



For Use in CCO Written Examinations

LIEBHERR LOAD CHART

DEDICATED PILE DRIVER (DPD)

This supplement is used for the following exams:

- **Dedicated Pile Driver (DPD)**

These charts have been adapted from the original manufacturer's charts for use in CCO Written Examinations.

This supplement is not to be used for any other purpose.

Copyright 2016 National Commission for the Certification of Crane Operators (NCCCO).
All rights reserved. This document may not be reproduced in whole or in part without express written permission of the manufacturer and the consent of NCCCO.



Preface

This *Dedicated Pile Driver Load Chart Manual* has been published by the National Commission for the Certification of Crane Operators (NCCCO) in cooperation with dedicated pile driver manufacturers to help candidates prepare for CCO written examinations.

THE LOAD CHARTS CONTAINED IN THIS MANUAL ARE NOT TO BE USED FOR ACTUAL EQUIPMENT OPERATION AND ARE FOR TESTING PURPOSES ONLY. If you need a load chart for a specific machine, you should contact the relevant manufacturer or an authorized dealer/distributor.

In some cases only excerpts of the load chart along with clarifying notes have been included.

For further information about the CCO Written Examinations, please consult the NCCCO website at www.nccco.org or email NCCCO at info@nccco.org to request a *Dedicated Pile Driver Candidate Handbook*.

HOLD HARMLESS/RELEASE AGREEMENT

The user of this publication for and in consideration of the assistance, cooperation, and information provided by the National Commission for the Certification of Crane Operators (NCCCO) in this publication, *Dedicated Pile Driver Load Chart Manual*, the receipt of which is acknowledged, does hereby and for all future time release and hold harmless from any liability, and forever discharge for itself, its administrators and assigns the said NCCCO from all and any manner of action or demands whatsoever in law, in admiralty, or in equity, which against NCCCO anyone ever had, now have, or which shall later be claimed. This Agreement relates specifically to any cause of action arising out of the publication, information provided, subsequent conduct, and any use of the information provided in this publication and related uses or demonstrations of skills, methods, and techniques cited in the publication. This mutually beneficial release and hold-harmless agreement may not be changed orally and exists in perpetuity. This publication is issued solely as a public service to improve the lifting industry and promote public safety.

NO WARRANTY

Information and materials provided in this *Dedicated Pile Driver Load Chart Manual* are provided “as is” without warranty of any kind, either express or implied, including without limitation warranties of merchantability, fitness for a particular purpose, and non-infringement. NCCCO specifically does not make any warranties or representations as to the accuracy or completeness of any such information and materials. Under no circumstances shall NCCCO be liable for any loss, damage, liability, or expense incurred or suffered which is claimed to have resulted from use of this publication, including without limitation, any fault, error, omission, interruption, or delay with respect thereto. Use of this publication is at user’s sole risk. Under no circumstances, including, but not limited to, negligence, shall NCCCO be liable for any direct, indirect, incidental, special, or consequential damages, even if NCCCO has been advised of the possibility of such damages.

Copyright 1996–2016 by the National Commission for the Certification of Crane Operators. All rights reserved. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without prior written permission from the publisher. For information, contact the publisher, the National Commission for the Certification of Crane Operators, at info@nccco.org.

Operating conditions for piling rigs to EN996 for hammer operation:

Machine type: **LB20-LRH100**
ID no.: 10581747
Drg.No.: 509 001 2020 11 002

Caution: the machine may only be operated under the following conditions:

- carrier machine with 13227lbs+13227lbs rear counterweight and HD undercarriage fully extended
- ground firm and level
- pile shaft 2ft in front of front edge of leader
- radius measured from excavator pivot point to pile shaft (on the ground) calculated to middle plane
- max. swing speed with load: 1 rpm
- weight of additional equipment reduce the lifting capacity and must be subtracted!

This stability calculation applies to:

- hammer weight max. 12789lbs, drilling drive mounted
- no load on the auxiliary winch
- lower edge of pile max. 1.6ft above formation level
- hammer and leader are in the lowest possible position

Lifting loads using the auxiliary winch is only permitted with:

- leader with minimum radius and vertical
- hammer and leader are fully down

Inclination:	Angle:
vertical	0°
1:10	5.7°
1:8	7.1°
1:6	9.5°
1:4	14.0°
1:3	18.4°

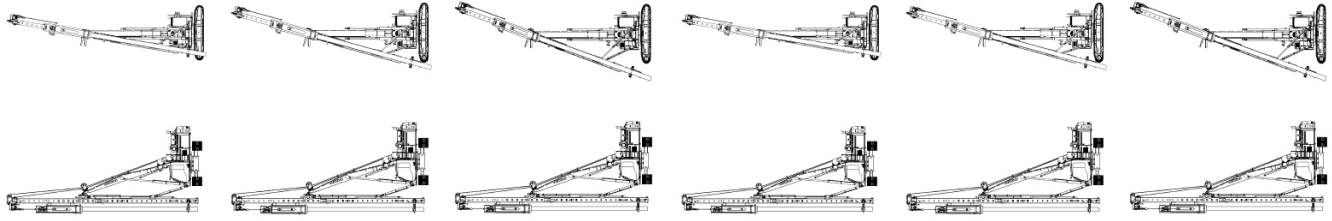
The machine may only be moved under the following conditions:

- no load on the auxiliary winch
- leader with minimum radius and vertical
- hammer and leader are fully down
- ground firm and level
- max. travel speed with load: 0.5km/h, only permitted on firm ground or crane mats
- travel only permitted when uppercarriage is parallel to undercarriage!
- no dynamic effects whatsoever permitted, drive with extreme caution and think one step ahead!

Max. ground pressure [PSI] under the chain with 900mm grouser for:

Load (front):	100.03
Load (lateral):	74.78
Load (diagonal):	76.71

Liebherr Dedicated Pile Driver (DPD)



Hammer weight:		Leader:												Ground pressure under chain with load [PSi]:					
		vertical/vertical (0.0°/0.0°)												front lateral					
Boom angle [°]:	12789 lbs	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral		
Pile length [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	16.99	29.27	
Cylinder length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
Radius [ft]:	14.74	15.84	16.93	18.01	19.06	20.11	21.13	22.13	23.11	24.06	25.00	25.91	26.79	27.64	28.47	29.27			
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	87.29	31.06	71.10
52 Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	84.47	28.23	71.10
46 Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	78.76	26.93	68.53
39 Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	76.40	27.73	67.83
33 Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	74.46	28.25	68.40

Hammer weight:		Leader:												Ground pressure under chain with load [PSi]:					
		vertical/1:10 lateral (0.0°/±5.7°)												front lateral					
Boom angle [°]:	12789 lbs	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral		
Pile length [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	16.99	29.27	
Cylinder length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
Radius [ft]:	14.74	15.84	16.93	18.01	19.06	20.11	21.13	22.13	23.11	24.06	25.00	25.91	26.79	27.64	28.47	29.27			
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	90.28	33.22	71.59
52 Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	85.51	30.50	71.21
46 Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	79.78	27.58	68.53
39 Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	77.47	28.99	68.25
33 Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	79.31	30.61	69.02

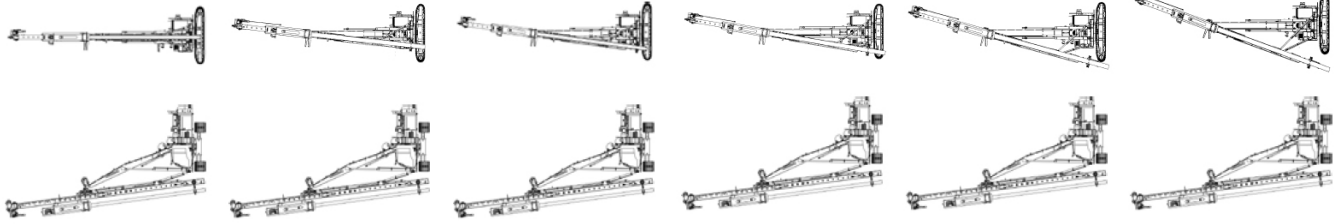
Hammer weight:		Leader:												Ground pressure under chain with load [PSi]:					
		vertical/1:8 lateral (0.0°/±7.1°)												front lateral					
Boom angle [°]:	12789 lbs	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral		
Pile length [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	16.99	29.27	
Cylinder length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
Radius [ft]:	14.74	15.84	16.93	18.01	19.06	20.11	21.13	22.13	23.11	24.06	25.00	25.91	26.79	27.64	28.47	29.27			
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	90.09	33.97	71.69
52 Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	85.67	31.05	71.18
46 Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	79.39	27.85	68.49
39 Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	77.12	29.35	68.21
33 Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	80.29	31.51	69.16

Hammer weight:		Leader:												Ground pressure under chain with load [PSi]:					
		vertical/1:6 lateral (0.0°/±9.5°)												front lateral					
Boom angle [°]:	12789 lbs	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral		
Pile length [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	16.99	29.27	
Cylinder length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
Radius [ft]:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Max. pile weight [lbs]:																	91.33	35.24	71.83
52 Max. pile weight [lbs]:																	85.38	31.80	70.65
46 Max. pile weight [lbs]:																	80.54	28.27	68.68
39 Max. pile weight [lbs]:																	79.35	30.77	68.82
33 Max. pile weight [lbs]:																	83.21	33.42	70.04

Hammer weight:		Leader:												Ground pressure under chain with load [PSi]:					
		vertical/1:4 lateral (0.0°/±14.0°)												front lateral					
Boom angle [°]:	12789 lbs	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral		
Pile length [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	0.00	0.00	
Cylinder length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
Radius [ft]:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Max. pile weight [lbs]:																	86.30	33.32	71.63
52 Max. pile weight [lbs]:																	80.22	30.41	68.00
46 Max. pile weight [lbs]:																	81.33	33.51	68.90
39 Max. pile weight [lbs]:																	86.20	36.84	70.72

Hammer weight:		Leader:												Ground pressure under chain with load [PSi]:					
		vertical/1:3 lateral (0.0°/±18.4°)												front lateral					
Boom angle [°]:	12789 lbs	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral		
Pile length [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	16.99	29.27	
Cylinder length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
Radius [ft]:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Max. pile weight [lbs]:																	88.23	35.08	71.14
52 Max. pile weight [lbs]:																	81.51	33.07	68.07
46 Max. pile weight [lbs]:																	84.70	36.67	69.87
39 Max. pile weight [lbs]:																	89.21	40.67	71.96

Liebherr Dedicated Pile Driver (DPD)



Hammer weight:		1:8 forwards/vertical (-7.1°/0.0°)										Ground pressure under chain with load [PSI]:					
Leader:		1:8 forwards/vertical (-7.1°/0.0°)										front		lateral		corner	
12789	lbs	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
20.98	ft	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	
0.00	ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
59	Max. pile weight [lbs]:	16094	11464	7716	4850	2425											
52	Max. pile weight [lbs]:	17637	13889	9921	6614	3748	1323										
46	Max. pile weight [lbs]:	17637	16535	13007	9921	7055	4409	1984									
39	Max. pile weight [lbs]:	17637	17637	17637	17637	14771	11244	8378	5952	3748	1543						
33	Max. pile weight [lbs]:	17637	17637	17637	17637	16535	12787	9700	7055	4630	2646	882					

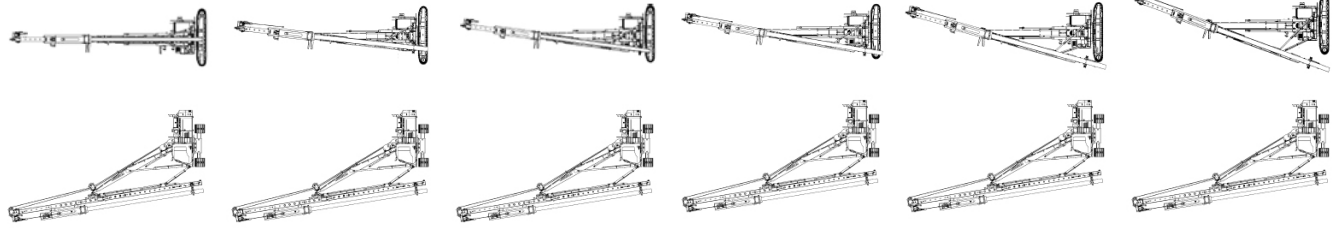
Hammer weight:		1:8 forwards/1:10 lateral (-7.1°/±5.7°)										Ground pressure under chain with load [PSI]:					
Leader:		1:8 forwards/1:10 lateral (-7.1°/±5.7°)										front		lateral		corner	
12789	lbs	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
20.98	ft	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	
0.00	ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
59	Max. pile weight [lbs]:	16314	11685	7716	4630	2205											
52	Max. pile weight [lbs]:	17637	13889	9700	6614	3748	1102										
46	Max. pile weight [lbs]:	17637	16755	13228	9921	7055	4409	1984									
39	Max. pile weight [lbs]:	17637	17637	17637	17637	14771	11464	8598	5952	3748	1543						
33	Max. pile weight [lbs]:	17637	17637	17637	17637	16535	13007	9921	7275	4850	2866	882					

Hammer weight:		1:8 forwards/1:8 lateral (-7.1°/±7.1°)										Ground pressure under chain with load [PSI]:					
Leader:		1:8 forwards/1:8 lateral (-7.1°/±7.1°)										front		lateral		corner	
12789	lbs	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
20.98	ft	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	
0.00	ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
59	Max. pile weight [lbs]:	11685	7937	4630	2205												
52	Max. pile weight [lbs]:	17637	13889	10141	6614	3748	1323										
46	Max. pile weight [lbs]:	17637	16755	13228	10141	7275	4409	1984									
39	Max. pile weight [lbs]:	17637	17637	17637	17637	14771	11464	8598	5952	3748	1543						
33	Max. pile weight [lbs]:	17637	17637	17637	17637	16535	13007	9921	7275	4850	2866	882					

Hammer weight:		1:8 forwards/1:6 lateral (-7.1°/±9.5°)										Ground pressure under chain with load [PSI]:					
Leader:		1:8 forwards/1:6 lateral (-7.1°/±9.5°)										front		lateral		corner	
12789	lbs	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
20.98	ft	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	
0.00	ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
59	Max. pile weight [lbs]:	2425															
52	Max. pile weight [lbs]:	6834	3968	1543													
46	Max. pile weight [lbs]:	10362	7496	4850	2425												
39	Max. pile weight [lbs]:	11685	8818	6393	3968	1984											
33	Max. pile weight [lbs]:	13228	10141	7496	5071	2866	1102										

Hammer weight:		1:8 forwards/1:4 lateral (-7.1°/±14.0°)										Ground pressure under chain with load [PSI]:					
Leader:		1:8 forwards/1:4 lateral (-7.1°/±14.0°)										front		lateral		corner	
12789	lbs	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
20.98	ft	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	
0.00	ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
59	Max. pile weight [lbs]:	7055	4409														
52	Max. pile weight [lbs]:	6173	6173	5071	2425												
46	Max. pile weight [lbs]:	5291	5291	3968	1984												
39	Max. pile weight [lbs]:	4409	4409	4409	4409	3086	1102										
33	Max. pile weight [lbs]:																

Hammer weight:		1:8 forwards/1:3 lateral (-7.1°/±18.4°)										Ground pressure under chain with load [PSI]:					
Leader:		1:8 forwards/1:3 lateral (-7.1°/±18.4°)										front		lateral		corner	
12789	lbs	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
20.98	ft	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	
0.00	ft	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
59	Max. pile weight [lbs]:																
52	Max. pile weight [lbs]:																
46	Max. pile weight [lbs]:																
39	Max. pile weight [lbs]:																
33	Max. pile weight [lbs]:																



Hammer weight:		12789 lbs		1:6 forwards/vertical (-9.5°/±0.0°)												Ground pressure under chain with load [PSI]:			
Boom angle [°]:	Pile length [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	front	lateral	corner
20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99		0.00	0.00	0.00
59	52	46	39	33													82.37	27.78	70.93
																	78.94	27.19	67.75
																	74.44	27.51	65.75
																	70.83	28.95	65.16

Hammer weight:		12789 lbs		1:6 forwards/1:10 lateral (-9.5°/±5.7°)												Ground pressure under chain with load [PSI]:			
Boom angle [°]:	Pile length [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	front	lateral	corner
20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99		0.00	0.00	0.00
59	52	46	39	33													85.04	29.84	71.04
																	79.02	27.81	68.28
																	75.61	28.94	66.37
																	72.62	30.36	65.62

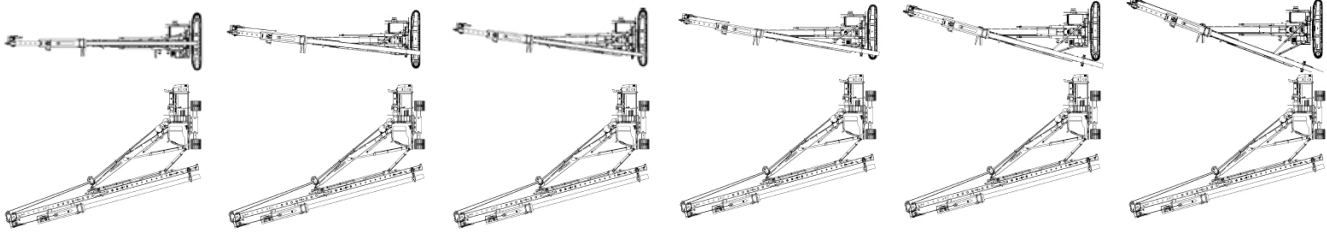
Hammer weight:		12789 lbs		1:6 forwards/1:8 lateral (-9.5°/±7.1°)												Ground pressure under chain with load [PSI]:			
Boom angle [°]:	Pile length [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	front	lateral	corner
20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99		0.00	0.00	0.00
59	52	46	39	33													85.47	42.57	70.95
																	77.58	27.98	67.89
																	76.67	29.19	66.07
																	74.03	30.82	66.10

Hammer weight:		12789 lbs		1:6 forwards/1:6 lateral (-9.5°/±9.5°)												Ground pressure under chain with load [PSI]:			
Boom angle [°]:	Pile length [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	front	lateral	corner
20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99		0.00	0.00	0.00
59	52	46	39	33													83.05	31.03	66.23
																	79.20	27.66	67.04
																	76.17	25.93	65.09
																	72.19	28.34	64.48

Hammer weight:		12789 lbs		1:6 forwards/1:4 lateral (-9.5°/±14.0°)												Ground pressure under chain with load [PSI]:			
Boom angle [°]:	Pile length [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	front	lateral	corner
20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99		0.00	0.00	0.00
59	52	46	39	33													80.21	28.51	66.52
																	76.87	26.44	64.66
																	71.82	29.76	63.69

Hammer weight:		12789 lbs		1:6 forwards/1:3 lateral (-9.5°/±18.4°)												Ground pressure under chain with load [PSI]:			
Boom angle [°]:	Pile length [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	front	lateral	corner
20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99		0.00	0.00	0.00
59	52	46	39	33													79.82	29.58	66.06
																	76.87	28.46	64.22
																	74.16	33.03	63.81

Liebherr Dedicated Pile Driver (DPD)



Hammer weight:		1:4 forwards/vertical (-14.0°/0.0°)												Leader:		1:4 forwards/vertical (-14.0°/0.0°)				Ground pressure under chain with load [PSI]:	
Boom angle [°]:	lbs	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral	corner	
Pile length [ft]:	Radius [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	80.00	27.42	67.51	
52	Max. pile weight [lbs]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	0.00	0.00	0.00	
52	Max. pile weight [lbs]:																	76.27	26.07	67.05	
46	Max. pile weight [lbs]:																	73.80	27.48	65.78	
39	Max. pile weight [lbs]:																	69.64	27.73	64.50	
33	Max. pile weight [lbs]:																				

Hammer weight:		1:4 forwards/1:10 lateral (-14.0°/±5.7°)												Leader:		1:4 forwards/1:10 lateral (-14.0°/±5.7°)				Ground pressure under chain with load [PSI]:	
Boom angle [°]:	lbs	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral	corner	
Pile length [ft]:	Radius [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	83.16	64.14	68.38	
52	Max. pile weight [lbs]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	79.00	27.13	66.98	
52	Max. pile weight [lbs]:																	76.52	28.70	66.26	
46	Max. pile weight [lbs]:																	72.50	29.89	65.31	
39	Max. pile weight [lbs]:																				
33	Max. pile weight [lbs]:																				

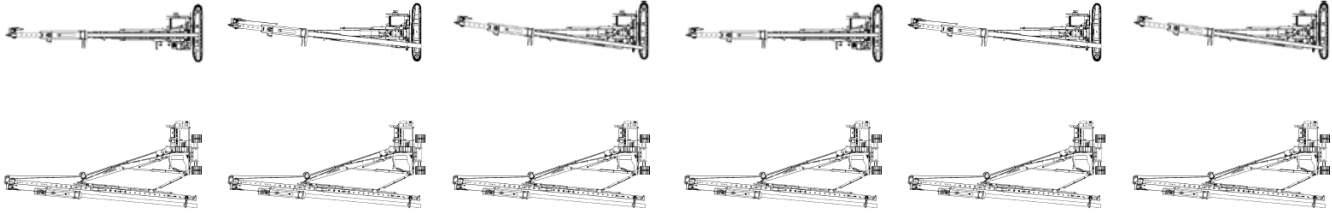
Hammer weight:		1:4 forwards/1:3 lateral (-14.0°/±7.1°)												Leader:		1:4 forwards/1:3 lateral (-14.0°/±7.1°)				Ground pressure under chain with load [PSI]:	
Boom angle [°]:	lbs	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral	corner	
Pile length [ft]:	Radius [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	80.96	74.78	66.18	
52	Max. pile weight [lbs]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	78.24	27.25	67.07	
52	Max. pile weight [lbs]:																	76.80	29.00	65.88	
46	Max. pile weight [lbs]:																	71.65	30.44	64.70	
39	Max. pile weight [lbs]:																				
33	Max. pile weight [lbs]:																				

Hammer weight:		1:4 forwards/1:6 lateral (-14.0°/±9.5°)												Leader:		1:4 forwards/1:6 lateral (-14.0°/±9.5°)				Ground pressure under chain with load [PSI]:	
Boom angle [°]:	lbs	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral	corner	
Pile length [ft]:	Radius [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	0.00	0.00	0.00	
52	Max. pile weight [lbs]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	0.00	0.00	0.00	
52	Max. pile weight [lbs]:																	79.20	27.85	64.79	
46	Max. pile weight [lbs]:																	77.04	26.08	64.56	
39	Max. pile weight [lbs]:																	72.48	25.20	63.12	
33	Max. pile weight [lbs]:																				

Hammer weight:		1:4 forwards/1:4 lateral (-14.0°/±14.0°)												Leader:		1:4 forwards/1:4 lateral (-14.0°/±14.0°)				Ground pressure under chain with load [PSI]:	
Boom angle [°]:	lbs	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral	corner	
Pile length [ft]:	Radius [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	0.00	0.00	0.00	
52	Max. pile weight [lbs]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	0.00	0.00	0.00	
52	Max. pile weight [lbs]:																	81.28	28.73	65.53	
46	Max. pile weight [lbs]:																	76.35	26.27	64.21	
39	Max. pile weight [lbs]:																	71.10	25.95	63.05	
33	Max. pile weight [lbs]:																				

Hammer weight:		1:4 forwards/1:3 lateral (-14.0°/±18.4°)												Leader:		1:4 forwards/1:3 lateral (-14.0°/±18.4°)				Ground pressure under chain with load [PSI]:	
Boom angle [°]:	lbs	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral	corner	
Pile length [ft]:	Radius [ft]:	72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	0.00	0.00	0.00	
52	Max. pile weight [lbs]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	0.00	0.00	0.00	
52	Max. pile weight [lbs]:																	74.44	25.93	63.58	
46	Max. pile weight [lbs]:																	70.10	27.41	62.69	
39	Max. pile weight [lbs]:																				
33	Max. pile weight [lbs]:																				

Liebherr Dedicated Pile Driver (DPD)



Hammer weight:		1:10 backwards/vertical (+5.7°/0.0°)												Ground pressure under chain with load [PSi]:				
Boom angle [°]:	lbs	Leader:	66.0	68.0	70.0	72.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
Pile length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	16.99	16.99
Radius [ft]:	18.74	19.81	20.87	21.89	22.90	23.89	24.85	25.79	26.71	27.60	28.46	29.30	30.10	30.87	31.62	0.00	0.00	0.00
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
52 Max. pile weight [lbs]:	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055
46 Max. pile weight [lbs]:	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173
39 Max. pile weight [lbs]:	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291
33 Max. pile weight [lbs]:	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409
Ground pressure under chain with load [PSi]:	91.21	31.30	73.47	83.57	28.57	71.32	79.00	27.20	69.83	77.08	27.88	69.82	77.40	28.23	69.50			

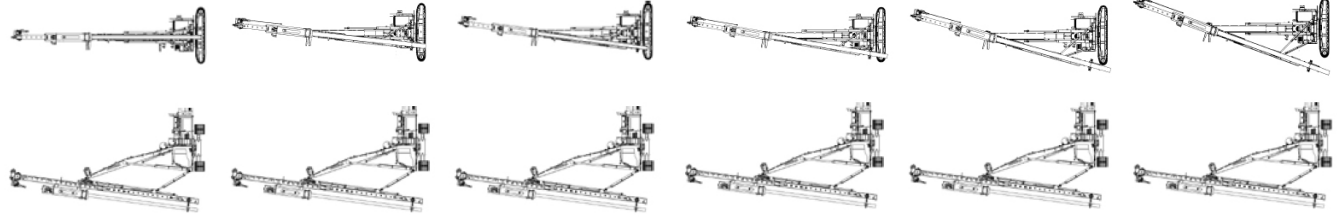
Hammer weight:		1:10 backwards/1:10 lateral (+5.7°/±5.7°)												Ground pressure under chain with load [PSi]:				
Boom angle [°]:	lbs	Leader:	66.0	68.0	70.0	72.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
Pile length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	16.99	16.99
Radius [ft]:	18.74	19.81	20.87	21.89	22.90	23.89	24.85	25.79	26.71	27.60	28.46	29.30	30.10	30.87	31.62	0.00	0.00	0.00
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
52 Max. pile weight [lbs]:	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055
46 Max. pile weight [lbs]:	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173
39 Max. pile weight [lbs]:	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291
33 Max. pile weight [lbs]:	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409
Ground pressure under chain with load [PSi]:	94.58	33.31	74.25	85.71	30.86	71.73	79.75	28.09	70.20	81.06	29.47	70.35	82.55	31.13	70.28			

Hammer weight:		1:10 backwards/1:8 lateral (+5.7°/±7.1°)												Ground pressure under chain with load [PSi]:				
Boom angle [°]:	lbs	Leader:	66.0	68.0	70.0	72.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
Pile length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	16.99	16.99
Radius [ft]:	18.74	19.81	20.87	21.89	22.90	23.89	24.85	25.79	26.71	27.60	28.46	29.30	30.10	30.87	0.00	0.00	0.00	0.00
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
52 Max. pile weight [lbs]:	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055
46 Max. pile weight [lbs]:	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173
39 Max. pile weight [lbs]:	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291
33 Max. pile weight [lbs]:	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409
Ground pressure under chain with load [PSi]:	95.00	33.98	74.27	86.20	30.98	71.64	79.64	28.19	70.16	81.86	30.21	70.39	83.49	32.09	70.39			

Hammer weight:		1:10 backwards/1:6 lateral (+5.7°/±9.5°)												Ground pressure under chain with load [PSi]:				
Boom angle [°]:	lbs	Leader:	66.0	68.0	70.0	72.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
Pile length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	16.99	16.99
Radius [ft]:	0.00	19.81	20.87	21.89	22.90	23.89	24.85	25.79	26.71	27.60	28.46	29.30	30.10	30.87	0.00	0.00	0.00	0.00
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
52 Max. pile weight [lbs]:	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055
46 Max. pile weight [lbs]:	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173
39 Max. pile weight [lbs]:	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291
33 Max. pile weight [lbs]:	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409
Ground pressure under chain with load [PSi]:	94.86	35.29	74.07	86.32	31.76	71.44	79.90	28.88	70.09	81.54	31.57	69.71	85.21	33.83	70.67			

Hammer weight:		1:10 backwards/1:4 lateral (+5.7°/±14.0°)												Ground pressure under chain with load [PSi]:				
Boom angle [°]:	lbs	Leader:	66.0	68.0	70.0	72.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
Pile length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	16.99	16.99
Radius [ft]:	0.00	19.81	20.87	21.89	22.90	23.89	24.85	25.79	26.71	27.60	28.46	29.30	30.10	30.87	0.00	0.00	0.00	0.00
Max. pile weight [lbs]:	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937
52 Max. pile weight [lbs]:	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055
46 Max. pile weight [lbs]:	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173
39 Max. pile weight [lbs]:	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291
33 Max. pile weight [lbs]:	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409
Ground pressure under chain with load [PSi]:	96.62	36.83	73.67	86.98	33.19	71.06	81.51	31.11	69.98	84.16	34.50	70.04	88.76	37.41	71.54			

Hammer weight:		1:10 backwards/1:3 lateral (+5.7°/±18.4°)												Ground pressure under chain with load [PSi]:				
Boom angle [°]:	lbs	Leader:	66.0	68.0	70.0	72.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
Pile length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99	16.99	16.99
Radius [ft]:	0.00	19.81	20.87	21.89	22.90	23.89	24.85	25.79	26.71	27.60	28.46	29.30	30.10	30.87	0.00	0.00	0.00	0.00
Max. pile weight [lbs]:	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055
52 Max. pile weight [lbs]:	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173
39 Max. pile weight [lbs]:	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291
33 Max. pile weight [lbs]:	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409
Ground pressure under chain with load [PSi]:	85.51	32.25	69.93	83.72	33.90	70.06	87.23	37.91	70.77	90.94	41.41	72.80						



Pile length [ft]	Hammer weight [lbs]	1:8 backwards/vertical (+7.1°/0.0°)											Ground pressure under chain with load [PSI]:					
		Leader:	66.0	68.0	70.0	72.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
59	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
46	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
39	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
33	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637

Pile length [ft]	Hammer weight [lbs]	1:8 backwards/1:10 lateral (+7.1°/±5.7°)											Ground pressure under chain with load [PSI]:					
		Leader:	66.0	68.0	70.0	72.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
59	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
46	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
39	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
33	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637

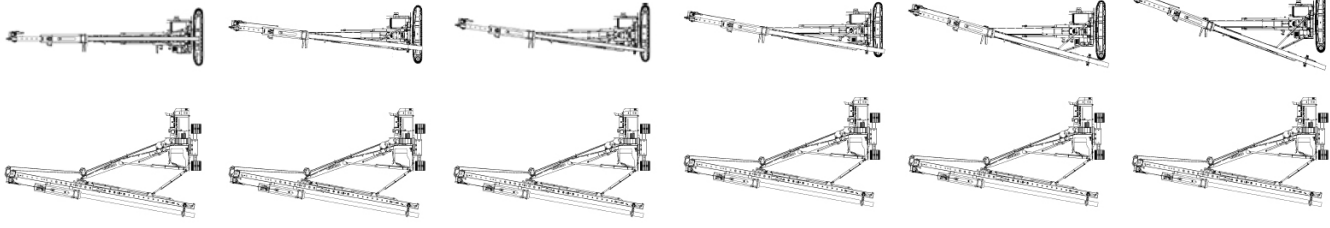
Pile length [ft]	Hammer weight [lbs]	1:8 backwards/1:8 lateral (+7.1°/±7.1°)											Ground pressure under chain with load [PSI]:					
		Leader:	66.0	68.0	70.0	72.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
59	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
46	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
39	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
33	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637

Pile length [ft]	Hammer weight [lbs]	1:8 backwards/1:6 lateral (+7.1°/±9.5°)											Ground pressure under chain with load [PSI]:					
		Leader:	66.0	68.0	70.0	72.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
59	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
46	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
39	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
33	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637

Pile length [ft]	Hammer weight [lbs]	1:8 backwards/1:4 lateral (+7.1°/±14.0°)											Ground pressure under chain with load [PSI]:					
		Leader:	66.0	68.0	70.0	72.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
59	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
46	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
39	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
33	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637

Pile length [ft]	Hammer weight [lbs]	1:8 backwards/1:3 lateral (+7.1°/±18.4°)											Ground pressure under chain with load [PSI]:					
		Leader:	66.0	68.0	70.0	72.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0
59	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
46	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
39	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637
33	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637

Liebherr Dedicated Pile Driver (DPD)



Hammer weight:		1:6 backwards/vertical (+9.5°/0.0°)												Ground pressure under chain with load [PSI]:					
Boom angle [°]:	12789	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral	corner
Pile length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
Radius [ft]:	21.44	22.48	23.51	24.51	25.49	26.44	27.36	28.26	29.13	29.99	30.79	31.59	32.34	0.00	0.00	0.00			
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	92.77	31.14	74.98
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	85.54	27.94	73.00
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	79.53	27.54	70.98
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17417	14771	12346	10141	8157	6393				80.59	28.24	71.59
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	80.47	28.30	71.08

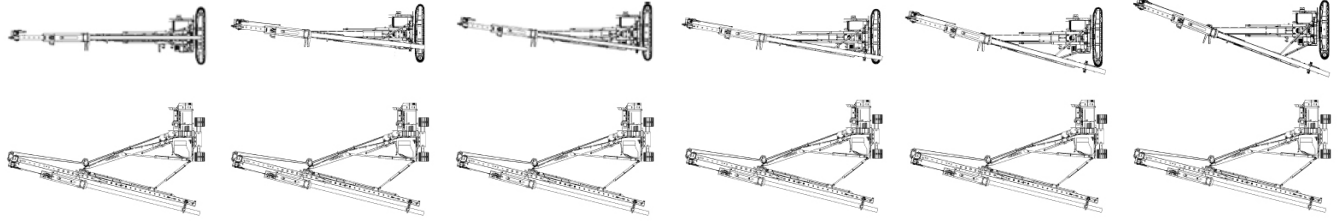
Hammer weight:		1:6 backwards/1:10 lateral (+9.5°/±5.7°)												Ground pressure under chain with load [PSI]:					
Boom angle [°]:	12789	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral	corner
Pile length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
Radius [ft]:	21.44	22.48	23.51	24.51	25.49	26.44	27.36	28.26	29.13	29.99	30.79	31.59	0.00	0.00	0.00	0.00			
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	93.68	33.28	74.94
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	85.85	29.37	73.48
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	81.87	28.40	71.44
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17417	14771	12125	10141	8157	6393				85.70	30.24	72.37
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	86.53	31.37	72.08

Hammer weight:		1:6 backwards/1:8 lateral (+9.5°/±7.4°)												Ground pressure under chain with load [PSI]:					
Boom angle [°]:	12789	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral	corner
Pile length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
Radius [ft]:	21.44	22.48	23.51	24.51	25.49	26.44	27.36	28.26	29.13	29.99	30.79	31.59	0.00	0.00	0.00	0.00			
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	93.69	33.98	74.92
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	85.70	29.97	72.64
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	81.56	28.56	71.21
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17417	14771	12346	10141	8157	6393				85.72	30.73	72.16
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	88.84	32.36	72.87

Hammer weight:		1:6 backwards/1:6 lateral (+9.5°/±9.5°)												Ground pressure under chain with load [PSI]:					
Boom angle [°]:	12789	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral	corner
Pile length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
Radius [ft]:	21.44	22.48	23.51	24.51	25.49	26.44	27.36	28.26	29.13	29.99	30.79	31.59	0.00	0.00	0.00	0.00			
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	93.95	35.25	74.89
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	85.70	30.58	72.59
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	83.64	29.99	71.51
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17417	14551	12125	9921	8157	6393				88.71	32.59	72.85
Max. pile weight [lbs]:	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	17637	90.50	34.32	72.99

Hammer weight:		1:6 backwards/1:4 lateral (+9.5°/±14.0°)												Ground pressure under chain with load [PSI]:					
Boom angle [°]:	12789	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral	corner
Pile length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
Radius [ft]:	21.44	22.48	23.51	24.51	25.49	26.44	27.36	28.26	29.13	29.99	30.79	31.59	0.00	0.00	0.00	0.00			
Max. pile weight [lbs]:	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	94.89	37.02	74.66
Max. pile weight [lbs]:	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	84.98	30.06	72.42
Max. pile weight [lbs]:	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	85.63	31.97	71.64
Max. pile weight [lbs]:	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	89.87	35.05	72.62
Max. pile weight [lbs]:	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	93.97	37.75	73.98

Hammer weight:		1:6 backwards/1:3 lateral (+9.5°/±18.4°)												Ground pressure under chain with load [PSI]:					
Boom angle [°]:	12789	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral	corner
Pile length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
Radius [ft]:	21.44	22.48	23.51	24.51	25.49	26.44	27.36	28.26	29.13	29.99	30.79	31.59	0.00	0.00	0.00	0.00			
Max. pile weight [lbs]:	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	0.00	0.00	0.00
Max. pile weight [lbs]:	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	82.47	29.65	71.43
Max. pile weight [lbs]:	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	88.53	34.52	72.20
Max. pile weight [lbs]:	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	93.69	38.19	73.87
Max. pile weight [lbs]:	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	97.01	41.10	75.21



Hammer weight:		12789 lbs		Leader:												1:4 backwards/vertical (+14.0°/0.0°)		Ground pressure under chain with load [PSI]:		
Boom angle [°]:		72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	corner	
Pile length [ft]:	Cylinder length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
	Radius [ft]:	24.85	25.86	26.85	27.81	28.74	29.66	30.53	31.37	32.20	33.00	0.00	0.00	0.00	0.00	0.00	0.00			
59	Max. pile weight [lbs]:	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	89.39	30.58	73.72
52	Max. pile weight [lbs]:	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	85.62	27.47	73.10
46	Max. pile weight [lbs]:	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	82.90	27.66	73.04
39	Max. pile weight [lbs]:	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	82.33	28.17	71.97
33	Max. pile weight [lbs]:	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	85.09	28.71	73.26

Hammer weight:		12789 lbs		Leader:												1:4 backwards/1:10 lateral (+14.0°/±5.7°)		Ground pressure under chain with load [PSI]:		
Boom angle [°]:		72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	corner	
Pile length [ft]:	Cylinder length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
	Radius [ft]:	24.85	25.86	26.85	27.81	28.74	29.66	30.53	31.37	32.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
59	Max. pile weight [lbs]:	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	90.40	32.32	73.64
52	Max. pile weight [lbs]:	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	84.44	28.14	72.78
46	Max. pile weight [lbs]:	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	87.35	28.50	73.93
39	Max. pile weight [lbs]:	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	87.76	30.49	73.04
33	Max. pile weight [lbs]:	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	91.25	32.32	74.16

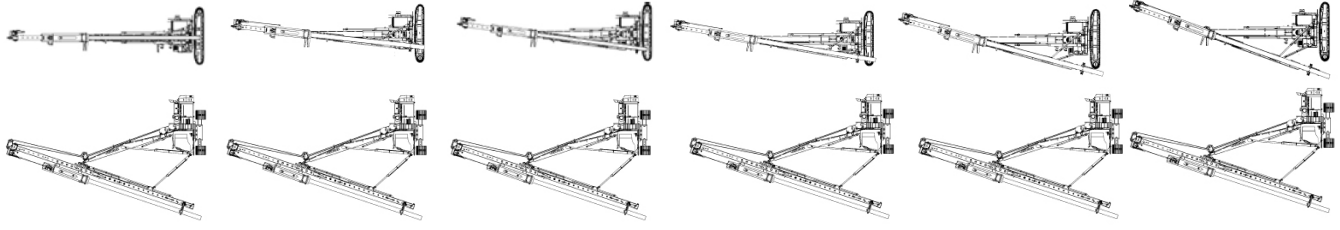
Hammer weight:		12789 lbs		Leader:												1:4 backwards/1:8 lateral (+14.0°/±7.1°)		Ground pressure under chain with load [PSI]:		
Boom angle [°]:		72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	corner	
Pile length [ft]:	Cylinder length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
	Radius [ft]:	24.85	25.86	26.85	27.81	28.74	29.66	30.53	31.37	32.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
59	Max. pile weight [lbs]:	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	90.75	32.83	73.63
52	Max. pile weight [lbs]:	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	84.35	28.01	72.72
46	Max. pile weight [lbs]:	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	88.45	29.06	74.10
39	Max. pile weight [lbs]:	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	88.62	31.31	73.11
33	Max. pile weight [lbs]:	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	92.52	33.37	74.38

Hammer weight:		12789 lbs		Leader:												1:4 backwards/1:6 lateral (+14.0°/±9.5°)		Ground pressure under chain with load [PSI]:		
Boom angle [°]:		72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	corner	
Pile length [ft]:	Cylinder length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
	Radius [ft]:	24.85	25.86	26.85	27.81	28.74	29.66	30.53	31.37	32.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
59	Max. pile weight [lbs]:	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	91.08	33.60	73.81
52	Max. pile weight [lbs]:	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	84.22	28.27	72.85
46	Max. pile weight [lbs]:	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	89.99	30.14	74.27
39	Max. pile weight [lbs]:	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	91.04	32.83	73.63
33	Max. pile weight [lbs]:	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	95.26	35.27	75.09

Hammer weight:		12789 lbs		Leader:												1:4 backwards/1:4 lateral (+14.0°/±14.0°)		Ground pressure under chain with load [PSI]:		
Boom angle [°]:		72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	corner	
Pile length [ft]:	Cylinder length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
	Radius [ft]:	24.85	25.86	26.85	27.81	28.74	29.66	30.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
59	Max. pile weight [lbs]:	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	90.91	33.52	73.81
52	Max. pile weight [lbs]:	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	85.55	28.75	73.06
46	Max. pile weight [lbs]:	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	91.39	32.22	73.98
39	Max. pile weight [lbs]:	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	93.12	35.45	73.74
33	Max. pile weight [lbs]:	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	98.95	38.62	76.22

Hammer weight:		12789 lbs		Leader:												1:4 backwards/1:3 lateral (+14.0°/±18.4°)		Ground pressure under chain with load [PSI]:		
Boom angle [°]:		72.0	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	corner	
Pile length [ft]:	Cylinder length [ft]:	20.98	20.73	20.48	20.22	19.96	19.70	19.44	19.17	18.90	18.63	18.36	18.09	17.81	17.54	17.27	16.99			
	Radius [ft]:	24.85	25.86	26.85	27.81	28.74	29.66	30.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
59	Max. pile weight [lbs]:	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	66.74	29.97	61.54
52	Max. pile weight [lbs]:	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	73.32	30.97	65.51
46	Max. pile weight [lbs]:	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	6173	78.45	33.62	67.40
39	Max. pile weight [lbs]:	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	89.29	37.95	71.99
33	Max. pile weight [lbs]:	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	100.03	41.53	76.71

Liebherr Dedicated Pile Driver (DPD)



Hammer weight:		1:3 backwards/vertical (+18.4°/0.0°)												Leader:		1:3 backwards/vertical (+18.4°/0.0°)												Ground pressure under chain with load [PSI]:				
Boom angle [°]:	Pile length [ft]:	12789	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0	front	lateral	comer	front	lateral	comer	front	lateral	comer	front	lateral	comer			
59	46	7937	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	86.78	29.74	72.74
46	52	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	84.84	27.08	73.58
39	33	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	84.93	27.61	73.69
33		4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	87.09	28.52	74.32
																														85.76	28.49	73.13

Hammer weight:		1:3 backwards/1:10 lateral (+18.4°/±5.7°)																														
Boom angle [°]:	Pile length [ft]:	12789	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0															
59	46	7937	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	88.95	30.68	73.51
46	52	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	84.59	27.32	73.61
39	33	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	86.84	28.63	73.30
33		4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	92.62	30.90	75.17
																														92.04	32.05	74.16

Hammer weight:		1:3 backwards/1:8 lateral (+18.4°/±7.1°)																														
Boom angle [°]:	Pile length [ft]:	12789	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0															
59	46	7937	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	83.69	34.93	71.98
46	52	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	84.95	27.46	73.56
39	33	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	87.45	29.20	73.31
33		4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	93.59	31.70	75.28
																														93.21	33.07	74.35

Hammer weight:		1:3 backwards/1:6 lateral (+18.4°/±9.5°)																														
Boom angle [°]:	Pile length [ft]:	12789	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0															
59	46	7937	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	78.98	29.99	69.65
46	52	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	86.85	27.94	73.93
39	33	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	88.42	30.19	73.31
33		4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	95.20	33.07	75.50
																														95.16	34.80	74.73

Hammer weight:		1:3 backwards/1:4 lateral (+18.4°/±14.0°)																														
Boom angle [°]:	Pile length [ft]:	12789	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0															
59	46	7937	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	54.18	27.06	55.79
46	52	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	65.02	29.35	61.16
39	33	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	68.32	30.96	62.53
33		4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	79.08	34.69	67.45
																														92.45	38.00	73.43

Hammer weight:		1:3 backwards/1:3 lateral (+18.4°/±18.4°)																														
Boom angle [°]:	Pile length [ft]:	12789	70.0	68.0	66.0	64.0	62.0	60.0	58.0	56.0	54.0	52.0	50.0	48.0	46.0	44.0	42.0															
59	46	7937	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	7937	36.58	23.08	40.79
46	52	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	7055	47.83	28.59	48.36
39	33	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	5291	50.03	30.32	49.48
33		4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	4409	56.66	34.49	53.39
																														64.22	38.29	58.10

IMPORTANT CONTACT INFORMATION



NATIONAL COMMISSION FOR THE CERTIFICATION OF CRANE OPERATORS

2750 Prosperity Avenue, Suite 505
Fairfax, VA 22031-4312

Phone: 703-560-2391

Fax: 703-560-2392

Email: info@nccco.org

Website: www.nccco.org



**NATIONAL COMMISSION FOR THE
CERTIFICATION OF CRANE OPERATORS**

2750 Prosperity Avenue, Suite 505
Fairfax, VA 22031-4312

Phone: 703-560-2391

Fax: 703-560-2392

info@nccco.org

www.nccco.org