2,52	2,48	2,37	2,29	2,23	2,19	2,17
Folding fly jib K-24 at pulley head of telescopic boom	4,00	3,54	3,35	3,27	3,09	2,96	2,87	2,79	2,76

**11. Working platform**

- 11.1 If the crane is equipped with a working platform, refer to Chapter II for working radius tables for operation with a working platform. Never exceed or undershoot the working range specified in the working radius tables.
- 11.2 The maximum permissible burden and number of persons which the working platform can carry is stated on the identification plate of the platform. These limits must be observed under all circumstances.



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Diagramm 1

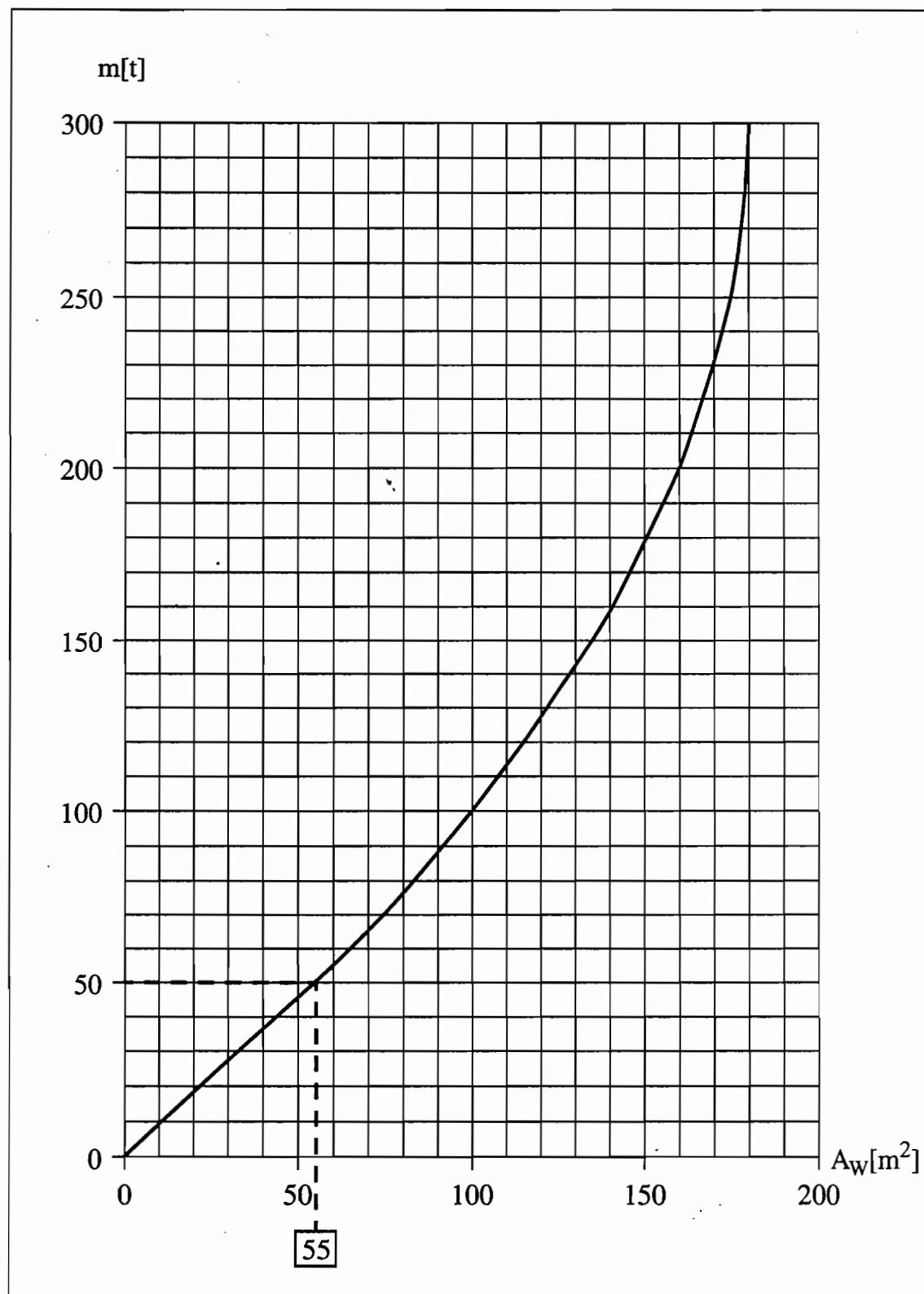
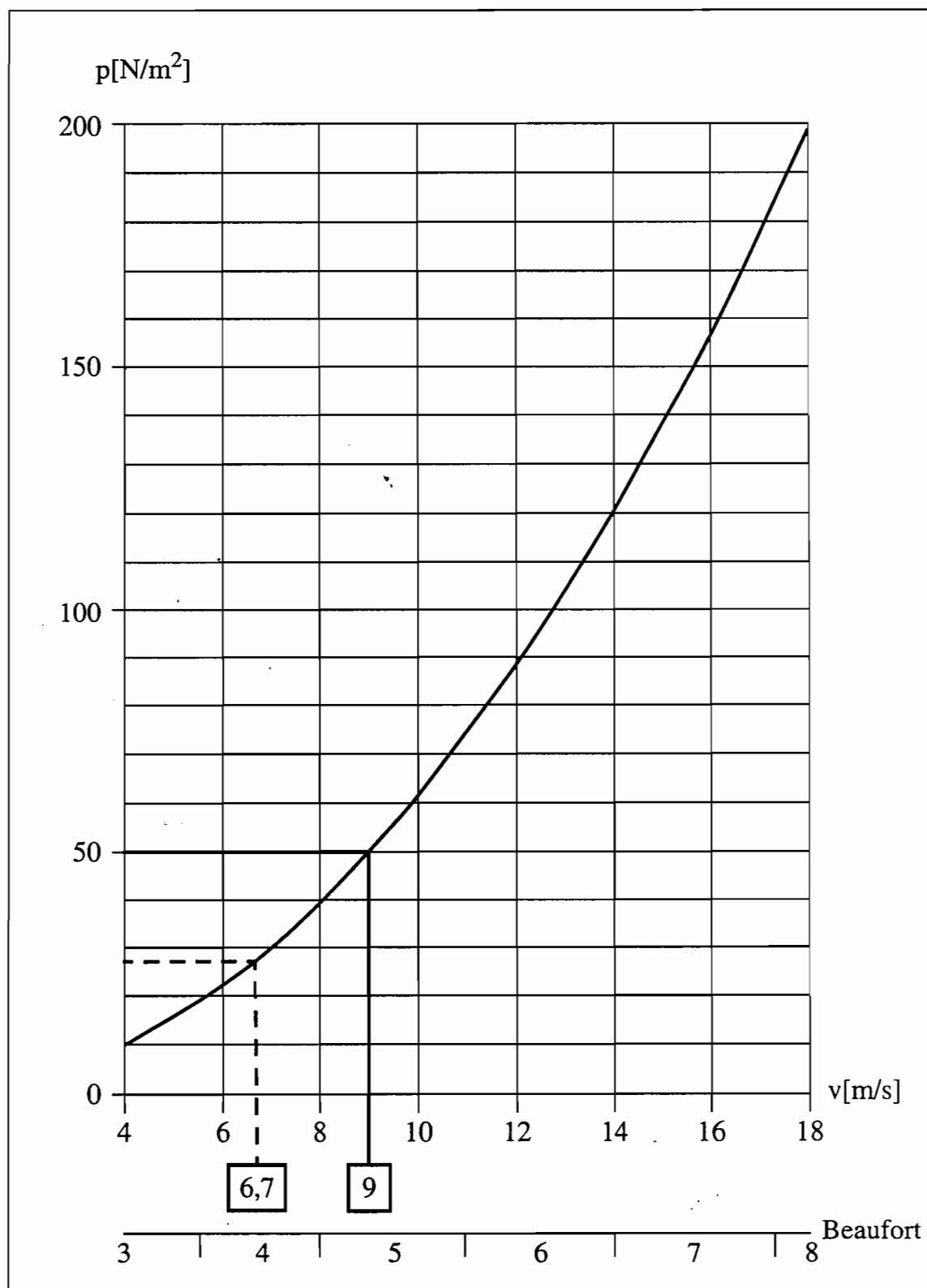
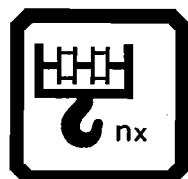


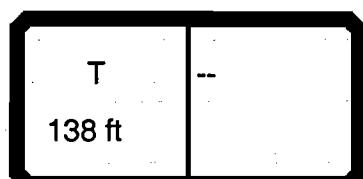


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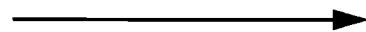
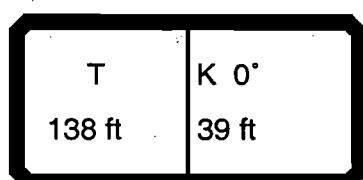




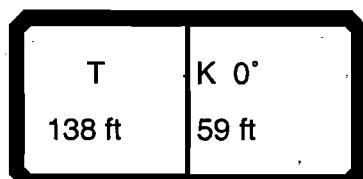
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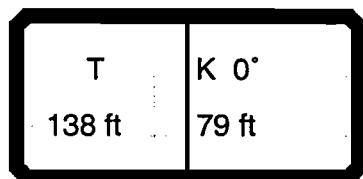
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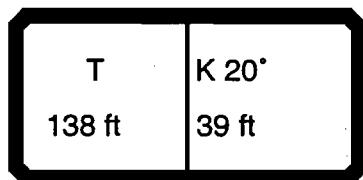
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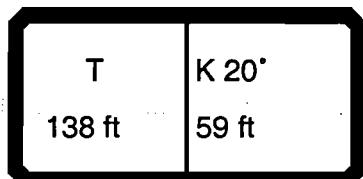
21



27



33



39



T	K 20°
138 ft	79 ft

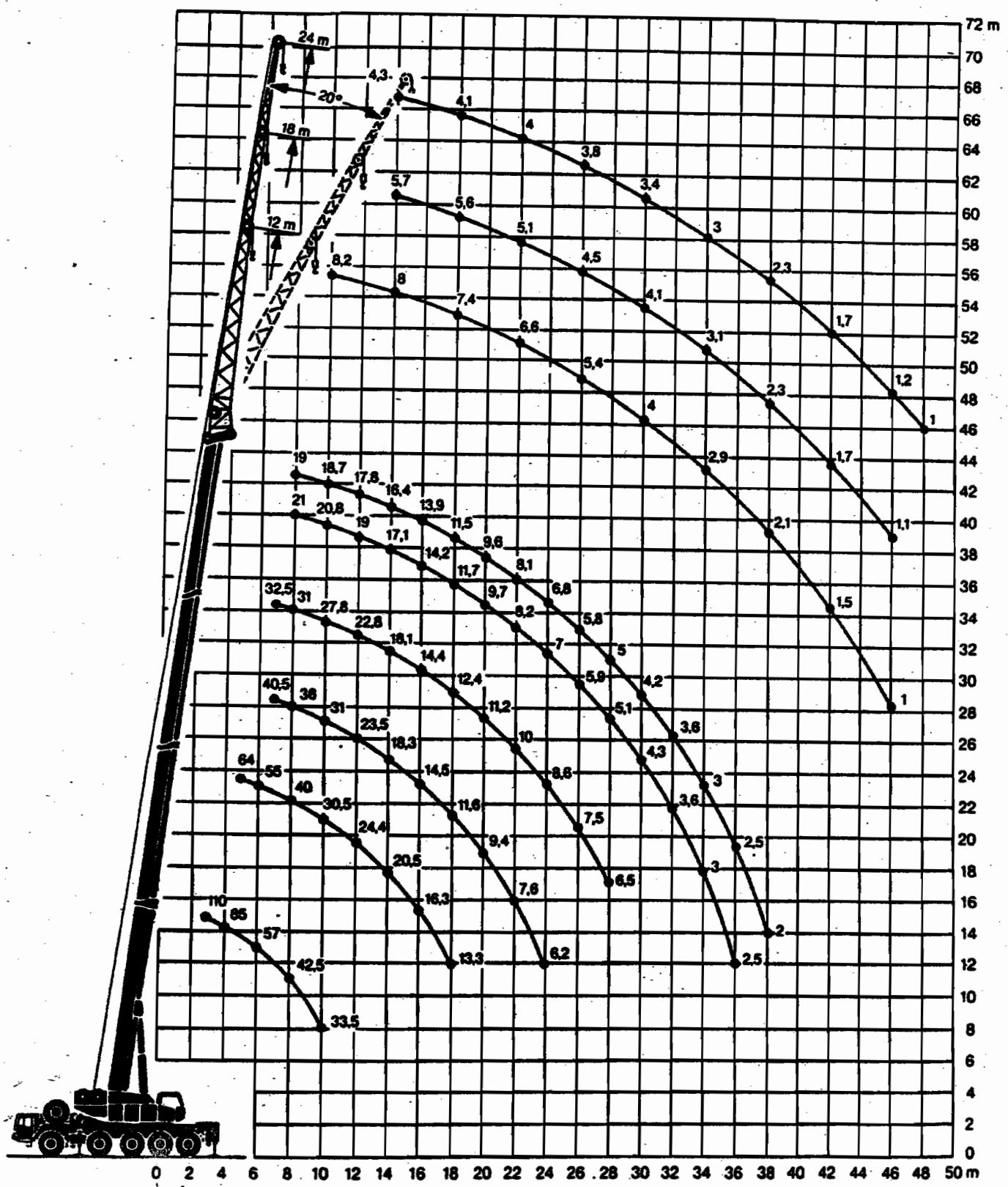


45



 nx	 lbs
1	18900
2	37900
3	56400
4	74500
5	92800
6	110400
7	127800
8	145000
9	161800
10	178600
11	195100
12	211400
13	227000
14	242900
15	258300
16	273500
17	288500
18	303500

## **Lifting heights. Hauteurs de levage.**





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66 % NEN  
75 % DIN F

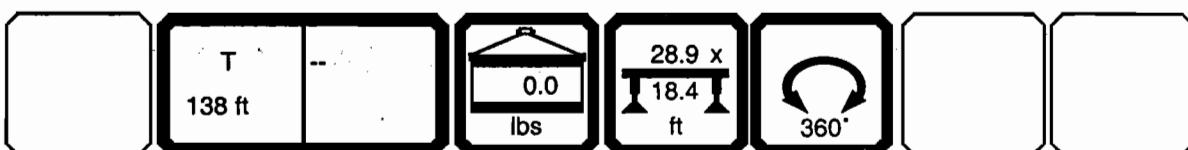
WII + 0.0klbs  
2.75klbs + 0.0klbs



0016365

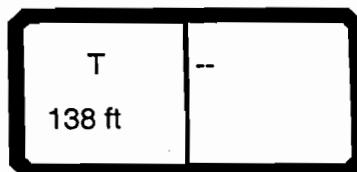
TAB 83136

01.00





75 % DIN BS

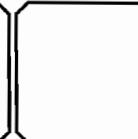
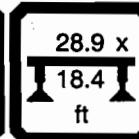
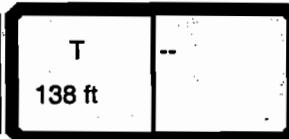
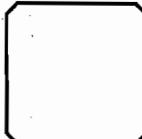
WII + 4klbs  
2.75klbs + 4klbs

0016365

TAB 83101

01.00

 ft	 ft > < lbs		CODE >010<		TL83 0000 .x(x)		
	44	73	106	130	138		
10	184,000						
11	173,000						
12	156,000						
13	135,000						
14	119,000						
15	104,000	79,000					
16	93,500	77,000					
17	85,000	73,000					
18	78,000	67,500					
20	64,500	57,700	50,300				
22	55,500	50,600	44,800				
24	47,700	44,500	40,000				
26	41,000	39,400	35,800				
28	35,700	35,400	32,600	25,700	25,000		
30	30,900	31,700	29,600	23,100	22,400		
32	27,100	28,800	26,900	20,900	20,300		
34		26,200	24,700	19,100	18,400		
36		24,000	22,800	17,400	16,800		
38		21,800	20,900	15,700	15,200		
40		19,800	19,200	14,200	13,700		
45		15,900	15,800	11,200	10,700		
50		12,800	13,000	8,700	8,400		
55		10,100	10,800	6,600	6,400		
60			8,900	4,800	4,600		
65			7,300	3,500	3,300		
70			6,000				
75			4,900				
80			3,800				
85			2,900				
*	n	*	11	5	3	2	2
 %							
1	0	0	0	92	100		
2	0	46	100	92	100		
3	0	46	100	92	100		
 ft/s							
	47	47	36	36	36		





75 % DIN BS

WII + 19.62klbs  
2.75klbs + 19.62klbs

T	--
138 ft	

0016365

TAB 83100

01.00

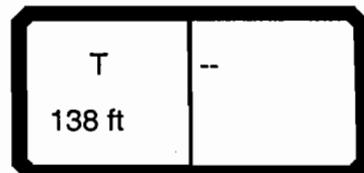
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	44	73	106	130	138
10	186,000				
11	175,000				
12	166,000				
13	158,000				
14	148,000				
15	138,000	79,500			
16	123,000	79,500			
17	112,000	79,000			
18	103,000	78,500			
20	86,500	76,000	56,900		
22	75,000	67,000	54,200		
24	64,500	59,300	51,100		
26	55,200	52,800	47,600		
28	48,200	47,800	43,600	36,100	32,800
30	42,100	43,200	39,800	32,800	32,000
32	37,400	39,400	36,600	30,000	29,300
34		36,200	33,900	27,600	27,000
36		33,400	31,500	25,600	25,000
38		30,600	29,200	23,500	23,000
40		28,000	27,000	21,500	21,100
45		22,600	22,600	17,500	17,100
50		18,700	19,100	14,400	14,400
55		15,500	16,200	11,800	11,500
60			13,700	9,600	9,400
65			11,700	7,900	7,700
70			10,100	6,400	6,200
75			8,700	5,100	4,900
80			7,400	3,900	3,700
85			6,200	2,900	2,700
90			5,200		
*	n	*	11	5	4
				2	2
%	1	0	0	0	92
	2	0	46	100	92
	3	0	46	100	92
ft/s	47	47	36	36	36

	T	--		28.9 x		
	138 ft			18.4 ft		



75 % DIN BS

WII + 4klbs  
2.75klbs + 4klbs  
WII + 35.3klbs

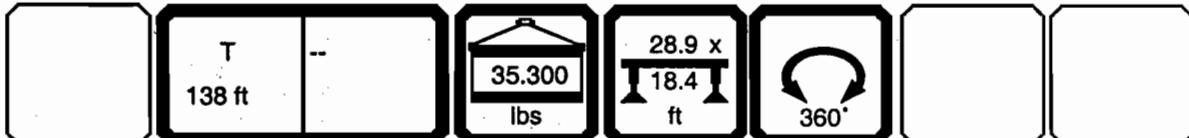


0016365

TAB 83099

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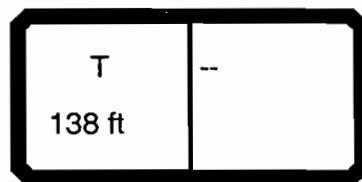
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	44	73	73	91	106	106	130	138	
10	190,000								
11	179,000								
12	169,000								
13	160,000								
14	152,000								
15	144,000	125,000	79,500						
16	137,000	115,000	79,500						
17	130,000	106,000	79,500						
18	123,000	98,500	79,500						
20	108,000	84,500	79,000	79,000	71,000	56,900			
22	94,000	73,500	75,500	70,000	65,000	54,200			
24	81,000	64,500	71,500	62,500	59,300	51,700			
26	70,000	57,300	66,500	55,700	53,200	49,200			
28	61,500	51,500	60,500	50,400	48,500	47,100	40,800	33,100	
30	53,800	46,200	55,100	45,600	44,100	45,000	40,400	33,100	
32	48,100	41,900	50,600	41,500	40,300	43,300	38,800	33,100	
34		38,000	46,500	38,000	37,000	41,200	36,500	32,200	
36		34,600	42,800	34,800	33,900	39,000	33,600	30,700	
38		31,100	39,100	31,500	30,800	36,800	30,800	29,200	
40		27,900	35,800	28,600	28,000	34,600	28,200	27,600	
45		21,900	29,000	23,100	22,800	28,800	23,000	22,500	
50		16,900	23,800	18,800	18,600	24,200	18,900	18,500	
55		12,900	19,700	15,200	15,100	20,500	15,500	15,200	
60				12,100	12,300	17,400	12,800	12,600	
65				9,600	10,000	15,100	10,600	10,400	
70				7,300	8,100	13,000	8,900	8,700	
75				5,500	6,300	11,300	7,400	7,200	
80					4,700	9,800	6,100	5,900	
85					3,400	8,300	4,900	4,700	
90						7,100	3,900	3,700	
95							3,000	2,900	
*	n*	11	7	5	5	4	4	3	2
<hr/>									
<hr/>									
		1	0	92	0	92	100	0	92
		2	0	0	46	30	50	100	92
		3	0	0	46	30	50	100	100
		ft/s	47	47	47	47	42	36	36





75 % DIN BS

WII + 4klbs  
2.75klbs + 4klbs  
WII + 35.3klbs

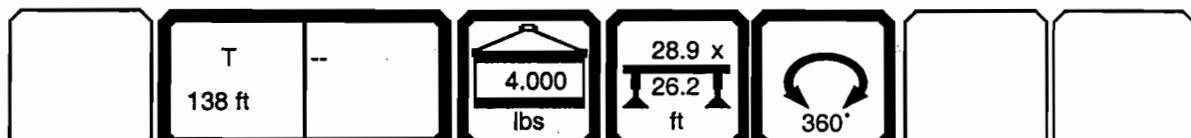


0016365

TAB 83099

01.00

ft	CODE >009< TL83 0000 .x(x)							
	44	73	73	91	106	106	130	138
10	190,000							
11	179,000							
12	169,000							
13	160,000							
14	152,000							
15	144,000	125,000	79,500					
16	137,000	115,000	79,500					
17	130,000	106,000	79,500					
18	123,000	98,500	79,500					
20	108,000	84,500	79,000	79,000	71,000	56,900		
22	94,000	73,500	75,500	70,000	65,000	54,200		
24	81,000	64,500	71,500	62,500	59,300	51,700		
26	70,000	57,300	66,500	55,700	53,200	49,200		
28	61,500	51,500	60,500	50,400	48,500	47,100	40,800	33,100
30	53,800	46,200	55,100	45,600	44,100	45,000	40,400	33,100
32	48,100	41,900	50,600	41,500	40,300	43,300	38,800	33,100
34		38,000	46,500	38,000	37,000	41,200	36,500	32,200
36		34,600	42,800	34,800	33,900	39,000	33,600	30,700
38		31,100	39,100	31,500	30,800	36,800	30,800	29,200
40		27,900	35,800	28,600	28,000	34,600	28,200	27,600
45		21,900	29,000	23,100	22,800	28,800	23,000	22,500
50		16,900	23,800	18,800	18,600	24,200	18,900	18,500
55		12,900	19,700	15,200	15,100	20,500	15,500	15,200
60				12,100	12,300	17,400	12,800	12,600
65				9,600	10,000	15,100	10,600	10,400
70				7,300	8,100	13,000	8,900	8,700
75				5,500	6,300	11,300	7,400	7,200
80					4,700	9,800	6,100	5,900
85					3,400	8,300	4,900	4,700
90						7,100	3,900	3,700
95							3,000	2,900
*	n*	11	7	5	5	4	4	3
								2
	1	0	92	0	92	100	0	92
	2	0	0	46	30	50	100	92
	3	0	0	46	30	50	100	100
	47	47	47	47	42	36	36	36
	ft/s							





75 % DIN BS

WII + 19.6klbs  
2.75klbs + 19.6klbs  
WII + 56.2klbs

T	--
138 ft	

0016365

TAB 83098

01.00

ft	ft > < lbs		CODE > 003 <				TL83 0000 .x(x)		
	44	73	73	91	106	106	130	138	
10	192,000								
11	182,000								
12	172,000								
13	162,000								
14	154,000								
15	146,000	140,000	79,500						
16	139,000	134,000	79,500						
17	133,000	128,000	79,500						
18	128,000	122,000	79,500						
20	117,000	108,000	79,000	89,000	71,500	56,900			
22	107,000	95,500	75,500	86,000	71,500	54,200			
24	97,500	84,500	72,000	80,500	70,500	51,700			
26	88,000	75,000	67,500	72,500	68,500	49,200			
28	78,500	68,000	65,500	66,000	63,500	47,100	43,000	35,300	
30	69,000	61,500	64,000	60,000	57,800	45,000	43,000	35,300	
32	62,000	56,200	61,000	55,100	53,200	43,300	43,000	35,300	
34		51,500	57,800	50,800	49,200	41,700	42,200	35,300	
36		47,400	53,800	46,900	45,500	40,300	41,000	35,300	
38		43,200	49,700	43,000	41,800	38,900	39,700	35,300	
40		39,300	45,900	39,500	38,400	37,500	38,000	34,700	
45		31,100	37,900	32,600	31,900	34,500	31,400	30,400	
50		24,900	31,600	26,900	26,500	31,100	26,400	25,900	
55		19,900	26,600	22,300	22,200	27,400	22,300	21,800	
60				18,600	18,600	23,700	18,900	18,500	
65				15,200	15,800	20,700	16,200	16,000	
70				12,600	13,400	18,200	14,000	13,700	
75				10,400	11,200	16,100	12,100	11,800	
80					9,300	14,100	10,400	10,200	
85					7,600	12,500	8,900	8,700	
90					6,200	11,100	7,700	7,500	
95							6,600	6,400	
100							5,600	5,500	
105							4,600	4,600	
110							3,800	3,800	
115							3,000	3,000	
* n *	11	8	5	5	4	4	3	2	
% 	1	0	92	0	92	100	0	92	100
	2	0	0	46	30	50	100	92	100
	3	0	0	46	30	50	100	92	100
 ft/s	47	47	47	47	42	36	36	36	

	T	--						
	138 ft							

56.200 lbs	28.9 x 18.4 ft	360°
------------	----------------	------



75% DIN BS

WII + 19.6klbs  
2.75klbs + 19.6klbs  
WII + 56.2klbs

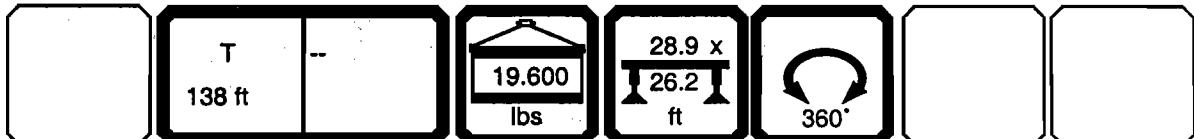
T	--
138 ft	

0016365

TAB 83098

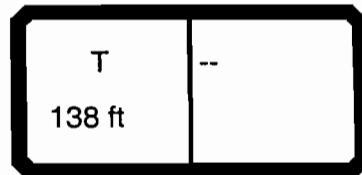
01.00

ft	CODE >007< TL83 0000 .x(x)							
	44	73	73	91	106	106	130	138
10	192,000							
11	182,000							
12	172,000							
13	162,000							
14	154,000							
15	146,000	140,000	79,500					
16	139,000	134,000	79,500					
17	133,000	128,000	79,500					
18	128,000	122,000	79,500					
20	117,000	108,000	79,000	89,000	71,500	56,900		
22	107,000	95,500	75,500	86,000	71,500	54,200		
24	97,500	84,500	72,000	80,500	70,500	51,700		
26	88,000	75,000	67,500	72,500	68,500	49,200		
28	78,500	68,000	65,500	66,000	63,500	47,100	43,000	35,300
30	69,000	61,500	64,000	60,000	57,800	45,000	43,000	35,300
32	62,000	56,200	61,000	55,100	53,200	43,300	43,000	35,300
34		51,500	57,800	50,800	49,200	41,700	42,200	35,300
36		47,400	53,800	46,900	45,500	40,300	41,000	35,300
38		43,200	49,700	43,000	41,800	38,900	39,700	35,300
40		39,300	45,900	39,500	38,400	37,500	38,000	34,700
45		31,100	37,900	32,600	31,900	34,500	31,400	30,400
50		24,900	31,600	26,900	26,500	31,100	26,400	25,900
55		19,900	26,600	22,300	22,200	27,400	22,300	21,800
60				18,600	18,600	23,700	18,900	18,500
65				15,200	15,800	20,700	16,200	16,000
70				12,600	13,400	18,200	14,000	13,700
75				10,400	11,200	16,100	12,100	11,800
80					9,300	14,100	10,400	10,200
85					7,600	12,500	8,900	8,700
90					6,200	11,100	7,700	7,500
95							6,600	6,400
100							5,600	5,500
105							4,600	4,600
110							3,800	3,800
115							3,000	3,000
*	n	*	11	8	5	5	4	4
							3	2
<hr/>								
<hr/>								
 1    0    92    0    92    100    0    92    100  2    0    0    46    30    50    100    92    100  3    0    0    46    30    50    100    92    100								
 47    47    47    47    42    36    36    36								



85 % PCSA

WII + 35.3klbs  
2.75klbs + 35.3klbs

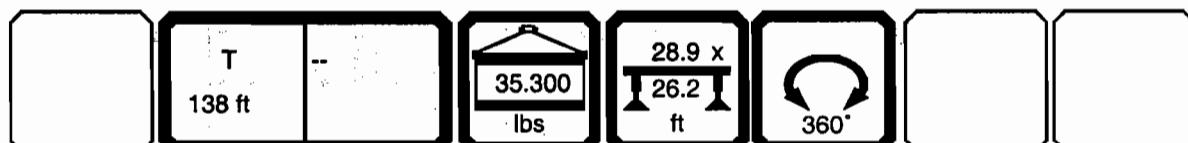


0016365

TAB 83112

01.00

	ft	44	73	73	91	106	106	130	138	
10		241,000								
11		229,000								
12		216,000								
13		202,000								
14		191,000								
15		180,000	153,000	87,000						
16		170,000	149,000	87,000						
17		161,000	145,000	87,000						
18		152,000	140,000	87,000						
20		137,000	130,000	86,500	97,500	79,500	62,500			
22		125,000	118,000	83,000	95,000	79,500	59,600			
24		114,000	108,000	79,000	91,500	78,000	56,800			
26		105,000	98,000	74,500	87,500	75,500	54,100			
28		97,000	90,500	72,000	84,500	73,000	51,800	50,900	46,100	
30		90,000	83,000	70,000	81,000	71,000	49,600	50,900	46,000	
32		83,000	75,500	67,000	73,500	68,500	47,600	50,600	45,600	
34			69,500	65,000	67,500	64,500	45,800	49,700	45,000	
36			63,500	62,500	62,500	60,000	44,300	48,300	44,300	
38			57,800	60,500	57,100	55,400	42,700	47,000	43,700	
40			52,600	58,200	52,500	51,200	41,200	45,600	42,900	
45			43,400	51,500	43,700	43,000	37,900	41,900	40,200	
50			36,500	44,400	37,100	36,500	35,100	36,700	35,700	
55			30,700	37,900	31,600	31,200	32,300	31,800	31,200	
60					27,100	26,900	26,900	27,600	27,100	
65					23,400	23,400	27,400	24,200	23,800	
70					20,400	20,400	25,600	21,500	21,000	
75					17,800	17,900	23,500	19,000	18,600	
80						15,600	21,100	16,700	16,500	
85						13,800	18,900	14,900	14,700	
90						12,100	17,000	13,200	13,000	
95								11,700	11,500	
100								10,500	10,200	
105									9,500	9,000
110									8,300	8,200
115									7,200	7,200
120										6,300
* n *		14	9	5	6	5	4	3	3	
1		0	92	0	92	100	0	92	100	
2		0	0	46	30	50	100	92	100	
%		3	0	0	46	30	50	100	92	100
0-10 ft/s		47	47	47	47	42	36	36	36	





85 % PCSA

WII + 56.2klbs  
2.75klbs + 56.2klbs

T	--
138 ft	

0016365

TAB 83111

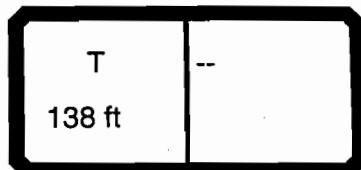
01.00

ft	CODE >001< TL83 0000 .x(x)							
	44	73	73	91	106	106	130	138
10	241,000							
11	230,000							
12	220,000							
13	211,000							
14	199,000							
15	187,000	153,000	87,000					
16	178,000	149,000	87,000					
17	169,000	146,000	87,000					
18	161,000	142,000	87,000					
20	146,000	135,000	86,500	97,500	79,500	62,500		
22	132,000	126,000	83,000	95,000	79,500	59,600		
24	120,000	116,000	79,000	91,500	78,000	56,800		
26	110,000	106,000	74,500	87,500	75,500	54,100		
28	103,000	97,500	72,000	85,500	73,000	51,800	50,900	46,100
30	95,500	90,000	70,000	83,000	71,000	49,600	50,900	46,000
32	88,500	83,000	67,000	80,500	68,500	47,600	50,600	45,600
34		77,500	65,000	77,000	66,000	45,800	49,700	45,000
36		73,000	62,500	73,000	64,000	44,300	48,300	44,300
38		68,500	60,500	69,000	61,500	42,700	47,000	43,700
40		64,000	58,600	65,000	59,600	41,200	45,600	42,900
45		54,800	54,700	55,600	54,500	37,900	42,100	40,200
50		47,500	50,900	48,200	47,700	35,100	39,100	37,400
55		40,900	46,500	41,900	41,300	32,300	36,400	34,600
60				36,400	36,000	29,600	33,700	32,000
65				32,100	31,800	27,400	31,400	29,800
70				28,100	28,200	25,600	28,700	27,900
75				24,800	25,200	24,200	26,000	25,600
80					22,500	22,900	23,300	23,000
85					20,000	21,900	21,100	20,900
90					17,800	21,200	19,100	18,800
95							17,200	17,000
100							15,600	15,500
105							14,100	14,100
110							12,900	12,800
115							11,800	11,500
120								10,400
*	n	*	14	9	5	6	5	4
*	n	*					3	3
	1	0	92	0	92	100	0	92
	2	0	0	46	30	50	100	92
	3	0	0	46	30	50	100	100
	ft/s	47	47	47	47	42	36	36



85 % PCSA

WII + 35.3klbs  
2.75klbs + 35.3klbs

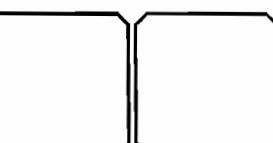
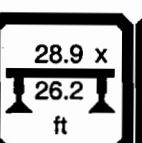
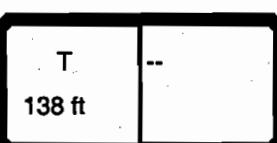
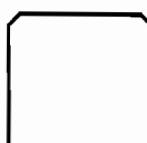


0016365

TAB 83112

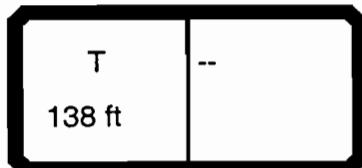
01.00

ft	44	73	73	91	106	106	130	138	
10	261,000								
11	241,000								
12	223,000								
13	207,000								
14	193,000								
15	180,000	153,000	87,000						
16	170,000	149,000	87,000						
17	161,000	145,000	87,000						
18	152,000	140,000	87,000						
20	137,000	130,000	86,500	97,500	79,500	62,500			
22	125,000	118,000	83,000	95,000	79,500	59,600			
24	114,000	108,000	79,000	91,500	78,000	56,800			
26	105,000	98,000	74,500	87,500	75,500	54,100			
28	97,000	90,500	72,000	84,500	73,000	51,800	50,900	46,100	
30	90,000	83,000	70,000	81,000	71,000	49,600	50,900	46,000	
32	84,000	75,500	67,000	73,500	68,500	47,600	50,600	45,600	
34		69,500	65,000	67,500	64,500	45,800	49,700	45,000	
36		63,500	62,500	62,500	60,000	44,300	48,300	44,300	
38		57,800	60,500	57,100	55,400	42,700	47,000	43,700	
40		52,600	58,200	52,500	51,200	41,200	45,600	42,900	
45		43,400	51,500	43,700	43,000	37,900	41,900	40,200	
50		36,500	44,400	37,100	36,500	35,100	36,700	35,700	
55		30,700	37,900	31,600	31,200	32,300	31,800	31,200	
60				27,100	26,900	26,900	27,600	27,100	
65				23,400	23,400	27,400	24,200	23,800	
70				20,400	20,400	25,600	21,500	21,000	
75				17,800	17,900	23,500	19,000	18,600	
80					15,600	21,100	16,700	16,500	
85					13,800	18,900	14,900	14,700	
90					12,100	17,000	13,200	13,000	
95							11,700	11,500	
100							10,500	10,200	
105							9,500	9,000	
110							8,300	8,200	
115							7,200	7,200	
120								6,300	
* n *	16	9	5	6	5	4	3	3	
%	1	0	92	0	92	100	0	92	100
	2	0	0	46	30	50	100	92	100
	3	0	0	46	30	50	100	92	100
O-10 ft/s	47	47	47	47	42	36	36	36	





85 % PCSA

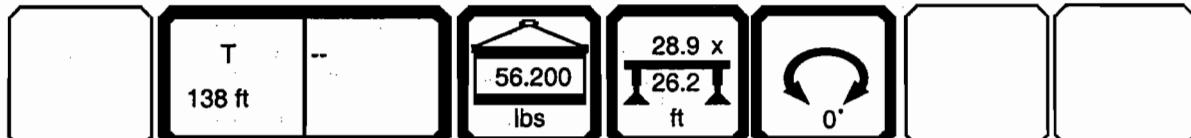
WII + 56.2klbs  
2.75klbs + 56.2klbs

0016365

TAB 83111

01.00

ft	CODE >002< TL83 0000 .x(x)							
	44	73	73	91	106	106	130	138
10	283,000							
11	257,000							
12	236,000							
13	218,000							
14	204,000							
15	191,000	153,000	87,000					
16	181,000	149,000	87,000					
17	171,000	146,000	87,000					
18	162,000	142,000	87,000					
20	146,000	135,000	86,500	97,500	79,500	62,500		
22	132,000	126,000	83,000	95,000	79,500	59,600		
24	120,000	116,000	79,000	91,500	78,000	56,800		
26	110,000	106,000	74,500	87,500	75,500	54,100		
28	103,000	97,500	72,000	85,500	73,000	51,800	50,900	46,100
30	95,500	90,000	70,000	83,000	71,000	49,600	50,900	46,000
32	88,500	83,000	67,000	80,500	68,500	47,600	50,600	45,600
34		77,500	65,000	77,000	66,000	45,800	49,700	45,000
36		73,000	62,500	73,000	64,000	44,300	48,300	44,300
38		68,500	60,500	69,000	61,500	42,700	47,000	43,700
40		64,000	58,600	65,000	59,600	41,200	45,600	42,900
45		54,800	54,700	55,600	54,500	37,900	42,100	40,200
50		47,500	50,900	48,200	47,700	35,100	39,100	37,400
55		40,900	46,500	41,900	41,300	32,300	36,400	34,600
60			36,400	36,000	29,600	33,700		32,000
65				32,100	31,800	27,400	31,400	29,800
70				28,100	28,200	25,600	28,700	27,900
75				24,800	25,200	24,200	26,000	25,600
80					22,500	22,900	23,300	23,000
85					20,000	21,900	21,100	20,900
90					17,800	21,200	19,100	18,800
95							17,200	17,000
100							15,600	15,500
105							14,100	14,100
110							12,900	12,800
115							11,800	11,500
120								10,400
* n *	17	9	5	6	5	4	3	3
	1	0	92	0	92	100	0	92
	2	0	0	46	30	50	100	92
	3	0	0	46	30	50	100	100
		47	47	47	47	42	36	36





66 % NEN  
75 % DIN BS

WII + 4klbs  
2.75klbs + 4klbs  
WII + 35.3klbs

T 138 ft	K 0° 39 ft
-------------	---------------

0016365

TAB 83055

01.00

ft	ft > < lbs			CODE > 014 <			TL83 0010 .x(x)		
	111	130	138						
30	26,500								
32	26,500								
34	26,500	19,400	15,900						
36	26,500	19,400	15,900						
38	26,500	19,400	15,900						
40	26,000	19,400	15,900						
45	21,900	19,400	15,900						
50	18,300	17,100	14,900						
55	15,300	14,500	13,200						
60	12,900	12,200	11,100						
65	10,800	10,200	9,300						
70	9,100	8,600	7,900						
75	7,600	7,300	6,600						
80	6,400	6,100	5,500						
85	5,400	4,900	4,500						
90	4,300	4,100	3,600						
95	3,600	3,200	2,900						
100	2,900								
*	n*	2	2	1					
 %	1	92	92	100					
	2	61	92	100					
	3	61	92	100					
 ft/s		90	90	90					

	T 138 ft	K 0° 39 ft	35.300 lbs	28.9 x 18.4 ft	360°		
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66 % NEN  
75 % DIN BS

WII + 4klbs  
2.75klbs + 4klbs  
WII + 35.3klbs

T 138 ft	K 0° 39 ft
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0016365

TAB 83055

01.00

ft	ft > < lbs			CODE > 017 <		TL83 0010 .x(x)		
	111	130	138					
30	26,500							
32	26,500							
34	26,500	19,400	15,900					
36	26,500	19,400	15,900					
38	26,500	19,400	15,900					
40	26,000	19,400	15,900					
45	21,900	19,400	15,900					
50	18,300	17,100	14,900					
55	15,300	14,500	13,200					
60	12,900	12,200	11,100					
65	10,800	10,200	9,300					
70	9,100	8,600	7,900					
75	7,600	7,300	6,600					
80	6,400	6,100	5,500					
85	5,400	4,900	4,500					
90	4,300	4,100	3,600					
95	3,600	3,200	2,900					
100	2,900							
*	n	*						
		2	2	1				
%	1	92	92	100				
	2	61	92	100				
	3	61	92	100				
ft/s	90	90	90					





66 % NEN  
75 % DIN BS

WII + 19.6klbs  
2.75klbs + 19.6klbs  
WII + 56.2klbs

T 138 ft	K 0° 39 ft
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0016365

TAB 83054

01.00

ft	ft > < lbs			CODE >012<			TL83 0010 .x(x)		
	111	130	138						
30	27,600								
32	27,600								
34	27,600	20,500	17,000						
36	27,600	20,500	17,000						
38	27,600	20,500	17,000						
40	27,300	20,500	17,000						
45	25,300	20,500	17,000						
50	23,300	20,400	17,000						
55	21,000	19,400	16,700						
60	18,500	17,600	16,000						
65	16,000	15,300	14,100						
70	13,900	13,400	12,400						
75	12,200	11,600	10,800						
80	10,600	10,100	9,400						
85	9,100	8,900	8,200						
90	8,100	7,700	7,100						
95	7,100	6,600	6,100						
100	6,100	5,700	5,300						
105	5,300	5,100	4,400						
110	4,500	4,200	3,700						
115	3,800	3,600	3,200						
120	3,300	3,100	2,700						
*	n	*	2	2	1				
<hr/>									
		1	92	92	100				
		2	61	92	100				
		3	61	92	100				
		ft/s	90	90	90				

	T 138 ft	K 0° 39 ft					
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66 % NEN  
75 % DIN BS

WII + 19.6klbs  
2.75klbs + 19.6klbs  
WII + 56.2klbs

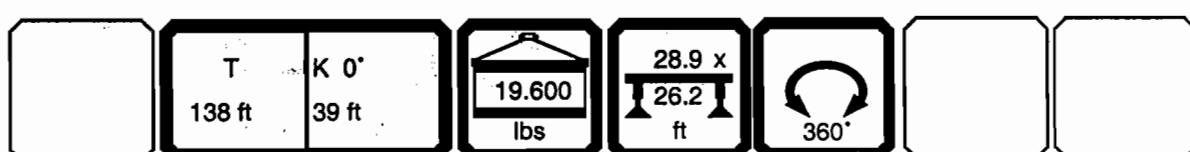
T 138 ft	K 0° 39 ft
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0016365

TAB 83054

01.00

ft	ft > < lbs			CODE >015<			TL83 0010 .x(x)		
	111	130	138						
30	27,600								
32	27,600								
34	27,600	20,500	17,000						
36	27,600	20,500	17,000						
38	27,600	20,500	17,000						
40	27,300	20,500	17,000						
45	25,300	20,500	17,000						
50	23,300	20,400	17,000						
55	21,000	19,400	16,700						
60	18,500	17,600	16,000						
65	16,000	15,300	14,100						
70	13,900	13,400	12,400						
75	12,200	11,600	10,800						
80	10,600	10,100	9,400						
85	9,100	8,900	8,200						
90	8,100	7,700	7,100						
95	7,100	6,600	6,100						
100	6,100	5,700	5,300						
105	5,300	5,100	4,400						
110	4,500	4,200	3,700						
115	3,800	3,600	3,200						
120	3,300	3,100	2,700						
*	n	*	2	2	1				
%	1	92	92	100					
	2	61	92	100					
	3	61	92	100					
ft/s	90	90	90						





85 % PCSA

WII + 35.3klbs  
2.75klbs + 35.3klbs

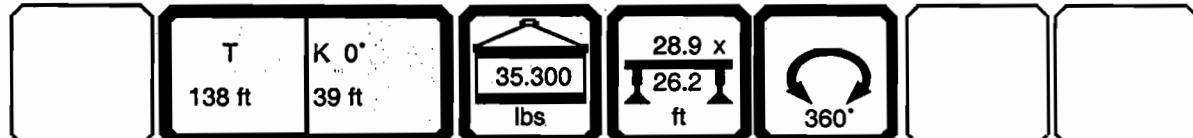
T 138 ft	K 0° 39 ft
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0016365

TAB 83078

01.00

ft	ft > < lbs			CODE >013<			TL83 0010 .x(x)		
	111	130	138						
30	31,900								
32	31,500								
34	31,200	23,700	19,800						
36	30,900	23,600	19,700						
38	30,600	23,500	19,700						
40	30,100	23,300	19,600						
45	27,800	22,800	19,400						
50	25,600	22,400	19,100						
55	23,600	22,100	18,500						
60	22,000	21,600	17,700						
65	20,500	20,200	17,100						
70	19,100	19,000	16,400						
75	18,000	17,900	15,500						
80	16,900	16,600	14,600						
85	15,500	15,100	13,900						
90	13,900	13,600	12,900						
95	12,400	12,200	11,800						
100	11,100	10,900	10,700						
105	9,900	9,700	9,500						
110	8,900	8,700	8,500						
115	8,000	7,800	7,600						
120	7,200	7,000	6,700						
125	6,400	6,300	5,900						
130	5,700	5,500	5,200						
135	5,000	4,900	4,600						
140		4,400	4,000						
145		3,900	3,500						
150		3,400	3,000						
155		2,900	2,600						
*	n	*	2	2	2				
%									
1	92	92	100						
2	61	92	100						
3	61	92	100						
ft/s	90	90	90						





85 % PCSA

WII + 56.2klbs  
2.75klbs + 56.2klbs

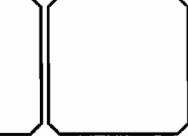
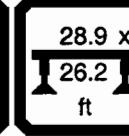
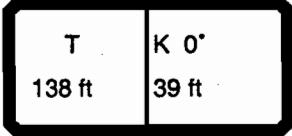
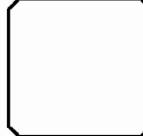
T 138 ft	K 0° 39 ft
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0016365

TAB 83072

01.00

ft	ft > < lbs			CODE >011<			TL83 0010 .x(x)		
	111	130	138						
30	31,900								
32	31,500								
34	31,200	23,700	19,800						
36	30,900	23,600	19,700						
38	30,600	23,500	19,700						
40	30,100	23,300	19,600						
45	27,800	22,800	19,400						
50	25,600	22,400	19,100						
55	23,600	22,100	18,500						
60	22,000	21,600	17,700						
65	20,500	20,200	17,100						
70	19,100	19,000	16,400						
75	18,000	17,900	15,500						
80	16,900	16,800	14,600						
85	15,900	15,900	13,900						
90	15,100	15,100	13,100						
95	14,400	14,400	12,500						
100	13,700	13,700	12,000						
105	13,000	13,000	11,500						
110	12,500	12,500	10,800						
115	12,000	11,900	10,400						
120	11,300	11,100	10,000						
125	10,300	10,100	9,700						
130	9,500	9,300	8,800						
135	8,800	8,400	8,100						
140		7,600	7,400						
145		7,000	6,800						
150		6,500	6,100						
155		6,000	5,500						
*	n	*	2	2	2				
 1      92      92      100 2      61      92      100 3      61      92      100									
 90      90      90									



66 % NEN  
75 % DIN BS

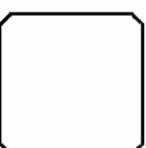
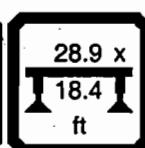
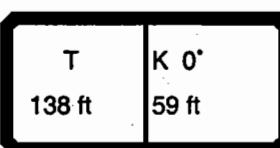
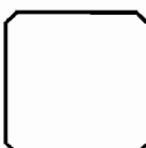
$$\begin{aligned}WII + 4\text{klbs} \\2.75\text{klbs} + 4\text{klbs} \\WII + 35.3\text{klbs}\end{aligned}$$

T 138 ft	K 0° 59 ft
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0016365

TAB 83055

01.00



66 % NEN  
75 % DIN BS

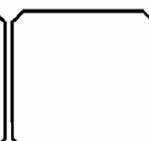
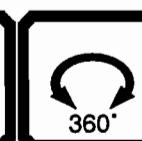
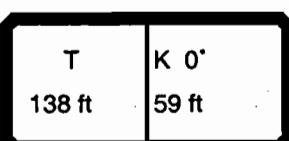
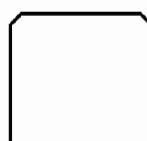
WII + 4klbs  
2.75klbs + 4klbs  
WII + 35.3klbs

T	K 0°
138 ft	59 ft

0016365

TAB 83055

01.00



66 % NEN  
75 % DIN BSWII + 19.6klbs  
2.75klbs + 19.6klbs  
WII + 56.2klbs

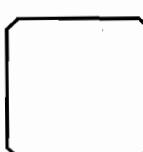
T 138 ft	K 0° 59 ft
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0016365

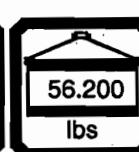
TAB 83054

01.00

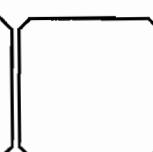
 ft	ft > < lbs		CODE > 022 <		TL83 0020 .x(x)	
	130	138				
40	12,800					
45	12,800					
50	12,800	11,700				
55	12,800	11,700				
60	12,800	11,700				
65	12,800	11,700				
70	12,300	11,400				
75	11,400	10,700				
80	10,000	9,600				
85	8,700	8,500				
90	7,700	7,400				
95	6,800	6,400				
100	5,900	5,500				
105	5,100	4,900				
110	4,400	4,200				
115	3,800	3,500				
120	3,300	2,900				
125	2,800					
130	2,300					
*	n	*	1	1		
 %	1	92	100			
	2	92	100			
	3	92	100			
 ft/s	90	90				



T 138 ft	K 0° 59 ft
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56.200 lbs	28.9 x 18.4 ft
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66 % NEN  
75 % DIN BS

WII + 19.6klbs  
2.75klbs + 19.6klbs  
WII + 56.2klbs

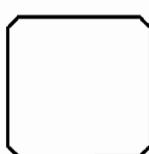
T	K 0°
138 ft	59 ft

0016365

TAB 83054

01.00

 ft ft><lbs	CODE >025<		TL83 0020 .x(x)						
	130	138							
40	12,800								
45	12,800								
50	12,800	11,700							
55	12,800	11,700							
60	12,800	11,700							
65	12,800	11,700							
70	12,300	11,400							
75	11,400	10,700							
80	10,000	9,600							
85	8,700	8,500							
90	7,700	7,400							
95	6,800	6,400							
100	5,900	5,500							
105	5,100	4,900							
110	4,400	4,200							
115	3,800	3,500							
120	3,300	2,900							
125	2,800								
130	2,300								
*	n	*	1	1					
 %									
1	92	100							
2	92	100							
3	92	100							
 ft/s									
	90	90							

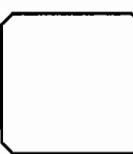
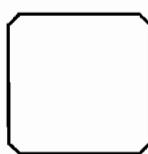


T	K 0°
138 ft	59 ft

19.600
lbs

28.9 x
26.2 ft

360°





85 % PCSA

WII + 35.3klbs  
2.75klbs + 35.3klbs

T 138 ft	K 0° 59 ft
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0016365

TAB 83078

01.00

ft	ft > < lbs		CODE >023<		TL83 0020 .x(x)			
	130	138						
40	15,000							
45	14,800							
50	14,600	13,900						
55	14,500	13,800						
60	14,300	13,600						
65	14,100	13,100						
70	14,000	12,600						
75	13,700	12,100						
80	13,200	11,600						
85	12,400	11,100						
90	11,900	10,600						
95	11,500	10,200						
100	11,000	9,800						
105	10,100	9,300						
110	9,300	8,800						
115	8,300	8,000						
120	7,500	7,200						
125	6,800	6,400						
130	6,100	5,700						
135	5,500	5,100						
140	4,900	4,600						
145	4,300	4,100						
150	3,800	3,600						
155	3,300	3,100						
160	2,900	2,600						



85 % PCSA

WII + 56.2klbs  
2.75klbs + 56.2klbs

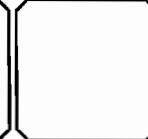
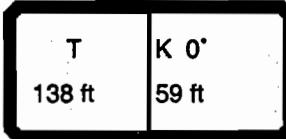
T 138 ft	K 0° 59 ft
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0016365

TAB 83072

01.00

ft	ft > < lbs		CODE >021<		TL83 0020 .x(x)	
	130	138				
40	15,000					
45	14,800					
50	14,600	13,900				
55	14,500	13,800				
60	14,300	13,600				
65	14,100	13,100				
70	14,000	12,600				
75	13,700	12,100				
80	13,200	11,600				
85	12,400	11,100				
90	11,900	10,600				
95	11,500	10,200				
100	11,100	9,800				
105	10,600	9,300				
110	10,300	8,900				
115	9,900	8,500				
120	9,600	8,100				
125	9,200	7,900				
130	8,900	7,600				
135	8,400	7,400				
140	7,900	7,100				
145	7,400	6,800				
150	6,900	6,500				
155	6,300	6,000				
160	5,700	5,500				
165		5,000				
170		4,500				
*	n	*	1	1		
%						
1	92	100				
2	92	100				
3	92	100				
ft/s	90	90				



66 % NEN  
75 % DIN BS

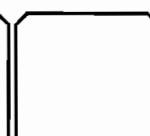
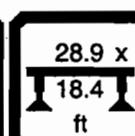
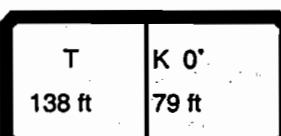
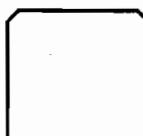
WII + 4klbs  
2.75klbs + 4klbs  
WII + 35.3klbs

T 138 ft	K 0° 79 ft
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0016365

TAB 83055

01.00



66 % NEN  
75 % DIN BS

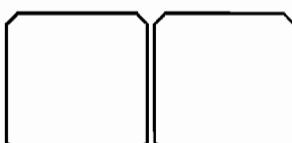
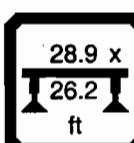
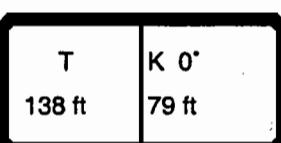
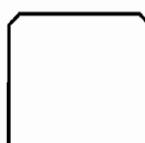
WII + 4klbs  
2.75klbs + 4klbs  
WII + 35.3klbs

T	K 0°
138 ft	79 ft

0016365

TAB 83055

01.00





66 % NEN  
75 % DIN BS

WII + 19.6klbs  
2.75klbs + 19.6klbs  
WII + 56.2klbs

T 138 ft	K 0° 79 ft
-------------	---------------

0016365

TAB 83054

01.00

ft	ft > < lbs		CODE > 032 <		TL83 0030 .x(x)			
	130	138						
50	9,300	8,800						
55	9,300	8,800						
60	9,300	8,800						
65	9,300	8,800						
70	9,300	8,800						
75	9,200	8,800						
80	9,000	8,700						
85	8,600	8,200						
90	7,700	7,400						
95	6,800	6,500						
100	6,000	5,700						
105	5,300	4,900						
110	4,600	4,200						
115	4,000	3,600						
120	3,300	3,100						
125	2,800							
130	2,500							
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66 % NEN  
75 % DIN BS

WII + 19.6klbs  
2.75klbs + 19.6klbs  
WII + 56.2klbs

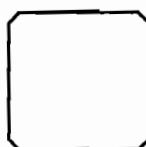
T 138 ft	K 0° 79 ft
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0016365

TAB 83054

01.00

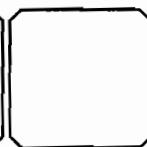
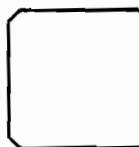
ft	ft > < lbs		CODE > 035 <		TL83 0030 .x(x)	
	130	138				
50	9,300	8,800				
55	9,300	8,800				
60	9,300	8,800				
65	9,300	8,800				
70	9,300	8,800				
75	9,200	8,800				
80	9,000	8,700				
85	8,600	8,200				
90	7,700	7,400				
95	6,800	6,500				
100	6,000	5,700				
105	5,300	4,900				
110	4,600	4,200				
115	4,000	3,600				
120	3,300	3,100				
125	2,800					
130	2,500					
*	n	*	1	1		
%	1	92	100			
	2	92	100			
	3	92	100			
ft/s	90	90				



T 138 ft	K 0° 79 ft
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19.600 lbs
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28.9 x 26.2 ft
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85 % PCSA

WII + 35.3klbs  
2.75klbs + 35.3klbs

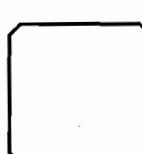
T	K 0°
138 ft	79 ft

0016365

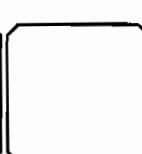
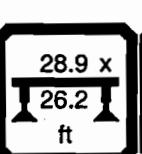
TAB 83078

01.00

ft	ft > < lbs		CODE >033<		TL83 0030 .x(x)	
	130	138				
50	11,000	10,200				
55	11,000	10,100				
60	11,000	9,900				
65	10,600	9,900				
70	10,300	9,800				
75	10,100	9,700				
80	9,800	9,600				
85	9,500	9,300				
90	9,300	8,900				
95	9,200	8,500				
100	8,900	8,100				
105	8,600	7,700				
110	8,300	7,400				
115	8,000	7,200				
120	7,700	6,900				
125	7,000	6,600				
130	6,300	5,900				
135	5,700	5,400				
140	5,100	4,900				
145	4,600	4,300				
150	4,100	3,800				
155	3,600	3,300				
160	3,100	2,800				
165	2,800					
170	2,500					
*	n	*	1	1		
%	1	92	100			
	2	92	100			
	3	92	100			
ft/s	90	90				



T	K 0°
138 ft	79 ft



85 % PCSA

WII + 56.2klbs  
2.75klbs + 56.2klbs

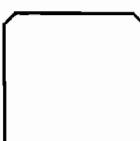
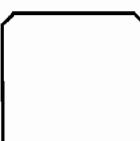
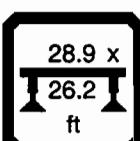
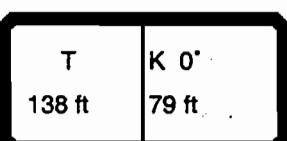
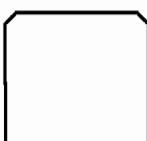
T	K 0°
138 ft	79 ft

0016365

TAB 83072

01.00

		ft > < lbs	CODE >031<	TL83 0030 .x(x)
ft	130	138		
50	11,000	10,200		
55	11,000	10,100		
60	11,000	9,900		
65	10,600	9,900		
70	10,300	9,800		
75	10,100	9,700		
80	9,800	9,600		
85	9,500	9,300		
90	9,300	8,900		
95	9,200	8,500		
100	8,900	8,100		
105	8,600	7,700		
110	8,300	7,400		
115	8,000	7,200		
120	7,900	6,900		
125	7,700	6,600		
130	7,500	6,400		
135	7,200	6,300		
140	7,000	6,000		
145	6,800	5,500		
150	6,600	5,300		
155	6,300	5,200		
160	5,900	5,000		
165	5,500	4,800		
170	5,100	4,700		
175	4,600	4,300		
180		3,900		
*	n	*	1	1
	1	92	100	
	2	92	100	
%	3	92	100	
	ft/s	90	90	





66 % NEN  
75 % DIN BS

WII + 4klbs  
2.75klbs + 4klbs  
WII + 35.3klbs

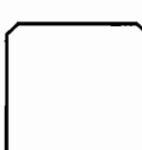
T 138 ft	K 20° 39 ft
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0016365

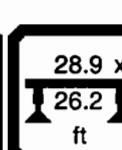
TAB 83140

01.00

ft	ft > < lbs			CODE >047<			TL83 0040 .x(x)		
	111	130	138						
30	18,000								
32	17,400								
34	17,000	15,700	13,300						
36	16,700	15,300	13,000						
38	16,300	15,000	12,800						
40	16,000	14,700	12,500						
45	15,200	14,000	12,000						
50	14,400	13,500	11,500						
55	13,900	12,900	11,000						
60	13,300	12,300	10,500						
65	12,300	11,800	10,200						
70	10,700	10,200	9,100						
75	9,100	8,600	7,800						
80	7,600	7,200	6,600						
85	6,500	6,000	5,600						
90	5,300	5,000	4,600						
95	4,300	4,100	3,700						
100	3,500	3,300	2,900						
*	n	*	1	1	1				
%	1	92	92	100					
	2	61	92	100					
	3	61	92	100					
ft/s	90	90	90						



T 138 ft	K 20° 39 ft
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66 % NEN  
75 % DIN BSWII + 19.6klbs  
2.75klbs + 19.6klbs  
WII + 56.2klbs

T 138 ft	K 20° 39 ft
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0016365

TAB 83139

01.00

ft	ft > < lbs			CODE >042<			TL83 0040 .x(x)		
	111	130	138						
30	18,000								
32	17,400								
34	17,000	15,700	13,300						
36	16,700	15,300	13,000						
38	16,300	15,000	12,800						
40	16,000	14,700	12,500						
45	15,200	14,000	12,000						
50	14,400	13,500	11,500						
55	13,900	12,900	11,000						
60	13,300	12,300	10,500						
65	12,700	12,000	10,200						
70	12,300	11,600	9,900						
75	11,800	11,300	9,500						
80	11,200	10,800	9,200						
85	10,200	10,000	8,800						
90	9,000	8,800	8,000						
95	7,900	7,600	7,100						
100	6,800	6,600	6,100						
105	6,000	5,700	5,300						
110	5,100	4,900	4,600						
115	4,400	4,200	4,000						
120		3,600	3,300						
*	n	*	1	1	1				
%	1	92	92	100					
	2	61	92	100					
	3	61	92	100					
ft/s	90	90	90						

	T 138 ft	K 20° 39 ft	56.200 lbs	28.9 x 18.4 ft	360°		
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66 % NEN  
75 % DIN BS

WII + 19.6klbs  
2.75klbs + 19.6klbs  
WII + 56.2klbs

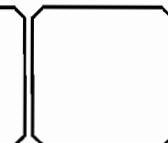
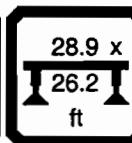
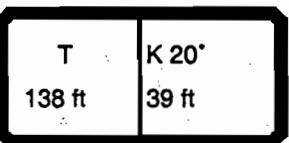
T 138 ft	K 20° 39 ft
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0016365

TAB 83139

01.00

		ft > < lbs	CODE >045<	TL83 0040 .x(x)							
	ft	111	130	138							
30		18,000									
32		17,400									
34		17,000	15,700	13,300							
36		16,700	15,300	13,000							
38		16,300	15,000	12,800							
40		16,000	14,700	12,500							
45		15,200	14,000	12,000							
50		14,400	13,500	11,500							
55		13,900	12,900	11,000							
60		13,300	12,300	10,500							
65		12,700	12,000	10,200							
70		12,300	11,600	9,900							
75		11,800	11,300	9,500							
80		11,200	10,800	9,200							
85		10,200	10,000	8,800							
90		9,000	8,800	8,000							
95		7,900	7,600	7,100							
100		6,800	6,600	6,100							
105		6,000	5,700	5,300							
110		5,100	4,900	4,600							
115		4,400	4,200	4,000							
120			3,600	3,300							
*	n	*	1	1	1						
	1	92	92	100							
	2	61	92	100							
%	3	61	92	100							
	ft/s	90	90	90							





85 % PCSA

WII + .35.3klbs  
2.75klbs + 35.3klbs

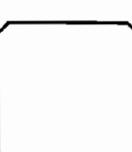
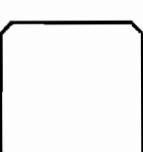
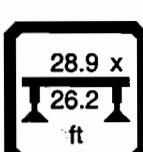
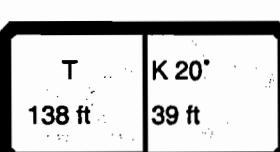
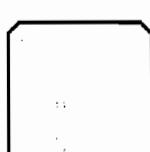
T 138 ft	K 20° 39 ft
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0016365

TAB 83143

01.00

ft	ft > < lbs			CODE >043<			TL83 0040 .x(x)		
	111	130	138						
30	19,700								
32	19,200								
34	18,700	17,200	14,600						
36	18,300	16,900	14,300						
38	17,900	16,500	14,100						
40	17,500	16,200	13,800						
45	16,700	15,400	13,100						
50	15,900	14,800	12,600						
55	15,200	14,200	12,100						
60	14,600	13,600	11,600						
65	14,000	13,100	11,300						
70	13,500	12,700	10,800						
75	12,900	12,400	10,400						
80	12,500	12,000	10,100						
85	12,200	11,700	9,700						
90	12,000	11,400	9,500						
95	11,800	10,900	9,400						
100	11,500	10,500	9,200						
105	10,800	10,400	9,000						
110	9,600	9,500	8,900						
115	8,600	8,600	8,200						
120		7,600	7,400						
125			6,600						
130			5,900						
135			5,200						
140			4,600						
*	n	*	2	1	1				
	1	92	92	100					
	2	61	92	100					
	3	61	92	100					
	ft/s	90	90	90					





85 % PCSA

WII + 56.2klbs  
2.75klbs + 56.2klbs

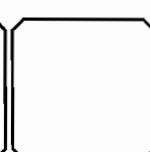
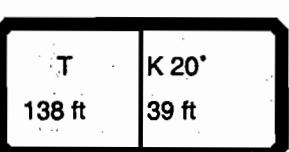
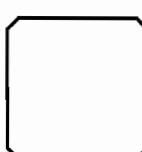
T 138 ft	K 20° 39 ft
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0016365

TAB 83142

01.00

ft	ft > < lbs			CODE > 041 <			TL83 0040 .x(x)		
	111	130	138						
30	19,700								
32	19,200								
34	18,700	17,200	14,600						
36	18,300	16,900	14,300						
38	17,900	16,500	14,100						
40	17,500	16,200	13,800						
45	16,700	15,400	13,100						
50	15,900	14,800	12,600						
55	15,200	14,200	12,100						
60	14,600	13,600	11,600						
65	14,000	13,100	11,300						
70	13,500	12,700	10,800						
75	12,900	12,400	10,400						
80	12,500	12,000	10,100						
85	12,200	11,700	9,700						
90	12,000	11,400	9,500						
95	11,800	10,900	9,400						
100	11,600	10,500	9,200						
105	11,500	10,400	9,000						
110	11,300	10,000	8,900						
115	11,100	9,800	8,700						
120		9,600	8,500						
125			8,400						
130			8,000						
135			7,800						
140			7,600						
*	n	*	2	1	1				
%	1	92	92	100					
	2	61	92	100					
	3	61	92	100					
ft/s	90	90	90						





66 % NEN  
75 % DIN BS

WII + 4klbs  
2.75klbs + 4klbs  
WII + 35.3klbs

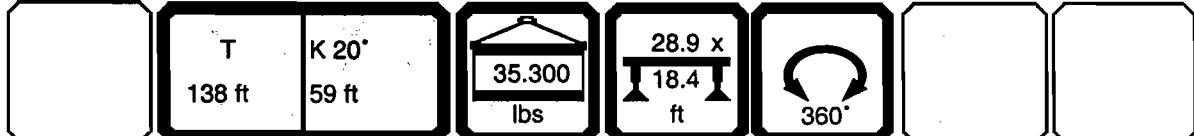
T 138 ft	K 20° 59 ft
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0016365

TAB 83140

01.00

ft	ft>< lbs		CODE >054<		TL83 0050 .x(x)					
	130	138								
40	11,400									
45	10,900									
50	10,500	9,200								
55	10,200	8,800								
60	9,900	8,400								
65	9,500	8,200								
70	9,300	7,900								
75	8,800	7,600								
80	7,900	7,300								
85	6,900	6,400								
90	5,900	5,500								
95	5,000	4,500								
100	4,200	3,800								
105	3,500	3,100								
110	2,900	2,600								
*	n	*	1	1						
%										
1 92 100										
2 92 100										
3 92 100										
ft/s 90 90										





66 % NEN  
75 % DIN BS

WII + 4klbs  
2.75klbs + 4klbs  
WII + 35.3klbs

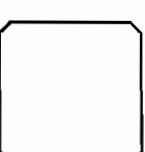
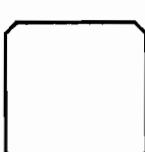
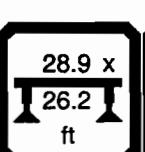
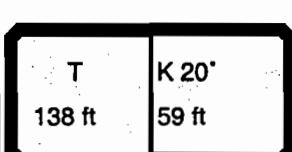
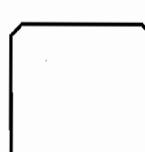
T 138 ft	K 20° 59 ft
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0016365

TAB 83140

01.00

ft	CODE >057<		TL83 0050 .x(x)						
	130	138							
40	11,400								
45	10,900								
50	10,500	9,200							
55	10,200	8,800							
60	9,900	8,400							
65	9,500	8,200							
70	9,300	7,900							
75	8,800	7,600							
80	7,900	7,300							
85	6,900	6,400							
90	5,900	5,500							
95	5,000	4,500							
100	4,200	3,800							
105	3,500	3,100							
110	2,900	2,600							
*	n	*	1	1					
%	1	92	100						
	2	92	100						
	3	92	100						
ft/s	90	90							



66 % NEN  
75 % DIN BS

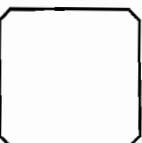
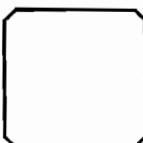
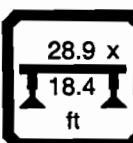
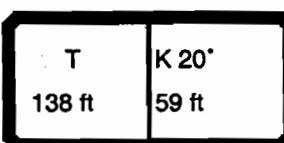
WII + 19.6klbs  
2.75klbs + 19.6klbs  
WII + 56.2klbs

T 138 ft	K 20° 59 ft
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0016365

TAB 83139

01.00





66 % NEN  
75 % DIN BS

WII + 19.6klbs  
2.75klbs + 19.6klbs  
WII + 56.2klbs

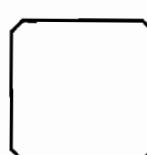
T 138 ft	K 20° 59 ft
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0016365

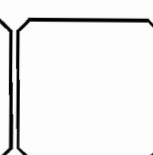
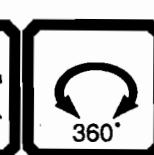
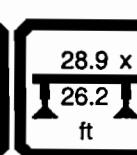
TAB 83139

01.00

ft	ft > < lbs		CODE > 055 <		TL83 0050 .x(x)	
	130	138				
40	11,400					
45	10,900					
50	10,500	9,200				
55	10,200	8,800				
60	9,900	8,400				
65	9,500	8,200				
70	9,300	7,900				
75	9,100	7,600				
80	8,700	7,400				
85	8,400	7,100				
90	8,200	6,900				
95	7,800	6,700				
100	7,200	6,500				
105	6,400	6,200				
110	5,600	5,300				
115	4,800	4,600				
120	4,200	4,000				
125	3,700	3,500				
130	3,200	2,800				
135	2,700	2,400				
*	n	*	1	1		
%		1	92	100		
%		2	92	100		
%		3	92	100		
ft/s		90	90			



T 138 ft	K 20° 59 ft
-------------	----------------



T  
138 ft

K 20°

19.600  
lbs

28.9 x  
26.2  
ft

360°



85 % PCSA

WII + 35.3klbs  
2.75klbs + 35.3klbs

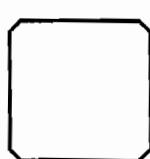
T	K 20°
138 ft	59 ft

0016365

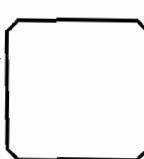
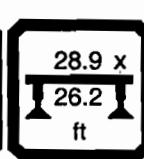
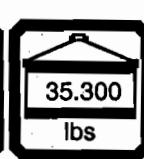
TAB 83143

01.00

ft	ft > < lbs		CODE > 053 <		TL83 0050 .x(x)	
	130	138				
40	12,500					
45	12,000					
50	11,600	10,100				
55	11,200	9,700				
60	10,700	9,200				
65	10,400	9,100				
70	10,200	8,700				
75	10,000	8,400				
80	9,600	8,100				
85	9,300	7,700				
90	9,100	7,600				
95	8,800	7,400				
100	8,500	7,200				
105	8,200	7,100				
110	8,000	6,900				
115	7,800	6,700				
120	7,700	6,600				
125	7,500	6,400				
130	7,000	6,200				
135	6,300	5,900				
140	5,700	5,400				
145	5,000	4,800				
150	4,500	4,300				
155	3,900	3,800				
160		3,300				
*	n	*	1	1		
 %	1	92	100			
	2	92	100			
	3	92	100			
 ft/s	90	90				



T 138 ft	K 20° 59 ft
-------------	----------------



85 % PCSA

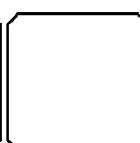
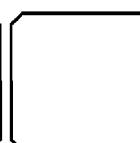
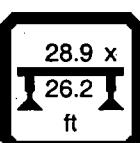
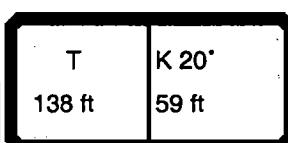
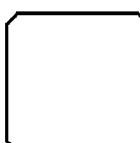
WII + 56.2klbs  
2.75klbs + 56.2klbs

T	K 20°
138 ft	59 ft

0016365

TAB 83142

01.00



66 % NEN  
75 % DIN BS

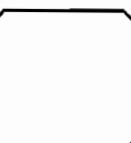
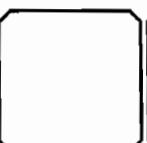
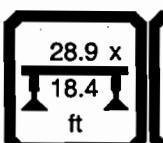
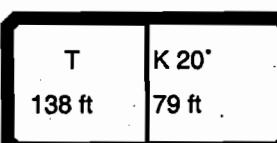
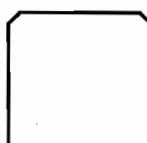
WII + 4klbs  
2.75klbs + 4klbs  
WII + 35.3klbs

T 138 ft	K 20° 79 ft
-------------	----------------

0016365

TAB 83140

01.00





66 % NEN  
75 % DIN BS

WII + 4klbs  
2.75klbs + 4klbs  
WII + 35.3klbs

T 138 ft	K 20° 79 ft
-------------	----------------

0016365

TAB 83140

01.00

ft	ft > < lbs		CODE >067<								TL83 0060 .x(x)	
	130	138										
55	8,100	7,300										
60	7,900	7,000										
65	7,700	6,700										
70	7,600	6,500										
75	7,400	6,300										
80	7,200	6,100										
85	7,100	5,800										
90	6,400	5,600										
95	5,700	5,100										
100	4,800	4,400										
105	4,000	3,800										
110	3,300	3,100										
115	2,700	2,500										
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66 % NEN  
75 % DIN BS

WII + 19.6klbs  
2.75klbs + 19.6klbs  
WII + 56.2klbs

T 138 ft	K 20° 79 ft
-------------	----------------

0016365

TAB 83139

01.00

ft	ft > < lbs		CODE > 062 <		TL83 0060 .x(x)					
	130	138								
55	8,100	7,300								
60	7,900	7,000								
65	7,700	6,700								
70	7,600	6,500								
75	7,400	6,300								
80	7,200	6,100								
85	7,100	5,800								
90	6,900	5,600								
95	6,600	5,400								
100	6,300	5,200								
105	6,200	5,100								
110	6,000	4,900								
115	5,500	4,700								
120	4,800	4,400								
125	4,200	3,900								
130	3,700	3,400								
135	3,200	2,900								
140	2,600									
*	n	*	1	1						
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66 % NEN  
75 % DIN BS

WII + 19.6klbs  
2.75klbs + 19.6klbs  
WII + 56.2klbs

T 138 ft	K 20° 79 ft
-------------	----------------

0016365

TAB 83139

01.00

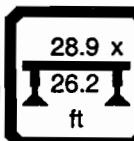
ft	ft > < lbs		CODE > 065 <		TL83 0060 .x(x)					
	130	138								
55	8,100	7,300								
60	7,900	7,000								
65	7,700	6,700								
70	7,600	6,500								
75	7,400	6,300								
80	7,200	6,100								
85	7,100	5,800								
90	6,900	5,600								
95	6,600	5,400								
100	6,300	5,200								
105	6,200	5,100								
110	6,000	4,900								
115	5,500	4,700								
120	4,800	4,400								
125	4,200	3,900								
130	3,700	3,400								
135	3,200	2,900								
140	2,600									
*	n	*	1	1						
%										
	1	92	100							
	2	92	100							
	3	92	100							
ft/s		90	90							


T  
138 ft

K 20°  
79 ft



19,600  
lbs



28.9 x  
26.2  
ft



360°



85 % PCSA

WII + 35.3klbs  
2.75klbs + 35.3klbs

T	K 20°
138 ft	79 ft

0016365

TAB 83143

01.00

ft	ft > < lbs		CODE > 063 <		TL83 0060 .x(x)							
	130	138										
55	9,000	8,000										
60	8,800	7,700										
65	8,600	7,300										
70	8,300	7,100										
75	8,100	7,000										
80	7,900	6,800										
85	7,700	6,400										
90	7,600	6,100										
95	7,300	5,900										
100	7,000	5,700										
105	6,800	5,500										
110	6,700	5,300										
115	6,600	5,200										
120	6,600	5,000										
125	6,400	4,900										
130	6,200	4,900										
135	6,100	4,900										
140	5,900	4,800										
145	5,700	4,600										
150	5,000	4,400										
155	4,400	4,100										
160	3,900	3,700										
165	3,400	3,200										
170	2,900	2,700										
175	2,600	2,400										
*	n	*	1	1								
%	1	92	100									
	2	92	100									
	3	92	100									
ft/s	90	90										

	T	K 20°		35.300 lbs	28.9 x 26.2 ft	360°		
	138 ft	79 ft						



85 % PCSA

WII + 56.2klbs  
2.75klbs + 56.2klbs

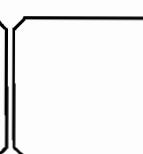
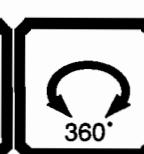
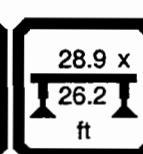
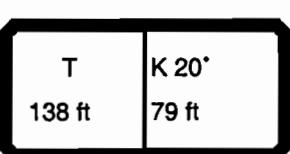
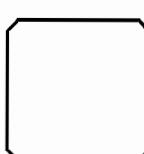
T 138 ft	K 20° 79 ft
-------------	----------------

0016365

TAB 83142

01.00

ft	ft > < lbs		CODE > 061 <		TL83 0060 .x(x)					
	130	138								
55	9,000	8,000								
60	8,800	7,700								
65	8,600	7,300								
70	8,300	7,100								
75	8,100	7,000								
80	7,900	6,800								
85	7,700	6,400								
90	7,600	6,100								
95	7,300	5,900								
100	7,000	5,700								
105	6,800	5,500								
110	6,700	5,300								
115	6,600	5,200								
120	6,600	5,000								
125	6,400	4,900								
130	6,200	4,900								
135	6,100	4,900								
140	5,900	4,800								
145	5,700	4,600								
150	5,500	4,400								
155	5,400	4,400								
160	5,300	4,300								
165	5,300	4,200								
170	5,100	4,000								
175	4,900	4,000								
180		3,900								
*	n	*	1	1						
<hr/>										
 %		1	92	100						
 %		2	92	100						
 %		3	92	100						
 ft/s			90	90						



66 % NEN  
75 % DIN BS

**WII + 56.2klbs**  
**2.75klbs + 56.2klbs**

236

T 138 ft	K 0° 98 ft
-------------	---------------

0016365

TAB 83206

01.00

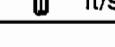


10

ft > < lbs

CODE >038<

TL83 0031 .x(x)

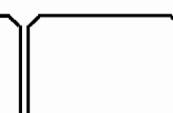
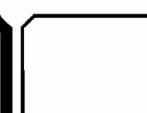
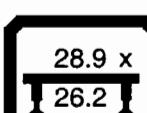
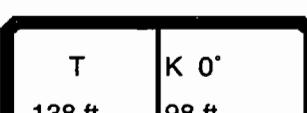
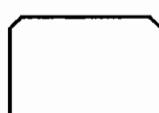
		ft > < lbs	CODE > 038<	TL83 0031 .x(x)
	130	138		
55	5,700			
60	5,700			
65	5,500	5,300		
70	5,400	5,200		
75	5,200	5,000		
80	5,000	4,900		
85	4,900	4,700		
90	4,700	4,600		
95	4,600	4,500		
100	4,400	4,300		
105	4,300	4,200		
110	4,200	4,100		
115	4,100	4,000		
120	4,000	3,900		
125	3,800	3,800		
130	3,700	3,700		
135	3,600	3,500		
140	3,600	3,200		
145	3,500	3,000		
150	3,400	2,800		
155	3,300	2,700		
160	3,300			
165	3,200			
170	3,100			
175	3,000			
180	2,800			
*	n*	1	1	
	1	92	100	
	2	92	100	
%	3	92	100	
	21 mph?	30	30	
ft/s				



1	92	100
2	92	100
3	92	100



s      21 mph?  
          30      30





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### **III - Supplement**

**Explanation of symbols LTM 1120**





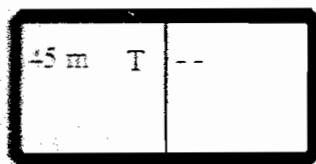
#### Hoisting rope reeving

This symbol appears on the hoisting rope reeving table (1st table of chapter II) and indicates the required number of hoisting rope reevings to achieve a certain load capacity.



#### Load capacity in metric tons [t]

This symbol appears on the hoisting rope reeving table (1st table of chapter II) and indicates the max. permissible load capacity depending on hoisting rope reeving.



#### Operating mode

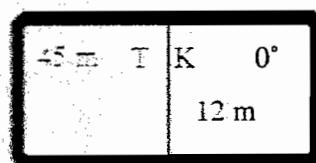
##### 2part symbol

left side = Main boom mode

- Length of the main boom
- Main boom type

ex. : 40m

ex.: T=Telescopic boom



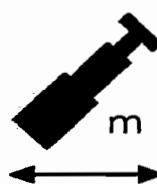
right side = Additional jib mode

- Additional jib type
- Angle of the additional jib
- Additional jib length

ex.: K=folding fly jib

ex.: 0° = 0 deg. offset from main boom

ex.: 12m



#### Working radius of the telescopic boom

The working radius is the horizontal distance of the center of gravity of the load to the slewing axis of the crane superstructure as measured from the ground beneath the load.



#### Working radius of the additional jib

The working radius is the horizontal distance of the center of gravity of the load to the slewing axis of the crane superstructure as measured from the ground beneath the load.



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**Telescopic boom length /units of measurement**

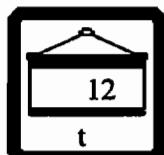
In the row beneath this symbol the different boom length of the crane are indicated in columns. The letters next to the symbol indicate the units of measurement in the actual load chart, for example "m > <" means that all lengths are given in meters [m] and all weights are given in metric tons [t]. Other possible units of measurement are feet [ft] and pounds [lbs] (lifting capacities in [kips] = 1000 lbs).

**CODE > 03 <****\* n \*****Hoisting rope reeving**

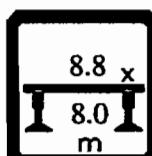
Appears in the load charts as a line below the load capacity values. Indicates the number of hoisting rope reevings required to hoist the maximum load in the corresponding load chart column.

**Extension conditions of the telescopic boom sections**

Indications in percent for the individual telescopic sections (Tele 1 / Tele 2 / Tele 3 / Tele 4). Indication 0 = completely retracted, 100 = completely extended. Extension conditions other than those specified in the load charts are prohibited.

**Counterweight**

In this symbol, the size of the counterweight is indicated in metric tons [t] which must be on the crane superstructure in order to achieve the values of the given load chart. In diesem Symbol ist die Größe des Gegengewichts in Tonnen [t] angegeben, das sich am Kranoberwagen befinden muß, um die Werte der vorliegenden Tabelle erreichen zu können.

**Crane operations "Crane supported"**

Indication of the support base (ex.: 8.8m x 8.0m = length width). The hydraulic supports of the crane must be extended to the dimensions specified in this symbol and pinned when the corresponding load chart is being worked with.



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### Slewing range



Slewing range data of the crane superstructure for the corresponding load capacity table:

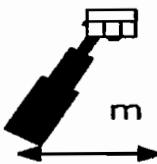
360° = unlimited slewing permissible

0° = working range to the rear



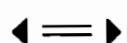
### Permissible wind speed

Indication of wind speed in [m/s] up to which crane operation is permissible depending on boom length. If the wind speed exceeds the indicated value, crane operations must be terminated, and if necessary, equipment must be removed from the crane.



### Working radius with the working platform

The working radius for operations with the working platform concern the pulley assembly in the boom head and are measured from the slewing midpoint. By variably positioning the working platform, their working radii are correspondingly larger.



### Working radius range

Indication of the permissible working radius range in the working radius tables for crane operations with working platform.



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