PCS Lift Planner Assist

V1.0

Calculators

Rigging tables

Any cell with this colour; requires user input

Any cell with this colour; has a dropdown list for the user to choose from

All other cells are either results, or reference / information cells

Disclaimer

This tool is provided solely as an assistive calculation and reference aid for crane and rigging planning activities. It is intended to support competent users by assisting with calculations, equipment reference checks, and planning-related information only.

This tool does not create lift plans, design lifting arrangements, engineer lifting solutions, authorise lifting activities, or determine whether any proposed lift is safe, compliant, or suitable for execution. It is not intended to function as a lift planning, engineering, design, or approval system.

This tool is intended only as a support aid to assist the user's own planning process. It is not a substitute for proper lift planning, engineering assessment where required, manufacturer information, applicable standards, site procedures, risk assessment, or the judgement of competent personnel.

Output accuracy depends significantly on the accuracy, completeness, and suitability of the information entered by the user. Incorrect, incomplete, assumed, or inappropriate inputs may produce incorrect, misleading, or unreliable results.

Users must independently verify all inputs, outputs, assumptions, equipment capacities, manufacturer data, load charts, configurations, rigging arrangements, operational limitations, and any other relevant information before relying on any result produced by this tool.

This tool must never be used as the sole basis for creating, reviewing, approving, or executing any lift plan or lifting activity.

This tool is intended only for use in compatible supported software environments as specified at point of sale.

While reasonable care has been taken in developing this tool, no representation, warranty, or guarantee is given that it is free from errors, omissions, defects, unsuitable assumptions, or other inaccuracies, or that it is suitable for any particular purpose or application.

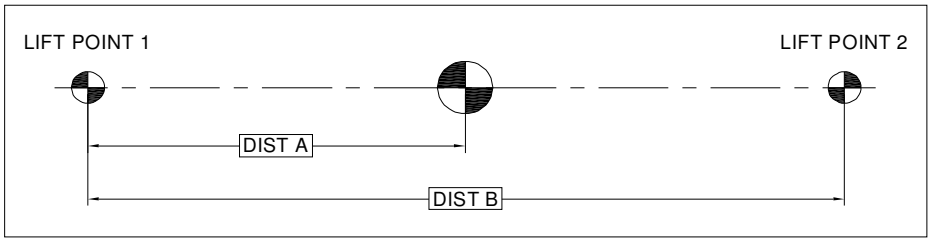
To the maximum extent permitted by law, the developer accepts no liability whatsoever for any loss, damage, injury, delay, cost, claim, or any other consequence arising from the use of, misuse of, inability to use, or reliance on this tool, its outputs, or any information derived from them. Regulatory, technical, and operational requirements vary between jurisdictions, industries, sites, and organisations. Users are solely responsible for ensuring compliance with all applicable laws, standards, codes, procedures, and local requirements.

Responsibility for lift planning, engineering review where required, safe execution, correct equipment selection, verification of all calculations, and compliance with all applicable legislation, standards, codes, manufacturer requirements, and site rules remains entirely with the user.

Load share calculator

Home

Total weight?		kg	
Distance A?		mm	(From lift point 1 to centre of gravity)
Distance B?		mm	(From lift point 1 to lift point 2)



Load at Point 1	**INVALID**	kgs	Load at Point 2	**INVALID**	kgs

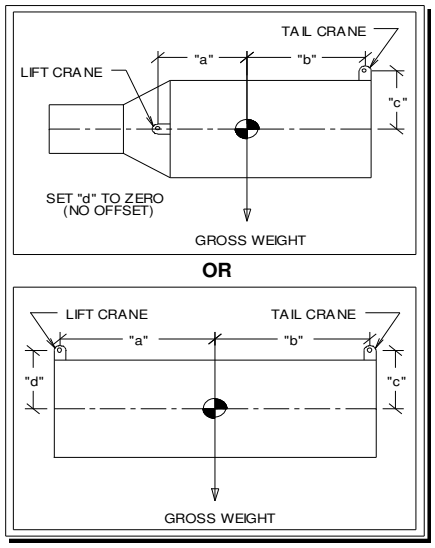
Lift and tail loads calculator

Home

Refer to image for required inputs

"a" Dist C of G to main lift point		mm
"b" Dist C of G to tail lift point		mm
"c" Offset C of G to tail lift point		mm
"d" Offset C of G to main lift point		mm
Load weight		kgs

Lifting crane		Tailing crane	
Crane 1		**Crane 2**	
Crane comp.		Crane comp.	
Rigging		Rigging	
Total	**0**	**Total**	**0**
All weights in kg			



This table shows the change in total lifted weight as the load is rotated. It includes crane components weight and rigging weight.

This table shows the required capacity for each crane at each angle of rotation of the load. This section complies with AS 2550.1 2011, Section 6.28.3 - Capacity requirements

RESULTS

Angle of load	LIFT LOAD	TAIL LOAD	Angle of load	Crane 1 Required SWL (with 20% added)	Crane 2 Required SWL (with 20% added)
0			0		
30			30		
45			45		
50			50		
60			60		
70			70		
75			75		
76			76		
77			77		
78			78		
79			79		
80			80		
81			81		
82			82		
83			83		
84			84		
85			85		
86			86		
87			87		
88			88		
89			89		
90			90		

If entering data for the lower example in the image above, the last cell with a value for the Lifting crane shows at what angle the Tailing crane has no weight.

Multi crane lift calcs

Home

NOTE; These calculators are based on Australian Standard *AS 2550.1-2011 Cranes hoists and winches - Safe use - General requirements* .

CAUTION; Determining load shares for a mutli crane lift, especially for 3 or more cranes, may need engineering input. These calculators will return results based only on your input.

All weights in kg

Two crane lift

Crane 1

Load share	
Crane components	
Rigging weight	
Total lift weight	
Required SWL	
Actual SWL	
Utilisation of actual SWL	

Crane 2

Load share	
Crane components	
Rigging weight	
Total lift weight	
Required SWL	
Actual SWL	
Utilisation of actual SWL	

Lift complies with AS2550?

An explanation of how multi crane lift calculations are meant to be handled in Australia;

Under Australian Standard *AS 2550.1-2011 Cranes hoists and winches - Safe use - General requirements* a person planning a multi crane lift must calculate the minimum Required Capacity (or Req. SWL) for each crane based on their load shares. To do this you must know the centre of gravity of the load. Then calculate each cranes load share. Engineering input may be needed for that if you are not sure.

Once you know the load shares, there is only one correct way to calculate the Required Capacity for each crane;

1. Calculate load share
2. Add the weight of any applicable crane components (hooks, jibs, hoist rope etc)
3. Then add the weight of all rigging equipment
4. This gives the Total Lifted Weight (TLW)
5. Multiply the TLW by the appropriate factor (for 2 cranes, 1.2. For 3 cranes, 1.33. For four cranes or more, 1.5)
6. The result is the Required Capacity for that crane
7. Provided the crane has that capacity throughout the lifting operation, and its load share doesn't increase, the lift will comply AS 2550 in regard to multi crane lifts

There is no requirement under the Standard to add a DAF (Dynamic Amplification Factor) However there is nothing stopping you from doing so. Add it to the TLW then multiply again by the appropriate multi crane lift factor. This will give a very large capacity margin but may result in needing larger cranes.

Three crane lift

Crane 1

Load share	
Crane components	
Rigging weight	
Total lift weight	
Required SWL	
Actual SWL	
Utilisation of actual SWL	

Crane 2

Load share	
Crane components	
Rigging weight	
Total lift weight	
Required SWL	
Actual SWL	
Utilisation of actual SWL	

Crane 3

Load share	
Crane components	
Rigging weight	
Total lift weight	
Required SWL	
Actual SWL	
Utilisation of actual SWL	

Lift complies with AS2550?

Four crane lift

Crane 1

Load share	
Crane components	
Rigging weight	
Total lift weight	
Required SWL	
Actual SWL	
Utilisation of actual SWL	

Crane 2

Load share	
Crane components	
Rigging weight	
Total lift weight	
Required SWL	
Actual SWL	
Utilisation of actual SWL	

Crane 3

Load share	
Crane components	
Rigging weight	
Total lift weight	
Required SWL	
Actual SWL	
Utilisation of actual SWL	

Crane 4

Load share	
Crane components	
Rigging weight	
Total lift weight	
Required SWL	
Actual SWL	
Utilisation of actual SWL	

Lift complies with AS2550?

Ground bearing pressure calculator

For cranes on outriggers

Home

Outrigger jack pad type;

Round	diameter;		mm		
Square	length	600	mm	width	600 mm

Enter data for one type only. If changing to a different type, other data must be deleted.

Outrigger pad type;

Timbers

Length	Width	Thickness	On ground	Layer 2	Layer 3	Weight
1000	250	75	5	4	3	0.1
mm	mm	mm	How many	How many	How many	tonnes

Non-engineered steel pad

Length	Width	Thickness	Weight
mm	mm	mm	t

Engineered & certified steel pad

Length	Width	Weight
mm	mm	t

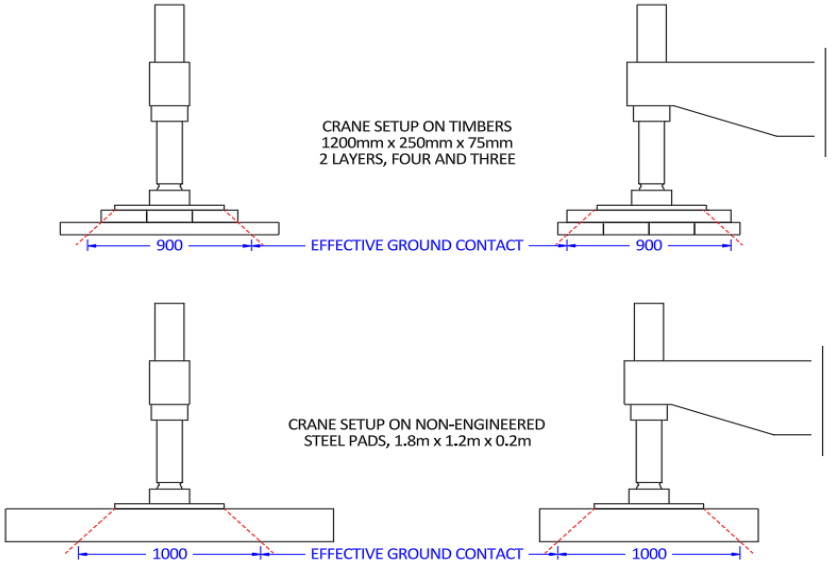
Enter data for one type only. If changing to a different type, other data must be deleted.

Maximum jack down force; 40 tonnes ← This value must come from OEM software or OEM web resource

Estimated maximum GBP

37.9	tonnes / m2
371.3	kPa

Note; This calculator relies on the user getting maximum jack down force, or pressure under crawler crane tracks, from OEM software. It does not calculate those values. Due to the variability of different outrigger pad materials, and varying ground conditions, the maximum ground bearing pressures calculated here ***can only be seen as estimations.***



This GBP calculator assumes the worst case of effective ground contact area being delineated by 45 degree lines of force emanating from the perimeter of the outrigger jack pad, for timber or non-engineered steel pads. Round jack pads will give higher results than square jack pads. It is assumed that fully engineered pads can act as bridges. Therefore full ground contact area can be used in GBP calculations.

Boom / obstacle clearance calculator

Home

Enter all required data as specified below;

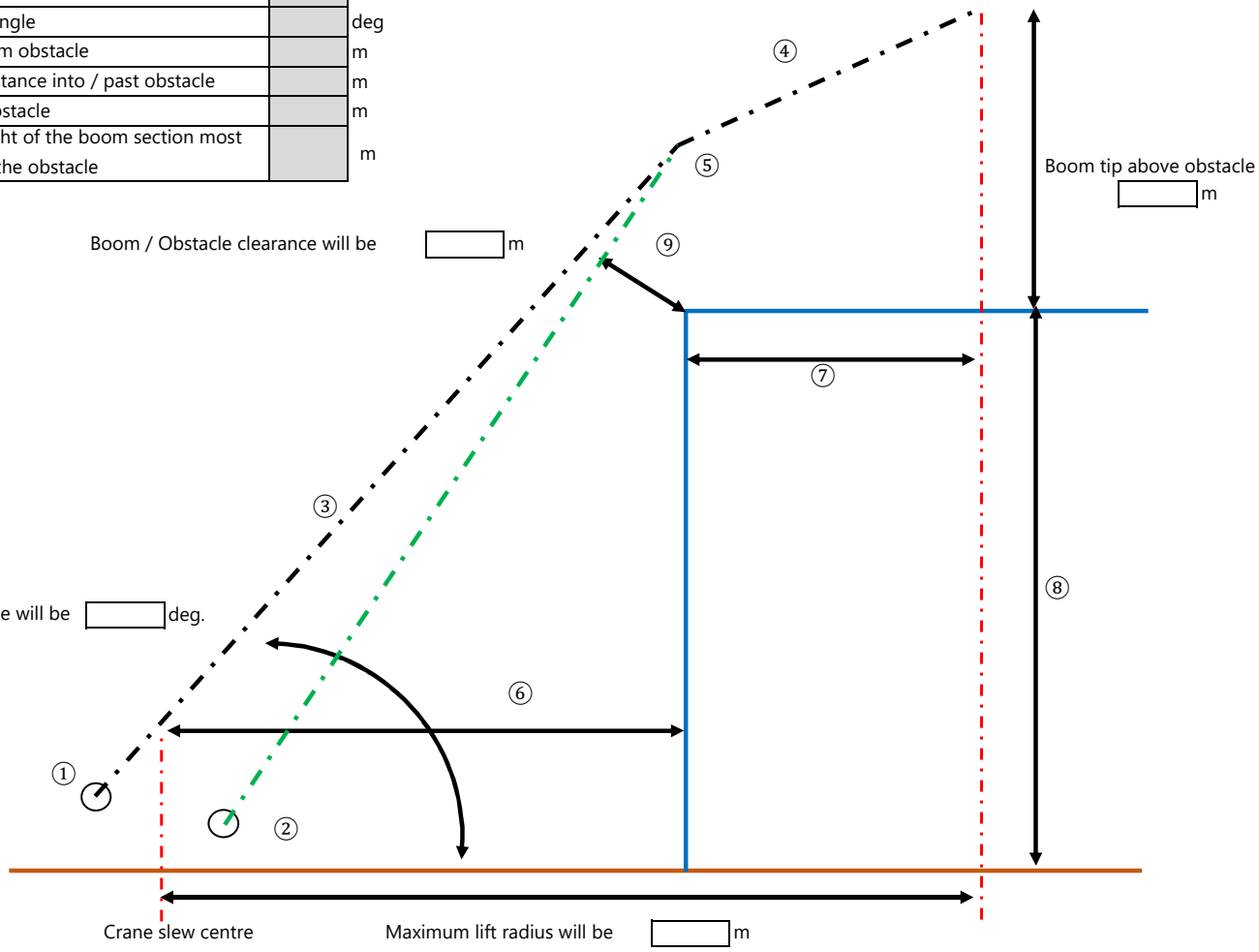
①	Hydraulic crane boom pivot point		m	behind slew centre and		m above ground	(Default is 2.4m behind / 3.5m above - change if required)
②	Crawler crane boom pivot point		m	forward of slew centre and		m above ground	(Default is 1.2m forward / 1.8m above - change if required)

③	Main boom length		m
④	Jib length		m
⑤	Jib offset / angle		deg
⑥	Distance from obstacle		m
⑦	Required distance into / past obstacle		m
⑧	Height of obstacle		m
⑨	Vertical height of the boom section most adjacent to the obstacle		m

Boom / Obstacle clearance will be [ ] m

Boom tip above obstacle [ ] m

Boom angle will be [ ] deg.



Maximum wind speed calculation

Home

This tool is based on the Liebherr method. It is intended to show a suggested maximum allowable wind speed. It is not intended to guarantee a lift is safe in the calculated wind speed

Crane Details

Make & Model	
Crane Configuration	
Main boom length (m)	
Counterweight (t)	
OEM load chart max wind speed (m/sec)	

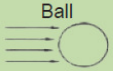
Load Details

Max Projected Surface Area (m2)	
Load Weight (t)	
Coefficient of Resistance	
Surface Area Exposed to Wind (m2)	0.0
Calculated Max Wind Speed (m/sec)	CHECK INPUTS

Is Calculated Max more than OEM max?	

Maximum Allowable Wind Speed	**CHECK INPUTS**	**m/sec**
Maximum Allowable Wind Speed	**CHECK INPUTS**	**kph**

Note that if the Calculated Max Wind Speed is higher than OEM load chart max wind speed, you must still only operate

Body	Coefficient of resistance c_w
Plate / cube 	1.1 to 2.0
Cylinders 	0.6 to 1.0
Ball 	0.3 to 0.4
Hemisphere (front) 	0.2 to 0.3
Hemisphere (rear) 	0.8 to 1.2
Wind power plant rotor 	Approximately 1.6

Use this graphic to decide the value for Coefficient of Resistance.

The value is dependent on how "square" a load is

A flat rectangular load would be more towards 1.1. A square load would be more towards 2

A round load would likewise vary from 0.6 to 1. Depending on how "square" it is, given height and width

For example;

A shipping container would be around 1.3 or 1.4

A long narrow formwork shutter would be around 1.1

A large square formwork shutter would be 2

A tall skinny tank would be 0.6

A squat, fat tank would be 1

Generally, the lighter a load is, the lower the allowable wind speed will be.

Minimum hook weight calculator

Home

Boom length	50	m
Jib length	50	m
Rope diameter	28	mm
Rope weight	3.9	
Reeving	10	falls
Reeving factor	1.54	

Min hook weight	**6006**	**kgs**

Interpolation of load charts

Home

Linear interpolation of load chart over 1m

	SWL
Rad. 1	
Rad. 2	

Linear interpolation of load chart over 2m

Radius	SWL
Rad. 1	
Rad. 2	

Linear interpolation of load chart over 4m

Rad. 1	SWL	Rad. 2	SWL

Linear interpolation of load chart over 5m

Rad. 1	SWL	Rad. 2	SWL

Linear interpolation of load chart over 6m

Rad. 1	SWL	Rad. 2	SWL

How to use this page;

1. Enter the starting radius in the "Rad. 1" cell
2. Rad. 2 will automatically fill
3. Enter the SWL for Rad. 1
4. Enter the SWL for Rad. 2
5. Table will then fill with interpolated capacities between the specified radii

Rigging weights

Home

Chain sling weight calculator

Chain dia.		mm
Head ring		
Hammerloks		
Shorteners		
Total chain length		
Latchloks		
Chain sling weight	**HECK INPU**	kg

Wire sling weight calculator

Sling diameter		mm
Kg / metre	HECK INPU	kg
Sling length		m
Eye length		mm
Sling weight	**HECK INPU**	kgs

Soft sling weight calculator

SWL		t
Length		m
Soft sling weight	**HECK INPU**	kg

Typical Chain Sling Weights (kgs)
2 leg chains with 2 shorteners on head ring
Single leg chains without shorteners

2 Leg Chains		Single Leg Chains	
8mm x 6m	22	20mm x 6m	66
8mm x 8m	27	20mm x 8m	83
10mm x 6m	34	20mm x 10m	99
10mm x 8m	43	22mm x 6m	92
13mm x 6m	61	22mm x 8m	114
13mm x 8m	76	22mm x 10m	136
13mm x 10m	90	26mm x 6m	120
16mm x 6m	97	26mm x 8m	149
16mm x 8m	120	26mm x 10m	177
16mm x 10m	142	32mm x 6m	190
20mm x 6m	142	32mm x 8m	236
20mm x 8m	174	32mm x 10m	282
20mm x 10m	207		
22mm x 6m	197		
22mm x 8m	241		
22mm x 10m	285		

Shackle weights kg (based on Green Pin)

Standard bow w / safety bolt

SWL	Weight
6.5t	2
8.5t	3
9.5t	4
12t	5
13.5t	7
17t	8
25t	14
35t	20
42.5t	28
55t	40
85t	62
120t	110
150t	160
200t	235
250t	285

Sling shackles w / safety bolt

SWL	Weight
40t	20
55t	30
75t	49
125t	88
150t	125
200t	190
250t	264

Super shackles w / safety bolt

SWL	Weight
7t	1
9.5t	2
12.5t	3
15t	4
18t	5
21t	7
30t	8
40t	15
55t	23
85t	45

Common soft round sling weights	
10t 4m	9
10t 6m	13
10t 9m	20
15t 4m	13
15t 6m	19
15t 9m	29
20t 4m	18
20t 6m	26
20t 9m	40
30t 4m	30
30t 6m	44
30t 9m	67
40t 4m	40
40t 6m	60
40t 9m	90
50t 4m	52
50t 6m	78
50t 9m	117
60t 4m	59
60t 6m	89
60t 9m	133
80t 4m	80
80t 6m	120

Rigging calculators

Home

Chain SWL

Grade	80	chains
Dia.	16	mm
legs	2 or more	
in a	Straight 60°	config.
The SWL is	**13.8**	**tonnes**

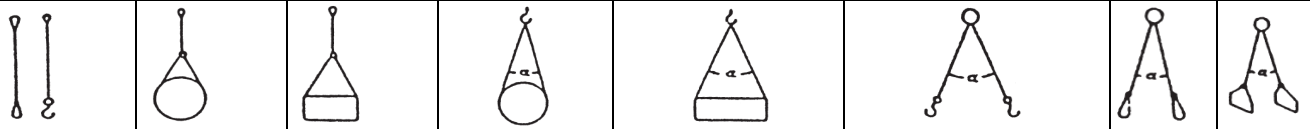
Load - which chains

If load is;	20	tonnes
legs	2 or more	
And sling config. is;	Straight 60°	
And Grade is;	80	
Required diameter is	**20**	**mm**

Single leg chains			2, 3 or 4 legs				2 legs
							
Straight sling (or adjustable with no deration)	Reeved sling	Basket sling max 60°	Straight sling			Reeved sling	Basket sling
			60°	90°	120°	60° max	60° max

Wire slings SWL

Grade	1960	wire
Diameter	36	mm
legs	2, 3 or 4 legs	
in a	Direct loaded 0 to 60°	config.
The SWL is	**30.2**	**tonnes**

	Single leg							Two, three or four leg				
												
	Direct loaded	**Choke hitch round**	**Choke hitch rectangular**	**Basket hitch - round**		**Basket hitch - not round**		**Direct loaded**			**Choke hitch round**	**Choke hitch rectangular**
Included angle a	-	-	-	60°	90°	60°	90°	0° to 60°	90°	120°	0° to 45°	0° to 45°

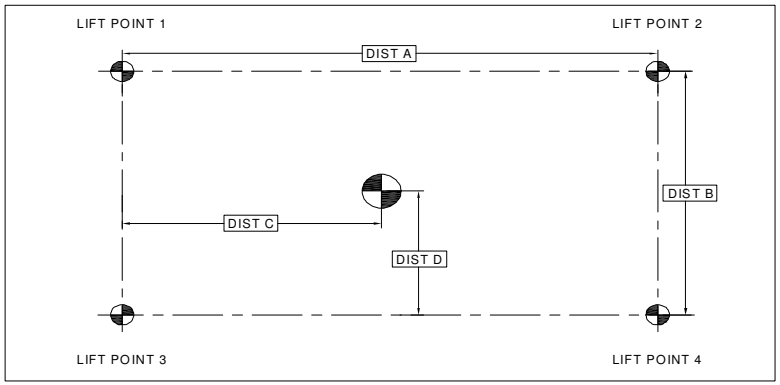
4 point lift calculator

Home

Total weight?	**20000**	kg
Distance A?	**6000**	mm
Distance B?	**3000**	mm
Distance C?	**2400**	mm
Distance D?	**1200**	mm
Distance E?	**8000**	mm

Distance E is the height of the hook above the load. Set to zero or delete if not required.

Load at Point 1	**4800**	kg
Load at Point 2	**3200**	kg



Load at Point 3	**7200**	kg
Load at Point 4	**4800**	kg

This calculator gives load shares only at each lift point. Distance E is irrelevant for this section.

In this section you can set the maximum allowable sling lengths and tensions as well as the minimum angle from the horizontal. (Allowable sling angle range is from 30 degrees to 80 degrees) You can also add a DAF if required

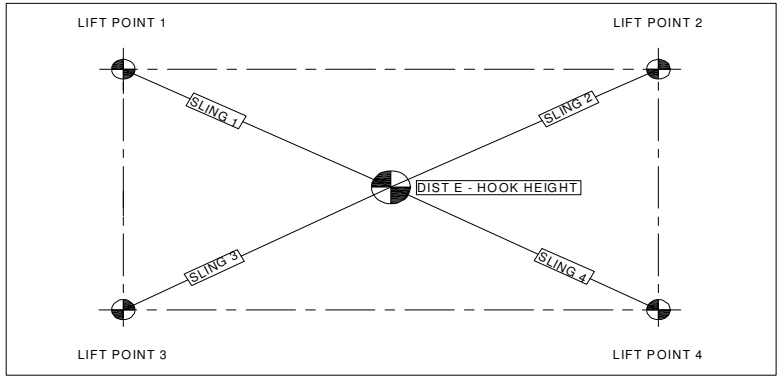
Max. sling length	**12**	m
Max. sling tension	**10000**	kg
Set min. angle	**30**	deg

Do you want to add a Dynamic Amplification Factor?

DAF	**1.2**	(1.1 to 5)

Sling 1 length	**8.5**	m
Sling 1 tension	**6152**	kg
Sling 1 angle	**69.4**	degrees

Sling 2 length	**9.0**	m
Sling 2 tension	**4299**	kg
Sling 2 angle	**63.3**	degrees



Sling 3 length	**8.4**	m
Sling 3 tension	**9113**	kg
Sling 3 angle	**71.5**	degrees

Sling 4 length	**8.9**	m
Sling 4 tension	**6375**	kg
Sling 4 angle	**64.6**	degrees

Sling tension calculator - two point lift

Home

Load weight?	20000	kg
Dist. A?	2350	Sling 1 attach point to C of G (mm)
Dist. B?	6000	Distance between sling points (mm)

Sling 1 SWL	15	t
Sling 2 SWL	15	t
Minimum sling angle	57	deg

Do you want to add a Dynamic Amplification Factor?

DAF (1.1 to 5)

Sling 1 min. length	6092	mm
Sling 2 min. length	6702	mm

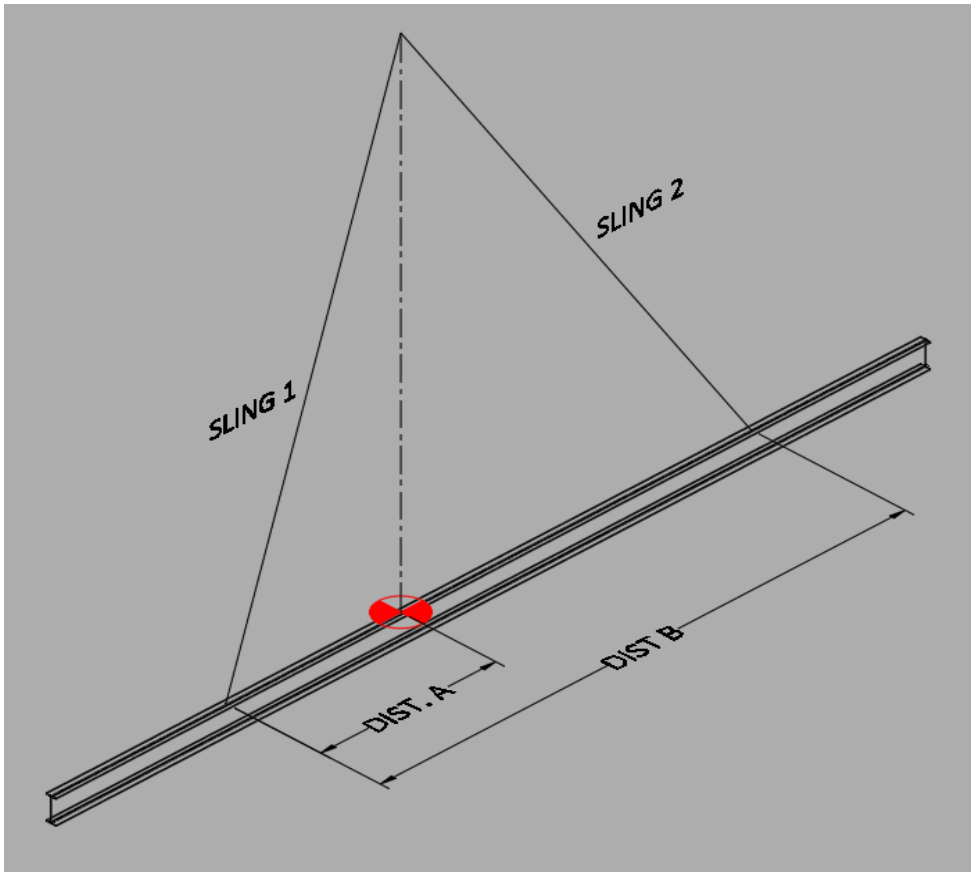
Sling 1 vertical load	12167	kg
Sling 1 tension	13187	kg
Sling 1 utilisation	88	%

Sling 2 vertical load	7833	kg
Sling 2 tension	9340	kg
Sling 2 utilisation	62	%

✓ Offset checks OK

✓ Input ranges OK

✓ All tensions positive



"DIST. A" can be more than half of "DIST. B" Think of a mirrored image.

CAUTION; This calculator gives an *indication only* of sling tensions. It does not take into account the self weight of the rigging.

Sling tension calculator - four point lift

Home

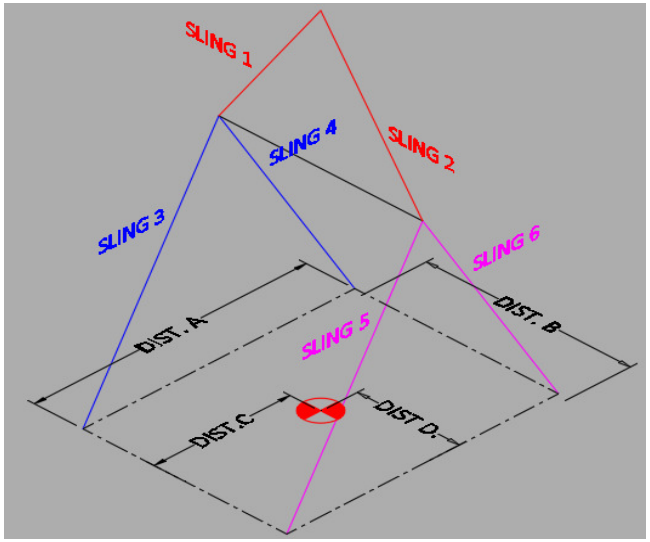
Load weight?		kg
Dist. A?		mm
Dist. B?		mm
Dist. C?		mm
Dist. D?		mm

Sling 1 SWL		t
Sling 2 SWL		t
Sling 3 SWL		t
Sling 4 SWL		t
Sling 5 SWL		t
Sling 6 SWL		t
Spreader weight		kg

Slings 1 & 2 min. angle	
Slings 3 to 6 min. angle	

If these cells are left blank, the default minimum sling angle is 60 deg from the horizontal. You can specify different desired minimum angles for all, or two or just one group of slings.

Do you want to add a Dynamic Amplification Factor?



CAUTION; This calculator gives an *indication only* of sling tensions. It does not take into account the self weight of all of the rigging.

	Sling minimum lengths mm	Sling vertical loads kg	Sling tensions kg	Sling utilisation %
1	0	CHECK INPUTS	CHECK INPUTS	
2	0	CHECK INPUTS	CHECK INPUTS	
3	0	CHECK INPUTS	CHECK INPUTS	
4	0	CHECK INPUTS	CHECK INPUTS	
5	0	CHECK INPUTS	CHECK INPUTS	
6	0	CHECK INPUTS	CHECK INPUTS	

⚠ **Blank input detected**

Sling tension calculator - eight point lift

Home

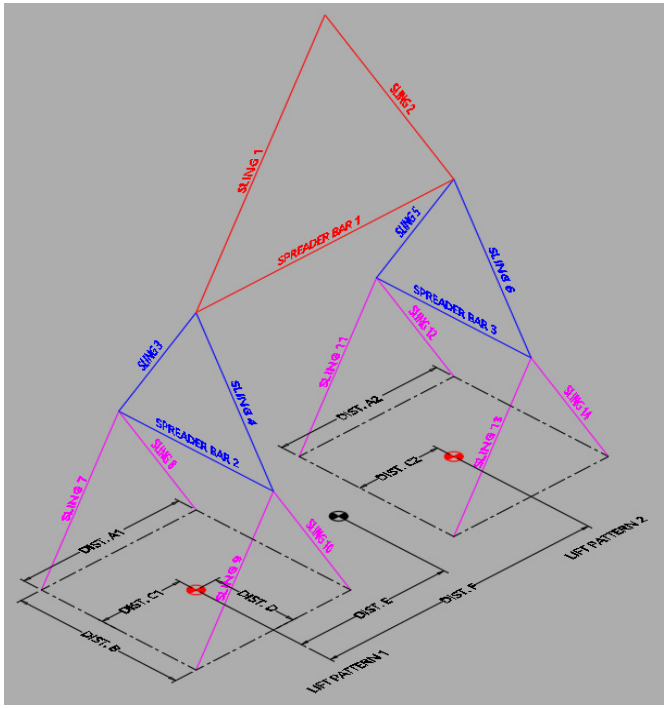
Load weight?		kg
Dist. A1?		mm
Dist. B?		mm
Dist. C1?		mm
Dist. D?		mm
Dist A2?		mm
Dist C2?		mm
Dist. E?		mm
Dist F?		mm
Spreader bar 1 weight?		kg
Spreader bar 2 weight?		kg
Spreader bar 3 weight?		kg

Slings 1 & 2 min. angle	
Slings 3 to 6 min. angle	
Slings 7 to 14 min. angle	

If these cells are left blank, the default minimum sling angle is 60 deg from the horizontal. You can specify different desired minimum angles for all, or two or just one group of slings.

Do you want to add a Dynamic Amplification Factor?

DAF (1.1 to 5)



	Sling minimum lengths	Sling vertical loads	Sling tensions	Sling SWL	Sling utilisation
	mm	kg	kg	tonnes	%
1	0	CHECK INPUTS	CHECK INPUTS		
2	0	CHECK INPUTS	CHECK INPUTS		
3	0	CHECK INPUTS	CHECK INPUTS		
4	0	CHECK INPUTS	CHECK INPUTS		
5	0	CHECK INPUTS	CHECK INPUTS		
6	0	CHECK INPUTS	CHECK INPUTS		
7	0	CHECK INPUTS	CHECK INPUTS		
8	0	CHECK INPUTS	CHECK INPUTS		
9	0	CHECK INPUTS	CHECK INPUTS		
10	0	CHECK INPUTS	CHECK INPUTS		
11	0	CHECK INPUTS	CHECK INPUTS		
12	0	CHECK INPUTS	CHECK INPUTS		
13	0	CHECK INPUTS	CHECK INPUTS		
14	0	CHECK INPUTS	CHECK INPUTS		

⚠ **Blank input detected**

Conversions

Home

Conversion calculators

Weight

Ounces	Pounds	US (short) Tons	Imp. (long) Tons	Kilograms	Tonnes	Newtons	Kips
1	0.0625	0.0000313	0.0000279	0.0284	0.0000284	0.278	0.0000625
16	**1**	0.0005	0.000446	0.454	0.000454	4.45	0.001
32000	2000	**1**	0.893	907	0.907	8900	2
35800	2240	1.12	**1**	1020	1.02	9960	2.24
35.3	2.21	0.0011	0.000984	**1**	0.001	9.81	0.0022
35300	2210	1.1	0.984	1000	**1**	9810	2.2
3.6	0.225	0.000112	0.0001	0.102	0.000102	**1**	0.000225
16000	1000	0.5	0.446	454	0.454	**4450**	**1**

Pressure

Psi	Bar	kPa	t/m²	kg/m²
1	0.0689	6.89	0.703	703
14.5	**1**	100	10.2	10200
0.145	0.01	**1**	0.102	102
1.42	0.0981	9.81	**1**	1000
0.00142	0.0000981	0.00981	0.001	**1**

Length

Inches	Feet	Yards	Miles	Millimetres	Metres
1	0.0833	0.0278	0.0000158	25.4	0.0254
12	**1**	0.333	0.000189	305	0.305
36	3	**1**	0.000568	914	0.914
63400	5280	1760	**1**	1610000	1610
0.0394	0.00328	0.00109	0.000000621	**1**	0.001
39.37	3.28	1.09	0.000621	1000	**1**

Area

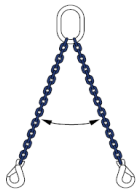
Sq. Inches	Sq. Feet	Sq. Yards	Acres	Sq. Miles	Sq. Cm.	Sq. Metres	Hectares
1	0.00694	0.000772	-	-	6.45	0.000645	-
144	**1**	0.111	0.000023	-	929	0.0929	0.00000929
1300	9	**1**	0.000207	0.000000323	8360	0.836	0.0000836
6270000	43600	4840	**1**	0.00156	40500000	4050	0.405
4010000000	27900000	3100000	640	**1**	-	2590000	259
0.155	0.00108	0.00012	-	-	**1**	0.0001	-
1550	10.8	1.2	0.000247	0.000000386	10000	**1**	0.0001
15500000	108000	12000	2.47	0.00386	-	10000	**1**

Capacity - Volume

Cubic Inches	Cubic Feet	Cubic Yards	Litres	Cubic Metre
1	0.000579	0.0000214	0.0164	0.0000164
1730	**1**	0.037	28.3	0.0283
46700	27	**1**	765	0.765
61	0.0353	0.00131	**1**	0.001
61000	35.3	1.31	1000	**1**

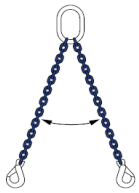
Grade 80 chain slings

Home

	Single leg chains			Slings of 2, 3 or 4 legs				2 leg slings
								
	Straight sling (or adjustable with no deration)	Reeved sling	Basket sling max 60°	Straight sling			Reeved sling	Basket sling
				60°	90°	120°	60° max	60° max
Loading factors	1	0.75	1.3	1.73	1.41	1	1.3	2.25
Chain dia. (mm)								
6	1.1	0.8	1.4	1.9	1.6	1.1	1.4	2.5
7	1.5	1.1	2	2.6	2.1	1.5	2	3.4
8	2	1.5	2.6	3.5	2.8	2	2.6	4.5
10	3.2	2.4	4.2	5.5	4.5	3.2	4.2	7.2
13	5.3	4	6.9	9.2	7.5	5.3	6.9	11.9
16	8	6	10.4	13.8	11.3	8	10.4	18
19	11.2	8.4	14.6	19.4	15.8	11.2	14.6	25.2
20	12.5	9.4	16.3	21.6	17.6	12.5	16.3	28.1
22	15	11.3	19.5	26	21.2	15	19.5	33.8
26	21.2	15.9	27.6	36.7	29.9	21.2	27.6	47.7
32	31.5	23.6	41	54.5	44.4	31.5	41	70.9

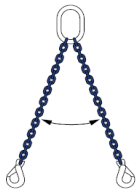
Grade 100 chain slings

Home

	Single leg chains			Slings of 2, 3 or 4 legs				2 leg slings
								
	Straight sling (or adjustable with no deration)	Reeved sling	Basket sling max 60°	Straight sling			Reeved sling	Basket sling
				60°	90°	120°	60° max	60° max
Loading factors	1	0.75	1.3	1.73	1.41	1	1.3	2.25
Chain dia. (mm)								
6	1.4	1.1	1.8	2.4	2	1.4	1.8	3.2
7	1.9	1.4	2.5	3.3	2.7	1.9	2.5	4.3
8	2.5	1.9	3.3	4.3	3.5	2.5	3.3	5.6
10	4	3	5.2	6.9	5.6	4	5.2	9
13	6.7	5	8.7	11.6	9.4	6.7	8.7	15.1
16	10	7.5	13	17.3	14.1	10	13	22.5
18	12.5	9.4	16.3	21.6	17.6	12.5	16.3	28.1
19	14	10.5	18.2	24.2	19.7	14	18.2	31.5
20	16	12	20.8	27.7	22.6	16	20.8	36
22	19	14.3	24.7	32.9	26.8	19	24.7	42.8
23	21	15.8	27.3	36.3	29.6	21	27.3	47.3
26	26.5	19.9	34.5	45.8	37.4	26.5	34.5	59.6
28	31.5	23.6	41	54.5	44.4	31.5	41	70.9
32	40	30	52	69.2	56.4	40	52	90

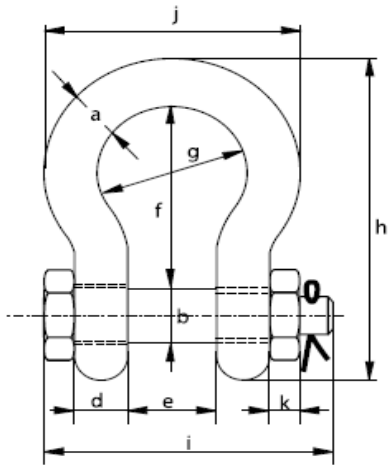
Grade 120 chain slings

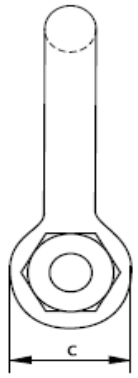
Home

	Single leg chains			Slings of 2, 3 or 4 legs				2 leg slings
								
	Straight sling (or adjustable with no deration)	Reeved sling	Basket sling max 60°	Straight sling			Reeved sling	Basket sling
				60°	90°	120°	60° max	60° max
Loading factors	1	0.75	1.3	1.73	1.41	1	1.3	2.25
Chain dia. (mm)								
6	1.8	1.4	2.3	3.1	2.5	1.8	2.3	4.1
8	3	2.3	3.9	5.2	4.2	3	3.9	6.8
10	5	3.8	6.5	8.7	7.1	5	6.5	11.3
13	8	6	10.4	13.8	11.3	8	10.4	18
16	12.5	9.4	16.3	21.6	17.6	12.5	16.3	28.1

Greenpin standard bow shackles - safety bolt

Home

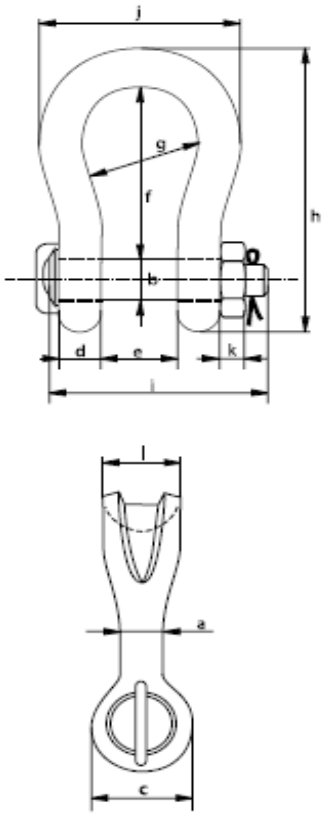




working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width bow	thickness nut	weight each
tons	a mm	b mm	c mm	d mm	e mm	f mm	g mm	h mm	i mm	j mm	k mm	kg
0.5	7	8	17	7	12	29	20	54	43	37	4	0
0.75	9	10	21	9	13.5	32	22	61	51	42	5	0.1
1	10	11	23	10	17	36.5	26	71	61	49	8	0.1
1.5	11	13	26	11	19	43	29	80	68	54	11	0.2
2	13.5	16	34	13.5	22	51	32	91	83	63	13	0.4
3.25	16	19	40	16	27	64	43	114	99	79	17	0.7
4.75	19	22	47	19	31	76	51	136	115	94	20	1.1
6.5	22	25	53	22	36	83	58	157	131	107	23	1.7
8.5	25	28	60	25	43	95	68	176	151	124	25	2.5
9.5	28	32	67	28	47	108	75	197	167	137	28	3.6
12	32	35	74	32	51	115	83	218	179	154	31	4.9
13.5	35	38	80	35	57	133	92	240	198	170	34	6.5
17	38	42	89	38	60	146	99	262	203	183	19	8.1
25	45	50	104	45	74	178	126	314	244	226	24	14.2
35	50	57	119	50	83	197	138	358	270	250	27	19.8
42.5	57	65	134	57	95	222	160	414	302	287	30	28.3
55	65	70	145	65	105	260	180	463	330	329	33	39.5
85	75	83	163	75	127	329	190	556	376	355	40	62

Greenpin sling shackles - safety bolt

Home

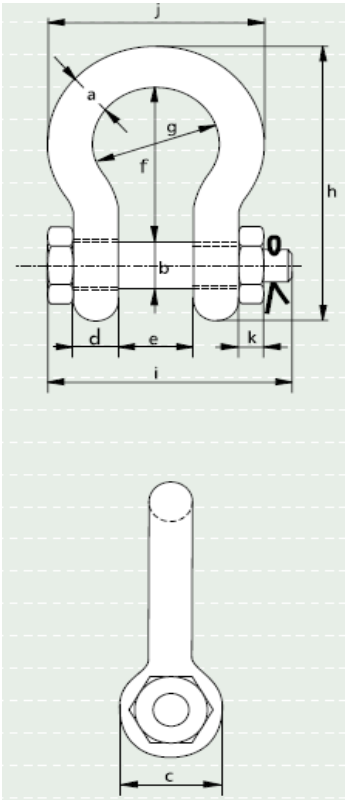


working load limit	diameter body	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width	thickness nut	bearing surface	weight each
tons	a mm	b mm	c mm	d mm	e mm	f mm	g mm	h mm	i mm	j mm	k mm	l mm	kg
40	55	51	109	45	84	199	140	331	252	235	38	97	20
55	60	57	115	55	90	240	160	389	299	270	45	100	30
75	68	70	125	54	110	290	185	473	317	317	40	120	49
125	85	80	154	85	137	366	220	583	413	390	40	150	88
150	94	95	179	89	147	391	253	645	445	434	50	170	125
200	110	105	199	100	158	481	280	759	480	482	50	205	190
250	126	120	227	110	179	542	300	859	535	530	60	240	264

Greenpin Super Shackles - safety bolt

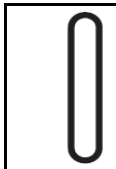
Home

working load limit	diameter bow	diameter pin	diameter eye	width eye	width inside	length inside	width bow	length	length bolt	width bow	thickness nut	weight each
tons	a mm	b mm	c mm	d mm	e mm	f mm	g mm	h mm	i mm	j mm	k mm	kg
3.3	13.5	16	34	13	22	51	32	90	80	59	13	0.4
5	16	19	40	16	27	64	43	110	98	75	17	0.73
7	19	22	46	19	31	76	51	129	115	89	19	1.19
9.5	22	25	52	22	36	83	58	144	130	102	22	1.73
12.5	25	28	59	25	43	95	68	164	150	118	25	2.56
15	28	32	67	28	47	108	75	186	166	131	27	3.6
18	32	35	73	32	51	115	83	201	184	147	30	4.95
21	35	38	79	35	57	133	92	227	197	162	33	6.62
30	38	42	88	38	60	146	99	249	202	175	19	8.11
40	45	50	104	45	74	178	126	300	243	216	23	14.8
55	57	57	119	57	83	197	138	342	283	252	26	23.3
85	70	70	145	70	105	260	180	438	339	320	32	45.1
120	83	83	164	83	127	329	190	537	397	356	39	72
150	95	95	204	95	147	400	238	644	453	428	50	116
175	105	108	235	105	169	410	275	686	496	485	50	156



Round slings - to AS 4497

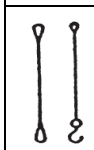
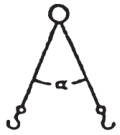
Home

						
	Straight lift	**Choked lift**	**Parallel**	**Basket hitch - 2, 3 & 4 legs**		
Load factor	**1**	**0.8**	**2**	**(60°) 1.73**	**(90°) 1.41**	**(120°) 1**
Colour as per AS 4497						
Violet	1	0.8	2	1.7	1.4	1
Green	2	1.6	4	3.4	2.8	2
Yellow	3	2.4	6	5.1	4.2	3
Grey	4	3.2	8	6.9	5.6	4
Red	5	4	10	8.6	7	5
Brown	6	4.8	12	10.3	8.4	6
Blue	8	6.4	16	13.8	11.2	8
Orange	10	8	20	17.3	14.1	10
Orange	15	12	30	25.9	21.1	15
Orange	20	16	40	34.6	28.2	20
Orange	25	20	50	43.2	35.2	25
Orange	30	24	60	51.9	42.3	30
Orange	40	32	80	69.2	56.4	40
Orange	50	40	100	86.5	70.5	50

IWRC slings - 1770 Grade

(Independent wire rope core)

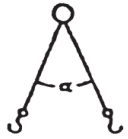
Home

	Single leg							Two, three or four leg				
												
	Direct loaded	**Choke hitch round**	**Choke hitch rectangular**	**Basket hitch - round**		**Basket hitch - not round**		**Direct loaded**			**Choke hitch round**	**Choke hitch rectangular**
Included angle a	-	-	-	60°	90°	60°	90°	0° to 60°	90°	120°	0° to 45°	0° to 45°
Loading factors	1	0.75	0.5	1.73	1.41	0.87	0.71	1.73	1.41	1	1.30	0.87
Rope dia (mm)												
8	0.78	0.58	0.39	1.35	1.1	0.68	0.55	1.35	1.1	0.78	1.01	0.68
9	0.99	0.74	0.49	1.71	1.4	0.86	0.7	1.71	1.4	0.99	1.29	0.86
10	1.22	0.92	0.61	2.1	1.72	1.06	0.87	2.1	1.72	1.22	1.59	1.06
11	1.48	1.11	0.74	2.6	2.1	1.29	1.05	2.6	2.1	1.48	1.92	1.29
12	1.76	1.32	0.88	3	2.5	1.53	1.25	3	2.5	1.76	2.3	1.53
13	2.1	1.55	1.04	3.6	2.9	1.8	1.47	3.6	2.9	2.1	2.7	1.8
14	2.4	1.8	1.2	4.2	3.4	2.1	1.71	4.2	3.4	2.4	3.1	2.1
16	3.1	2.3	1.56	5.4	4.4	2.7	2.2	5.4	4.4	3.1	4.1	2.7
18	4	3	1.98	6.8	5.6	3.4	2.8	6.8	5.6	4	5.1	3.4
20	4.9	3.7	2.4	8.4	6.9	4.2	3.5	8.4	6.9	4.9	6.3	4.2
22	5.9	4.4	3	10.2	8.3	5.1	4.2	10.2	8.3	5.9	7.7	5.1
24	7	5.3	3.5	12.2	9.9	6.1	5	12.2	9.9	7	9.1	6.1
26	8.3	6.2	4.1	14.3	11.6	7.2	5.9	14.3	11.6	8.3	10.7	7.2
28	9.6	7.2	4.8	16.6	13.5	8.3	6.8	16.6	13.5	9.6	12.4	8.3
32	12.5	9.4	6.3	22	17.6	10.9	8.9	22	17.6	12.5	16.3	10.9
36	15.8	11.9	7.9	27	22	13.8	11.2	27	22	15.8	21	13.8
40	19.6	14.7	9.8	34	28	17	13.9	34	28	19.6	25	17
44	24	17.7	11.8	41	33	21	16.8	41	33	24	31	21
48	28	21	14	49	40	24	19.9	49	40	28	37	24
52	33	25	16.6	57	47	29	24	57	47	33	43	29
56	38	29	19.2	66	54	33	27	66	54	38	50	33
58	42	31.5	21	73	59	36.5	30	74	60	42	54	36.5
64	52	39	26	90	73	45	37	90	73	52	67	45
75	70	52.5	35	121	99	61	50	121	99	70	91	50

IWRC slings - 1960 Grade

(Independent wire rope core)

Home

	Single leg							Two, three or four leg				
												
	Direct loaded	**Choke hitch - round**	**Choke hitch - rectangular**	**Basket hitch - round**		**Basket hitch - not round**		**Direct loaded**			**Choke hitch - round**	**Choke hitch - rectangular**
Included angle a	-	-	-	60°	90°	60°	90°	0° to 60°	90°	120°	0° to 45°	0° to 45°
Loading factors	1	0.75	0.5	1.73	1.41	0.87	0.71	1.73	1.41	1	1.30	0.87
Rope dia (mm)												
8	0.87	0.65	0.43	1.5	1.22	0.75	0.61	1.5	1.22	0.87	1.13	0.75
9	1.09	0.82	0.55	1.89	1.54	0.95	0.78	1.89	1.54	1.09	1.42	0.95
10	1.35	1.01	0.68	2.3	1.91	1.18	0.96	2.3	1.91	1.35	1.76	1.18
11	1.63	1.23	0.82	2.8	2.3	1.42	1.16	2.8	2.3	1.63	2.1	1.42
12	1.94	1.45	0.97	3.3	2.7	1.69	1.38	3.3	2.7	1.94	2.5	1.69
13	2.2	1.71	1.14	3.9	3.2	1.99	1.62	3.9	3.2	2.2	2.9	1.99
14	2.6	1.99	1.33	4.5	3.7	2.3	1.88	4.5	3.7	2.6	3.4	2.3
16	3.4	2.6	1.73	6	4.8	3	2.4	6	4.8	3.4	4.5	3
18	4.3	3.2	2.1	7.5	6.1	3.8	3.1	7.5	6.1	4.3	5.6	3.8
20	5.4	4	2.7	9.3	7.6	4.7	3.8	9.3	7.6	5.4	7	4.7
22	6.5	4.9	3.2	11.3	9.2	5.7	4.6	11.3	9.2	6.5	8.5	5.7
24	7.7	5.8	3.8	13.4	10.9	6.7	5.5	13.4	10.9	7.7	10.1	6.7
26	9.1	6.8	4.5	15.8	12.8	7.9	6.4	15.8	12.8	9.1	11.8	7.9
28	10.5	7.9	5.3	18.3	14.9	9.2	7.5	18.3	14.9	10.5	13.7	9.2
32	13.8	10.3	6.9	23.9	19.5	12	9.8	23.9	19.5	13.8	18	12
36	17.5	13.1	8.7	30.2	24.6	15.2	12.4	30.2	24.6	17.5	22.7	15.2
40	21.6	16.2	10.8	37.5	30.5	18.8	15.4	37.5	30.5	21.6	28.2	18.8
44	26.1	19.6	13	45.2	36.8	22.7	18.5	45.2	36.8	26.1	33.9	22.7
48	31.1	23.3	15.5	53.9	43.9	27.1	22.1	53.9	43.9	31.1	40.5	27.1
52	36.6	27.4	18.3	63.3	51.6	31.8	25.9	63.3	51.6	36.6	47.5	31.8
56	42.4	31.8	21.2	73.3	59.8	36.9	30.1	73.3	59.8	42.4	55.1	36.9
58	47.2	35.4	23.6	81.7	66.6	41.1	33.5	81.7	66.6	47.2	61.4	41.1
60	48.6	36.4	24.3	84.1	68.5	42.2	34.5	84.1	68.5	48.6	63.2	42.2