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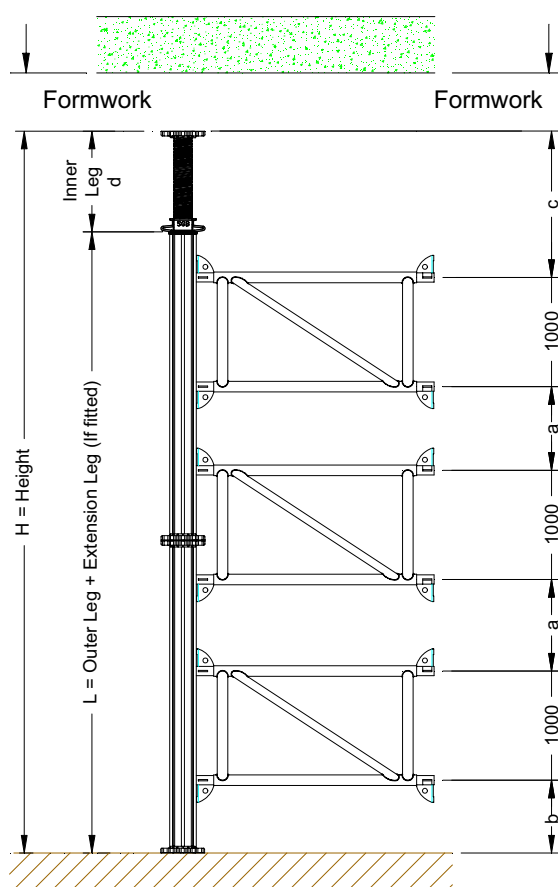
Safe Load Guidance Notes – (1 of 3)

- The following Safe Working Load tables and graphs are based on single towers with inner legs (jacks) top or bottom, or, top and bottom provided the shorter of the two jacks does not exceed 600 mm. Top and bottom supports are assumed pinned, with top of towers restrained against horizontal movement. Imperfections are assumed to DIN4421 as shown in page 202-2
- For 1 ledger frame towers with one jack only the frame is positioned 300 mm from the leg end with no jack (250 for the 1.49 leg). Where there are jacks top and bottom the frame is positioned closer to the shorter jack such that the cantilever is as close as possible to 300 mm. This is illustrated with reference to the tables.
- For 2 or more ledger frames, calculations are based on ledger frame spacing such that the relationship between the top and bottom cantilevers - including jacks – and the space between ledger frames, wherever possible, is at a fixed ratio of 0.46:1. Where this ratio cannot be achieved because of the magnitude of a jack extension, the ledger frame closer to that jack extension is positioned 150 mm from the end of the leg.
- With reference to the Figure below this relationship may be prescribed as follows:

$$b = 0.46a \quad c = 0.46a \quad \text{but if this is not possible due to large jack extensions, make} \quad c = d + 150 \text{ mm}$$

The Safe Working Load tables specify the positions of ledger frames derived on this principle. For standard cases such as shown in the SWL tables use the spacing as shown in the tables. For other cases establish the position of ledger frames using a method such as described in the example below.

The **Examples** below demonstrates the above approach in determining the frame spacing.



Example

Example 1

Height required = $H = 7550$
 Using 4670 leg + 2490 extension leg, $L = 4670 + 2490 = 7160$
 Inner leg extension = $7550 - 7160 = 390$
 O/A height excluding ledger frames = $7550 - 3000 = 4550$
 Hence $2a + b + c = 2a + 2 \times 0.46a = 2.92a = 4550$
 Hence $a = 1558$ say $a = 1560$
 Hence $b = (4550 - 2 \times 1560) / 2 = 715$
 Hence $c = 715 > 390 + 150$ hence $c = 715$
 Check: $3 \times 1000 + 2 \times 1560 + 715 + 715 = 7550$

Example 2

Height required = 8000
 Using 4670 leg + 2490 extension leg = 7160
 Inner leg extension = $8000 - 7160 = 840$
 O/A height excluding ledger frames = $8000 - 3000 = 5000$
 Hence $2a + b + c = 2a + 2 \times 0.46a = 2.92a = 5000$
 Hence $a = 1712.33$ say $a = 1710$
 Hence $b = (5000 - 2 \times 1710) / 2 = 790$
 However for jack extension of 840 and frame clearance of 150,
 $840 + 150 = 990 > 790$
 Hence 'c' cannot be accommodated within the 0.46 rule
 Hence repeat the above steps allowing for $c = 990$
 O/A height excluding ledger frames + $c = 8000 - 3000 - 990 = 4010$
 Hence $2a + b = 2a + 0.46a = 2.46a = 4010$
 Hence $a = 1630$
 Hence $b = (4010 - 2 \times 1630) = 750$
 Hence $c = 990$
 Check: $3 \times 1000 + 2 \times 1630 + 990 + 750 = 8000$

Safe Load Guidance Notes - (2 of 3)**SAFE WORKING LOAD TABLES**

The Safe Working Load tables in pages 203 to 248 are to DIN4421 and replace the original UK load tables. They are reproduced here from the tables approved and Licensed in Germany. Advantages of the new tables are:

- a) They comply with DIN4421 which is substantially close to the forthcoming European EN12812
- b) They show SWL for solid foundations as well as for cases with differential settlement, both cases complying with the 10% rule explained below.
- c) They include load tables for jacks top and bottom for up to 6 ledger frames – the smaller jack not greater than 600 mm
- d) They incorporate the required ledger frame spacing for each case.
- e) In spite of the considerable difference in the approach for calculations of the original UK tables and the approach to DIN4421, the SWL tables of the two cases are in substantial agreement, and the DIN4421 approach, in most cases, results in a slightly higher load. The top limit is raised from 130 kN to 140 kN.

Computing is done to Second Order and Limit State is assumed at the onset of plasticity (first plastic hinge). Material factor used is 1.1 and Load factor is 1.5

Design parameters are based on tests in the UK and Germany and have been approved by the German Institution of Structural Engineers (DIBT) who also granted Licence (Zulassung). Modelling and computing have been independently checked and approved by a Government Structures Office in Germany (Typenprüfung).

Note. The combined factor of $1.5 \times 1.1 = 1.65$ is based on first plastic hinge rather than computed collapse, which would normally be at a higher load. Also, design parameters are based on the statistical analysis of tests, which always leads to lower than mean values. This results in an equivalent 'safety factor' often greater than 2.

BASIC COMPUTER MODEL

The following load tables and graphs for top restrained towers have been computed using a computer model based on DIN4421.

Load tables are based on single discrete towers with pinned top and bottom bases.

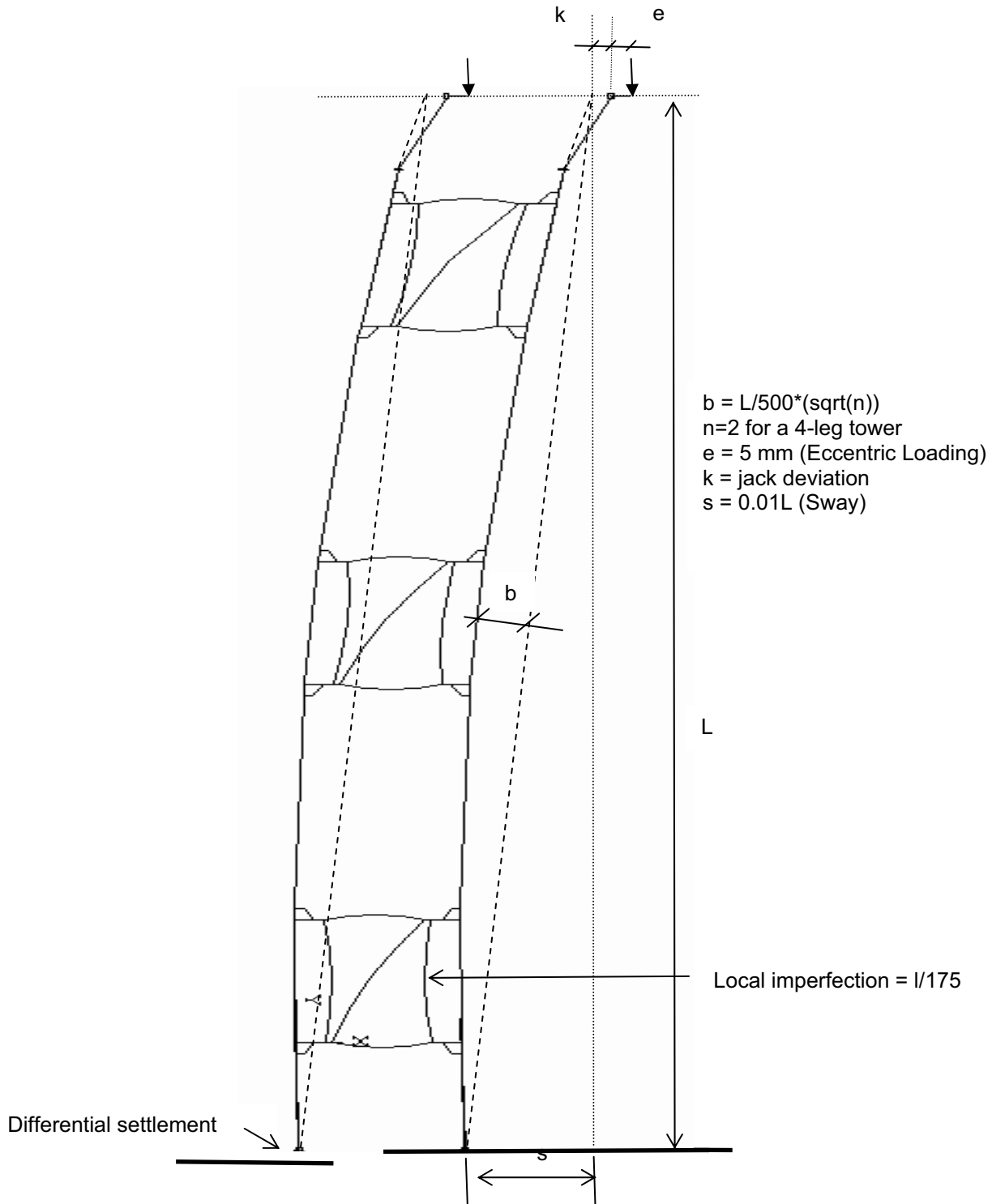
Except for the local imperfection of $l/175$, the imperfections shown below are specified by DIN4421 and are incorporated within each model. The local imperfection of $l/175$ is specified by the DIBT (The German Institution of Structural Engineers) as a separate guideline for aluminium.

Unless the base plates are supported on rigid foundations, such as concrete, calculations for load capacity must allow for a differential settlement of 5 mm (at limit state) and load reduction due to this differential settlement must not exceed 10% of load capacity on rigid foundations. Load capacity on rigid foundations therefore is often reduced to accommodate this 10% rule.

Generally, it is assumed that the top of towers is restrained against horizontal movement and any horizontal load acting at the top of the tower, such as the nominal 2.5% of vertical, is resisted by the horizontal restraint, such as the permanent works.

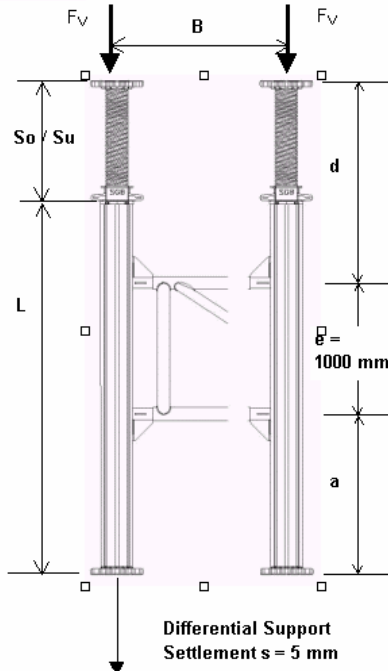
[Refer to Page: 202-2 for computer model diagram.](#)

Safe Load Guidance Notes - (3 of 3)



Refer to Page: 202-1 for full explanation of computer model diagram.

Gass Tower (1 Jack) Loading Charts - 1 of 12



GASS - Shoring Technology

With Top or Bottom Jack

And 1 Ledger Frame

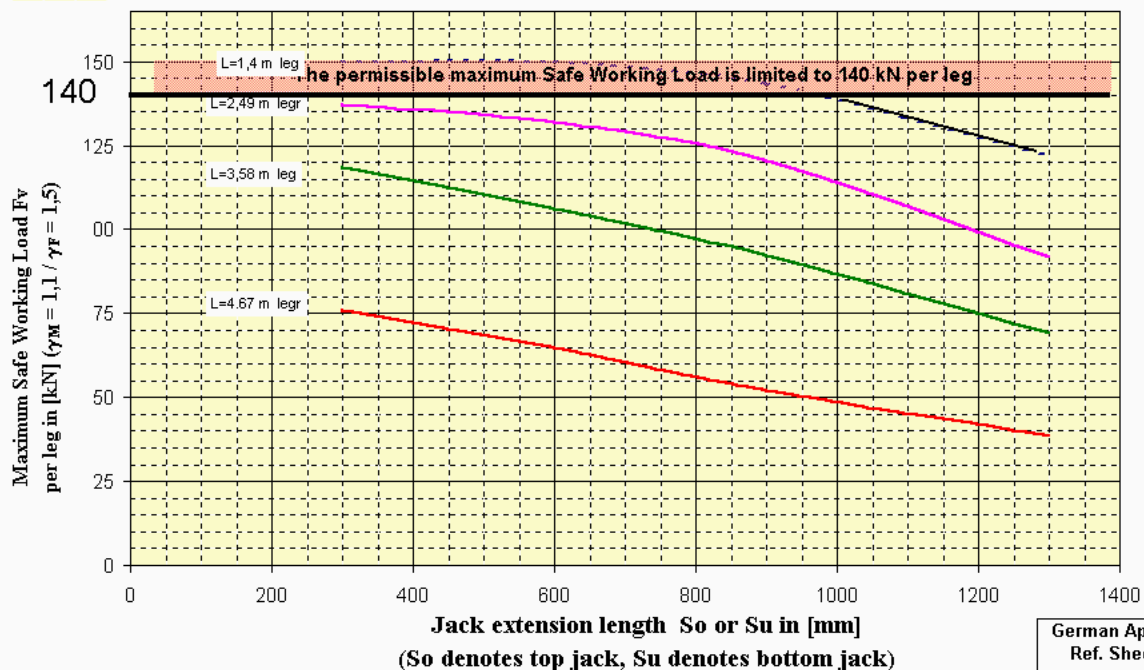
Leg Heights $L = 1.40 \text{ m}$ to $L = 4.67 \text{ m}$

SWL Adjusted to allow for Differential Settlement to DIN4421

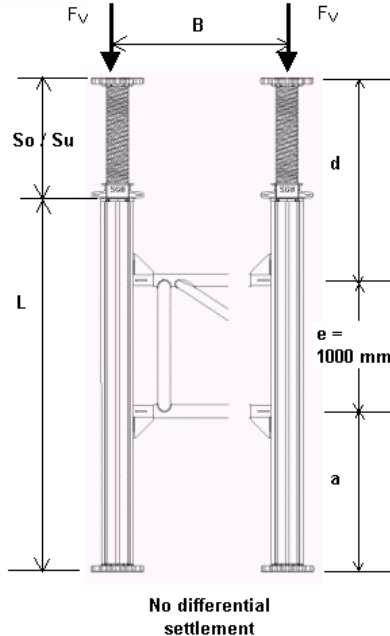
Allowable Conditions:

Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the jack is maintained
Spacing of ledger frame(s) dimensions a , b and d must be as shown below
The top of the tower is horizontally restrained in position
No wind loads have been allowed (otherwise special calculations are required)
Plate-to-plate leg bolted joints may be in any position
Maximum Differential support settlement $s = 5 \text{ mm}$ (at limit state, DIN 4421)
Ledger frame widths may be $B = 1.20 \text{ m}$, 1.80 m , 2.40 m and 3.00 m
SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown

Jack extension	Dimns.	Vertical tube (leg) length L in (m)			
		1.40	2.49	3.58	4.67
300 [mm]	a	0.25	0.30	0.30	0.30
	d	0.45	1.49	2.58	3.67
600 [mm]	a	0.25	0.30	0.30	0.30
	d	0.75	1.79	2.88	3.97
900 [mm]	a	0.25	0.30	0.30	0.30
	d	1.05	2.09	3.18	4.27
1300 [mm]	a	0.25	0.30	0.30	0.30
	d	1.45	2.49	3.58	4.67



Gass Tower (1 Jack) Loading Charts - 2 of 12



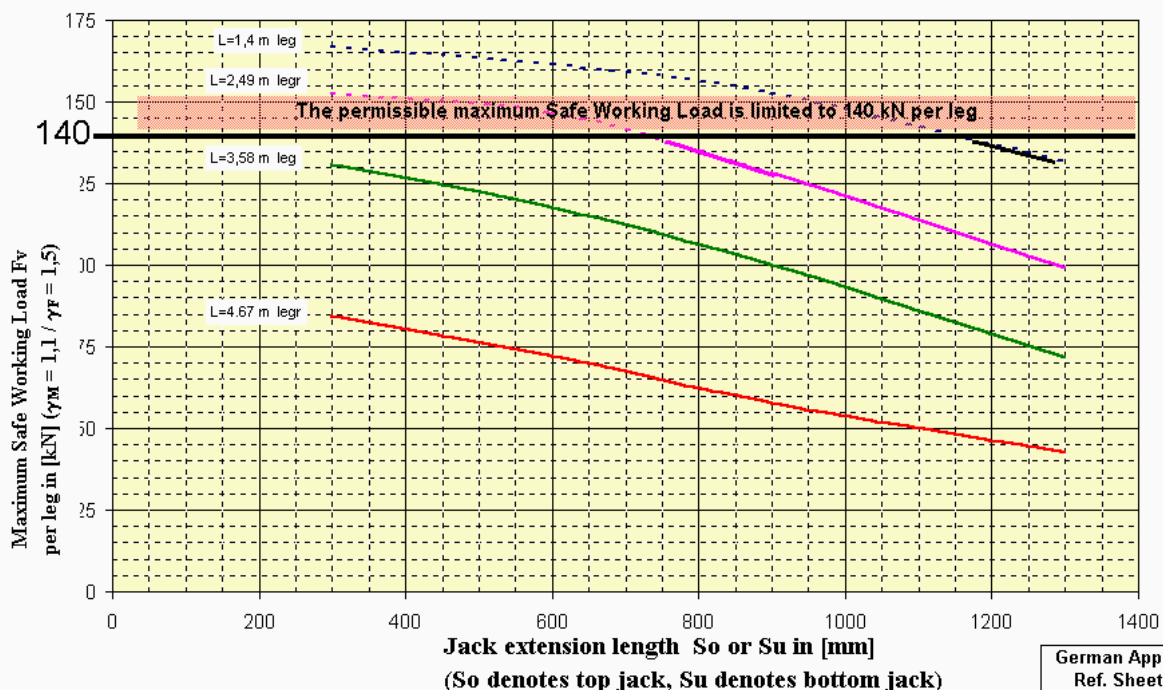
GASS scaffold towers from SGB
with head or foot jacks
and 1 ledger frame

Vertical tube (leg) L = 1.40 m to 4.67 m
Without differential support settlement

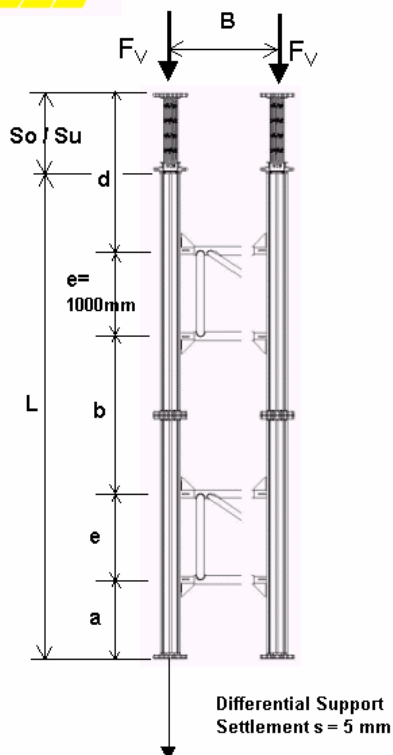
Allowable Conditions:

Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the jack is maintained
Spacing of ledger frame(s) dimensions a, b and d must be as shown below
The top of the tower is horizontally restrained in position
No wind loads have been allowed (otherwise special calculations are required)
Plate-to-plate leg bolted joints may be in any position
Ledger frame widths may be B = 1.20 m, 1.80 m, 2.40 m and 3.00 m
SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown

Jack	Extension	Dimns.	Vertical tube (leg) length L in (m)			
			1.40	2.49	3.58	4.67
300 [mm]	a		0.25	0.30	0.30	0.30
	d		0.45	1.49	2.58	3.67
600 [mm]	a		0.25	0.30	0.30	0.30
	d		0.75	1.79	2.88	3.97
900 [mm]	a		0.25	0.30	0.30	0.30
	d		1.05	2.09	3.18	4.27
1300 [mm]	a		0.25	0.30	0.30	0.30
	d		1.45	2.49	3.58	4.67



Gass Tower (1 Jack) Loading Charts - 3 of 12



**GASS scaffold towers from SGB
with head or foot jacks
and 2 ledger frames
Vertical tube (leg) L = 2.50 m to 6.00 m
with differential support settlement $s = 5 \text{ mm}$**

Allowable Conditions:

Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the jack is maintained

Spacing of ledger frame(s) dimensions a, b and d must be as shown below

The top of the tower is horizontally restrained in position

No wind loads have been allowed (otherwise special calculations are required)

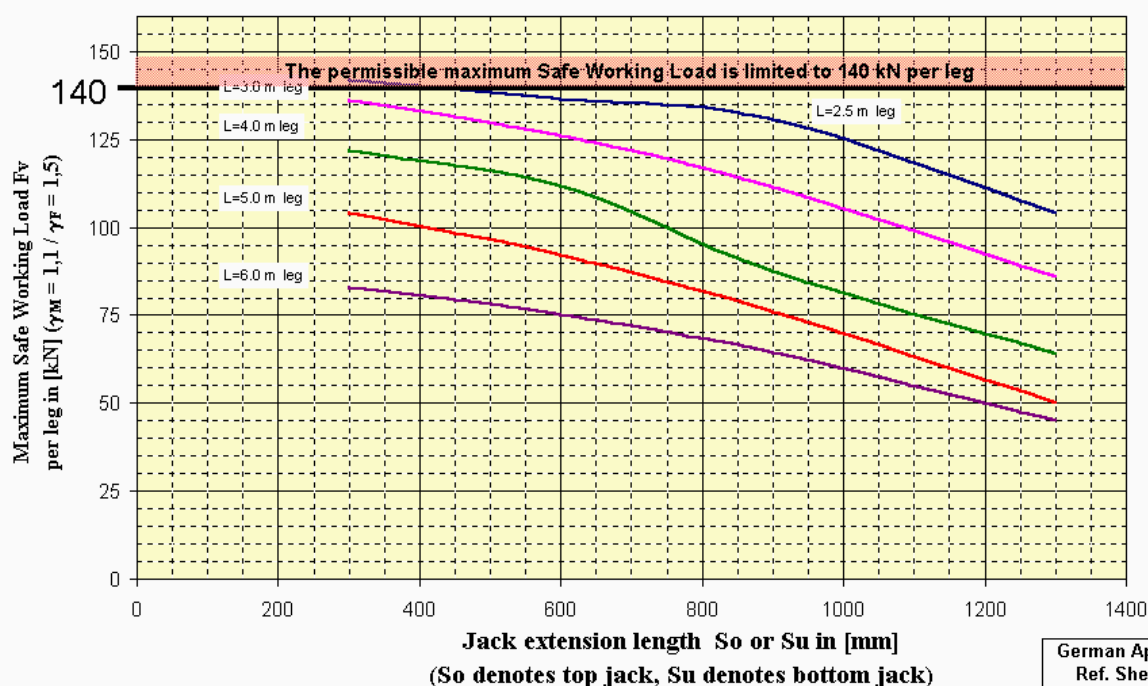
Plate-to-plate leg bolted joints may be in any position

Maximum Differential support settlement $s = 5 \text{ mm}$ (at limit state, DIN 4421)

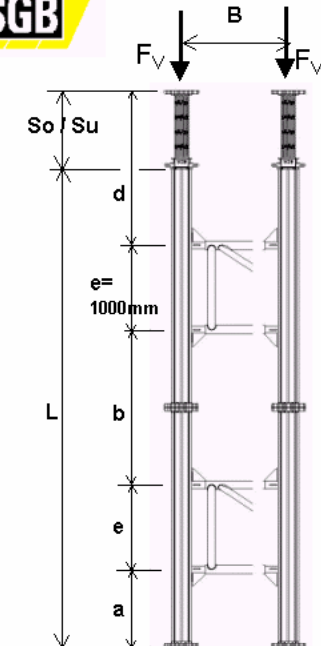
Ledger frame widths may be $B = 1.20 \text{ m}, 1.80 \text{ m}, 2.40 \text{ m}$ and 3.00 m

SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown

Jack		Vertical tube (leg) length L in (m)				
Extension	dimms	2.5	3	4	5	6
	a	0.15	0.27	0.55	0.79	1.03
300 [mm]	b	0.20	0.58	1.20	1.72	2.24
	d	0.45	0.45	0.55	0.79	1.03
	a	0.15	0.27	0.57	0.86	1.10
600 [mm]	b	0.20	0.58	1.28	1.86	2.40
	d	0.75	0.75	0.75	0.86	1.10
	a	0.15	0.27	0.58	0.88	1.17
900 [mm]	b	0.20	0.58	1.27	1.97	2.55
	d	1.05	1.05	1.05	1.05	1.18
	a	0.15	0.27	0.58	0.90	1.21
1300 [mm]	b	0.20	0.58	1.27	1.95	2.64
	d	1.45	1.45	1.45	1.45	1.45



Gass Tower (1 Jack) Loading Charts - 4 of 12



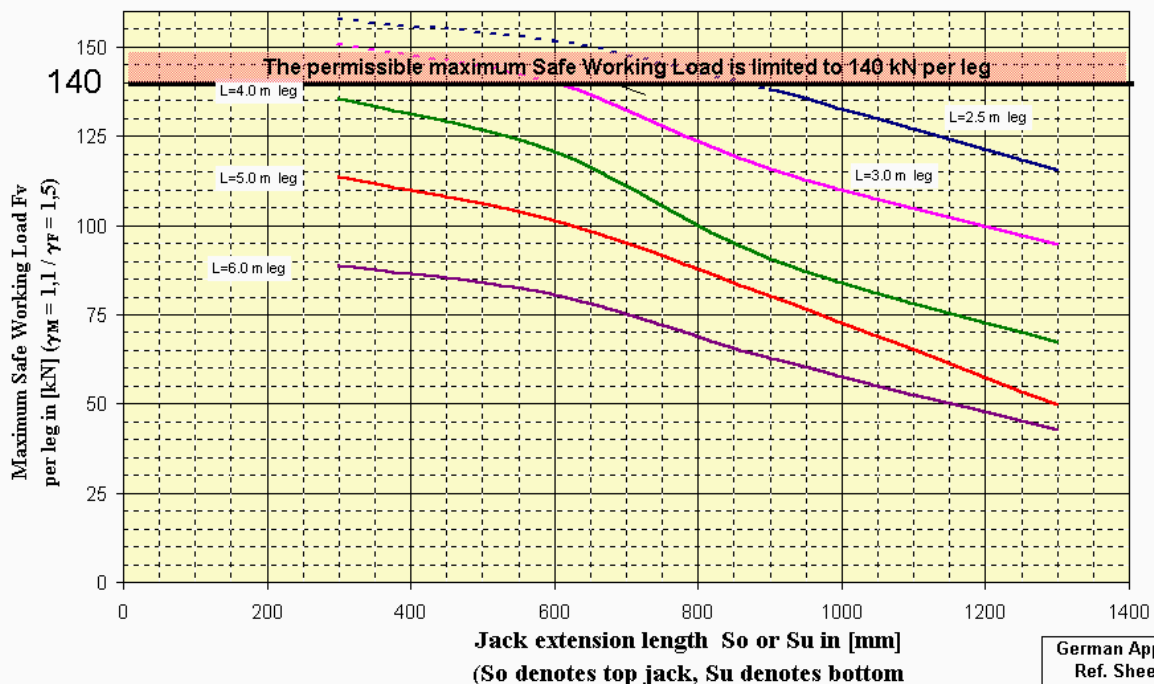
No differential settlement

GASS scaffold towers from SGB
with head or foot jacks
and 2 ledger frames
Vertical tube (leg) L = 2.50 m to 6.00 m
without differential support settlement

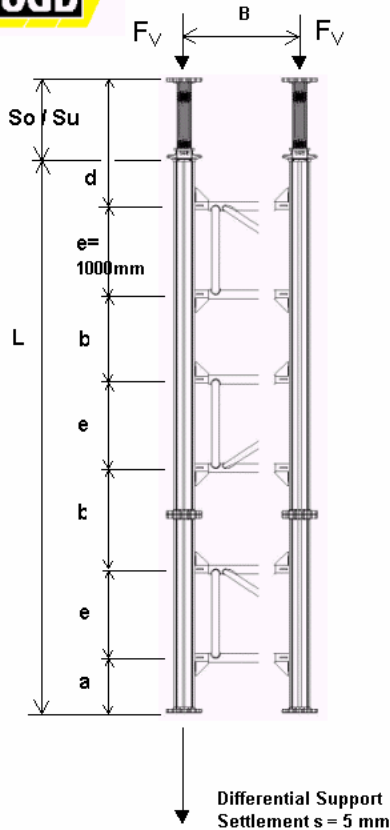
Allowable Conditions:

Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the jack is maintained
Spacing of ledger frame(s) dimensions a, b and d must be as shown below
The top of the tower is horizontally restrained in position
No wind loads have been allowed (otherwise special calculations are required)
Plate-to-plate leg bolted joints may be in any position
Ledger frame widths may be B = 1.20 m, 1.80 m, 2.40 m and 3.00 m
SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown

Jack extension	dimms	Vertical tube (leg) length L in (m)				
		2.5	3	4	5	6
300 [mm]	a	0.15	0.27	0.55	0.79	1.03
	b	0.20	0.58	1.20	1.72	2.24
	d	0.45	0.45	0.55	0.79	1.03
600 [mm]	a	0.15	0.27	0.57	0.86	1.10
	b	0.20	0.58	1.28	1.86	2.40
	d	0.75	0.75	0.75	0.86	1.10
900 [mm]	a	0.15	0.27	0.58	0.88	1.17
	b	0.20	0.58	1.27	1.97	2.55
	d	1.05	1.05	1.05	1.05	1.18
1300 [mm]	a	0.15	0.27	0.58	0.90	1.21
	b	0.20	0.58	1.27	1.95	2.64
	d	1.45	1.45	1.45	1.45	1.45



Gass Tower (1 Jack) Loading Charts - 5 of 12

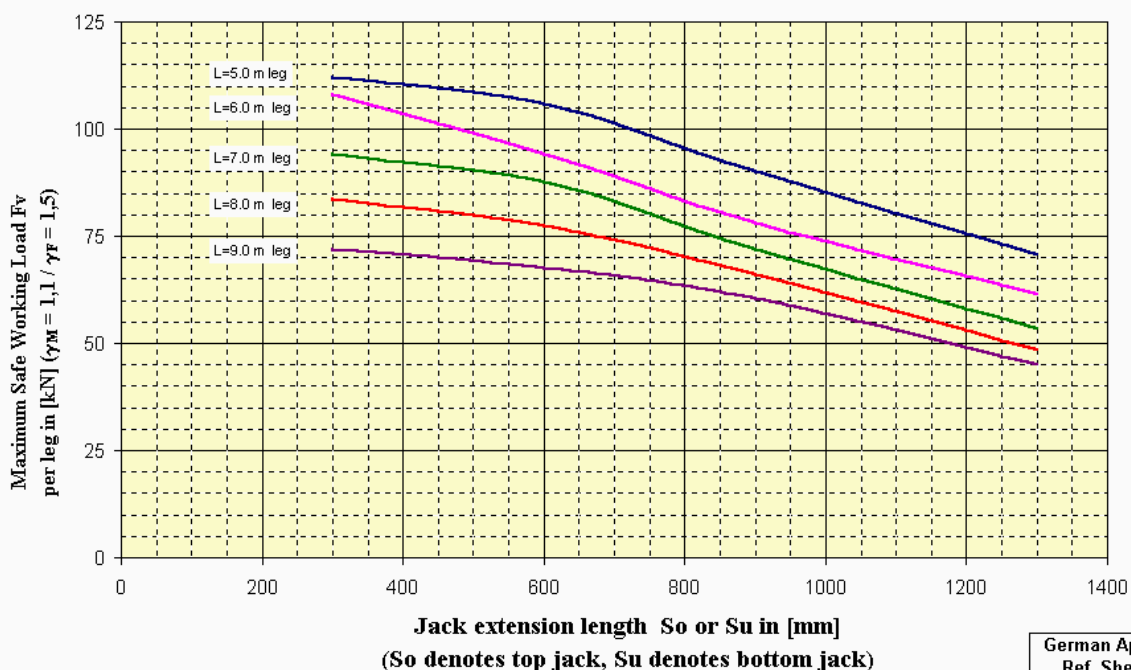


GASS scaffold towers from SGB
with head or foot jacks
and 3 ledger frames
Vertical tube (leg) L = 5.0 m to 9.0 m
with differential support settlement $s = 5 \text{ mm}$

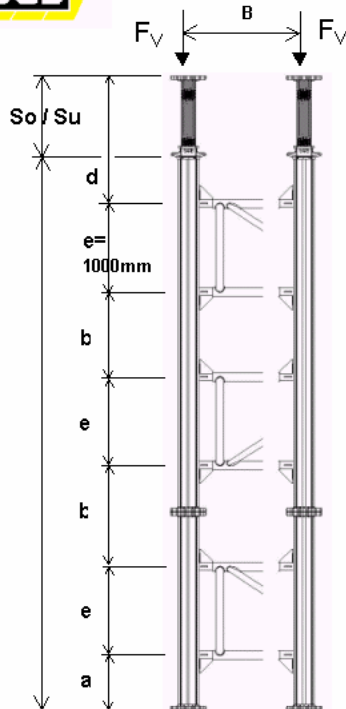
Allowable Conditions:

Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the jack is maintained
Spacing of ledger frame(s) dimensions a , b and d must be as shown below
The top of the tower is horizontally restrained in position
No wind loads have been allowed (otherwise special calculations are required)
Plate-to-plate leg bolted joints may be in any position
Maximum Differential support settlement $s = 5 \text{ mm}$ (at limit state, DIN 4421)
Ledger frame widths may be $B = 1.20 \text{ m}$, 1.80 m , 2.40 m and 3.00 m
SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown

Jack extension	dimns	Vertical tube (leg) length L in (m)				
		5	6	7	8	9
300 [mm]	a	0.35	0.52	0.68	0.84	0.99
	b	0.75	1.13	1.47	1.81	2.16
	d	0.45	0.52	0.68	0.84	0.99
600 [mm]	a	0.35	0.53	0.73	0.88	1.04
	b	0.75	1.16	1.56	1.92	2.26
	d	0.75	0.75	0.75	0.88	1.04
900 [mm]	a	0.35	0.53	0.73	0.91	1.09
	b	0.75	1.16	1.56	1.97	2.36
	d	1.05	1.05	1.05	1.05	1.09
1300 [mm]	a	0.35	0.53	0.73	0.91	1.09
	b	0.75	1.16	1.56	1.97	2.38
	d	1.45	1.45	1.45	1.45	1.45



Gass Tower (1 Jack) Loading Charts - 6 of 12



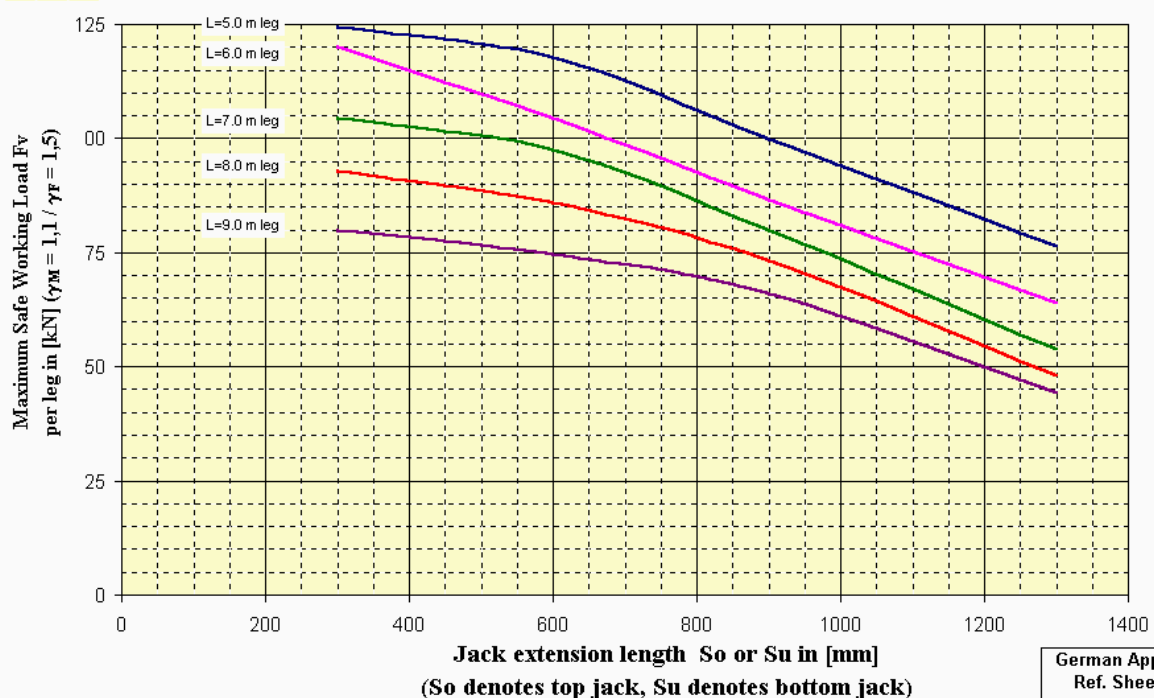
No differential settlement

GASS scaffold towers from SGB
with head or foot jacks
and 3 ledger frames
Vertical tube (leg) L = 5.0 m to 9.0 m
without differential support settlement

Allowable Conditions:

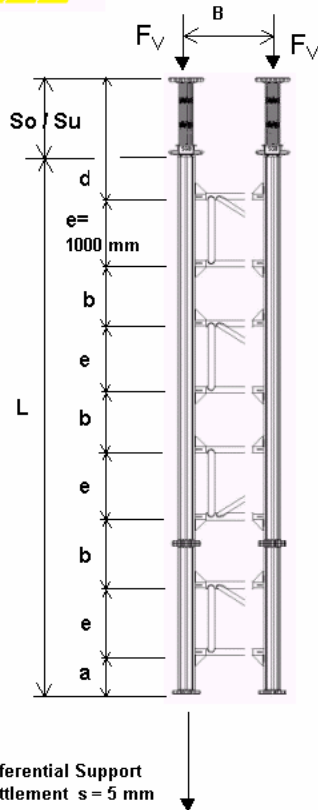
Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the jack is maintained
Spacing of ledger frame(s) dimensions a, b and d must be as shown below
The top of the tower is horizontally restrained in position
No wind loads have been allowed (otherwise special calculations are required)
Plate-to-plate leg bolted joints may be in any position
Ledger frame widths may be B = 1.20 m, 1.80 m, 2.40 m and 3.00 m
SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown

Jack extension	dimms	Vertical tube (leg) length L in (m)				
		5	6	7	8	9
300 [mm]	a	0.35	0.52	0.68	0.84	0.99
	b	0.75	1.13	1.47	1.81	2.16
	d	0.45	0.52	0.68	0.84	0.99
600 [mm]	a	0.35	0.53	0.73	0.88	1.04
	b	0.75	1.16	1.56	1.92	2.26
	d	0.75	0.75	0.75	0.88	1.04
900 [mm]	a	0.35	0.53	0.73	0.91	1.09
	b	0.75	1.16	1.56	1.97	2.36
	d	1.05	1.05	1.05	1.05	1.09
1300 [mm]	a	0.35	0.53	0.73	0.91	1.09
	b	0.75	1.16	1.56	1.97	2.38
	d	1.45	1.45	1.45	1.45	1.45



Gass Tower (1 Jack) Loading Charts - 7 of 12

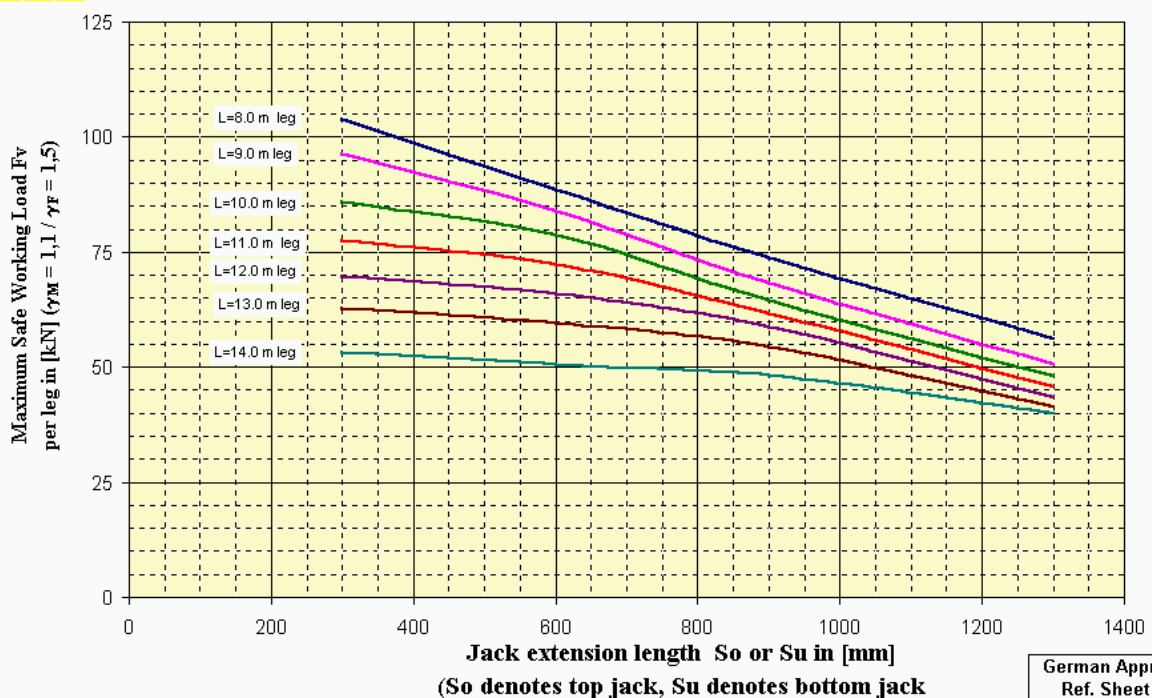
GASS scaffold towers from SGB
with head or foot jacks
and 4 ledger frames
Vertical tube (leg) $L = 8.0 \text{ m to } 14.0 \text{ m}$
with differential support settlement $s = 5 \text{ mm}$



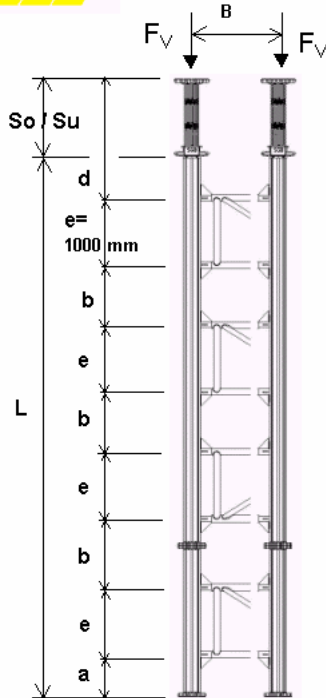
Allowable Conditions:

Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the jack is maintained
Spacing of ledger frame(s) dimensions a, b and d must be as shown below
The top of the tower is horizontally restrained in position
No wind loads have been allowed (otherwise special calculations are required)
Plate-to-plate leg bolted joints may be in any position
Maximum Differential support settlement $s = 5 \text{ mm}$ (at limit state, DIN 4421)
Ledger frame widths may be $B = 1.20 \text{ m}, 1.80 \text{ m}, 2.40 \text{ m}$ and 3.00 m
SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown

jack extension	dimns	Vertical tube (leg) length L in (m)						
		8	9	10	11	12	13	14
300 [mm]	a	0.50	0.63	0.75	0.86	0.97	1.1	1.21
	b	1.10	1.35	1.60	1.86	2.12	2.37	2.63
	d	0.50	0.63	0.75	0.86	0.97	1.1	1.21
600 [mm]	a	0.52	0.65	0.78	0.89	1.00	1.13	1.25
	b	1.11	1.40	1.68	1.94	2.20	2.45	2.7
	d	0.75	0.75	0.78	0.89	1.00	1.12	1.25
900 [mm]	a	0.52	0.65	0.78	0.91	1.04	1.17	1.28
	b	1.11	1.40	1.69	1.98	2.27	2.52	2.78
	d	1.05	1.05	1.05	1.05	1.05	1.17	1.28
1300 [mm]	a	0.49	0.65	0.78	0.91	1.04	1.17	1.3
	b	1.12	1.40	1.69	1.98	2.27	2.56	2.85
	d	1.45	1.45	1.45	1.45	1.45	1.45	1.45



Gass Tower (1 Jack) Loading Charts - 8 of 12



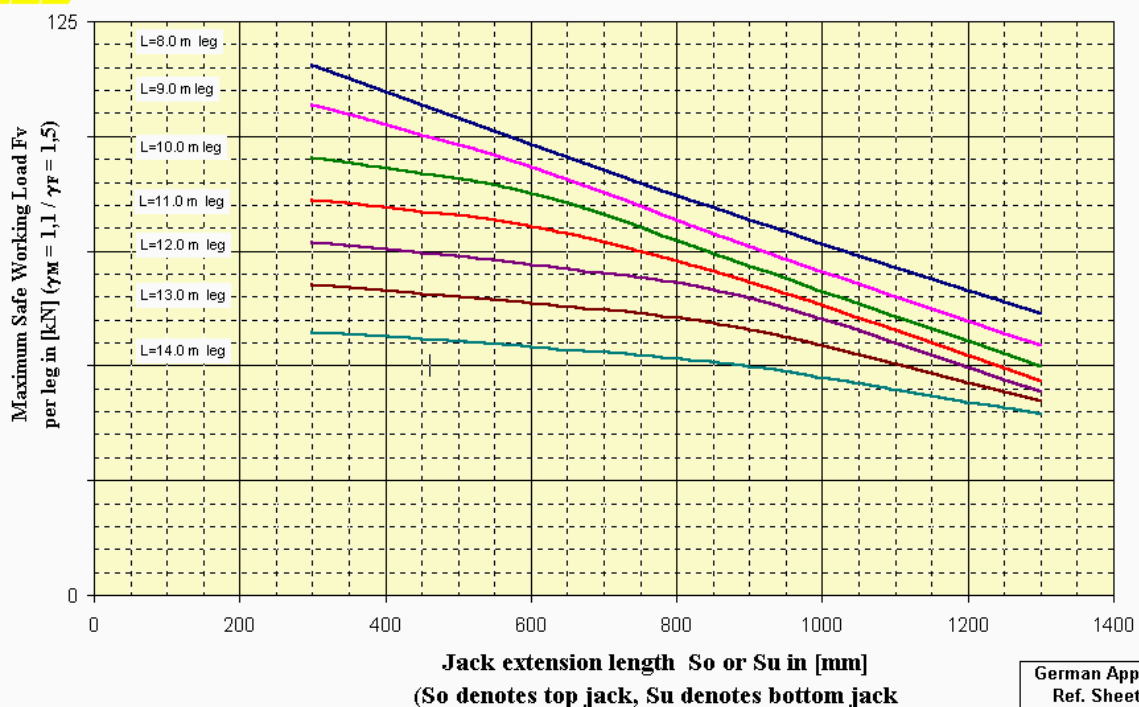
No differential settlement

GASS scaffold towers from SGB
with head or foot jacks
and 4 ledger frames
Vertical tube (leg) L = 8.0 m to 14.0 m
without differential support settlement

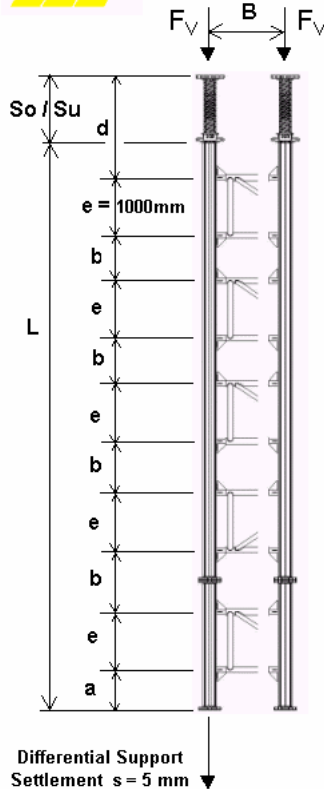
Allowable Conditions:

Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the jack is maintained
Spacing of ledger frame(s) dimensions a, b and d must be as shown below
The top of the tower is horizontally restrained in position
No wind loads have been allowed (otherwise special calculations are required)
Plate-to-plate leg bolted joints may be in any position
Ledger frame widths may be B = 1.20 m, 1.80 m, 2.40 m and 3.00 m
SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown

Jack extension	dimns	Vertical tube (leg) length L in (m)						
		8	9	10	11	12	13	14
300 [mm]	a	0.50	0.63	0.75	0.86	0.97	1.1	1.21
	b	1.10	1.35	1.60	1.86	2.12	2.37	2.63
	d	0.50	0.63	0.75	0.86	0.97	1.1	1.21
600 [mm]	a	0.52	0.65	0.78	0.89	1.00	1.13	1.25
	b	1.11	1.40	1.68	1.94	2.20	2.45	2.7
	d	0.75	0.75	0.78	0.89	1.00	1.12	1.25
900 [mm]	a	0.52	0.65	0.78	0.91	1.04	1.17	1.28
	b	1.11	1.40	1.69	1.98	2.27	2.52	2.78
	d	1.05	1.05	1.05	1.05	1.05	1.17	1.28
1300 [mm]	a	0.49	0.65	0.78	0.91	1.04	1.17	1.3
	b	1.12	1.40	1.69	1.98	2.27	2.56	2.85
	d	1.45	1.45	1.45	1.45	1.45	1.45	1.45



Gass Tower (1 Jack) Loading Charts - 9 of 12

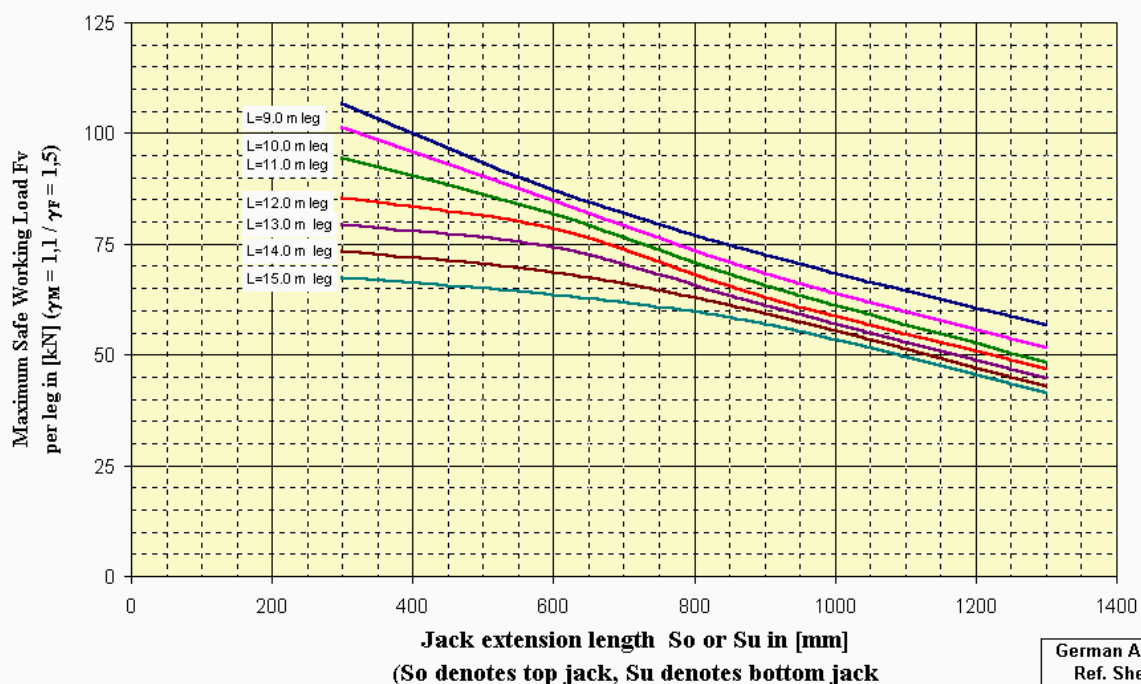


GASS scaffold towers from SGB
with head or foot jacks
and 5 ledger frames
Vertical tube (leg) $L = 9.0\text{ m}$ to 15.0 m
with differential support settlement $s = 5\text{ mm}$

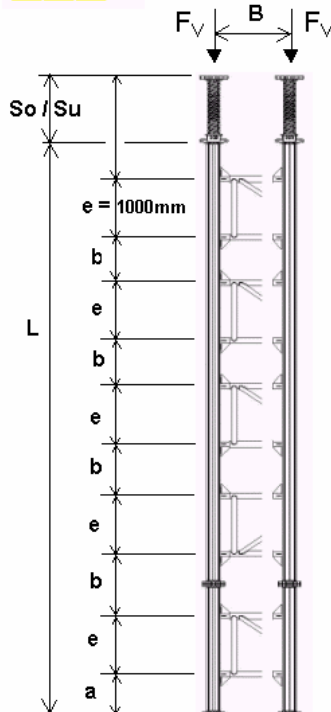
Allowable Conditions:

Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the jack is maintained
Spacing of ledger frame(s) dimensions a , b and d must be as shown below
The top of the tower is horizontally restrained in position
No wind loads have been allowed (otherwise special calculations are required)
Plate-to-plate leg bolted joints may be in any position
Maximum Differential support settlement $s = 5\text{ mm}$ (at limit state, DIN 4421)
Ledger frame widths may be $B = 1.20\text{ m}$, 1.80 m , 2.40 m and 3.00 m
SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown

jack extension	dimns	Vertical tube (leg) length L in (m)						
		9	10	11	12	13	14	15
300 [mm]	a	0.41	0.49	0.59	0.69	0.77	0.87	0.97
	b	0.86	1.08	1.28	1.48	1.69	1.89	2.09
	d	0.45	0.49	0.59	0.69	0.77	0.87	0.97
600 [mm]	a	0.41	0.49	0.61	0.69	0.80	0.9	1.00
	b	0.86	1.09	1.31	1.54	1.75	1.95	2.15
	d	0.75	0.75	0.75	0.75	0.80	0.9	1.00
900 [mm]	a	0.41	0.49	0.61	0.69	0.81	0.93	1.01
	b	0.86	1.09	1.31	1.54	1.76	1.98	2.21
	d	1.05	1.05	1.05	1.05	1.05	1.05	1.05
1300 [mm]	a	0.41	0.49	0.61	0.69	0.81	0.93	1.01
	b	0.86	1.09	1.31	1.54	1.76	1.98	2.21
	d	1.45	1.45	1.45	1.45	1.45	1.45	1.45



Gass Tower (1 Jack) Loading Charts 10 of 12



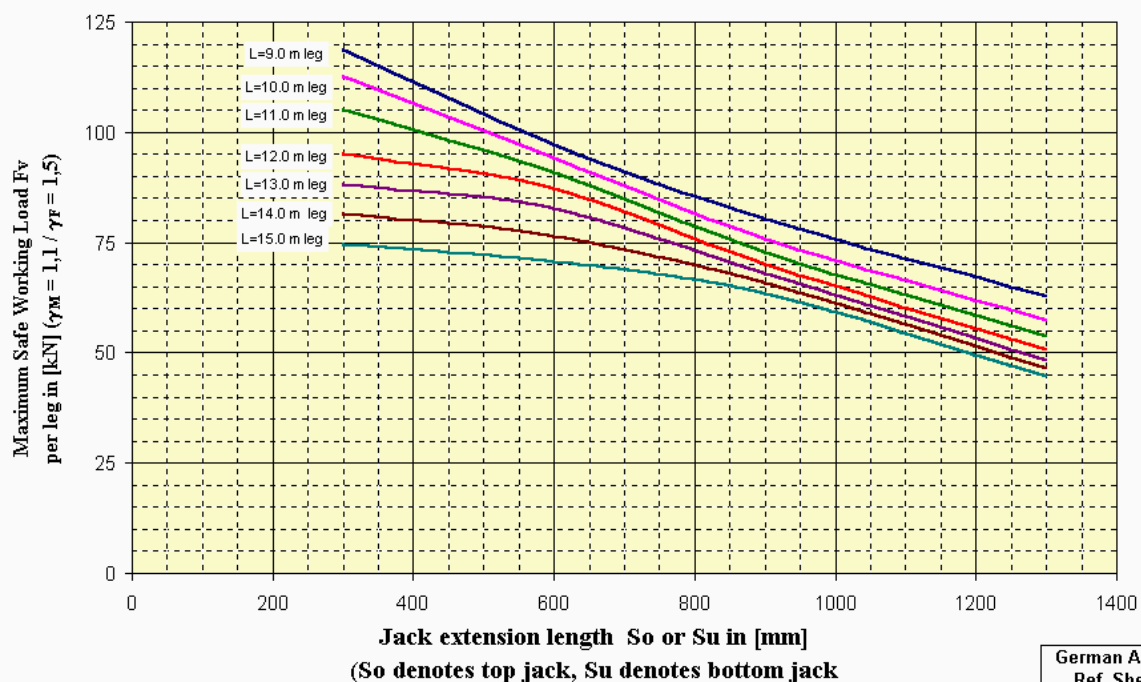
No differential settlement

GASS scaffold towers from SGB
with head or foot jacks
and 5 ledger frames
Vertical tube (leg) L = 9.0 m to 15.0 m
without differential support settlement

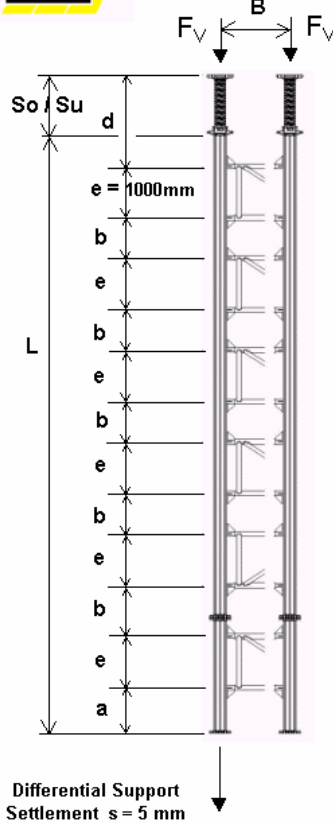
Allowable Conditions:

Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the jack is maintained
Spacing of ledger frame(s) dimensions a, b and d must be as shown below
The top of the tower is horizontally restrained in position
No wind loads have been allowed (otherwise special calculations are required)
Plate-to-plate leg bolted joints may be in any position
Ledger frame widths may be B = 1.20 m, 1.80 m, 2.40 m and 3.00 m
SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown

Jack extension	dimns	Vertical tube (leg) length L in (m)						
		9	10	11	12	13	14	15
300 [mm]	a	0.41	0.49	0.59	0.69	0.77	0.87	0.97
	b	0.86	1.08	1.28	1.48	1.69	1.89	2.09
	d	0.45	0.49	0.59	0.69	0.77	0.87	0.97
600 [mm]	a	0.41	0.49	0.61	0.69	0.80	0.9	1.00
	b	0.86	1.09	1.31	1.54	1.75	1.95	2.15
	d	0.75	0.75	0.75	0.75	0.80	0.9	1.00
900 [mm]	a	0.41	0.49	0.61	0.69	0.81	0.93	1.01
	b	0.86	1.09	1.31	1.54	1.76	1.98	2.21
	d	1.05	1.05	1.05	1.05	1.05	1.05	1.05
1300 [mm]	a	0.41	0.49	0.61	0.69	0.81	0.93	1.01
	b	0.86	1.09	1.31	1.54	1.76	1.98	2.21
	d	1.45	1.45	1.45	1.45	1.45	1.45	1.45



Gass Tower (1 Jack) Loading Charts - 11 of 12



GASS scaffold towers from SGB

with head or foot jacks

and 6 ledger frames

Vertical tube (leg) $L = 12.0\text{ m}$ to 18.0 m

with differential support settlement $s = 5\text{ mm}$

Allowable Conditions:

Jack may be at the top or at the bottom provided that

the ledger frame(s) position relative to the jack is maintained

Spacing of ledger frame(s) dimensions a , b and d must be as shown below

The top of the tower is horizontally restrained in position

No wind loads have been allowed (otherwise special calculations are required)

Plate-to-plate leg bolted joints may be in any position

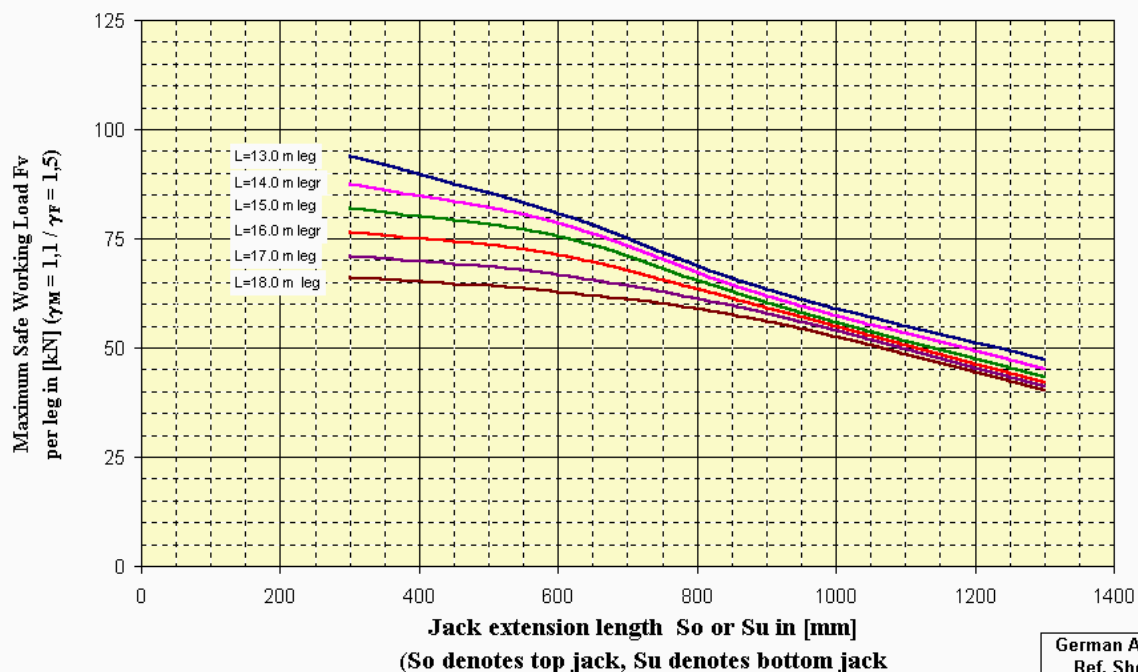
Maximum Differential support settlement $s = 5\text{ mm}$ (at limit state, DIN 4421)

Ledger frame widths may be $B = 1.20\text{ m}$, 1.80 m , 2.40 m and 3.00 m

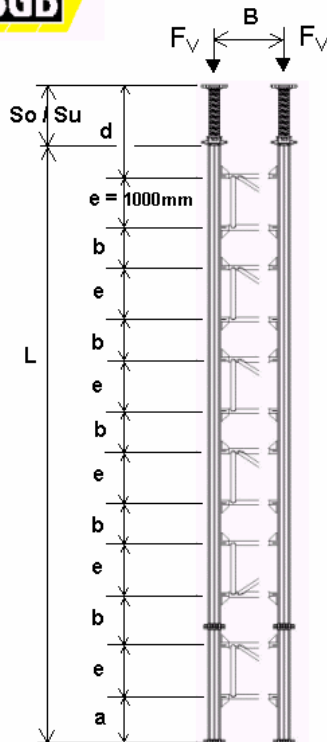
SWL for leg heights other than those shown may be found by interpolation

between the minimum and maximum leg heights shown

Jack extension	dimns	Vertical tube (leg) length L in (m)					
		13	14	15	16	17	18
300 [mm]	a	0.58	0.65	0.73	0.80	0.88	0.95
	b	1.23	1.40	1.57	1.74	1.91	2.08
	d	0.58	0.65	0.73	0.80	0.88	0.95
600 [mm]	a	0.60	0.65	0.75	0.83	0.90	0.98
	b	1.25	1.44	1.62	1.79	1.96	2.13
	d	0.75	0.75	0.75	0.82	0.90	0.97
900 [mm]	a	0.60	0.65	0.75	0.85	0.90	1.00
	b	1.25	1.44	1.62	1.80	1.99	2.17
	d	1.05	1.05	1.05	1.05	1.05	1.05
1300 [mm]	a	0.60	0.65	0.75	0.85	0.90	1.00
	b	1.25	1.44	1.62	1.80	1.99	2.17
	d	1.45	1.45	1.45	1.45	1.45	1.45



Gass Tower (1 Jack) Loading Charts - 12 of 12



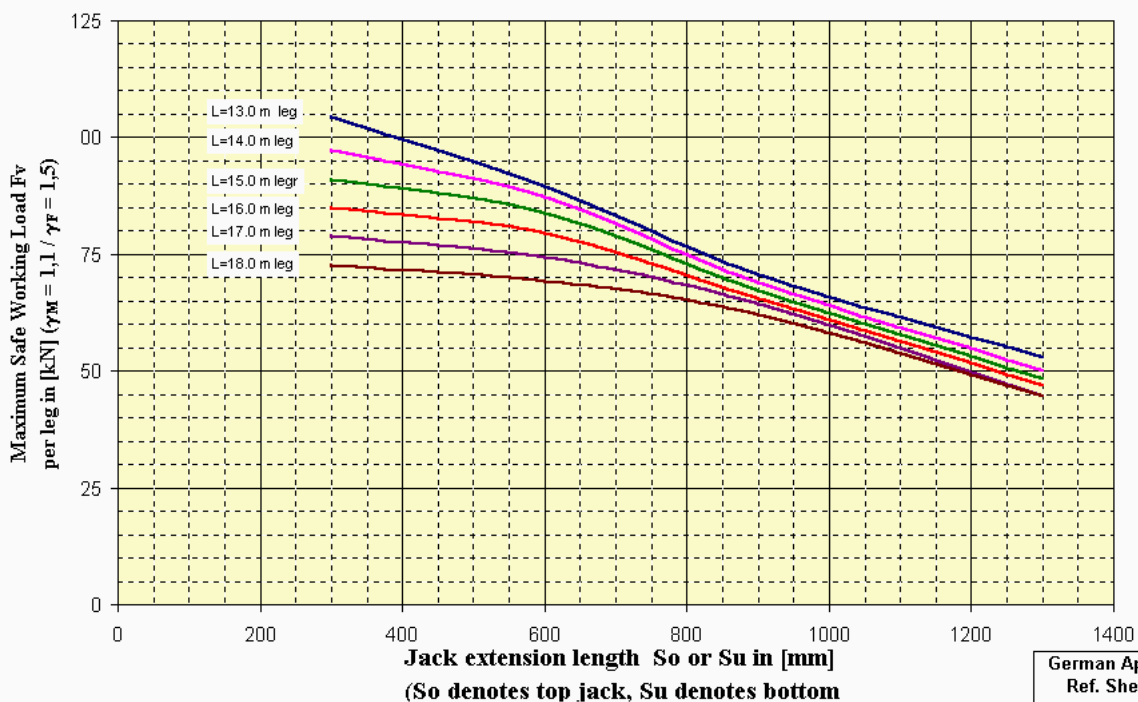
No differential settlement


GASS scaffold towers from SGB
with head or foot jacks
and 6 ledger frames
Vertical tube (leg) L = 12.0 m to 18.0 m
without differential support settlement

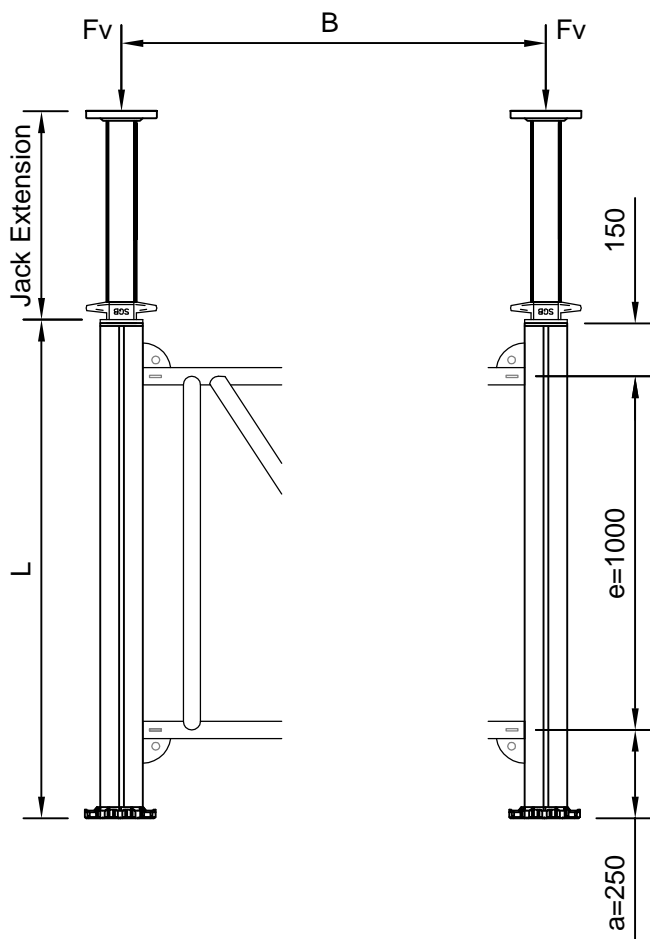
Allowable Conditions:

Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the jack is maintained
Spacing of ledger frame(s) dimensions a, b and d must be as shown below
The top of the tower is horizontally restrained in position
No wind loads have been allowed (otherwise special calculations are required)
Plate-to-plate leg bolted joints may be in any position
Ledger frame widths may be B = 1.20 m, 1.80 m, 2.40 m and 3.00 m
SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown

Jack extension	dimms	Vertical tube (leg) length L in (m)					
		13	14	15	16	17	18
300 (mm)	a	0.58	0.65	0.73	0.80	0.88	0.95
	b	1.23	1.40	1.57	1.74	1.91	2.08
	d	0.58	0.65	0.73	0.80	0.88	0.95
600 (mm)	a	0.60	0.65	0.75	0.83	0.90	0.98
	b	1.25	1.44	1.62	1.79	1.96	2.13
	d	0.75	0.75	0.75	0.82	0.90	0.97
900 (mm)	a	0.60	0.65	0.75	0.85	0.90	1.00
	b	1.25	1.44	1.62	1.80	1.99	2.17
	d	1.05	1.05	1.05	1.05	1.05	1.05
1300 (mm)	a	0.60	0.65	0.75	0.85	0.90	1.00
	b	1.25	1.44	1.62	1.80	1.99	2.17
	d	1.45	1.45	1.45	1.45	1.45	1.45



Gass System		
Loadings	Gass Tower using 2800 Jack	



Gass-Shoring Technology
With Top or Bottom Jack and 1 Ledger Frame
Leg Length $L=1.40\text{m}$.

Without Differential Settlement

Spacing of ledger frame(s) dimensions a , e and d is in (mm).
Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the Jack is maintained.
The top of the tower is horizontally restrained in position.
No wind loads have been allowed (otherwise special calculations are required).

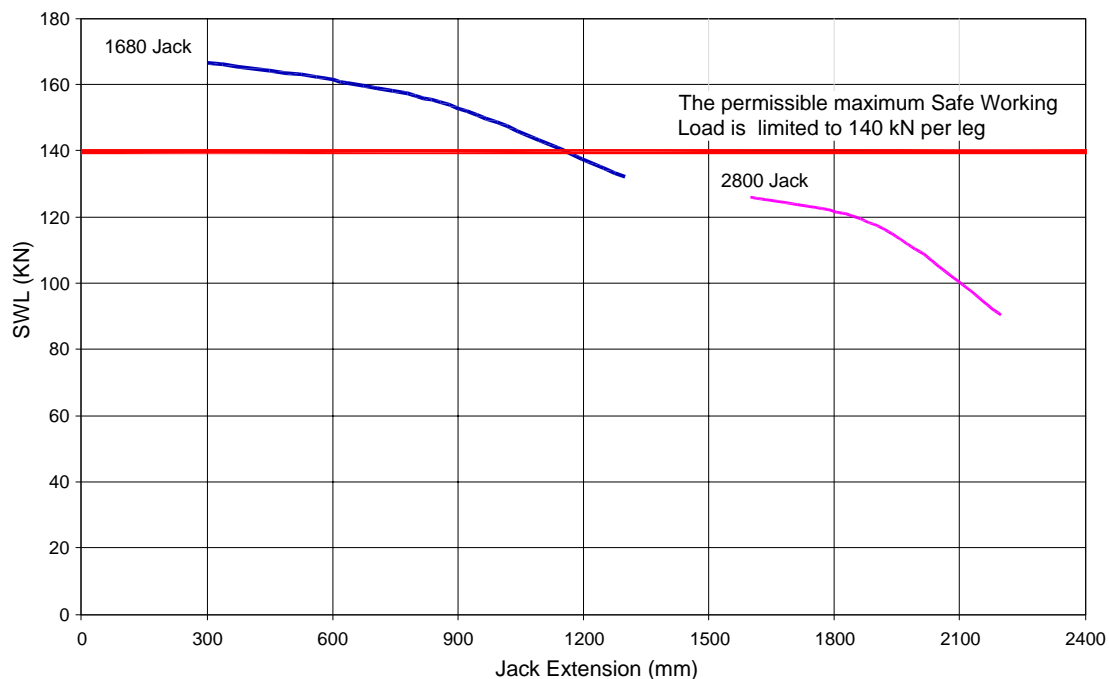
Plate to plate leg bolted joints may be in any position.
Ledger Frame widths may be $B=1.20\text{m}$, 1.80m , 2.40m , and 3.00m .

SWL for leg Heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

Key

- 1680 Jack
- 2800 Jack

1.4m Leg 1 Frame Without Settlement



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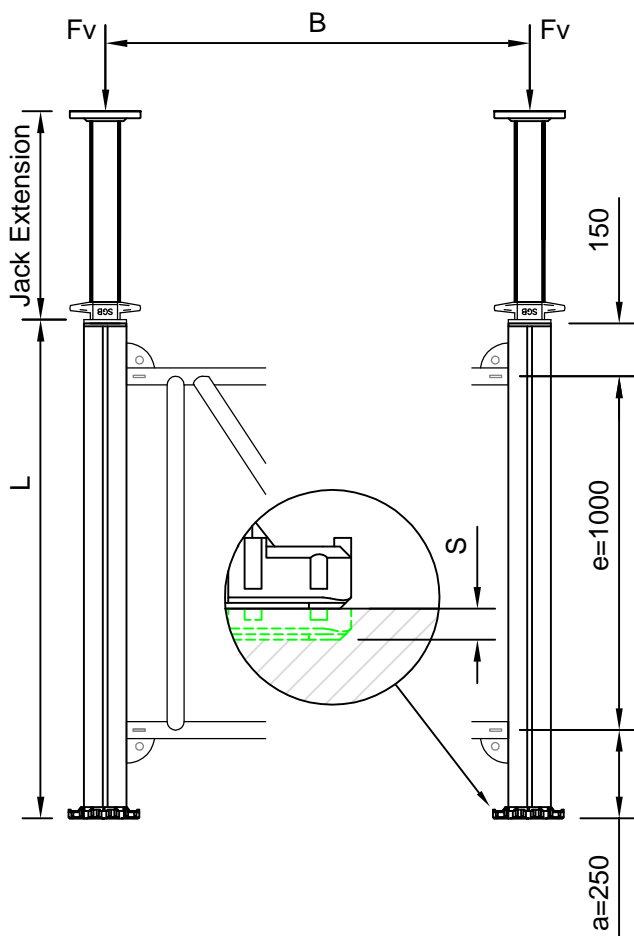
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Issue Page
B 214a

Gass System		
Loadings	Gass Tower using 2800 Jack	



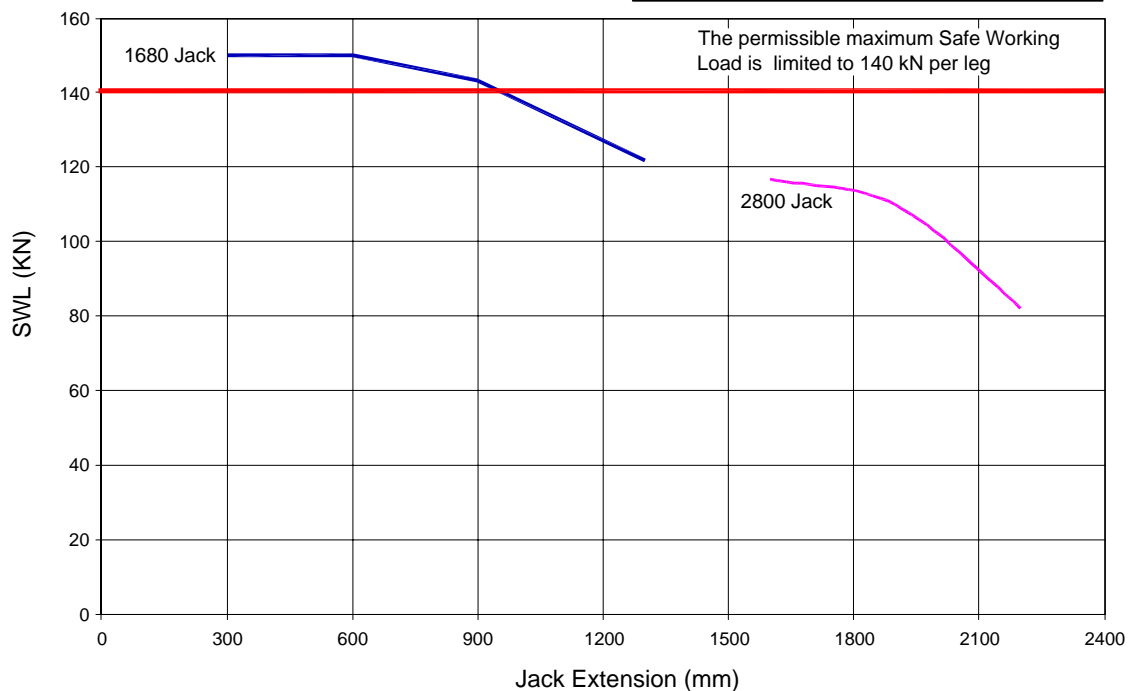
Gass-Shoring Technology
With Top or Bottom Jack and 1 Ledger Frame
Leg Length $L=1.40\text{m}$.
SWL Adjusted to allow for Differential Settlement to DIN4421

Spacing of ledger frame(s) dimensions a , e and d is in (mm).
Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the Jack is maintained.
The top of the tower is horizontally restrained in position.
No wind loads have been allowed (otherwise special calculations are required). Plate to plate leg bolted joints may be in any position.
Maximum Differential Support Settlement $s=5\text{mm}$ (at limit state, DIN 4421)
Ledger Frame widths may be $B=1.20\text{m}$, 1.80m , 2.40m , and 3.00m .
SWL for leg Heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

Key

- 1680 Jack
- 2800 Jack

1.4m Leg 1 Frame With Settlement $s=5$



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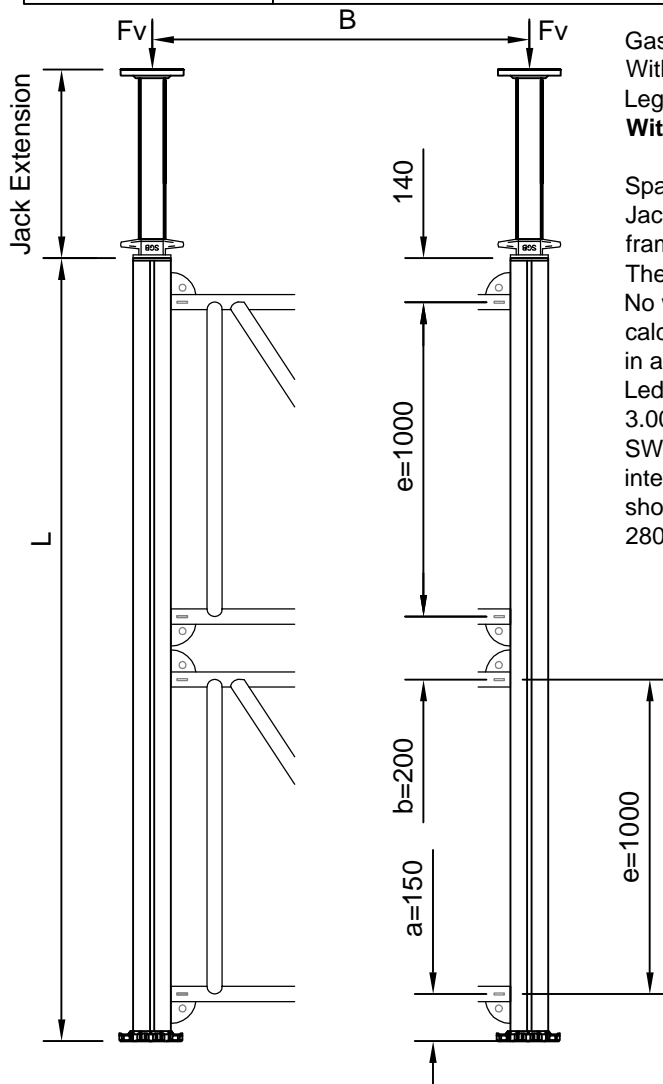
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Issue Page
B 214b

Gass System		
Loadings	Gass Tower using 2800 Jack	



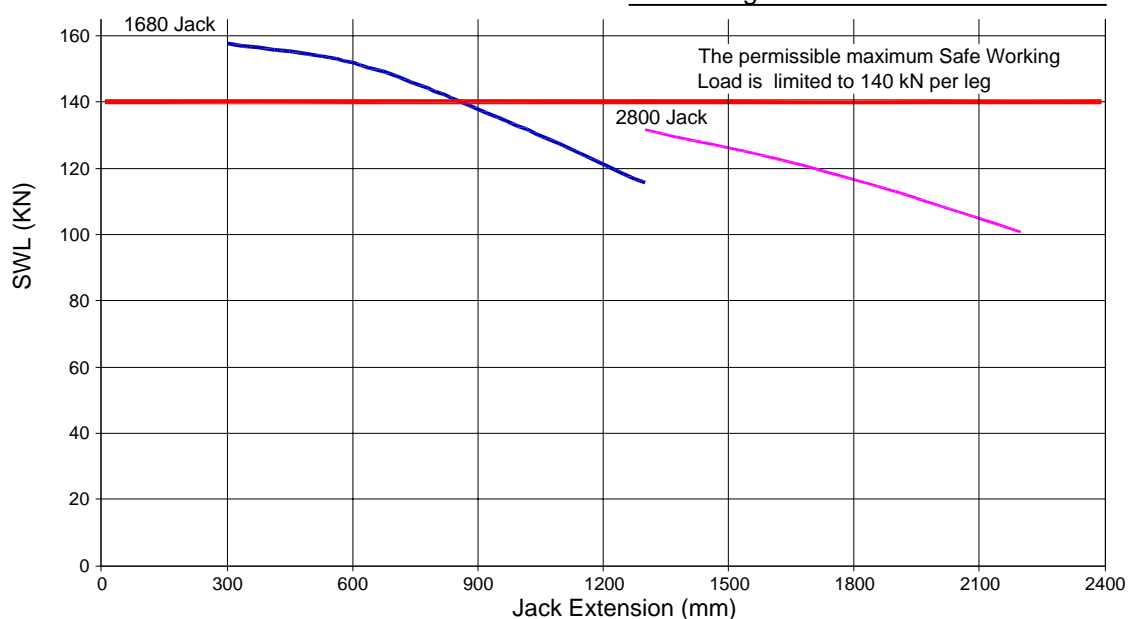
Gass-Shoring Technology
With Top or Bottom Jack and 2 Ledger Frame
Leg Length $L=2.49\text{m}$
Without Differential Settlement

Spacing of ledger frame(s) dimensions a , e , b and d is in (mm).
Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the Jack is maintained.
The top of the tower is horizontally restrained in position.
No wind loads have been allowed (otherwise special calculations are required). Plate to plate leg bolted joints may be in any position.
Ledger Frame widths may be $B=1.20\text{m}$, 1.80m , 2.40m , and 3.00m .
SWL for leg Heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.
2800 Jack in range 300 to 1300 will have capacity = 1680 Jack

Key

— 1680 Jack
— 2800 Jack

2.49m Leg 2 Frame Without Settlement



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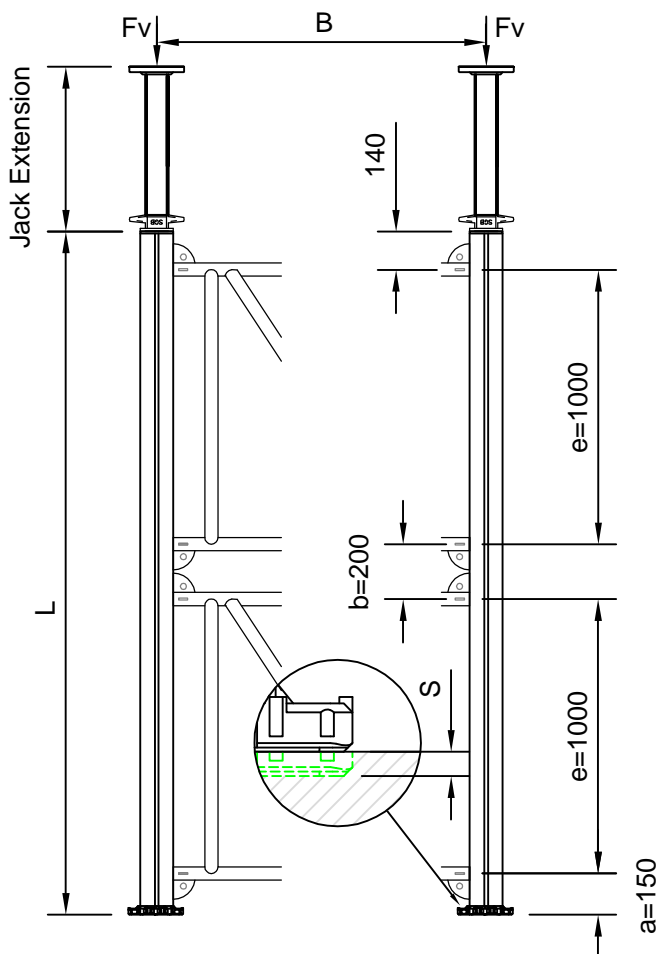
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Issue Page
B 214c

Gass System		
Loadings	Gass Tower using 2800 Jack	



Gass-Shoring Technology
With Top or Bottom Jack and 2 Ledger Frame
Leg Length $L=2.49\text{m}$

SWL Adjusted to allow for Differential Settlement to DIN4421

Spacing of ledger frame(s) dimensions a , e , b and d is in (mm). Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the Jack is maintained.

The top of the tower is horizontally restrained in position.

No wind loads have been allowed (otherwise special calculations are required). Plate to plate leg bolted joints may be in any position.

Maximum Differential Support Settlement $s=5\text{mm}$ (at limit state, DIN 4421)

Ledger Frame widths may be $B=1.20\text{m}$, 1.80m , 2.40m , and 3.00m .

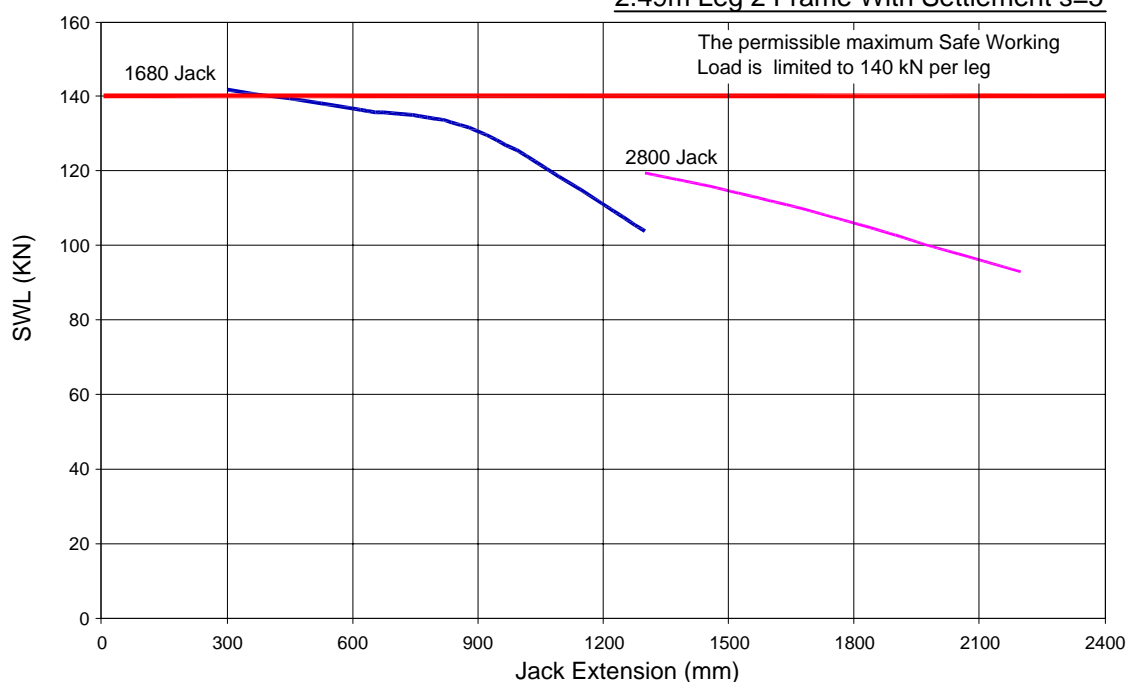
SWL for leg Heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

2800 Jack in range 300 to 1300 will have capacity = 1680 Jack

Key

— 1680 Jack
— 2800 Jack

2.49m Leg 2 Frame With Settlement $s=5$



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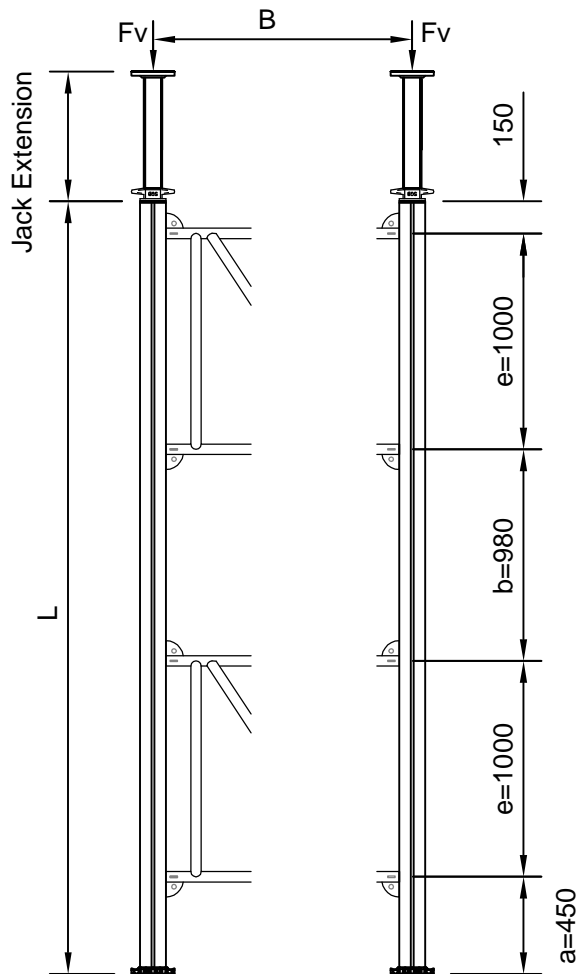
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Issue
B

Page
214d

Gass System		
Loadings	Gass Tower using 2800 Jack	



Gass-Shoring Technology
With Top or Bottom Jack and 2 Ledger Frame
Leg Length $L=3.58$ m
Without Differential Settlement

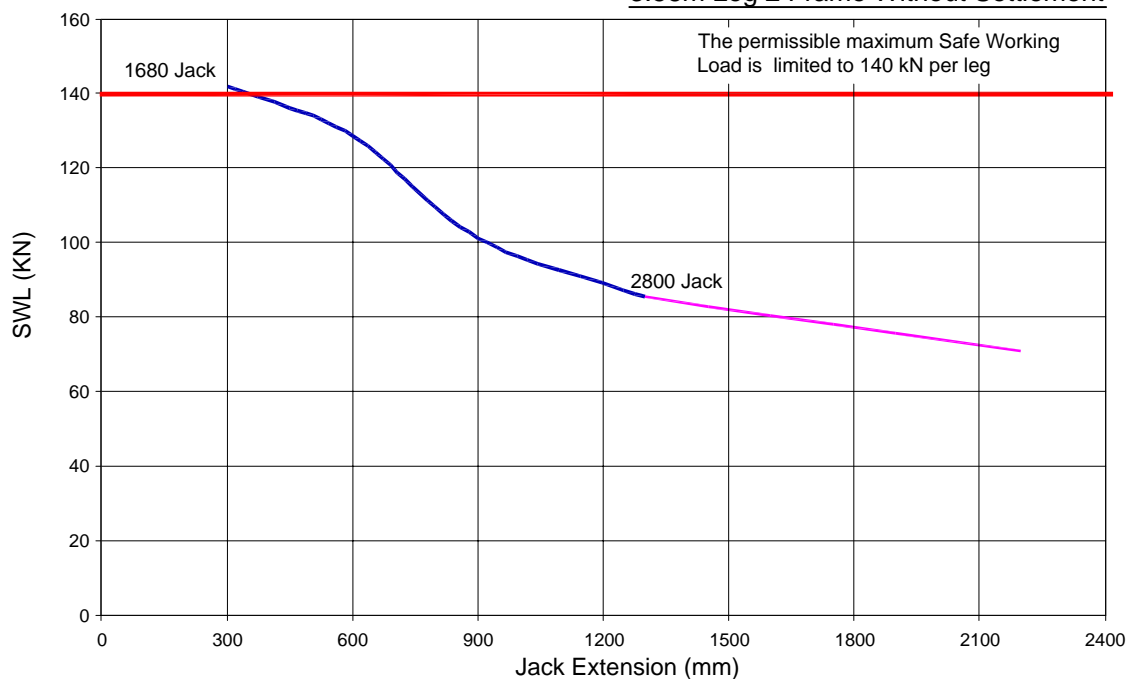
Spacing of ledger frame(s) dimensions a, e, b and d is in (mm).
Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the Jack is maintained.
The top of the tower is horizontally restrained in position.
No wind loads have been allowed (otherwise special calculations are required). Plate to plate leg bolted joints may be in any position.
Ledger Frame widths may be $B=1.20$ m, 1.80 m, 2.40 m, and 3.00 m.
SWL for leg Heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

2800 Jack in range 300 to 1300 will have capacity = 1680 Jack

Key

— 1680 Jack
— 2800 Jack

3.58m Leg 2 Frame Without Settlement



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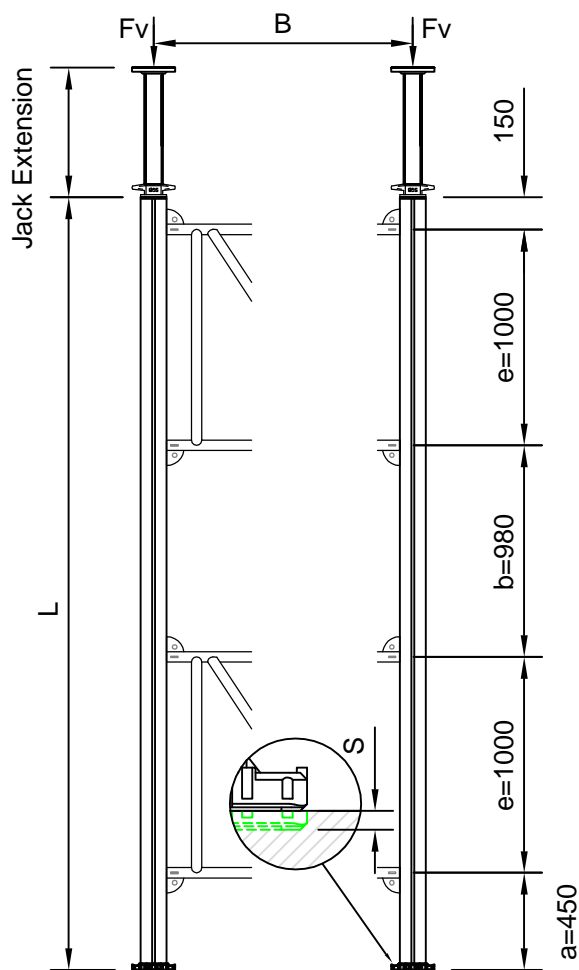
- The datasheets assume that any product combinations will be between genuine SGB products or products supplied by SGB unless otherwise expressly stated.
- Overviews and diagrams are for illustrative purposes only and whilst we endeavour to ensure accuracy, we are not responsible for omissions or errors.
- You must ensure appropriate environment and conditions for the particular application.
- Due to continuous product development it is important that you only use our current datasheets. These should be read in conjunction with our user guides where available.
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Date
27.08.08

Issue Page
B 214e

Gass System		
Loadings	Gass Tower using 2800 Jack	



Gass-Shoring Technology
With Top or Bottom Jack and 2 Ledger Frame
Leg Length $L=3.58$ m
SWL Adjusted to allow for Differential Settlement to DIN4421

Spacing of ledger frame(s) dimensions a , e , b and d is in (mm).
Jack may be at the top or at the bottom provided that the ledger frame(s) position relative to the Jack is maintained.

The top of the tower is horizontally restrained in position.
No wind loads have been allowed (otherwise special calculations are required). Plate to plate leg bolted joints may be in any position.

Maximum Differential Support Settlement $s=5$ mm (at limit state, DIN 4421)

Ledger Frame widths may be $B=1.20$ m, 1.80 m, 2.40 m, and 3.00 m.

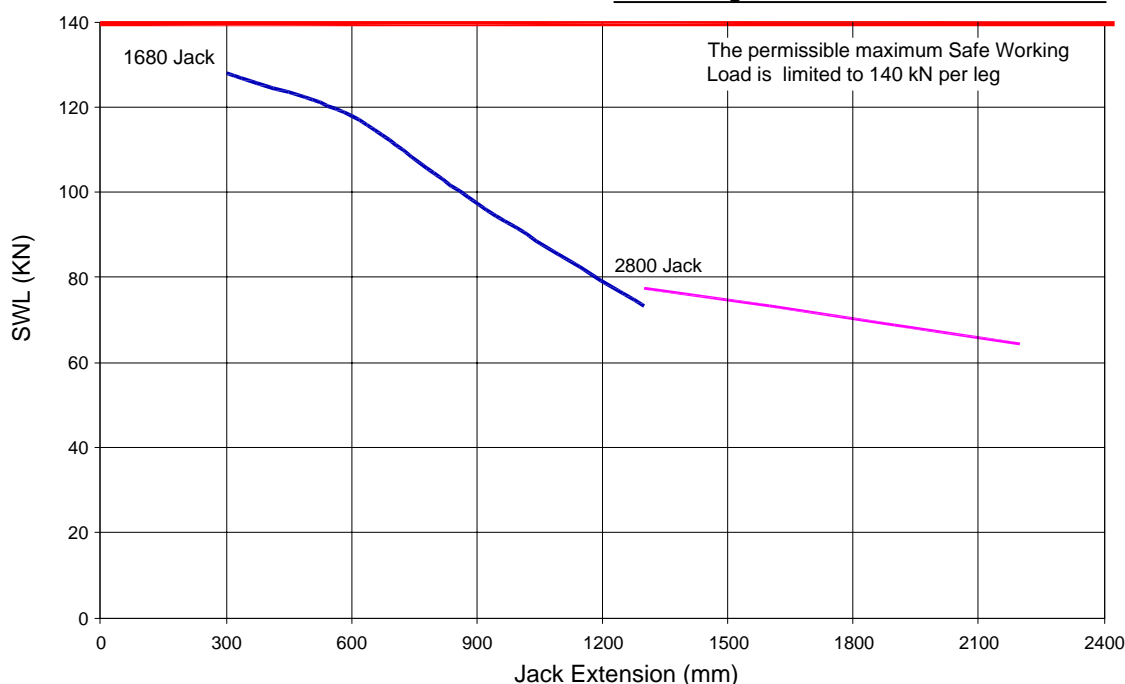
SWL for leg Heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

2800 Jack in range 300 to 1300 will have capacity = 1680 Jack

Key

— 1680 Jack
— 2800 Jack

3.58m Leg 2 Frame With Settlement $s=5$



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Date
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Issue
B

Page
214f

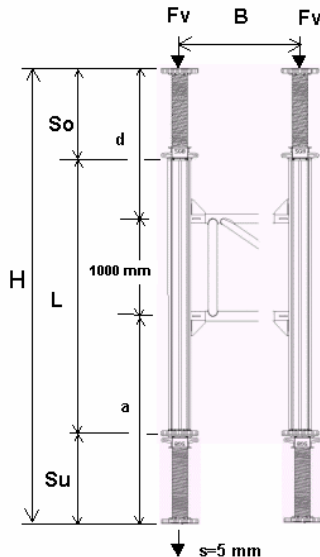
Gass Tower (2 Jacks) Loading Charts - 1 of 34

GASS - Shoring Technology

With Top and Bottom Jack and 1 Ledger Frame

Leg Height $L = 1.4$ m

SWL Adjusted to allow for Differential Settlement to DIN4421



Allowable Conditions:

One of the two jacks must not exceed 600 mm.

Either jack may be at the top or at the bottom.

Dimensions shown 'Su' and 'a' must be associated with the shorter jack.

Dimensions shown 'So' and 'd' must be associated with the longer jack.

The top of the tower is horizontally restrained in position.

No wind loads have been allowed (otherwise special calculations are required).

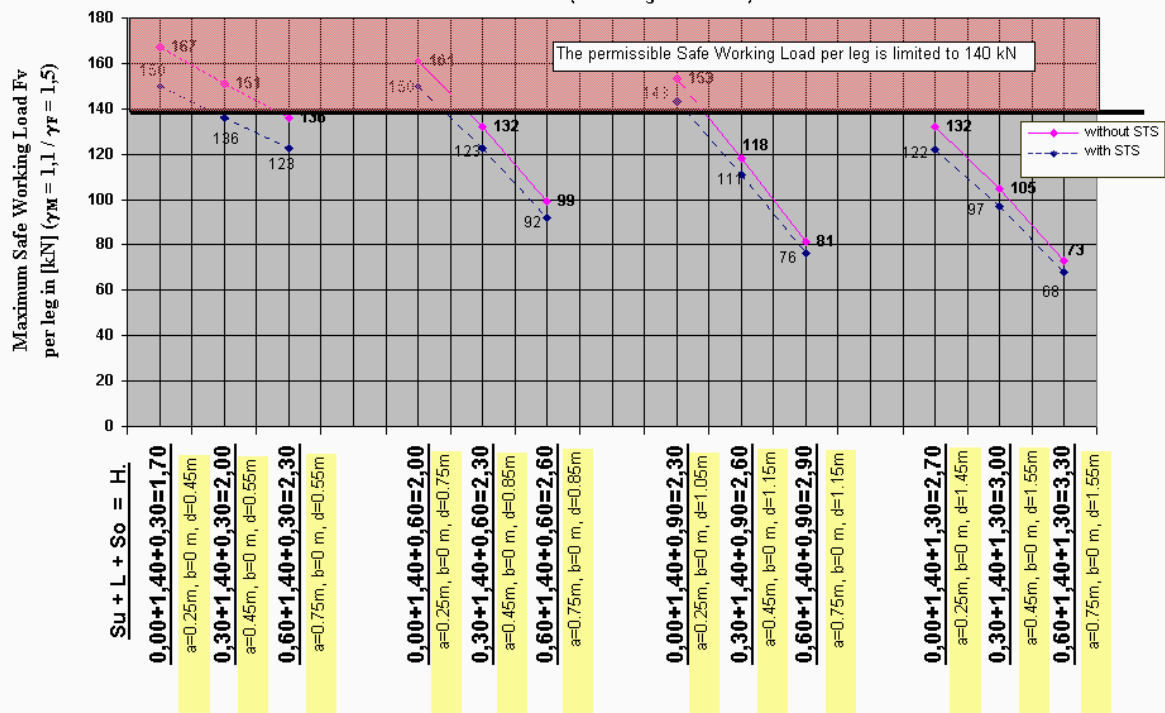
Plate-to-plate leg bolted joints may be in any position.

Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).

Ledger frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.

SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

STS = Differential support settlement = 5 mm
(According to DIN 4421)

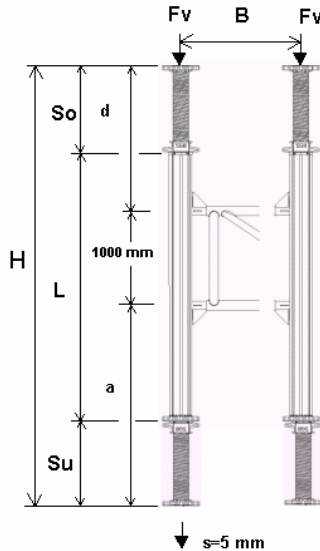


Jack length bottom S_u + Vertical leg length L + Jack length top S_o = Total Height H in m

German Approval
Ref. Sheet TB1140

Gass Tower (2 Jacks) Loading Charts - 2 of 34

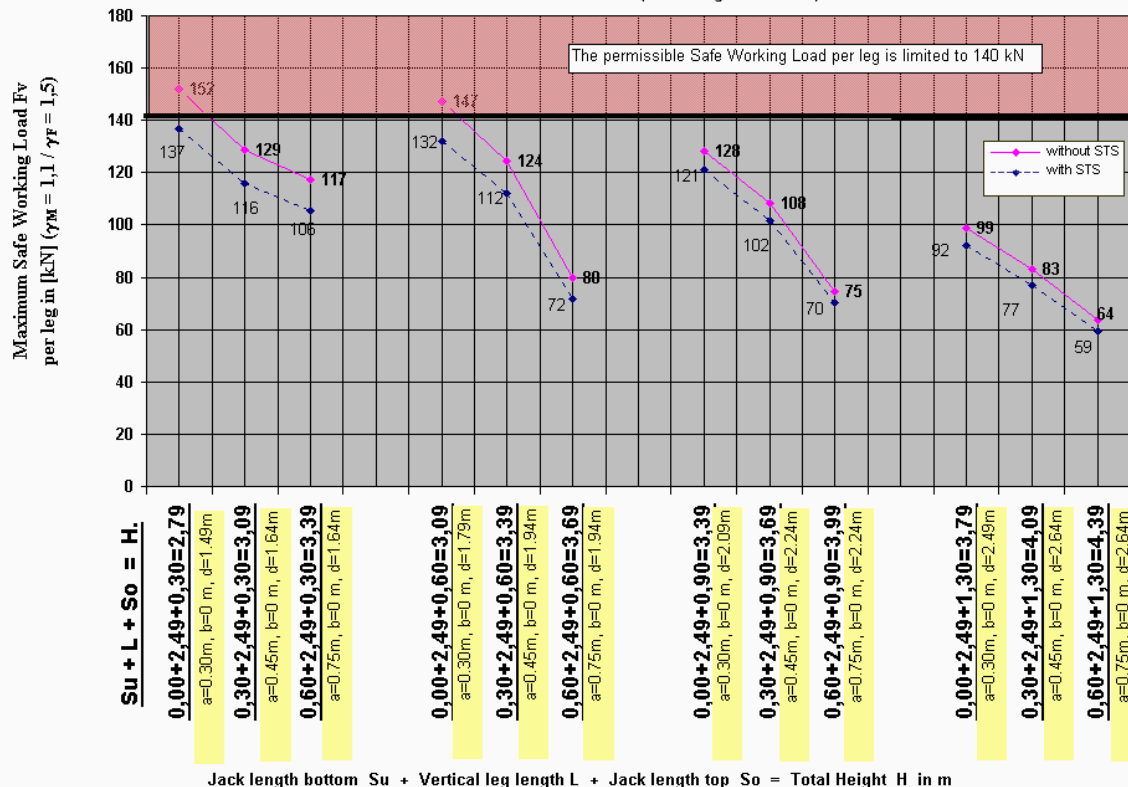
GASS - Shoring Technology
With Top and Bottom Jack and 1 Ledger Frame
Leg Height $L = 2.49$ m
SWL Adjusted to allow for Differential Settlement to DIN4421



Allowable Conditions:

- One of the two jacks must not exceed 600 mm.
- Either jack may be at the top or at the bottom.
- Dimensions shown 'Su' and 'a' must be associated with the shorter jack.
- Dimensions shown 'So' and 'd' must be associated with the longer jack.
- The top of the tower is horizontally restrained in position.
- No wind loads have been allowed (otherwise special calculations are required).
- Plate-to-plate leg bolted joints may be in any position.
- Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).
- Ledger frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.
- SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

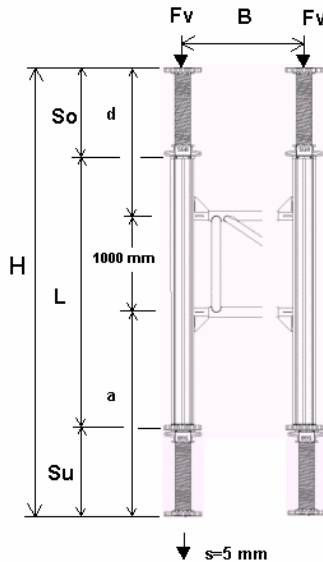
STS = Differential support settlement = 5 mm
(According to DIN 4421)



German Approval
Ref. Sheet TB1249

Gass Tower (2 Jacks) Loading Charts - 3 of 34

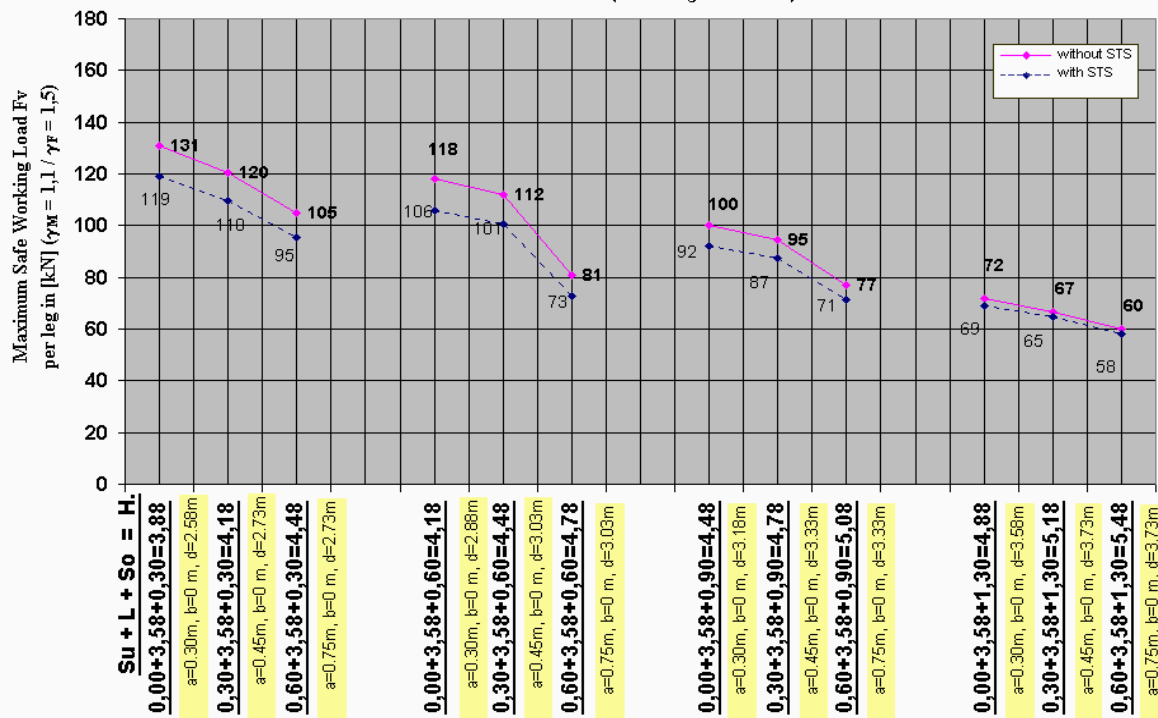
GASS - Shoring Technology
With Top and Bottom Jack and 1 Ledger Frame
Leg Height L = 3.58 m
SWL Adjusted to allow for Differential Settlement to DIN4421



Allowable Conditions:

- One of the two jacks must not exceed 600 mm.
- Either jack may be at the top or at the bottom.
- Dimensions shown 'Su' and 'a' must be associated with the shorter jack.
- Dimensions shown 'So' and 'd' must be associated with the longer jack.
- The top of the tower is horizontally restrained in position.
- No wind loads have been allowed (otherwise special calculations are required).
- Plate-to-plate leg bolted joints may be in any position.
- Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).
- Ledger frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.
- SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

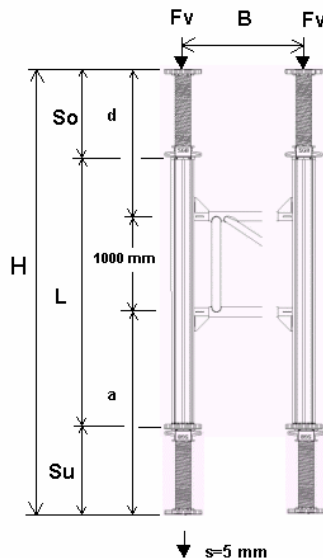
STS = Differential support settlement = 5 mm
 (According to DIN 4421)



Jack length bottom Su + Vertical leg length L + Jack length top So = Total Height H in m

German Approval
 Ref. Sheet TB1358

Gass Tower (2 Jacks) Loading Charts - 4 of 34



GASS - Shoring Technology

With Top and Bottom Jack and 1 Ledger Frame

Leg Height $L = 4.67 \text{ m}$

SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

One of the two jacks must not exceed 600 mm.

Either jack may be at the top or at the bottom.

Dimensions shown 'Su' and 'a' must be associated with the shorter jack.

Dimensions shown 'So' and 'd' must be associated with the longer jack.

The top of the tower is horizontally restrained in position.

No wind loads have been allowed (otherwise special calculations are required).

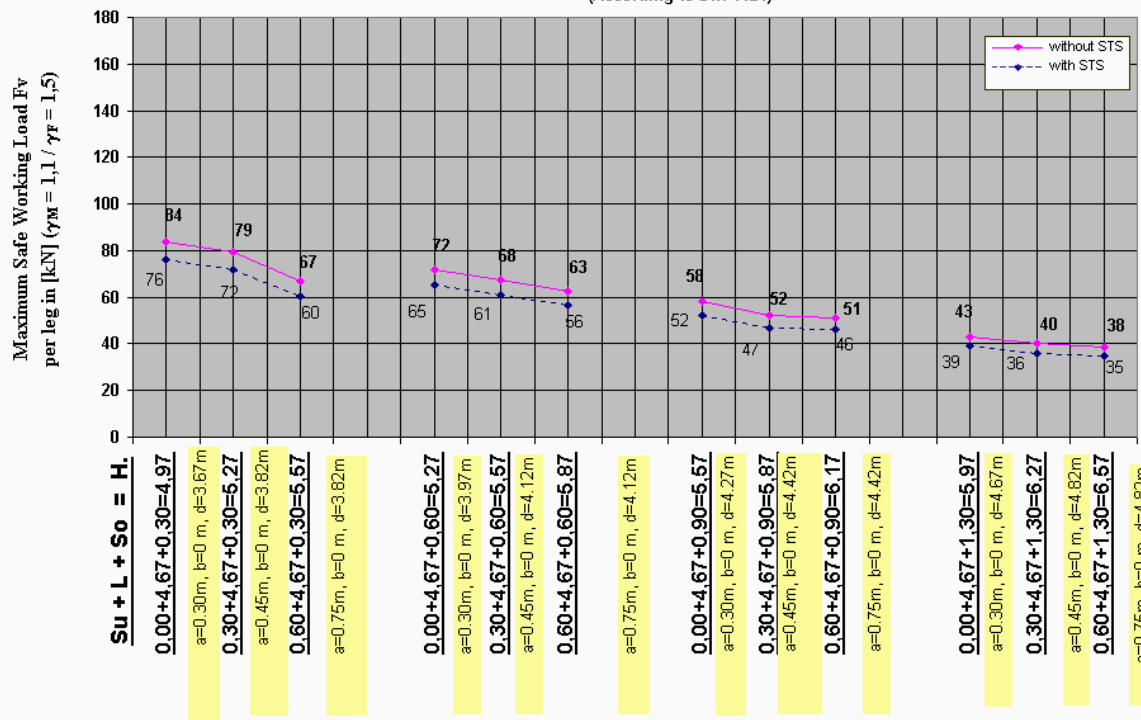
Plate-to-plate leg bolted joints may be in any position.

Maximum Differential support settlement $s = 5 \text{ mm}$ (at limit state, DIN 4421).

Ledger frame widths may be $B = 1.20 \text{ m}, 1.80 \text{ m}, 2.40 \text{ m}$ and 3.00 m .

SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

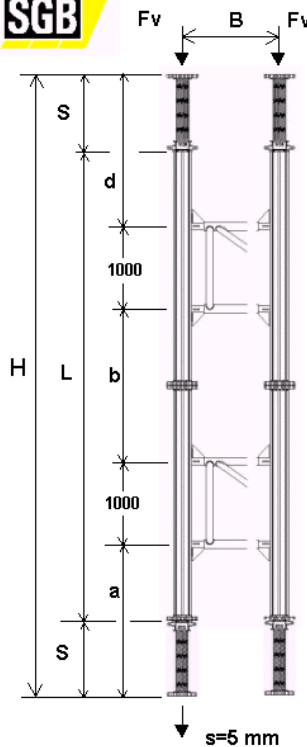
STS = Differential support settlement = 5 mm
(According to DIN 4421)



Jack length bottom S_u + Vertical leg length L + Jack length top S_o = Total Height H in m

German Approval
Ref. Sheet TB1467

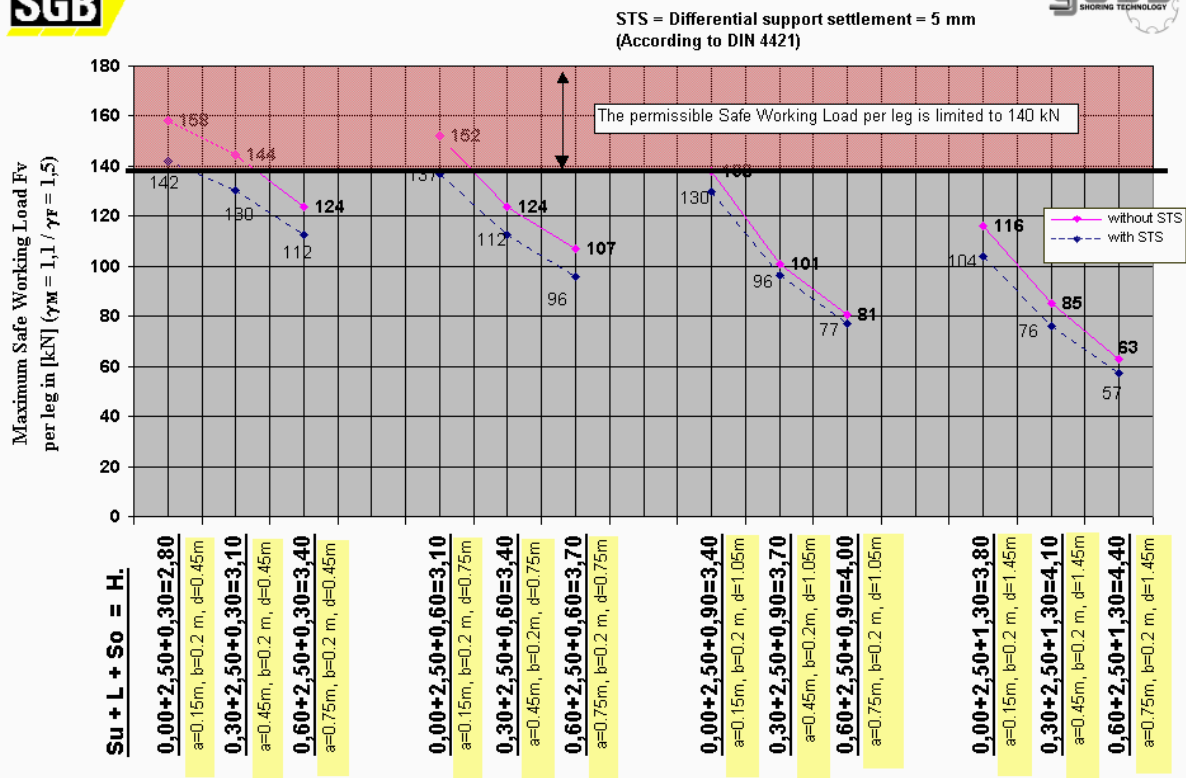
Gass Tower (2 Jacks) Loading Charts - 5 of 34



GASS - Shoring Technology
With Top and Bottom Jack and 2 Ledger Frames
Leg Height $L = 2.5$ m
SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

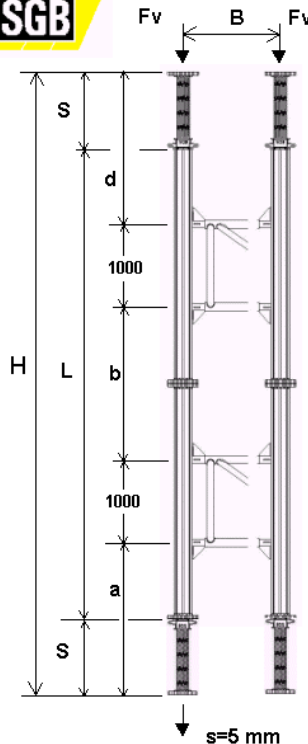
- One of the two jacks must not exceed 600 mm.
- Either jack may be at the top or at the bottom.
- Dimensions shown 'Su' and 'a' must be associated with the shorter jack.
- Dimensions shown 'So' and 'd' must be associated with the longer jack.
- The top of the tower is horizontally restrained in position.
- No wind loads have been allowed (otherwise special calculations are required).
- Plate-to-plate leg bolted joints may be in any position.
- Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).
- Ledger frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.
- SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.



Jack length bottom S_u + Vertical leg length L + Jack length top S_o = Total Height H in m

German Approval
Ref. Sheet TB2025

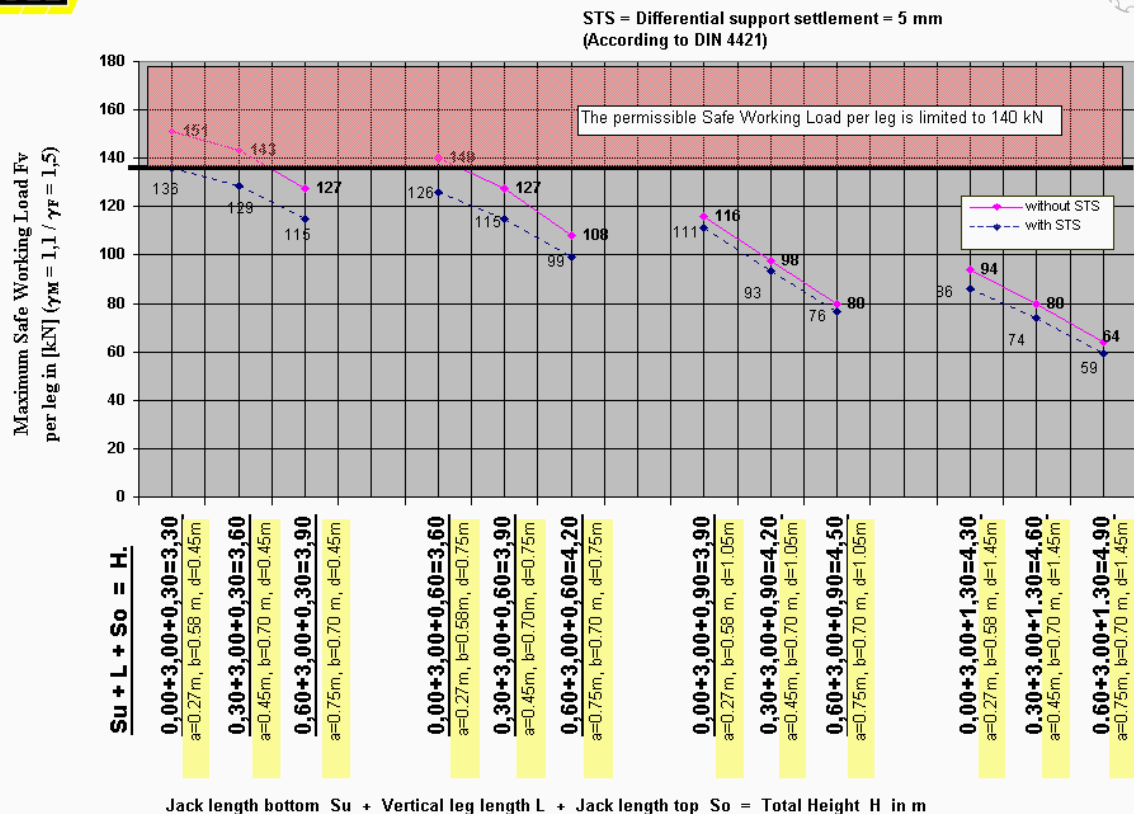
Gass Tower (2 Jacks) Loading Charts - 6 of 34



GASS - Shoring Technology
With Top and Bottom Jack and 2 Ledger Frames
Leg Height $L = 3.0$ m
SWL Adjusted to allow for Differential Settlement to DIN4421

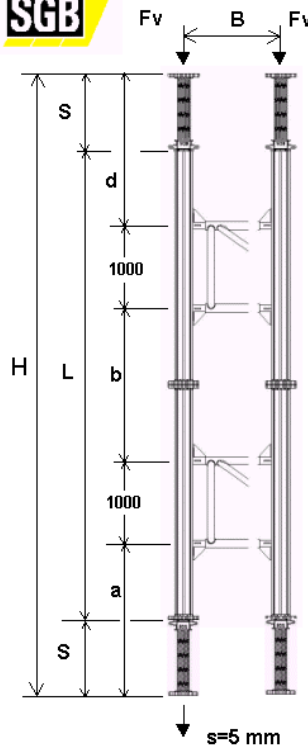
Allowable Conditions:

- One of the two jacks must not exceed 600 mm.
- Either jack may be at the top or at the bottom.
- Dimensions shown 'Su' and 'a' must be associated with the shorter jack.
- Dimensions shown 'So' and 'd' must be associated with the longer jack.
- The top of the tower is horizontally restrained in position.
- No wind loads have been allowed (otherwise special calculations are required).
- Plate-to-plate leg bolted joints may be in any position.
- Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).
- Ledger frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.
- SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.



German Approval
Ref. Sheet TB2003

Gass Tower (2 Jacks) Loading Charts - 7 of 34



GASS - Shoring Technology

With Top and Bottom Jack and 2 Ledger Frames

Leg Height $L = 4.0$ m

SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

One of the two jacks must not exceed 600 mm.

Either jack may be at the top or at the bottom.

Dimensions shown 'Su' and 'a' must be associated with the shorter jack.

Dimensions shown 'So' and 'd' must be associated with the longer jack.

The top of the tower is horizontally restrained in position.

No wind loads have been allowed (otherwise special calculations are required).

Plate-to-plate leg bolted joints may be in any position.

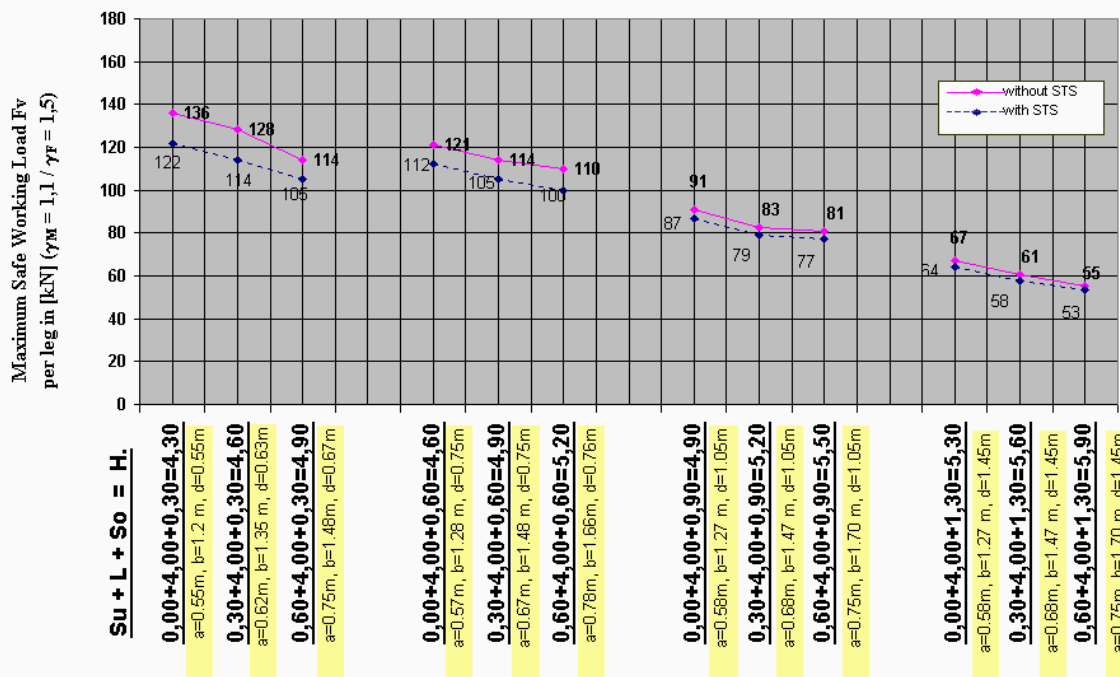
Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).

Ledge frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.

SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.



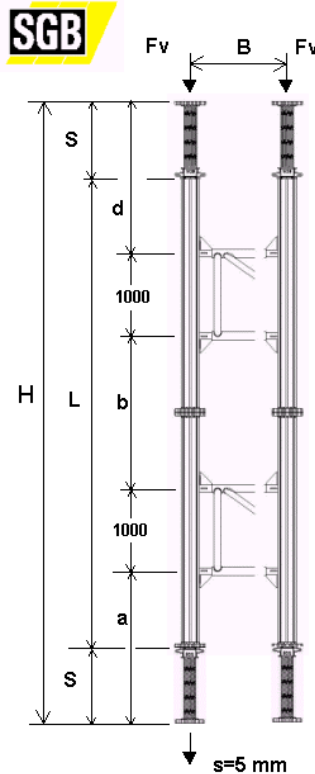
STS = Differential support settlement = 5 mm
(According to DIN 4421)



Jack length bottom S_u + Vertical leg length L + Jack length top S_o = Total Height H in m

German Approval
Ref. Sheet TB2004

Gass Tower (2 Jacks) Loading Charts - 9 of 34



GASS - Shoring Technology
With Top and Bottom Jack and 2 Ledger Frames
Leg Height L = 6.0 m
SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

One of the two jacks must not exceed 600 mm.

Either jack may be at the top or at the bottom.

Dimensions shown 'Su' and 'a' must be associated with the shorter jack.

Dimensions shown 'So' and 'd' must be associated with the longer jack.

The top of the tower is horizontally restrained in position.

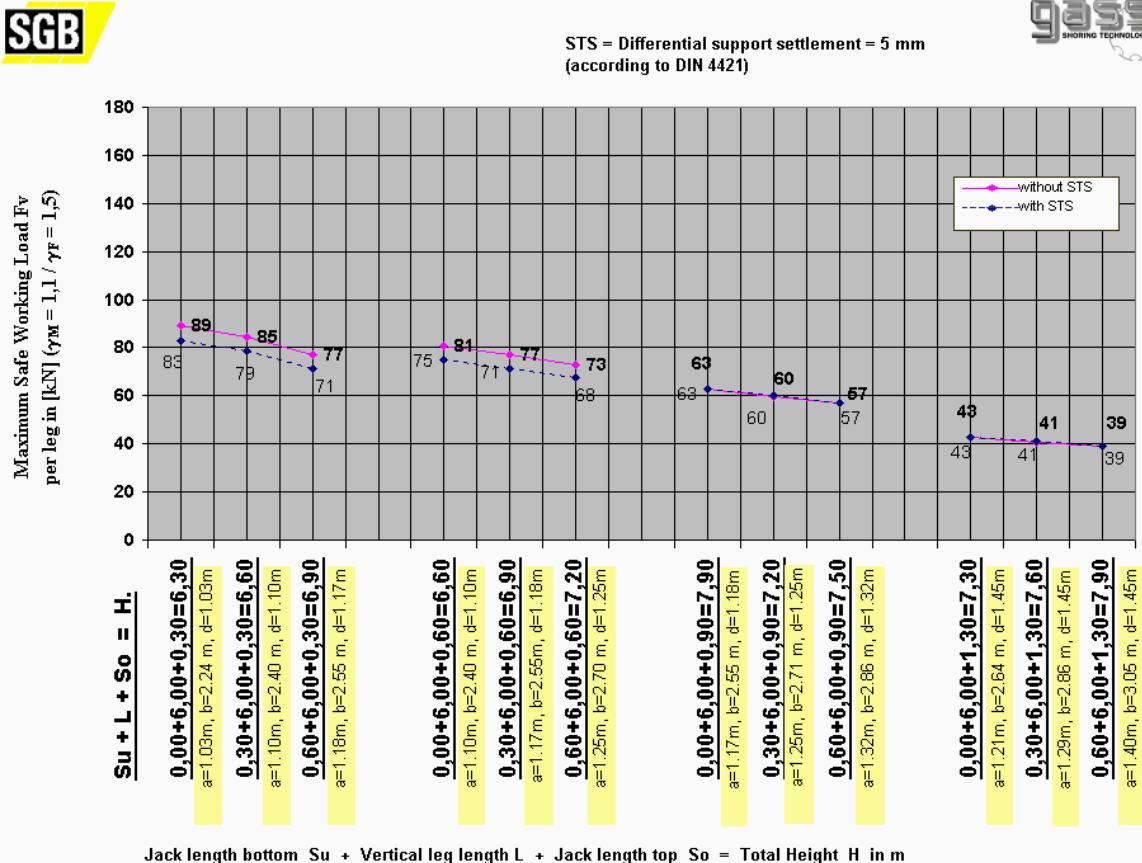
No wind loads have been allowed (otherwise special calculations are required).

Plate-to-plate leg bolted joints may be in any position.

Maximum Differential support settlement $s = 5 \text{ mm}$ (at limit state, DIN 4421).

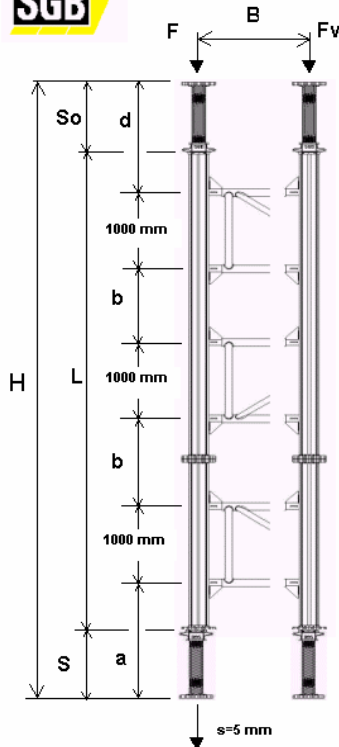
Ledger frame widths may be $B = 1.20 \text{ m}$, 1.80 m , 2.40 m and 3.00 m .

SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.



German Approval
Ref. Sheet TB2006

Gass Tower (2 Jacks) Loading Charts - 10 of 34

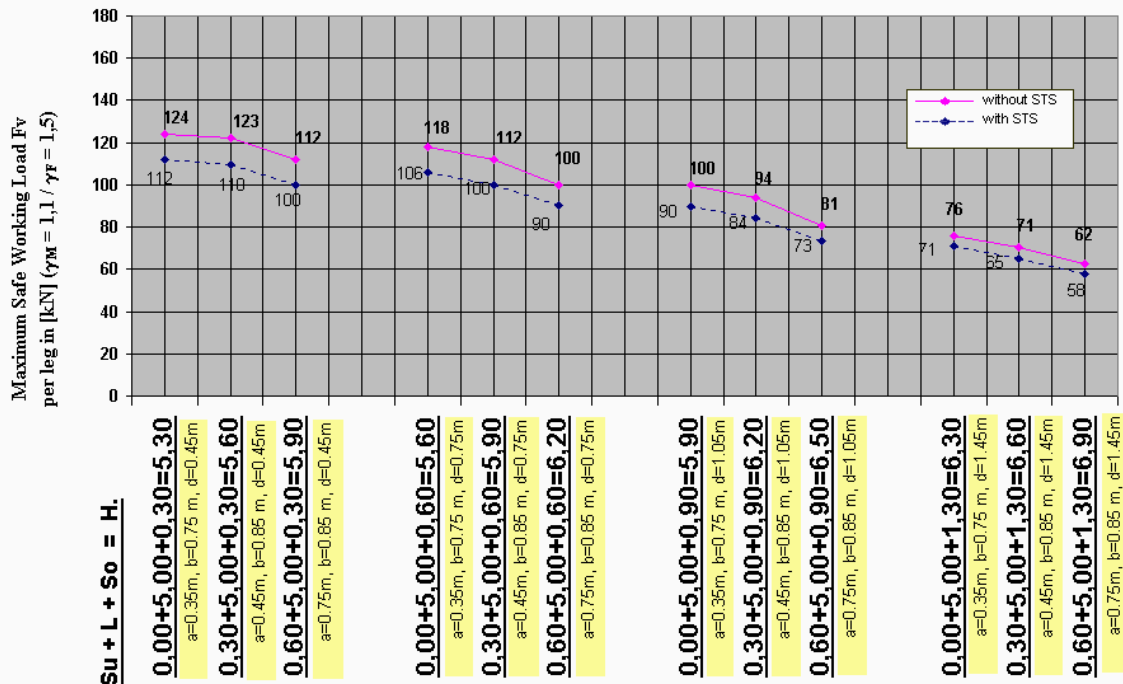


GASS - Shoring Technology
With Top and Bottom Jack and 3 Ledger Frames
Leg Height $L = 5.0$ m
SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

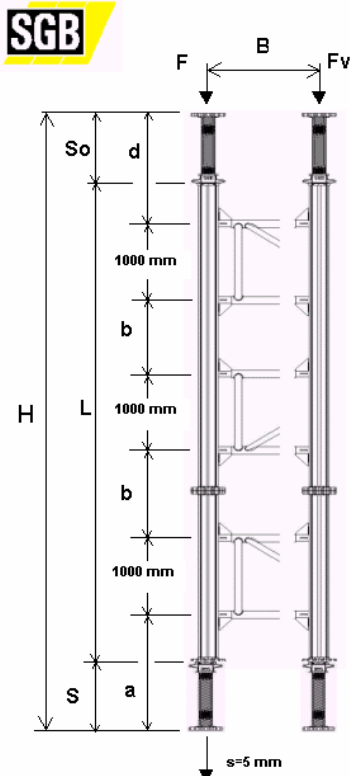
- One of the two jacks must not exceed 600 mm.
- Either jack may be at the top or at the bottom.
- Dimensions shown 'Su' and 'a' must be associated with the shorter jack.
- Dimensions shown 'So' and 'd' must be associated with the longer jack.
- The top of the tower is horizontally restrained in position.
- No wind loads have been allowed (otherwise special calculations are required).
- Plate-to-plate leg bolted joints may be in any position.
- Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).
- Ledger frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.
- SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

STS = Differential support settlement = 5 mm
(According to DIN 4421)



Jack length bottom S_u + Vertical leg length L + Jack length top S_o = Total Height H in m

Gass Tower (2 Jacks) Loading Charts - 11 of 34



GASS - Shoring Technology

With Top and Bottom Jack and 3 Ledger Frames

Leg Height $L = 6.0$ m

SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

One of the two jacks must not exceed 600 mm.

Either jack may be at the top or at the bottom.

Dimensions shown 'Su' and 'a' must be associated with the shorter jack.

Dimensions shown 'So' and 'd' must be associated with the longer jack.

The top of the tower is horizontally restrained in position.

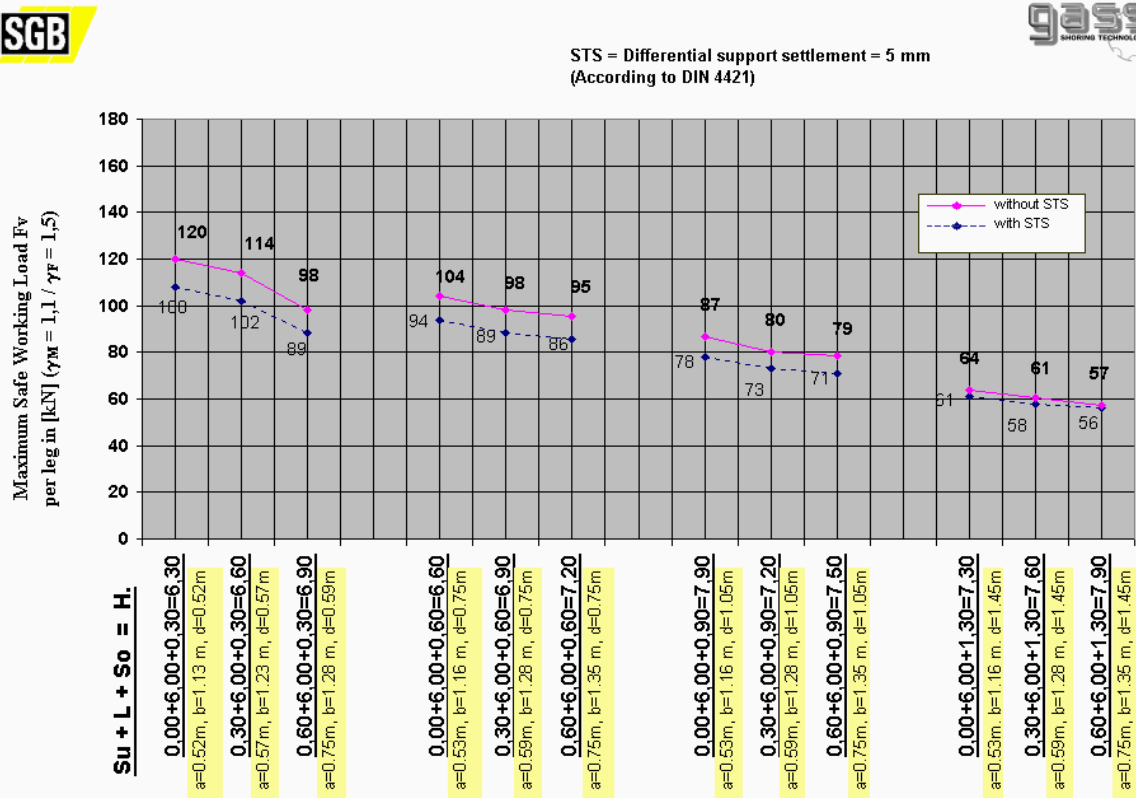
No wind loads have been allowed (otherwise special calculations are required).

Plate-to-plate leg bolted joints may be in any position.

Maximum Differential support settlement $s = 5 \text{ mm}$ (at limit state, DIN 4421).

Ledger frame widths may be $B = 1.20 \text{ m}$, 1.80 m , 2.40 m and 3.00 m .

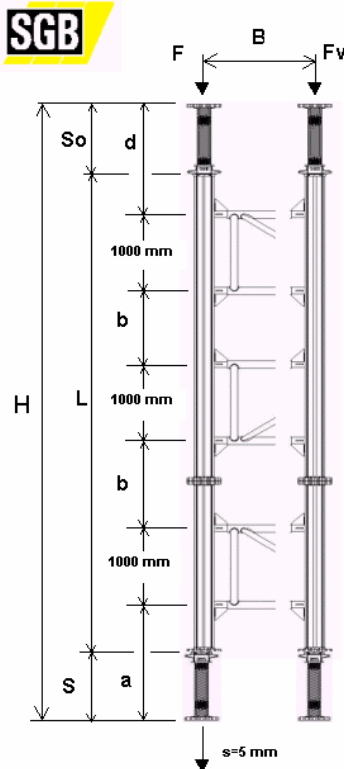
SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.



Jack length bottom Su + Vertical leg length L + Jack length top So = Total Height H in m

German Approval
Ref. Sheet TB3006

Gass Tower (2 Jacks) Loading Charts - 12 of 34



GASS - Shoring Technology
With Top and Bottom Jack and 3 Ledger Frames
Leg Height L = 7.0 m
SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

One of the two jacks must not exceed 600 mm.

Either jack may be at the top or at the bottom.

Dimensions shown 'Su' and 'a' must be associated with the shorter jack.

Dimensions shown 'So' and 'd' must be associated with the longer jack.

The top of the tower is horizontally restrained in position.

No wind loads have been allowed (otherwise special calculations are required).

Plate-to-plate leg bolted joints may be in any position.

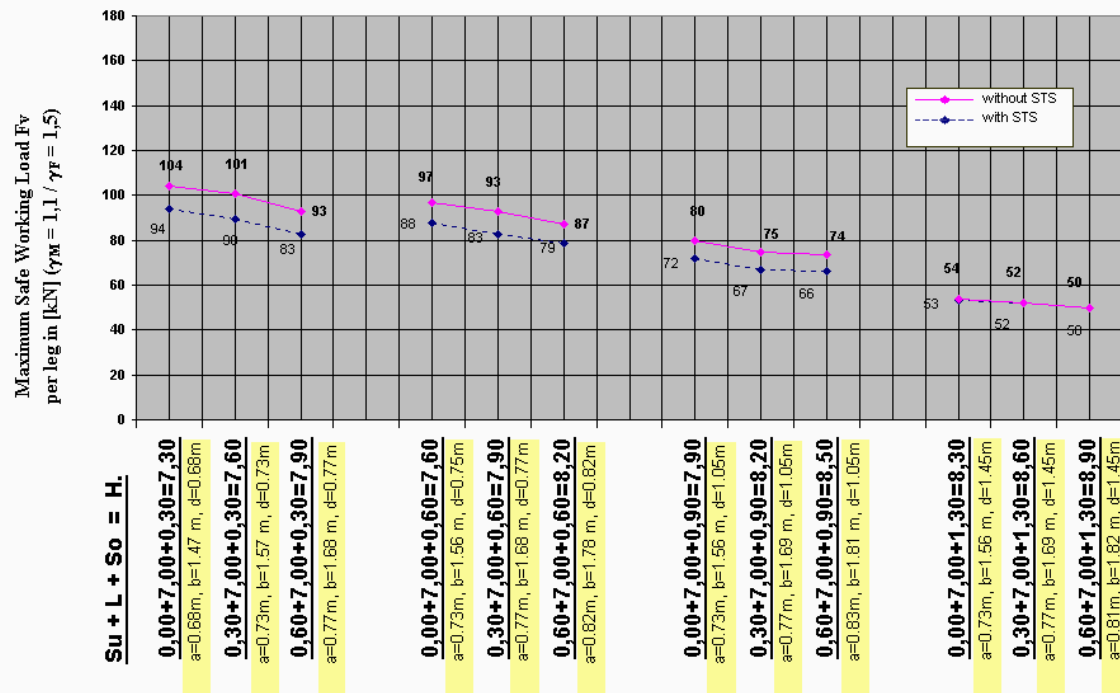
Maximum Differential support settlement $s = 5 \text{ mm}$ (at limit state, DIN 4421).

Ledger frame widths may be $B = 1.20 \text{ m}$, 1.80 m , 2.40 m and 3.00 m .

SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

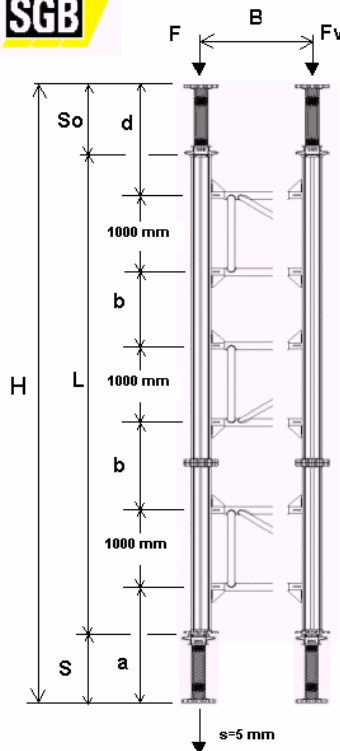
SGB

STS = Differential support settlement = 5 mm
(According to DIN 4421)


$$\text{Jack length bottom } S_u + \text{Vertical leg length } L + \text{Jack length top } S_o = \text{Total Height } H \text{ in m}$$

German Approval
Ref. Sheet TB3007

Gass Tower (2 Jacks) Loading Charts - 13 of 34



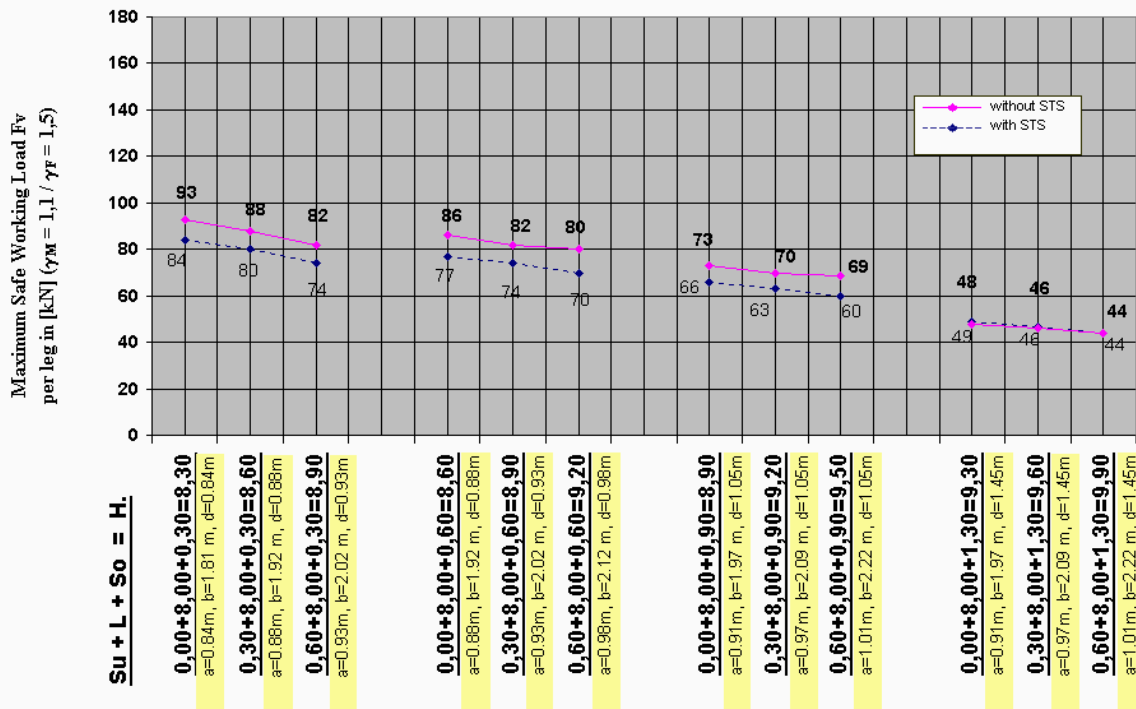
GASS - Shoring Technology
With Top and Bottom Jack and 3 Ledger Frames
Leg Height $L = 8.0$ m
SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

- One of the two jacks must not exceed 600 mm.
- Either jack may be at the top or at the bottom.
- Dimensions shown 'Su' and 'a' must be associated with the shorter jack.
- Dimensions shown 'So' and 'd' must be associated with the longer jack.
- The top of the tower is horizontally restrained in position.
- No wind loads have been allowed (otherwise special calculations are required).
- Plate-to-plate leg bolted joints may be in any position.
- Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).
- Ledger frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.
- SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.



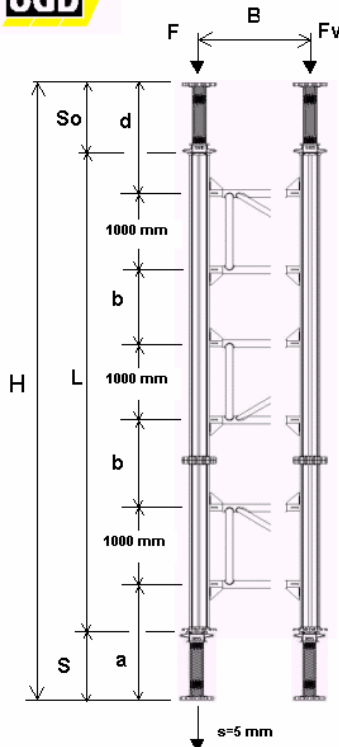
STS = Differential support settlement = 5 mm
(According to DIN 4421)



Jack length bottom S_u + Vertical leg length L + Jack length top S_o = Total Height H in m

German Approval
Ref. Sheet TB3008

Gass Tower (2 Jacks) Loading Charts - 14 of 34

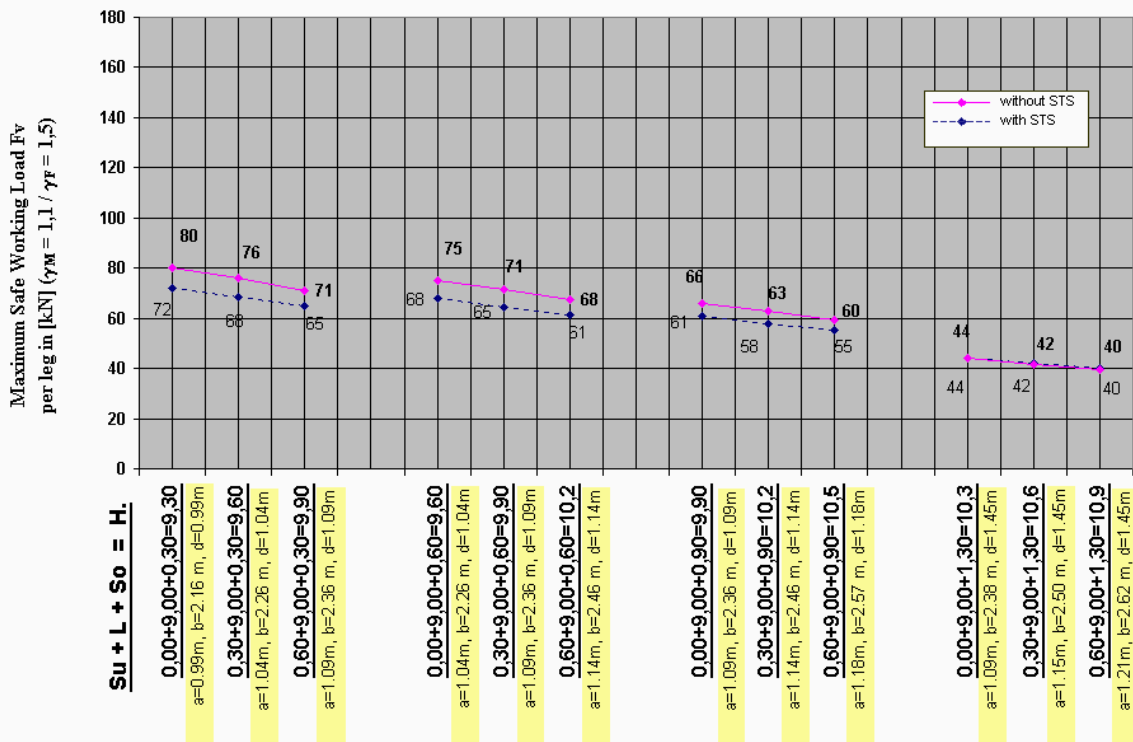


GASS - Shoring Technology
With Top and Bottom Jack and 3 Ledger Frames
Leg Height $L = 9.0$ m
SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

- One of the two jacks must not exceed 600 mm.
- Either jack may be at the top or at the bottom.
- Dimensions shown 'Su' and 'a' must be associated with the shorter jack.
- Dimensions shown 'So' and 'd' must be associated with the longer jack.
- The top of the tower is horizontally restrained in position.
- No wind loads have been allowed (otherwise special calculations are required).
- Plate-to-plate leg bolted joints may be in any position.
- Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).
- Ledger frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.
- SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

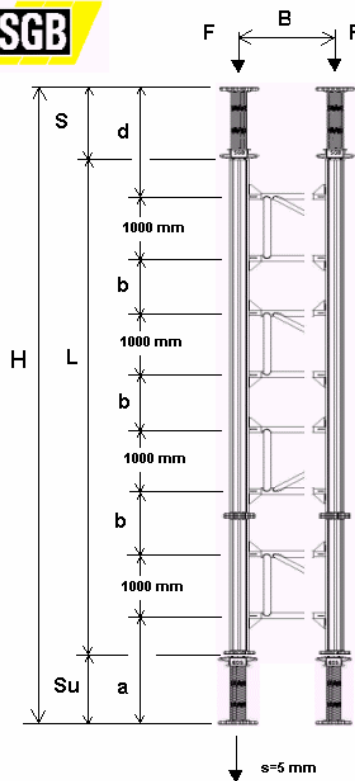
STS = Differential support settlement = 5 mm
(According to DIN 4421)



Jack length bottom S_u + Vertical leg length L + Jack length top S_o = Total Height H in m

German Approval
Ref. Sheet TB3009

Gass Tower (2 Jacks) Loading Charts - 15 of 34



GASS - Shoring Technology

With Top and Bottom Jack and 4 Ledger Frames

Leg Height $L = 8.0$ m

SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

One of the two jacks must not exceed 600 mm.

Either jack may be at the top or at the bottom.

Dimensions shown 'Su' and 'a' must be associated with the shorter jack.

Dimensions shown 'So' and 'd' must be associated with the longer jack.

The top of the tower is horizontally restrained in position.

No wind loads have been allowed (otherwise special calculations are required).

Plate-to-plate leg bolted joints may be in any position.

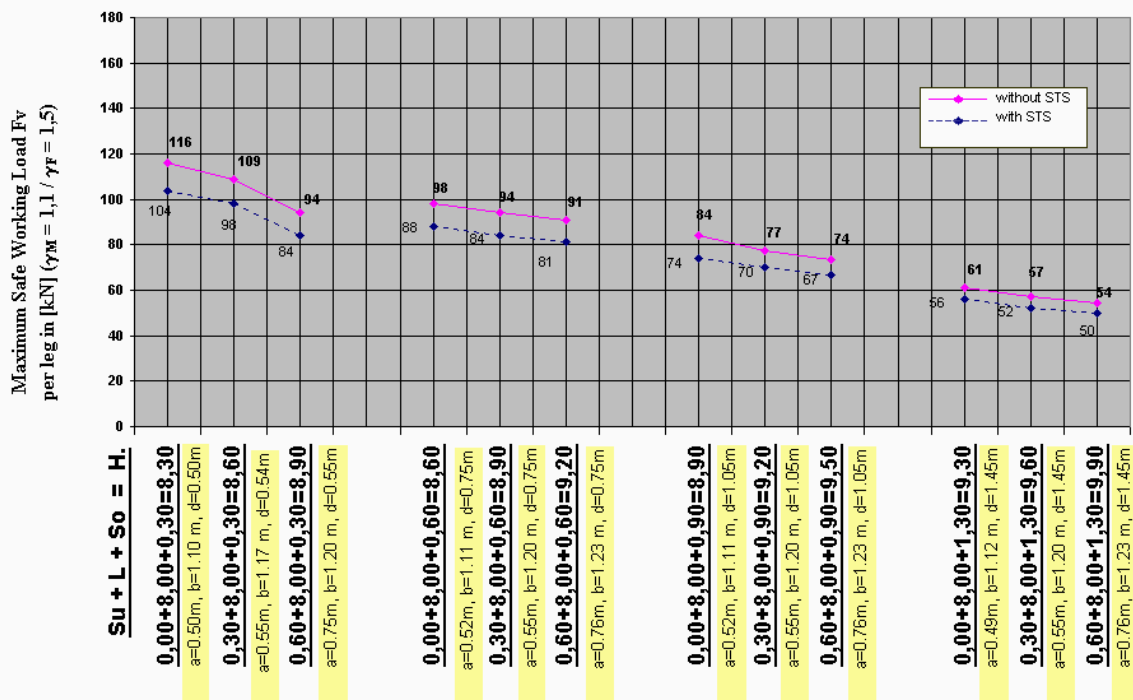
Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).

Ledger frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.

SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.



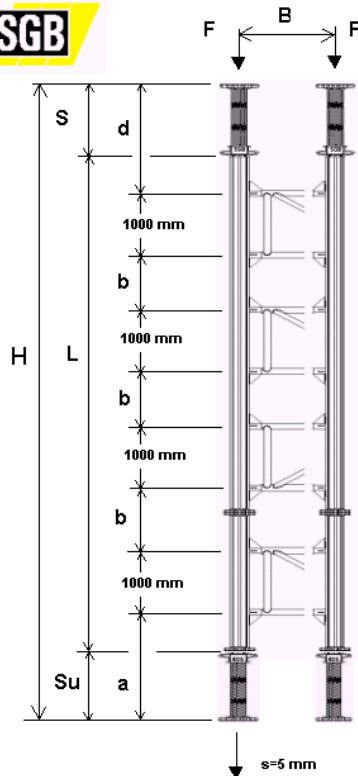
STS = Differential support settlement = 5 mm
(According to DIN 4421)



Jack length bottom S_u + Vertical leg length L + Jack length top S_o = Total Height H in m

German Approval
Ref. Sheet TB4008

Gass Tower (2 Jacks) Loading Charts - 16 of 34



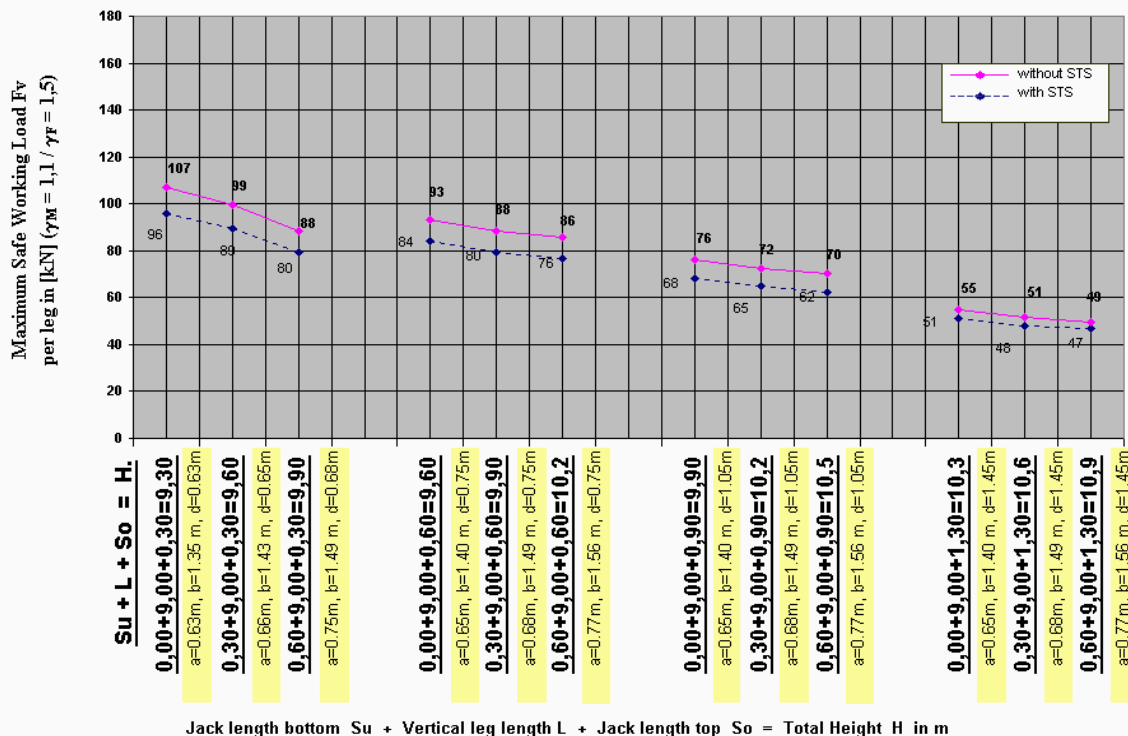
GASS - Shoring Technology
With Top and Bottom Jack and 4 Ledger Frames
Leg Height $L = 9.0$ m
SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

- One of the two jacks must not exceed 600 mm.
- Either jack may be at the top or at the bottom.
- Dimensions shown 'Su' and 'a' must be associated with the shorter jack.
- Dimensions shown 'So' and 'd' must be associated with the longer jack.
- The top of the tower is horizontally restrained in position.
- No wind loads have been allowed (otherwise special calculations are required).
- Plate-to-plate leg bolted joints may be in any position.
- Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).
- Ledger frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.
- SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

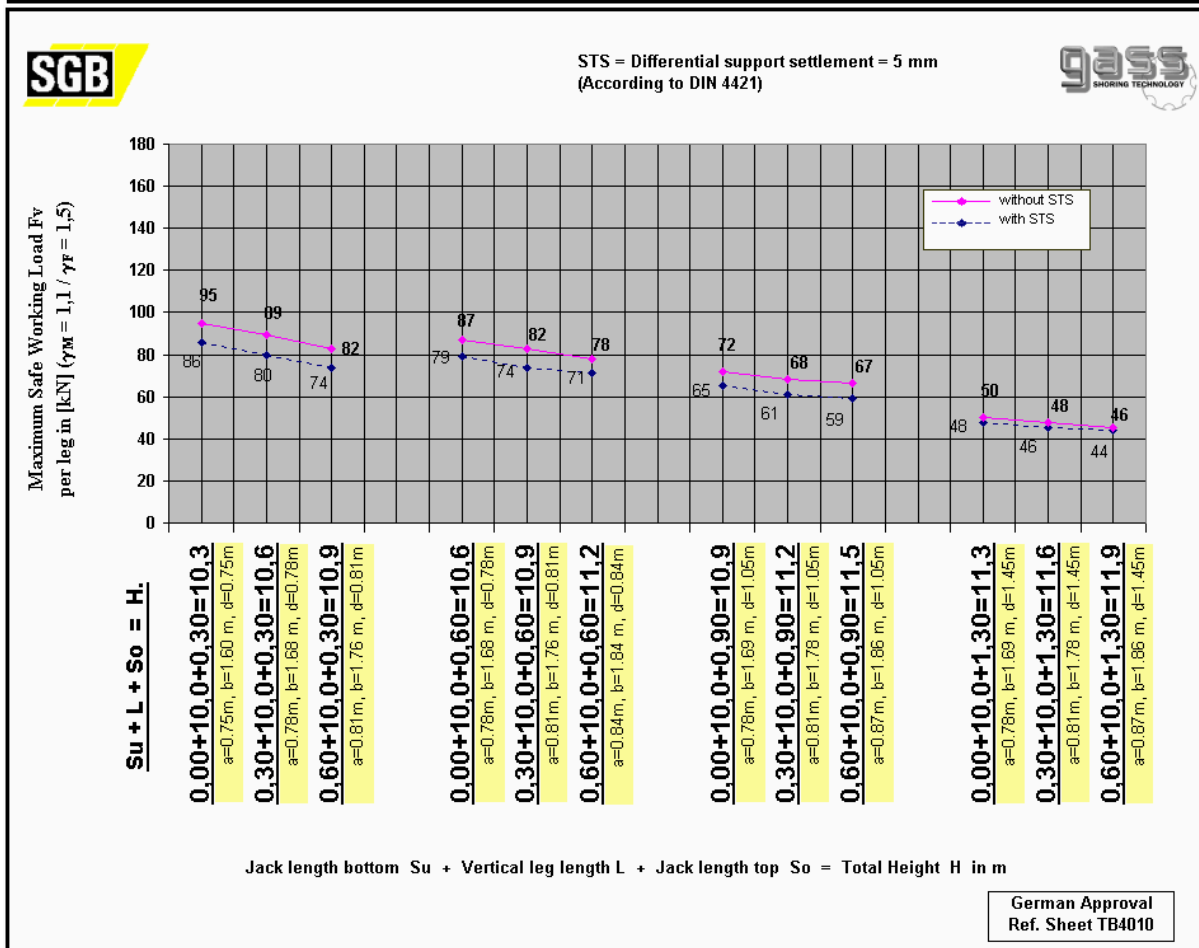
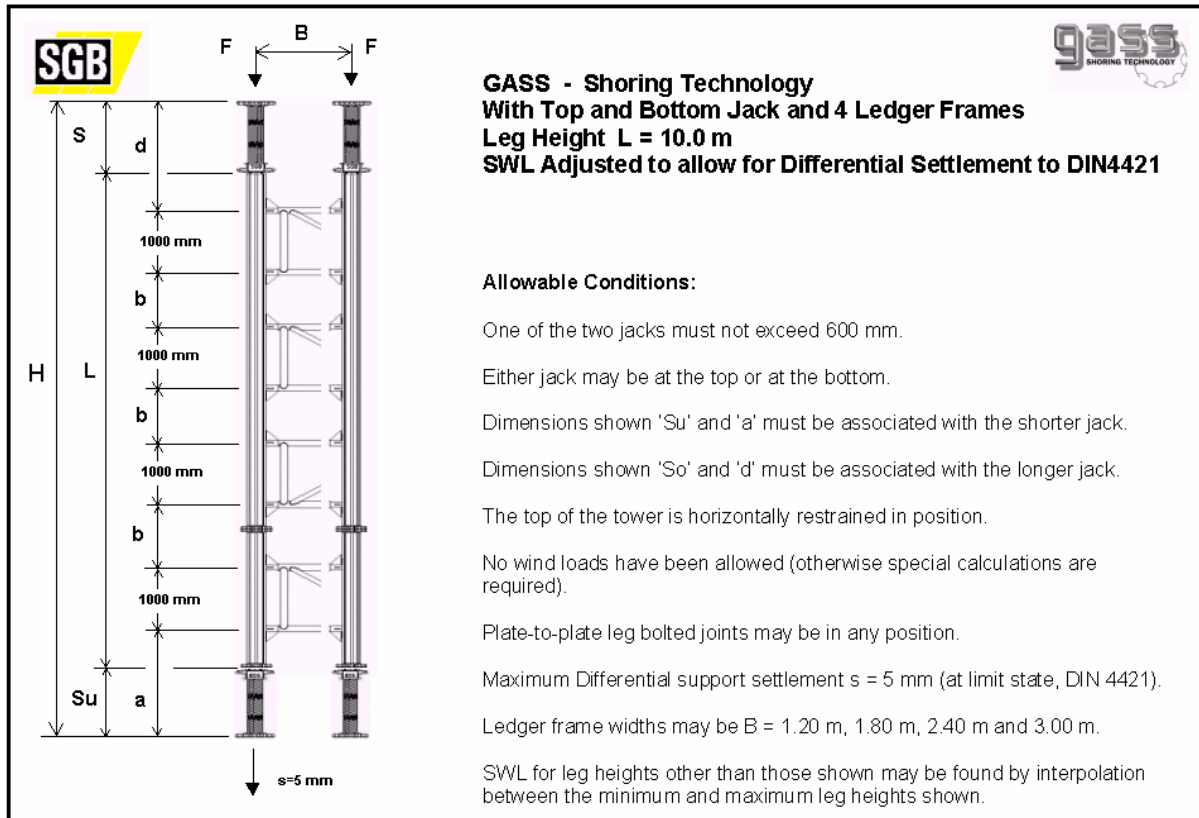


STS = Differential support settlement = 5 mm
(According to DIN 4421)

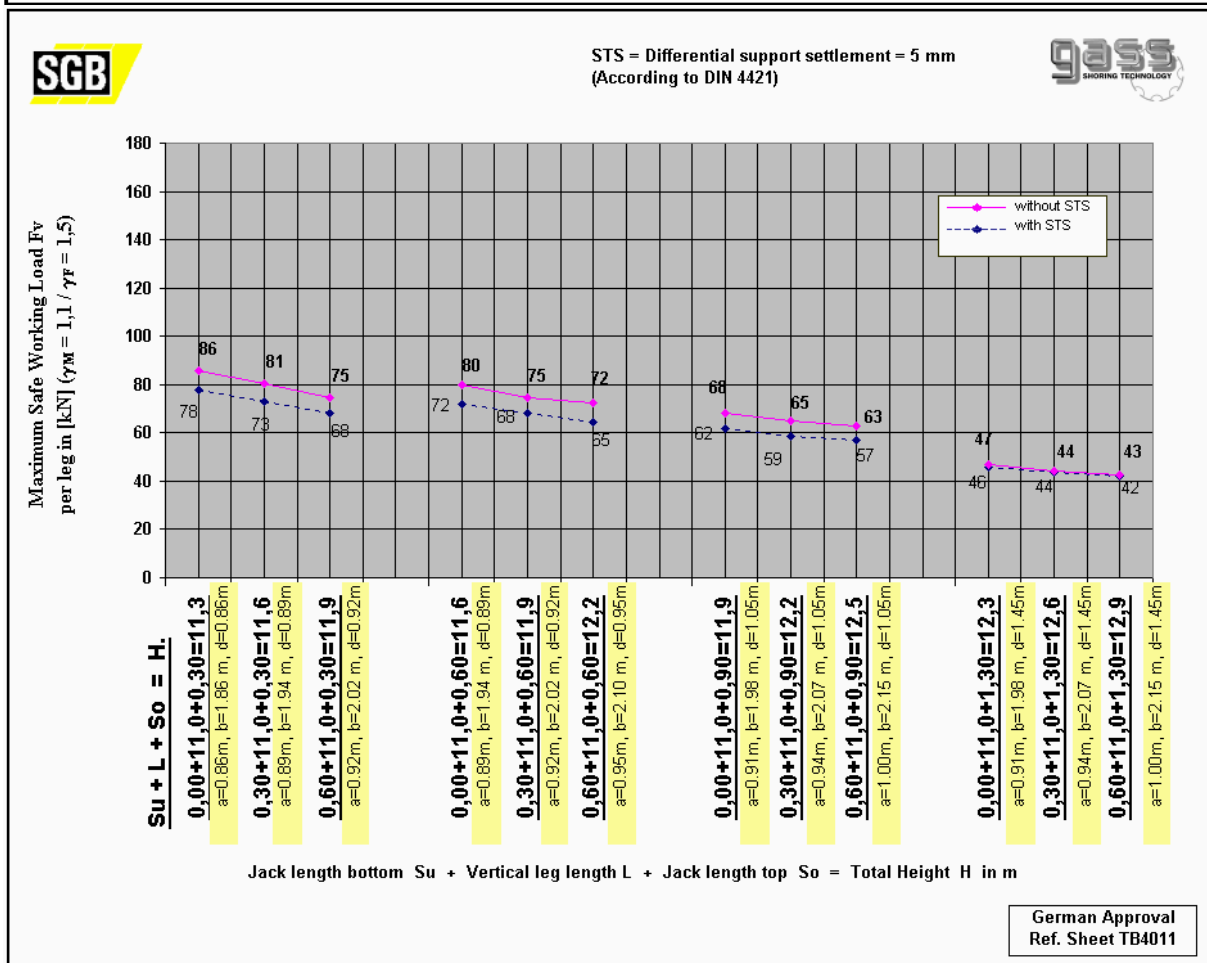
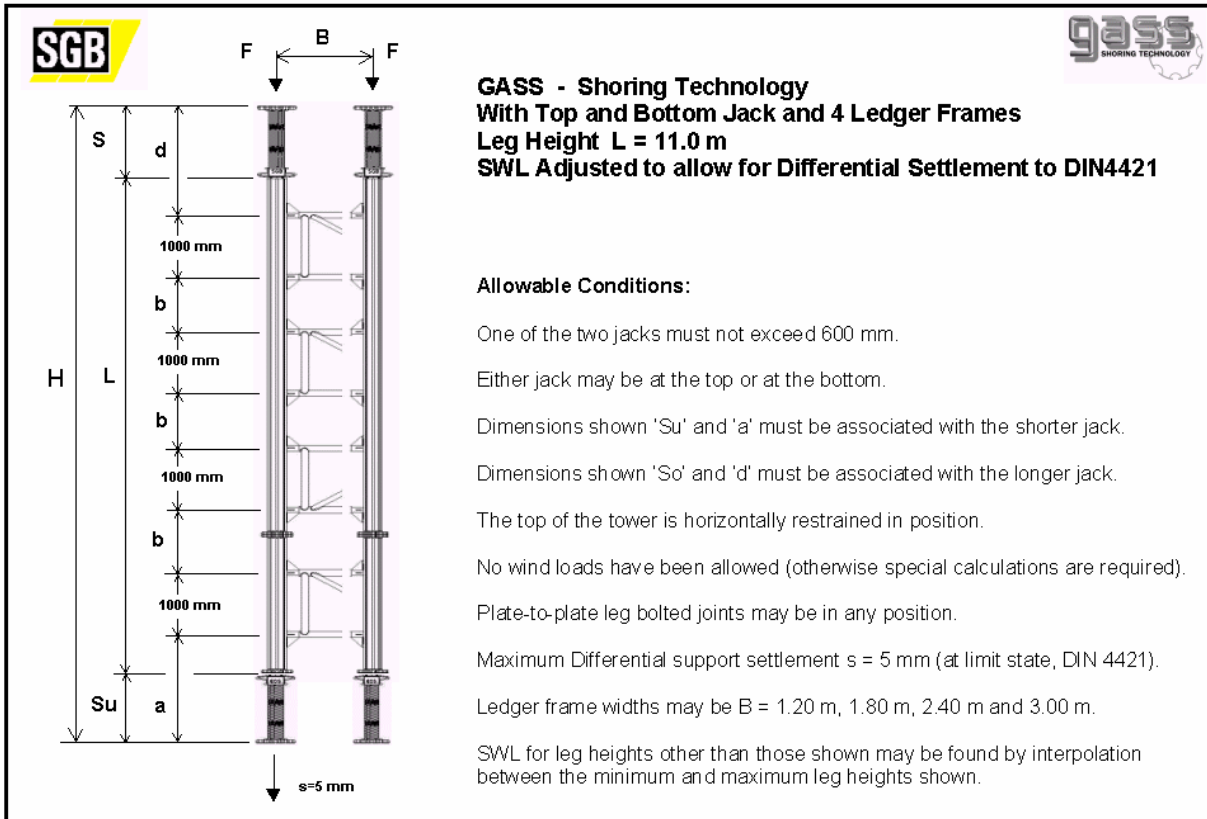


German Approval
Ref. Sheet TB4009

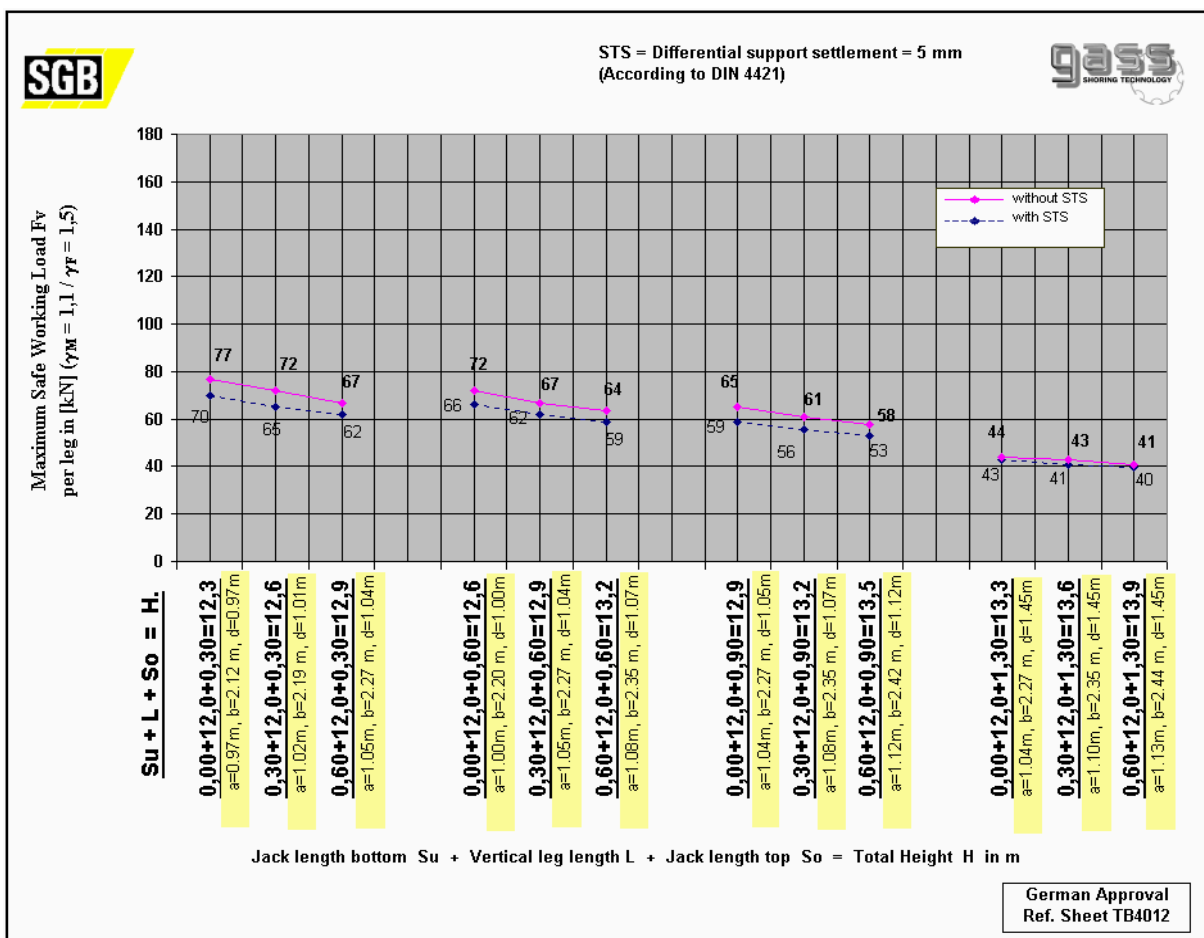
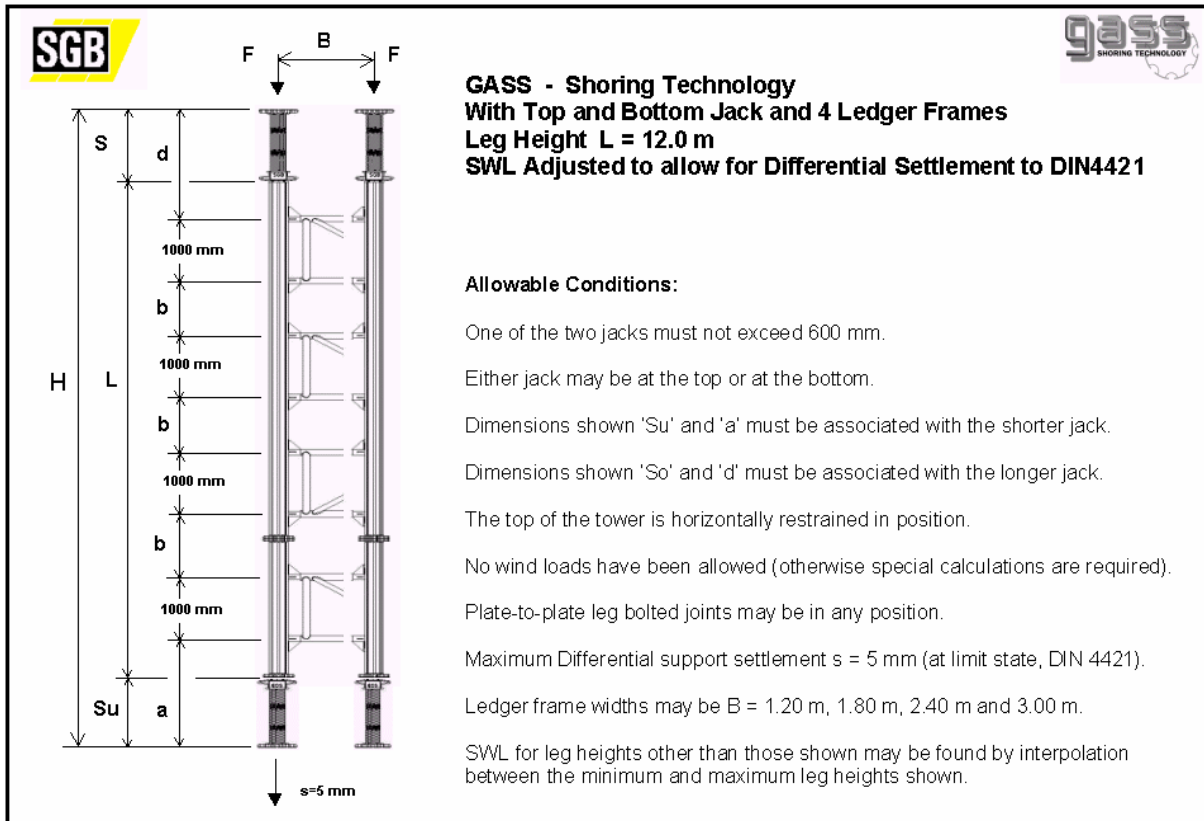
Gass Tower (2 Jacks) Loading Charts - 17 of 34



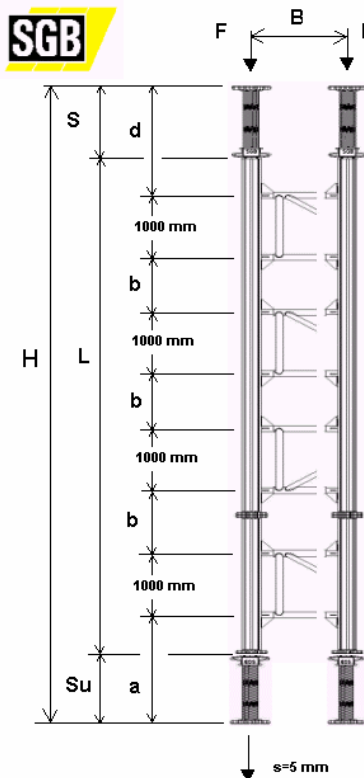
Gass Tower (2 Jacks) Loading Charts - 18 of 34



Gass Tower (2 Jacks) Loading Charts - 19 of 34



Gass Tower (2 Jacks) Loading Charts - 20 of 34



GASS - Shoring Technology

With Top and Bottom Jack and 4 Ledger Frames

Leg Height $L = 13.0$ m

SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

One of the two jacks must not exceed 600 mm.

Either jack may be at the top or at the bottom.

Dimensions shown 'Su' and 'a' must be associated with the shorter jack.

Dimensions shown 'So' and 'd' must be associated with the longer jack.

The top of the tower is horizontally restrained in position.

No wind loads have been allowed (otherwise special calculations are required).

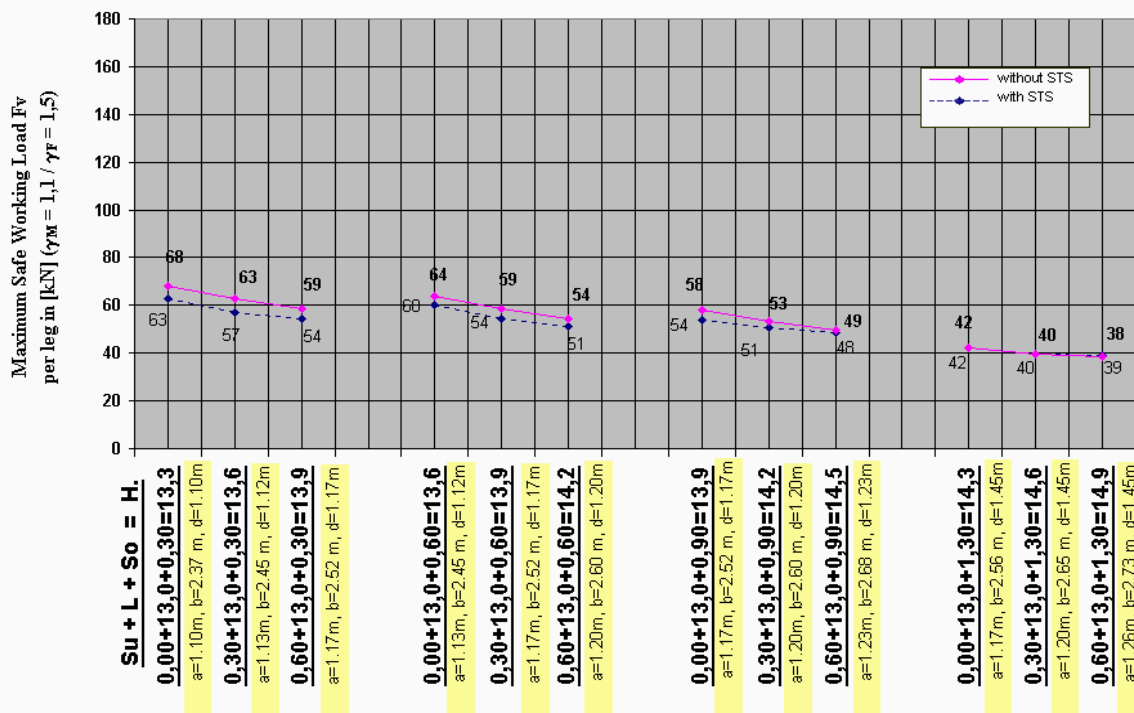
Plate-to-plate leg bolted joints may be in any position.

Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).

Ledger frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.

SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

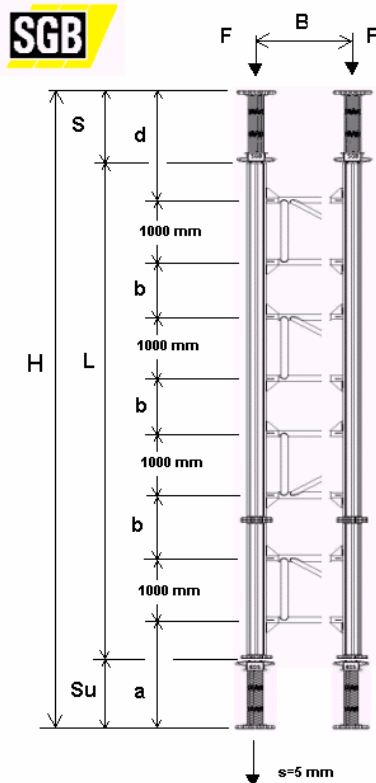
STS = Differential support settlement = 5 mm
(According to DIN 4421)



Jack length bottom S_u + Vertical leg length L + Jack length top S_o = Total Height H in m

German Approval
Ref. Sheet TB4013

Gass Tower (2 Jacks) Loading Charts - 21 of 34



GASS - Shoring Technology

With Top and Bottom Jack and 4 Ledger Frames

Leg Height $L = 14.0$ m

SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

One of the two jacks must not exceed 600 mm.

Either jack may be at the top or at the bottom.

Dimensions shown 'Su' and 'a' must be associated with the shorter jack.

Dimensions shown 'So' and 'd' must be associated with the longer jack.

The top of the tower is horizontally restrained in position.

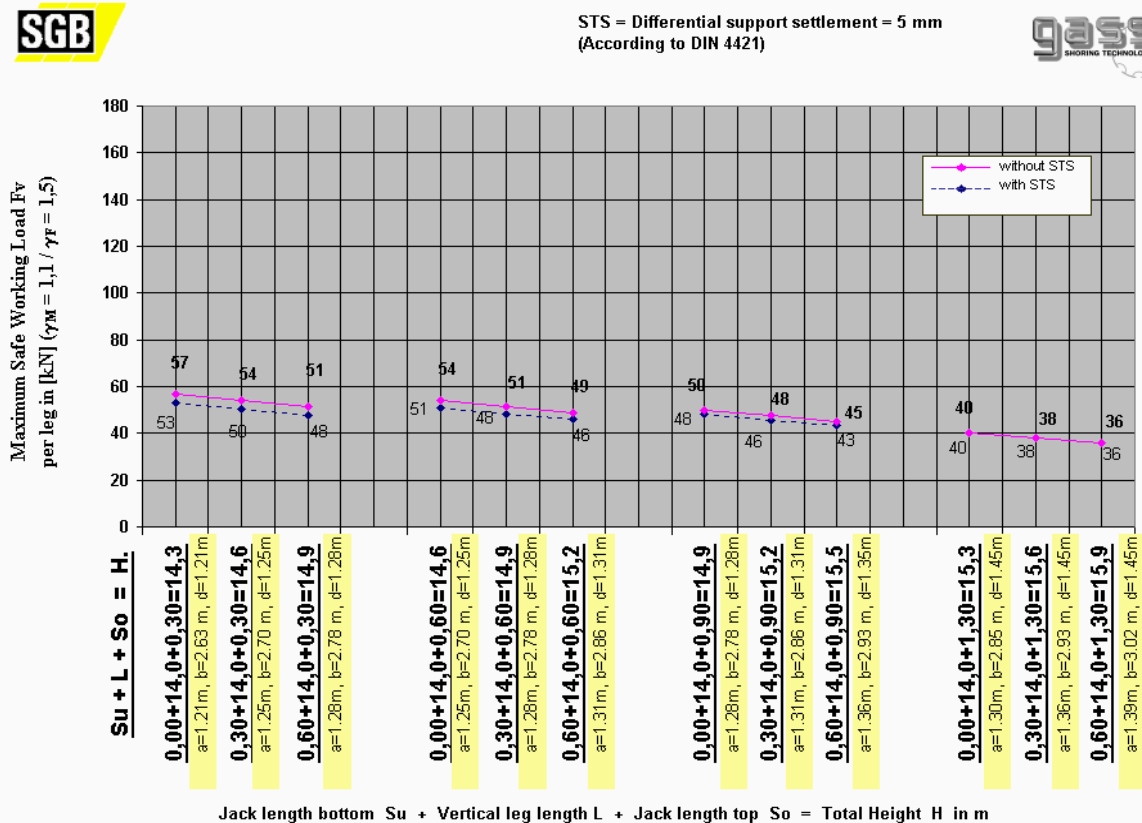
No wind loads have been allowed (otherwise special calculations are required).

Plate-to-plate leg bolted joints may be in any position.

Maximum Differential support settlement $s = 5 \text{ mm}$ (at limit state, DIN 4421).

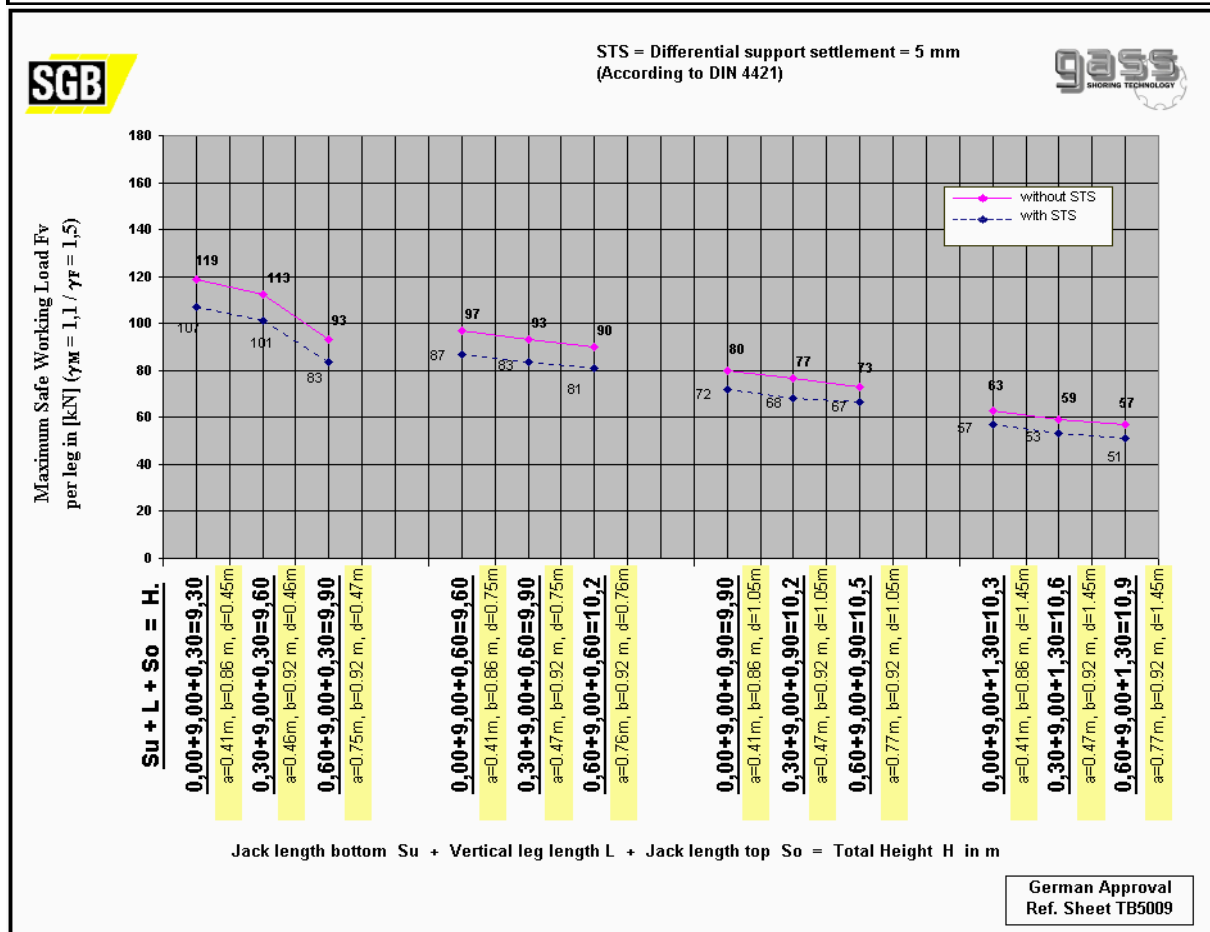
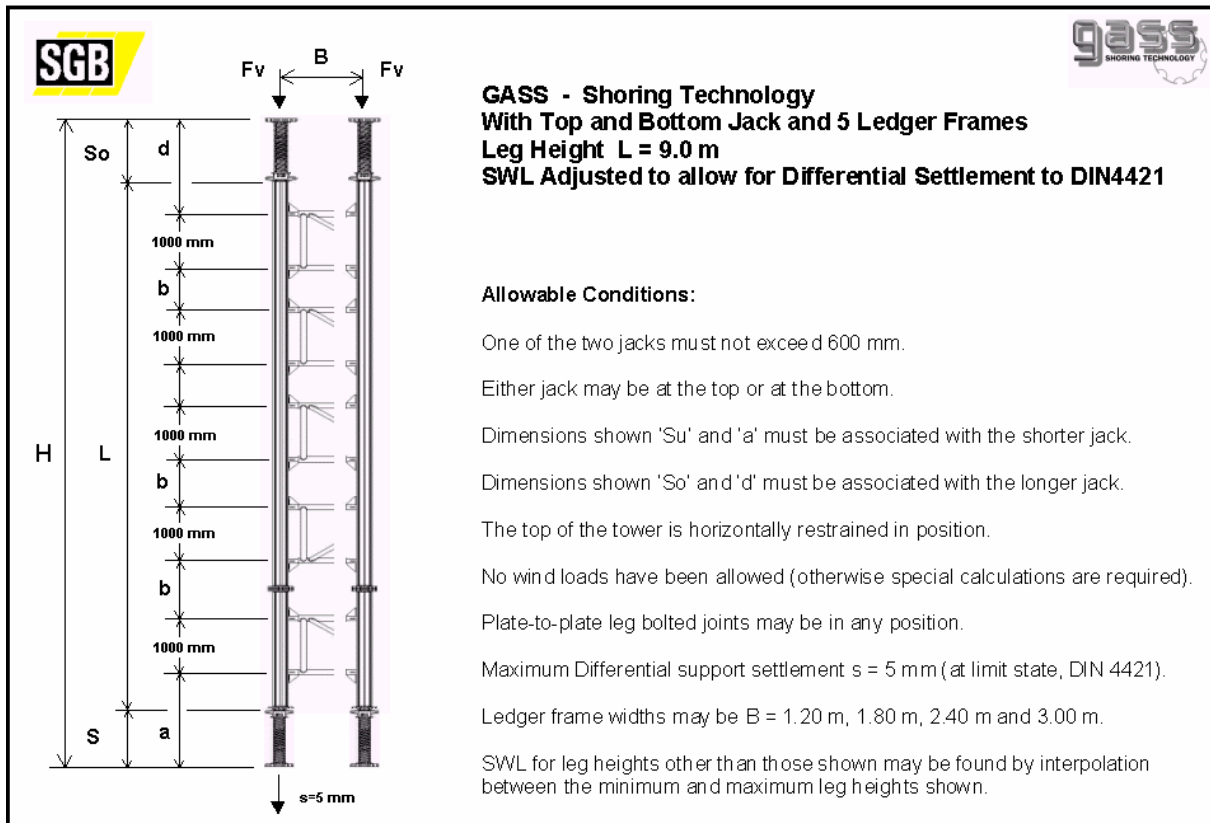
Ledger frame widths may be $B = 1.20 \text{ m}$, 1.80 m , 2.40 m and 3.00 m .

SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

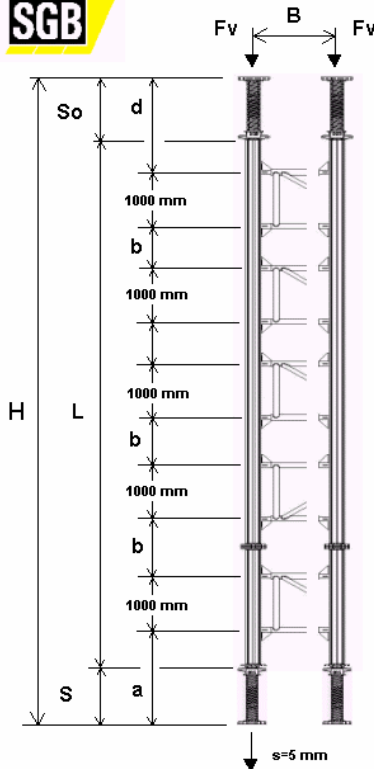


German Approval
Ref. Sheet TB4014

Gass Tower (2 Jacks) Loading Charts - 22 of 34



Gass Tower (2 Jacks) Loading Charts - 23 of 34



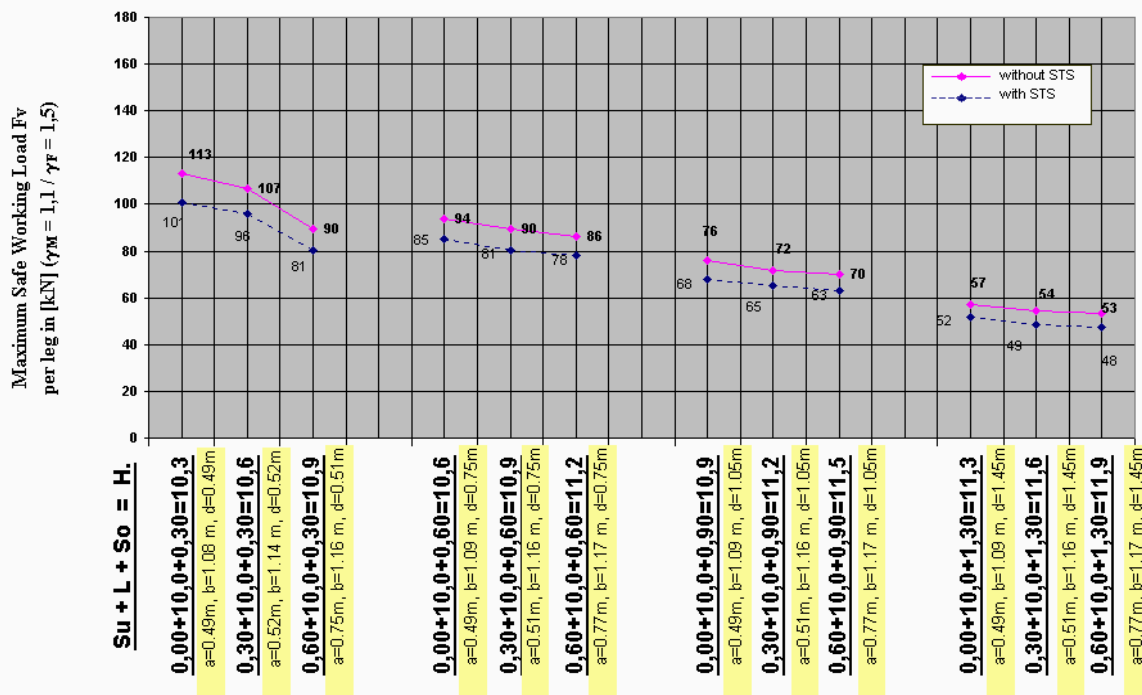
GASS - Shoring Technology
With Top and Bottom Jack and 5 Ledger Frames
Leg Height $L = 10.0$ m
SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

- One of the two jacks must not exceed 600 mm.
- Either jack may be at the top or at the bottom.
- Dimensions shown 'Su' and 'a' must be associated with the shorter jack.
- Dimensions shown 'So' and 'd' must be associated with the longer jack.
- The top of the tower is horizontally restrained in position.
- No wind loads have been allowed (otherwise special calculations are required).
- Plate-to-plate leg bolted joints may be in any position.
- Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).
- Ledger frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.
- SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.



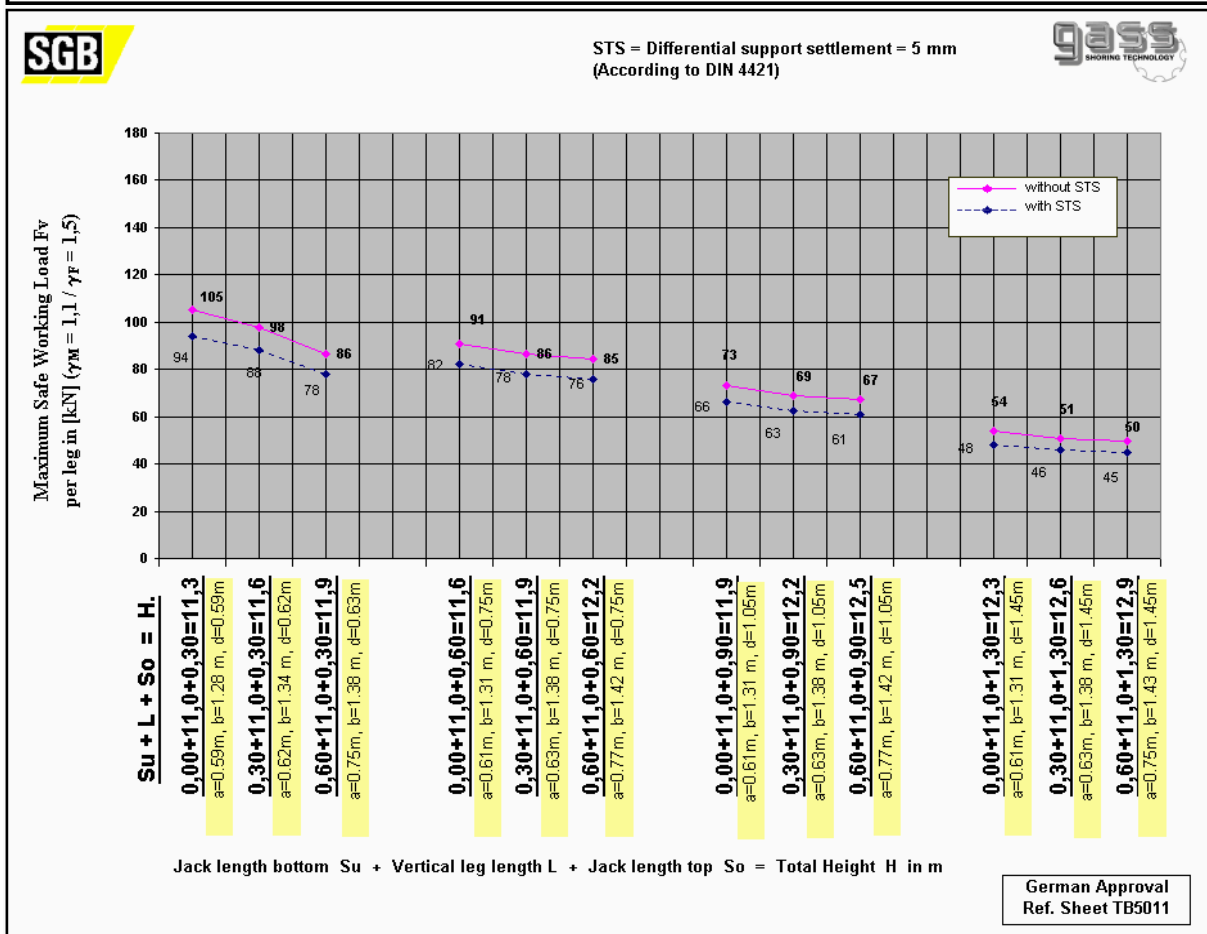
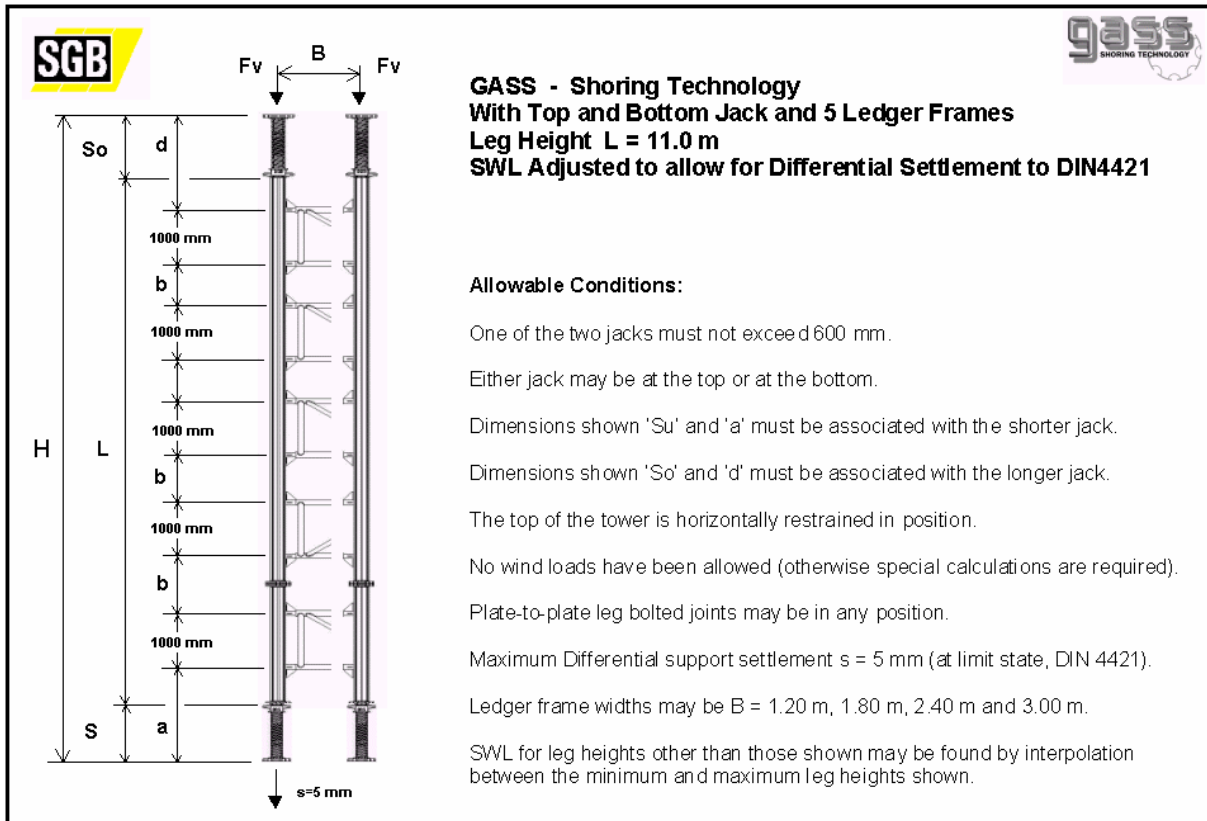
STS = Differential support settlement = 5 mm
(According to DIN 4421)



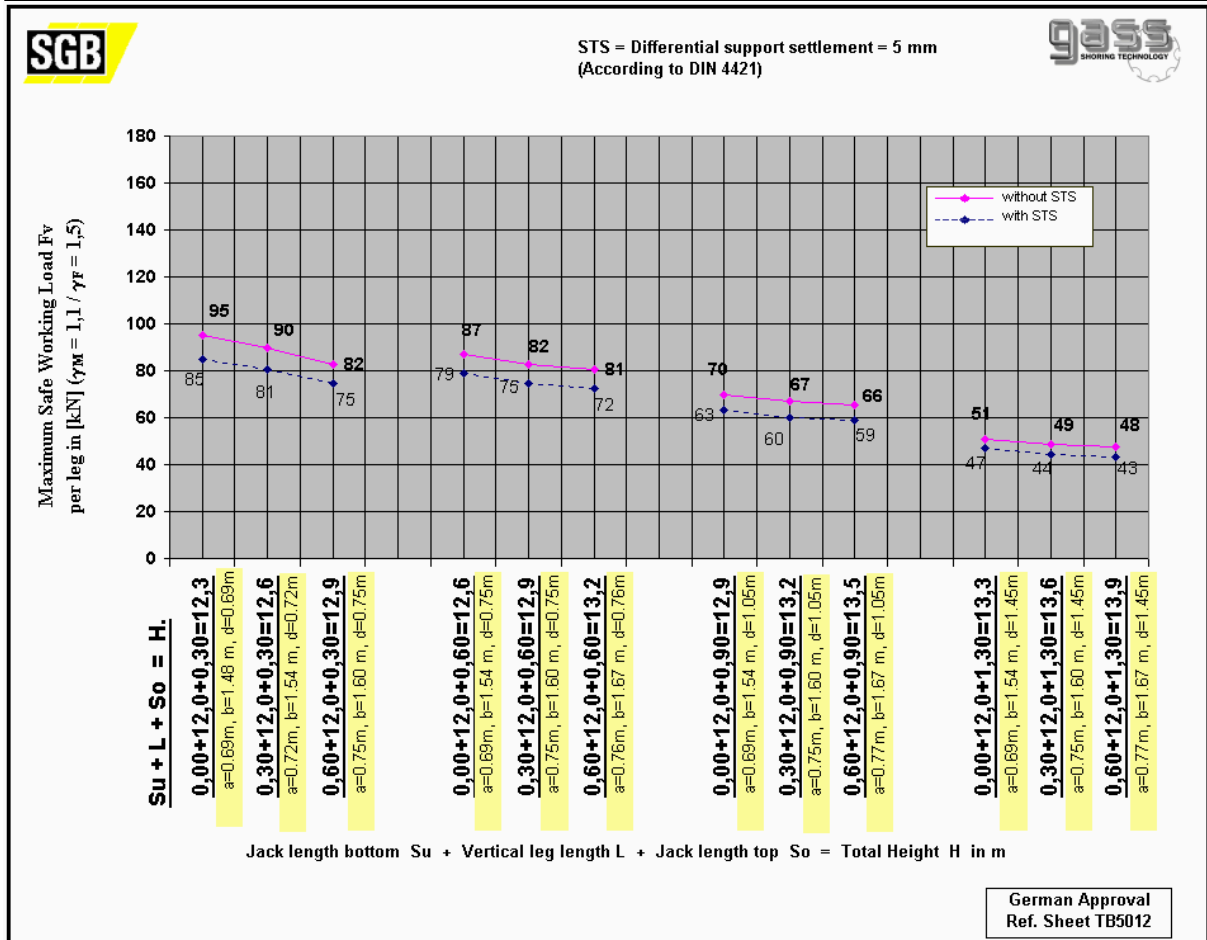
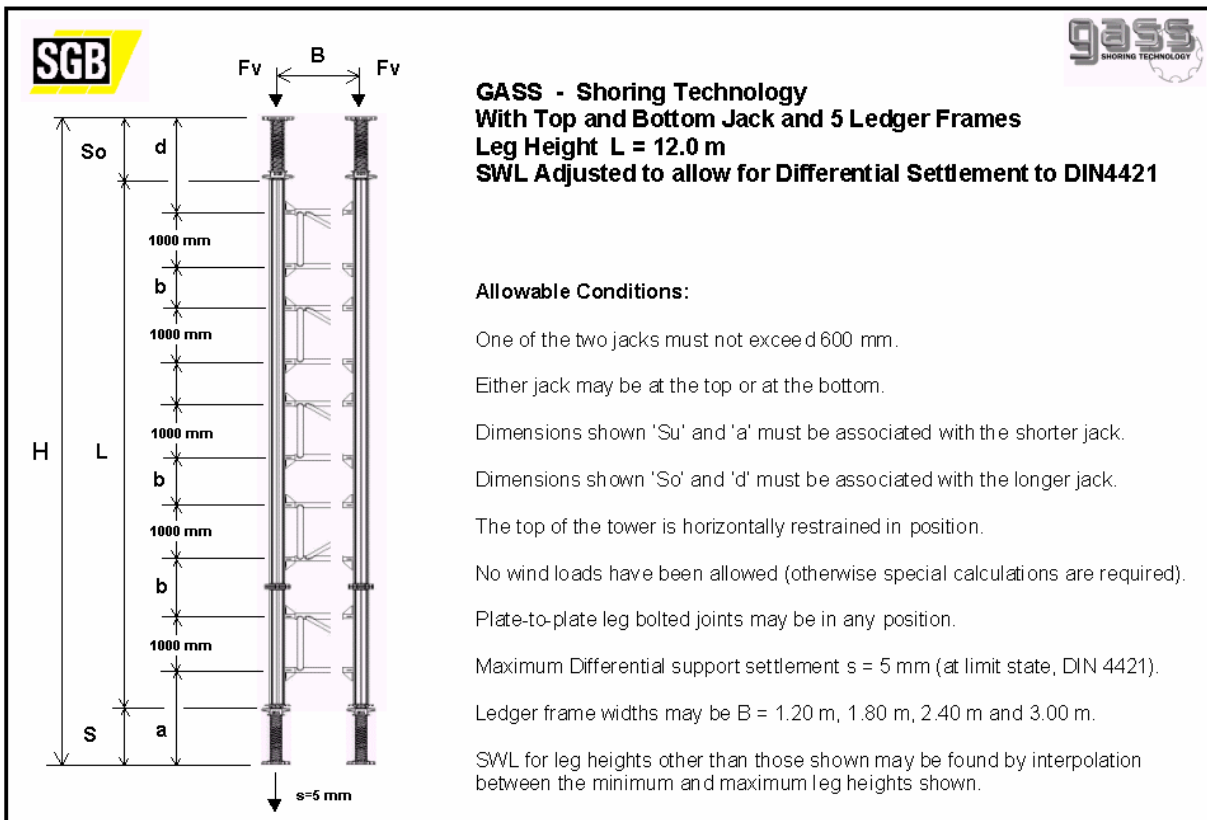
Jack length bottom S_u + Vertical leg length L + Jack length top S_o = Total Height H in m

German Approval
Ref. Sheet TB5010

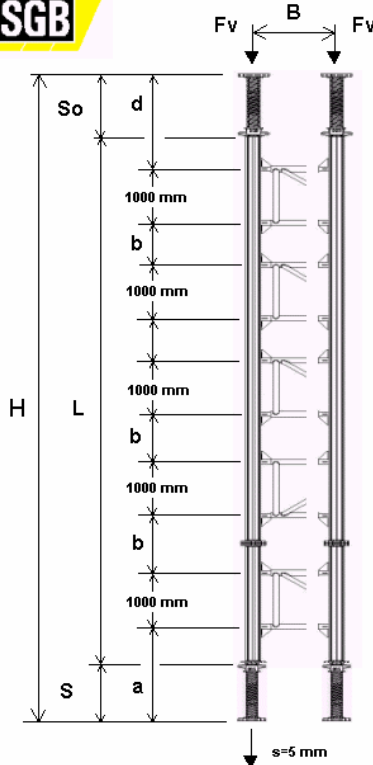
Gass Tower (2 Jacks) Loading Charts - 24 of 34



Gass Tower (2 Jacks) Loading Charts - 25 of 34



Gass Tower (2 Jacks) Loading Charts - 26 of 34



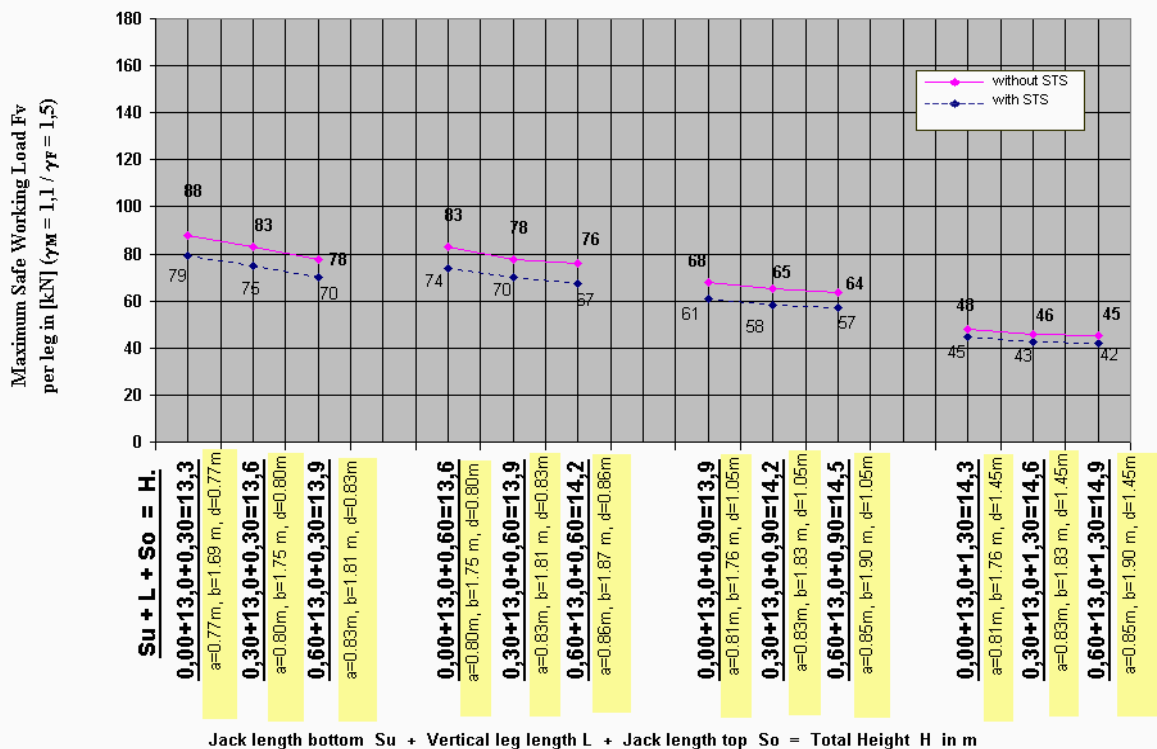
GASS - Shoring Technology
With Top and Bottom Jack and 5 Ledger Frames
Leg Height $L = 13.0$ m
SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

- One of the two jacks must not exceed 600 mm.
- Either jack may be at the top or at the bottom.
- Dimensions shown 'Su' and 'a' must be associated with the shorter jack.
- Dimensions shown 'So' and 'd' must be associated with the longer jack.
- The top of the tower is horizontally restrained in position.
- No wind loads have been allowed (otherwise special calculations are required).
- Plate-to-plate leg bolted joints may be in any position.
- Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).
- Ledger frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.
- SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

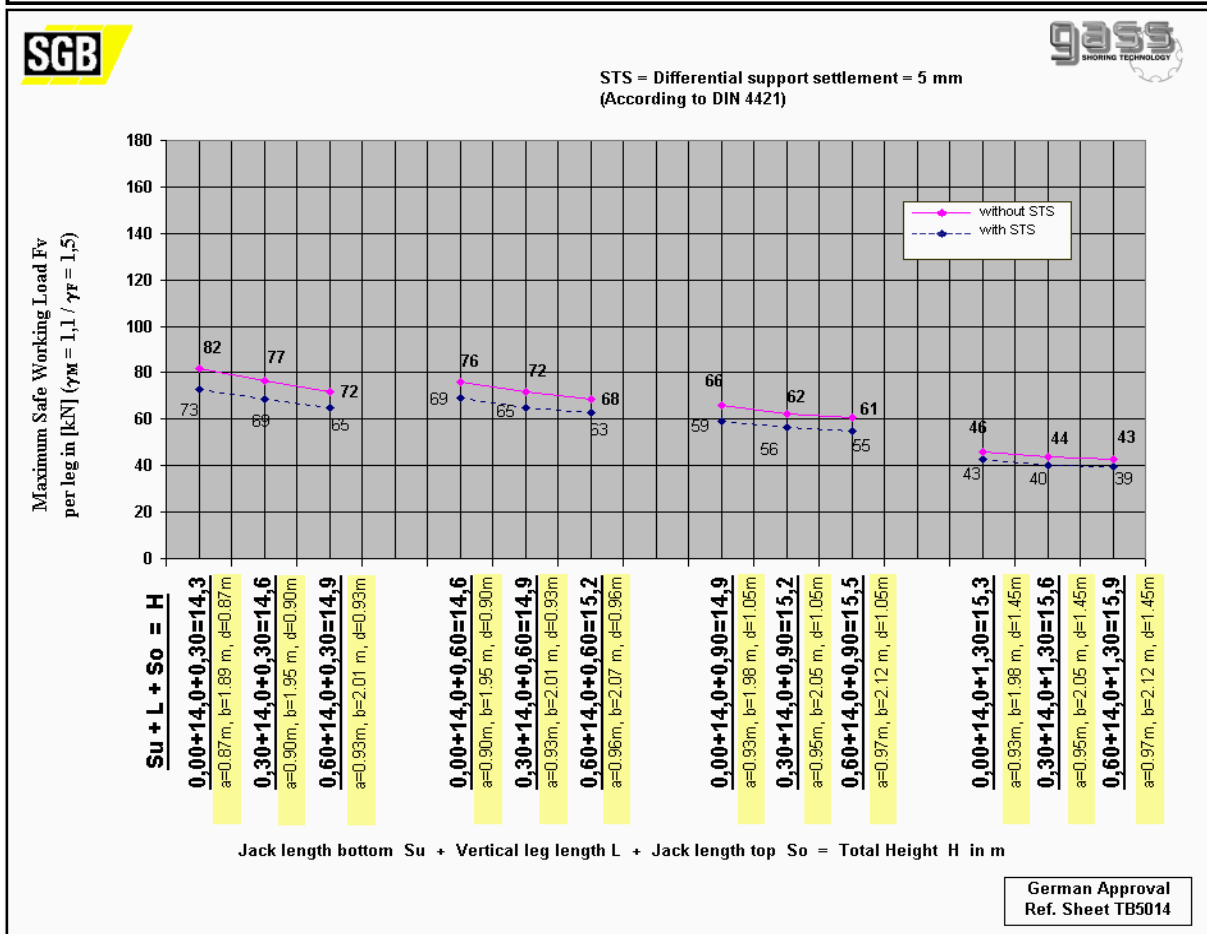
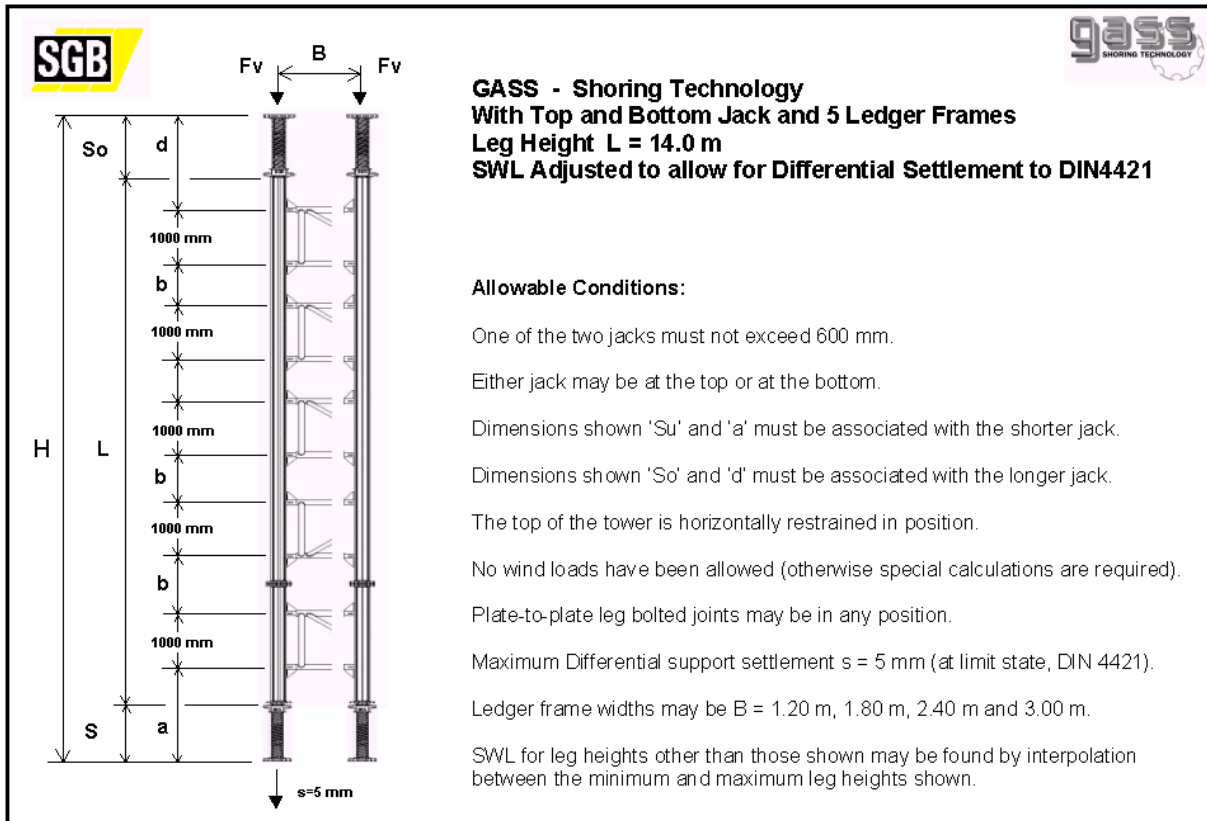


STS = Differential support settlement = 5 mm
(According to DIN 4421)

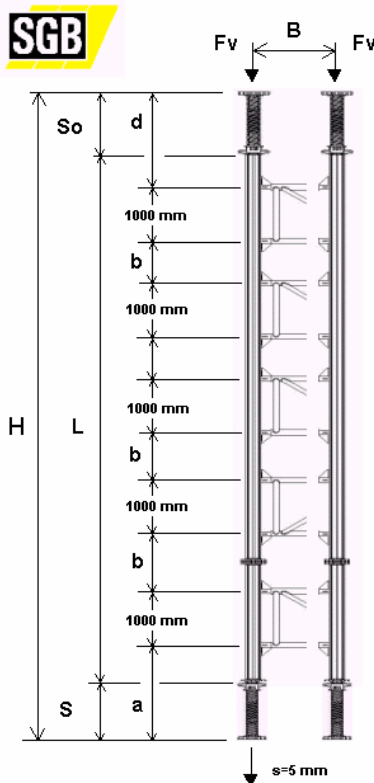


German Approval
Ref. Sheet TB5013

Gass Tower (2 Jacks) Loading Charts - 27 of 34



Gass Tower (2 Jacks) Loading Charts - 28 of 34

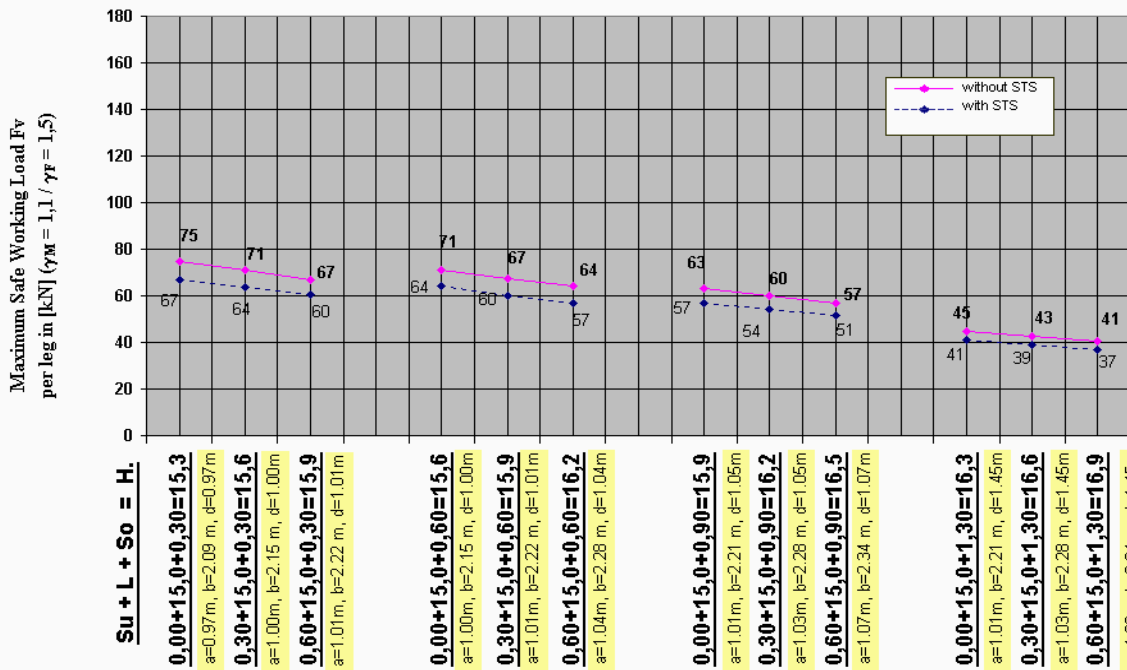


GASS - Shoring Technology
With Top and Bottom Jack and 5 Ledger Frames
Leg Height L = 15.0 m
SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

- One of the two jacks must not exceed 600 mm.
- Either jack may be at the top or at the bottom.
- Dimensions shown 'Su' and 'a' must be associated with the shorter jack.
- Dimensions shown 'So' and 'd' must be associated with the longer jack.
- The top of the tower is horizontally restrained in position.
- No wind loads have been allowed (otherwise special calculations are required).
- Plate-to-plate leg bolted joints may be in any position.
- Maximum Differential support settlement $s = 5 \text{ mm}$ (at limit state, DIN 4421).
- Ledger frame widths may be $B = 1.20 \text{ m}, 1.80 \text{ m}, 2.40 \text{ m}$ and 3.00 m .
- SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.

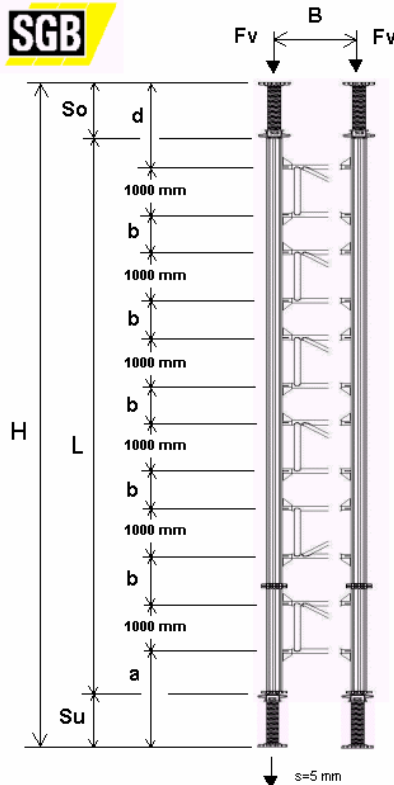
STS = Differential support settlement = 5 mm
(According to DIN 4421)



Jack length bottom Su + Vertical leg length L + Jack length top So = Total Height H in m

German Approval
Ref. Sheet TB5015

Gass Tower (2 Jacks) Loading Charts - 29 of 34



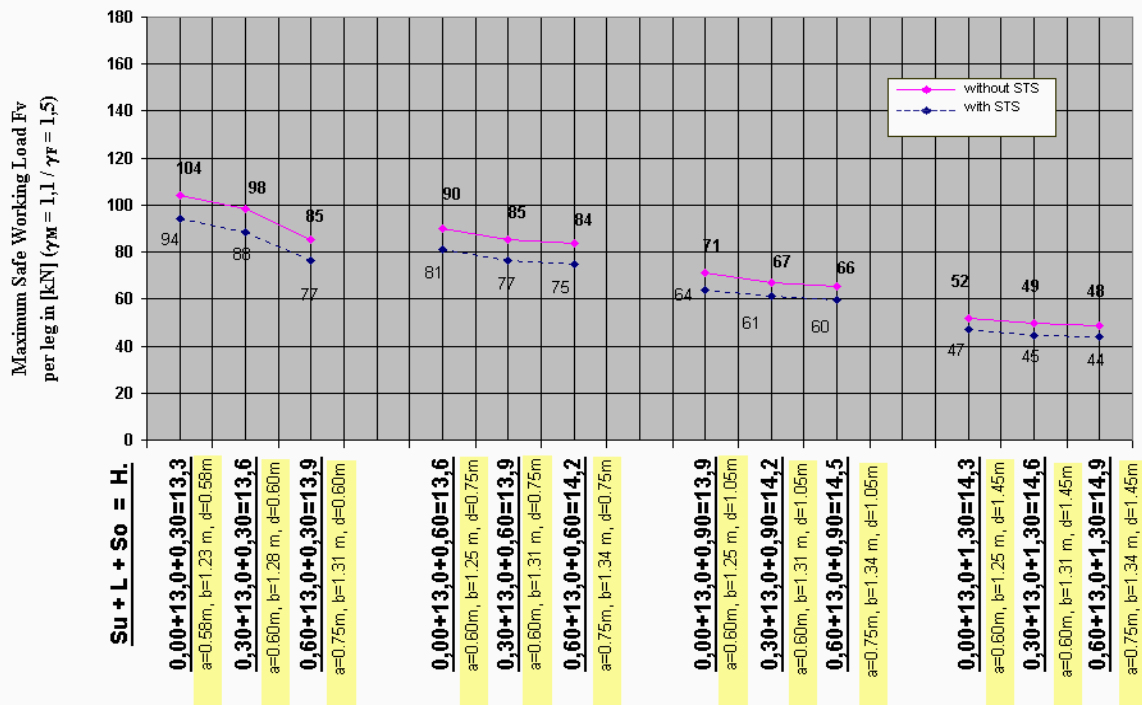
GASS - Shoring Technology
With Top and Bottom Jack and 6 Ledger Frames
Leg Height L = 13.0 m
SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

- One of the two jacks must not exceed 600 mm.
- Either jack may be at the top or at the bottom.
- Dimensions shown 'Su' and 'a' must be associated with the shorter jack.
- Dimensions shown 'So' and 'd' must be associated with the longer jack.
- The top of the tower is horizontally restrained in position.
- No wind loads have been allowed (otherwise special calculations are required).
- Plate-to-plate leg bolted joints may be in any position.
- Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).
- Ledger frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.
- SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.



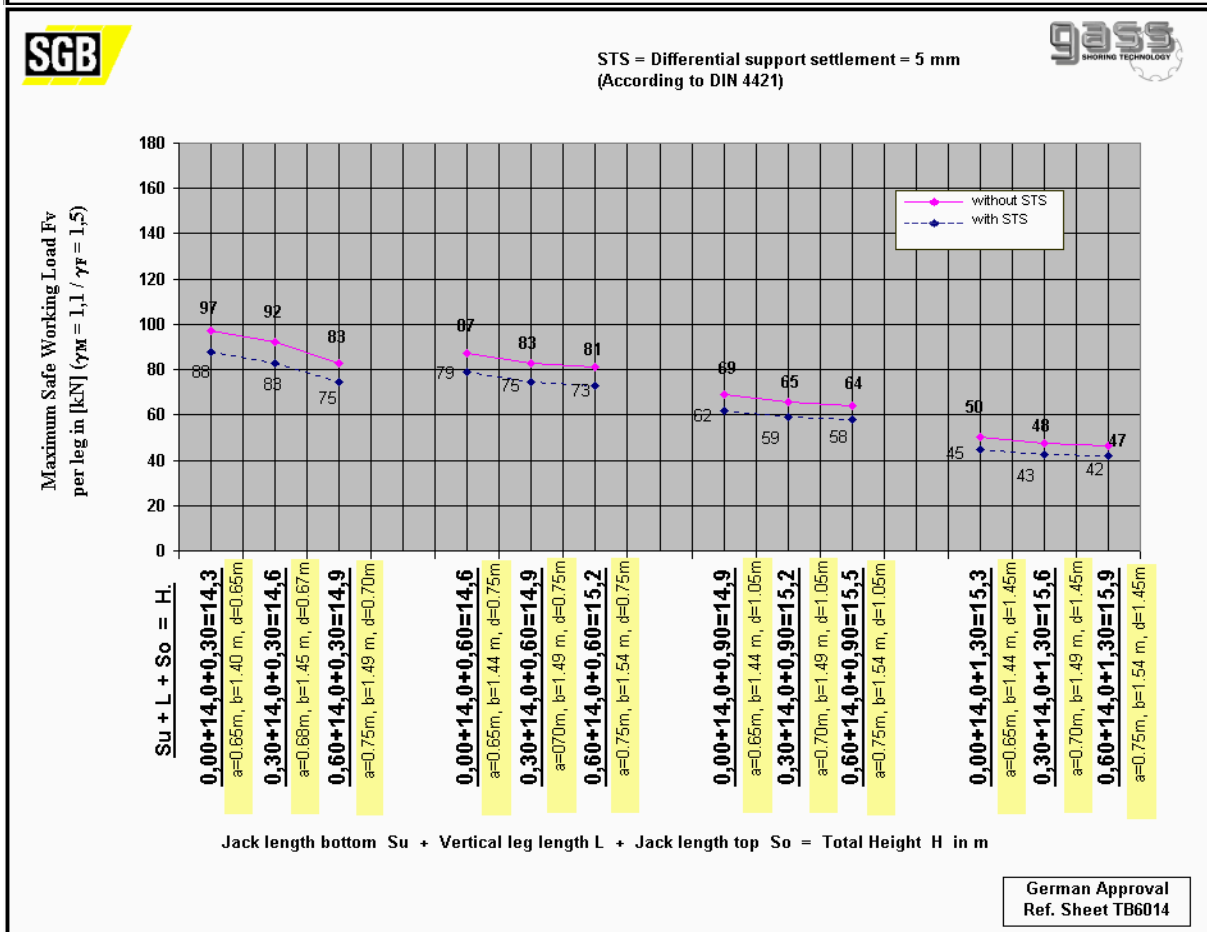
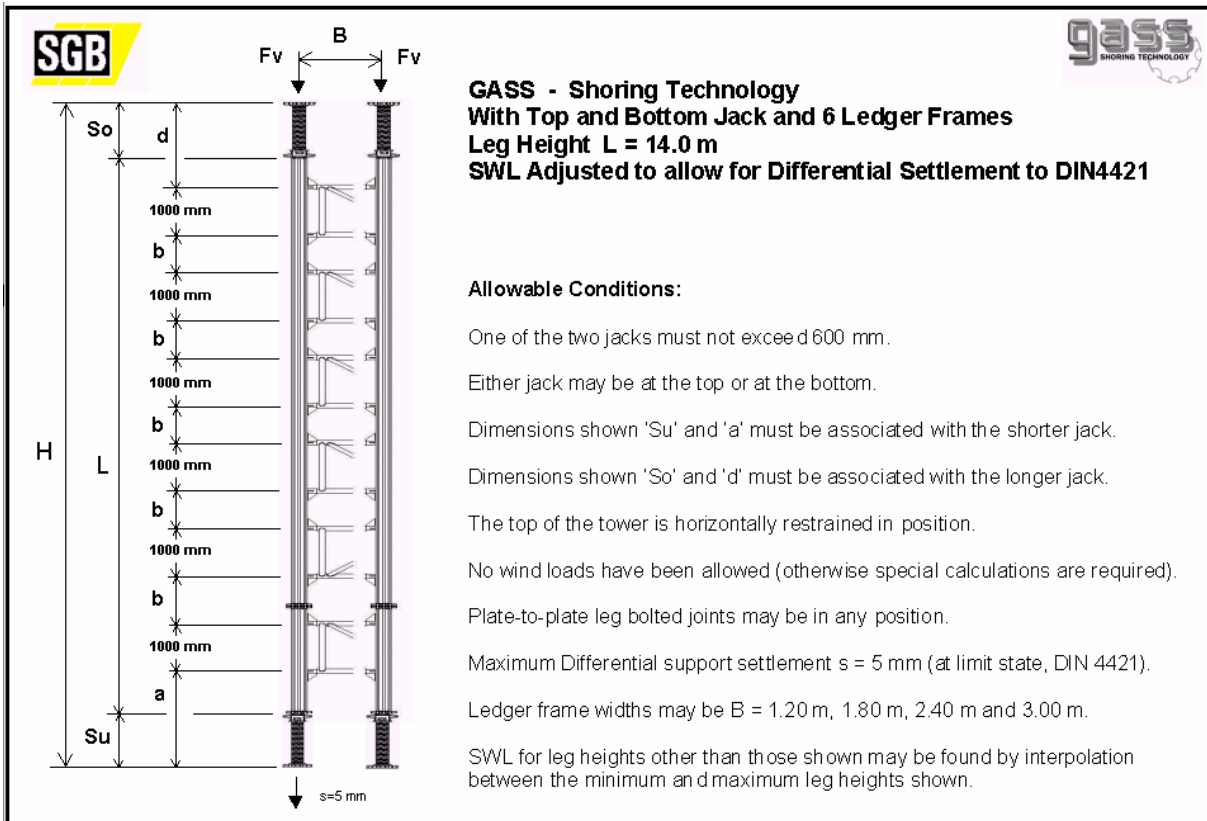
STS = Differential support settlement = 5 mm
(According to DIN 4421)



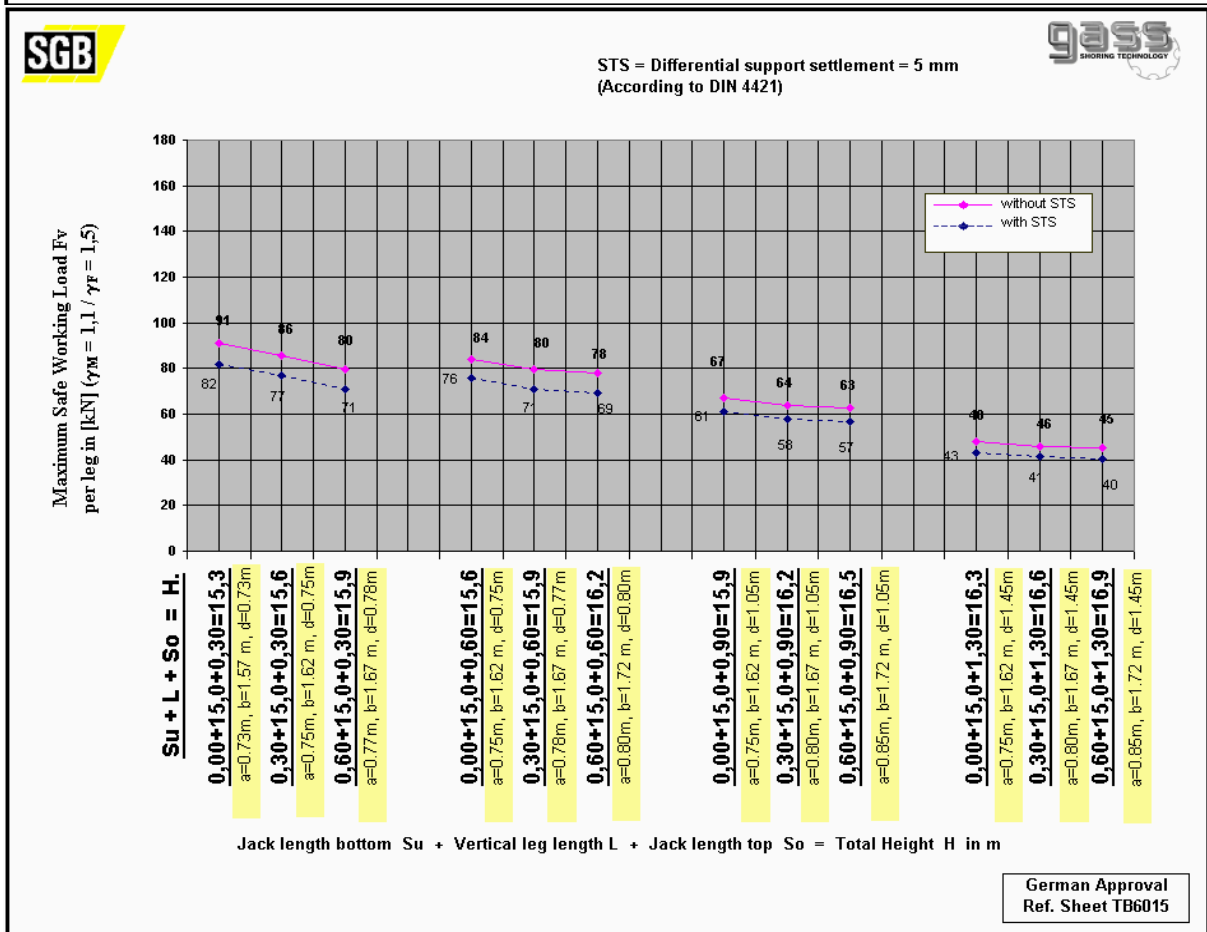
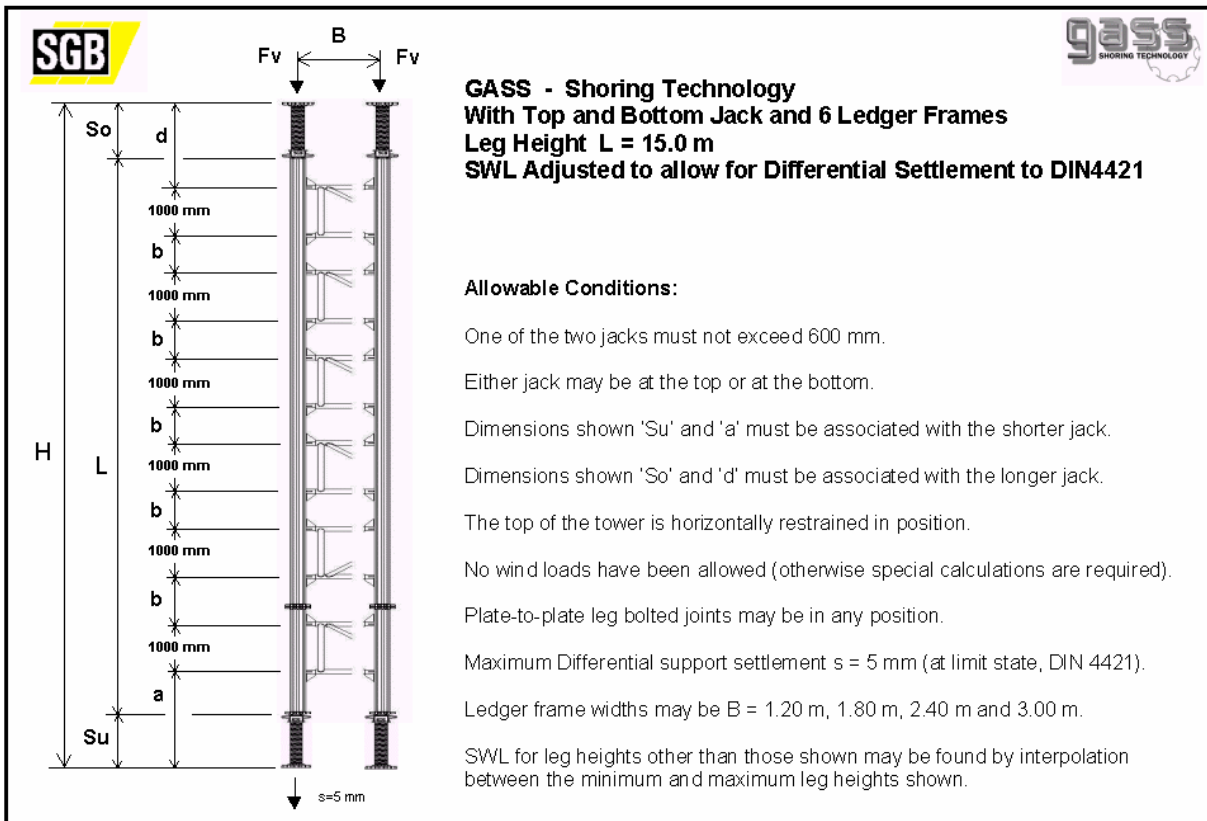
Jack length bottom Su + Vertical leg length L + Jack length top So = Total Height H in m

German Approval
Ref. Sheet TB6013

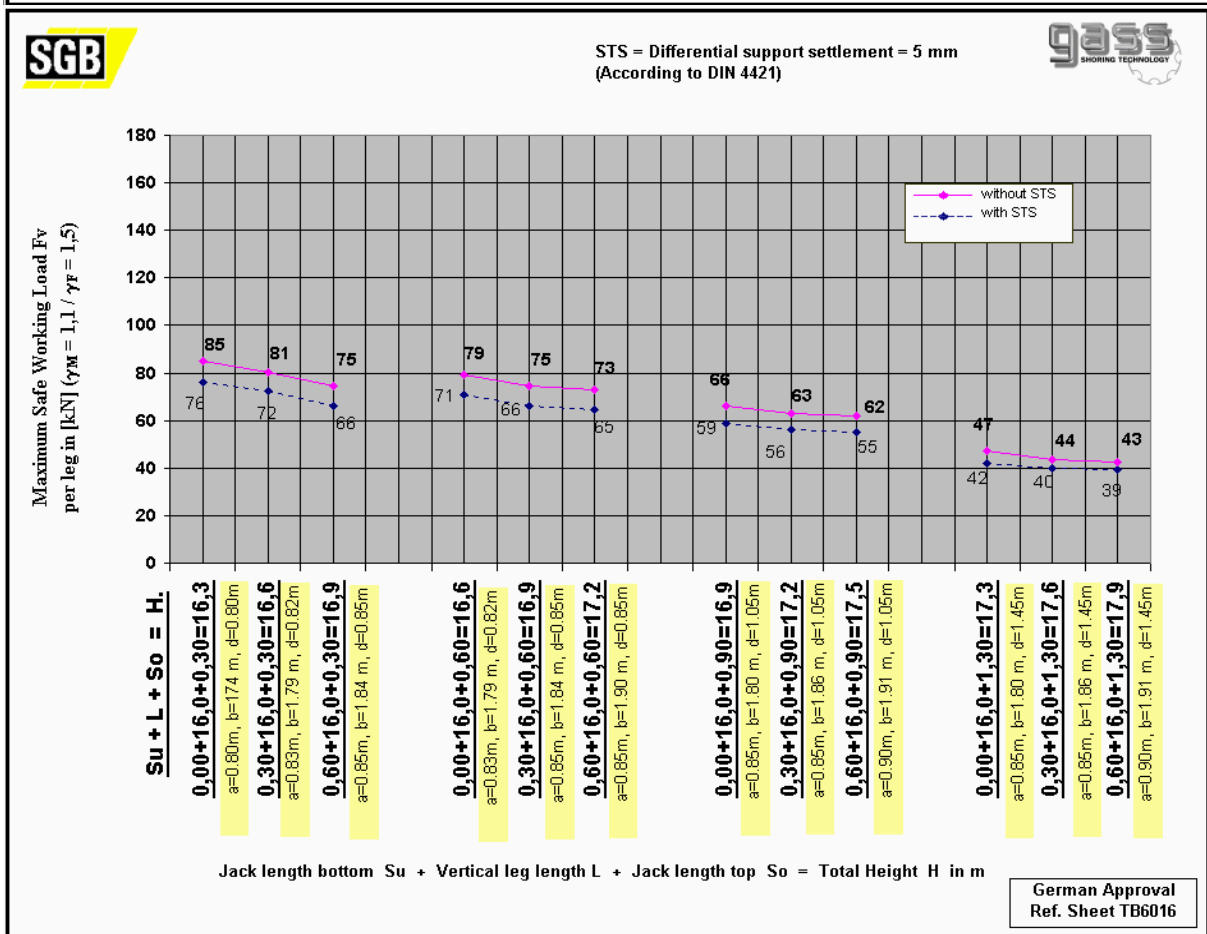
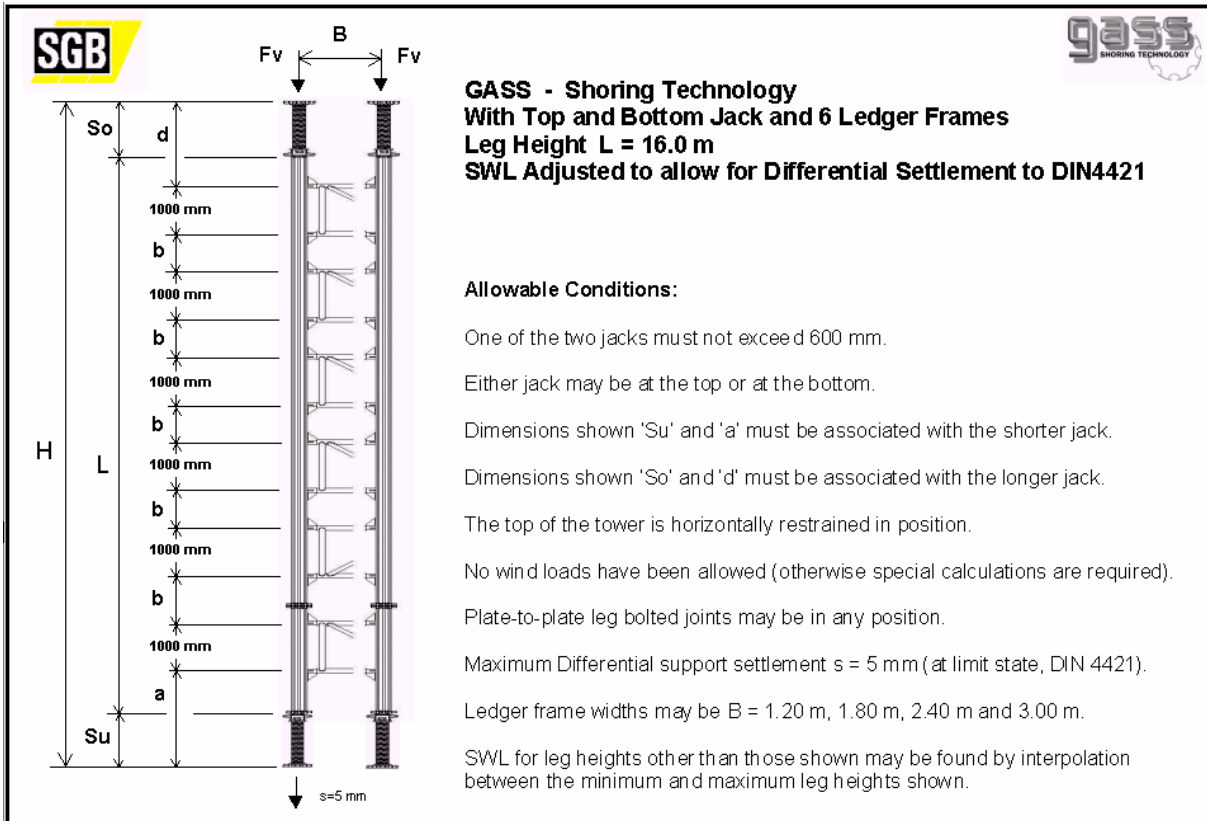
Gass Tower (2 Jacks) Loading Charts - 30 of 34



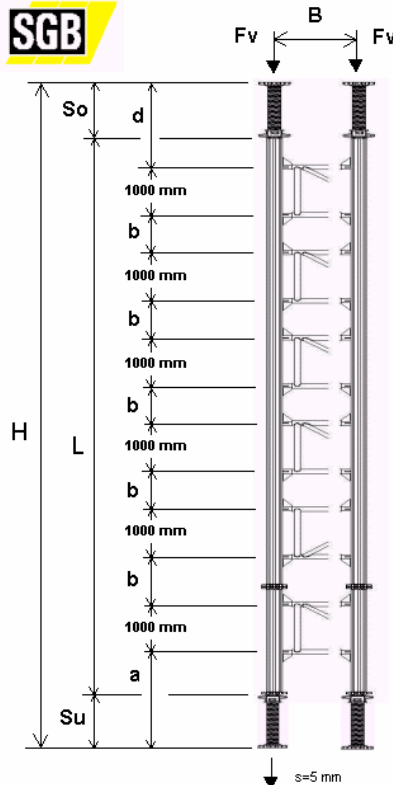
Gass Tower (2 Jacks) Loading Charts - 31 of 34



Gass Tower (2 Jacks) Loading Charts - 32 of 34



Gass Tower (2 Jacks) Loading Charts - 33 of 34



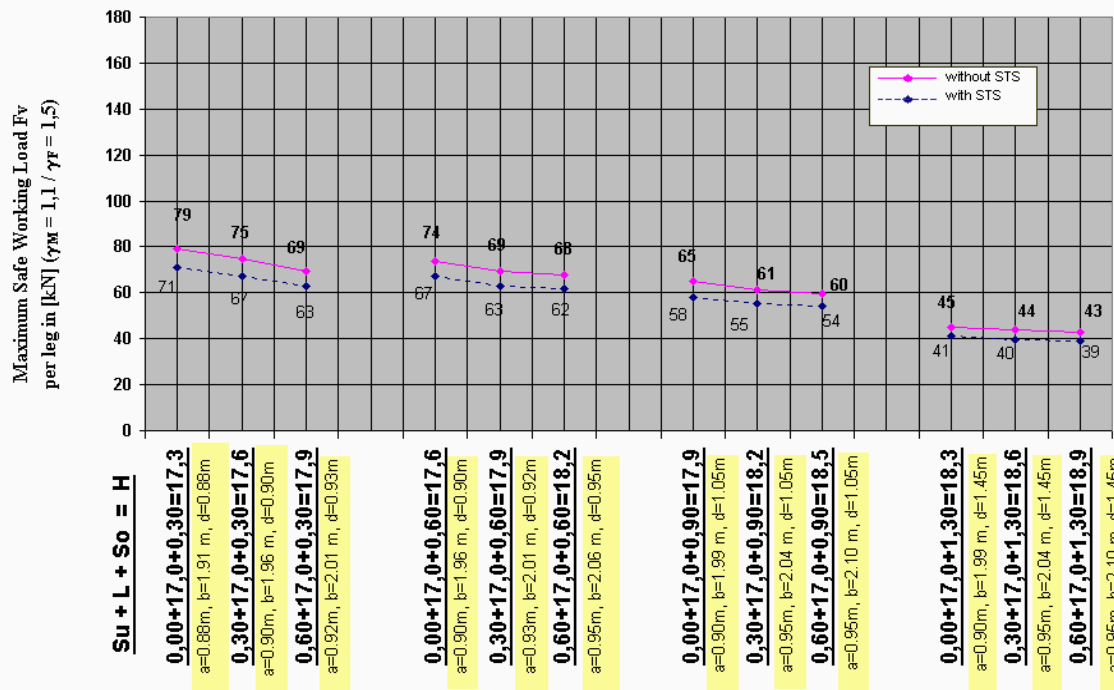
GASS - Shoring Technology
With Top and Bottom Jack and 6 Ledger Frames
Leg Height $L = 17.0$ m
SWL Adjusted to allow for Differential Settlement to DIN4421

Allowable Conditions:

- One of the two jacks must not exceed 600 mm.
- Either jack may be at the top or at the bottom.
- Dimensions shown 'Su' and 'a' must be associated with the shorter jack.
- Dimensions shown 'So' and 'd' must be associated with the longer jack.
- The top of the tower is horizontally restrained in position.
- No wind loads have been allowed (otherwise special calculations are required).
- Plate-to-plate leg bolted joints may be in any position.
- Maximum Differential support settlement $s = 5$ mm (at limit state, DIN 4421).
- Ledger frame widths may be $B = 1.20$ m, 1.80 m, 2.40 m and 3.00 m.
- SWL for leg heights other than those shown may be found by interpolation between the minimum and maximum leg heights shown.



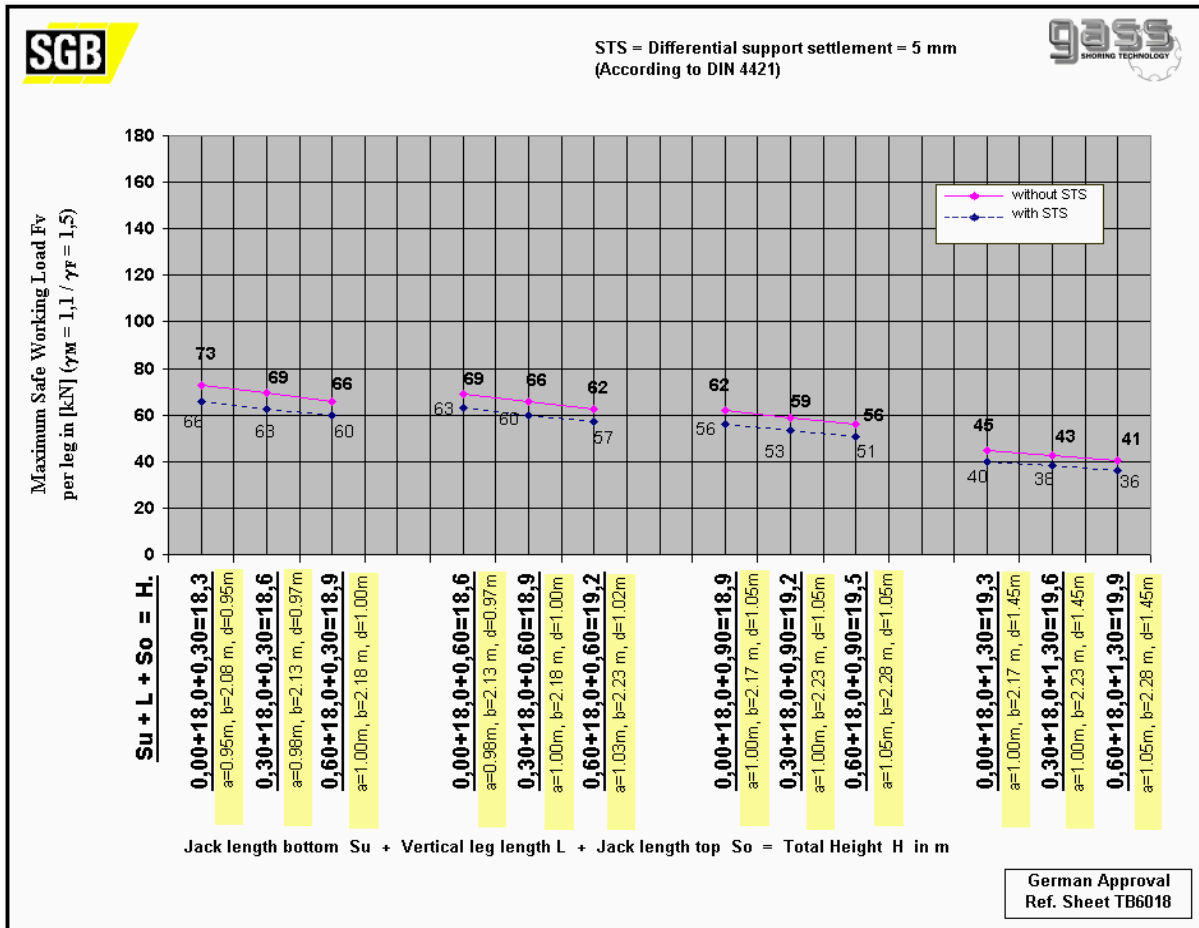
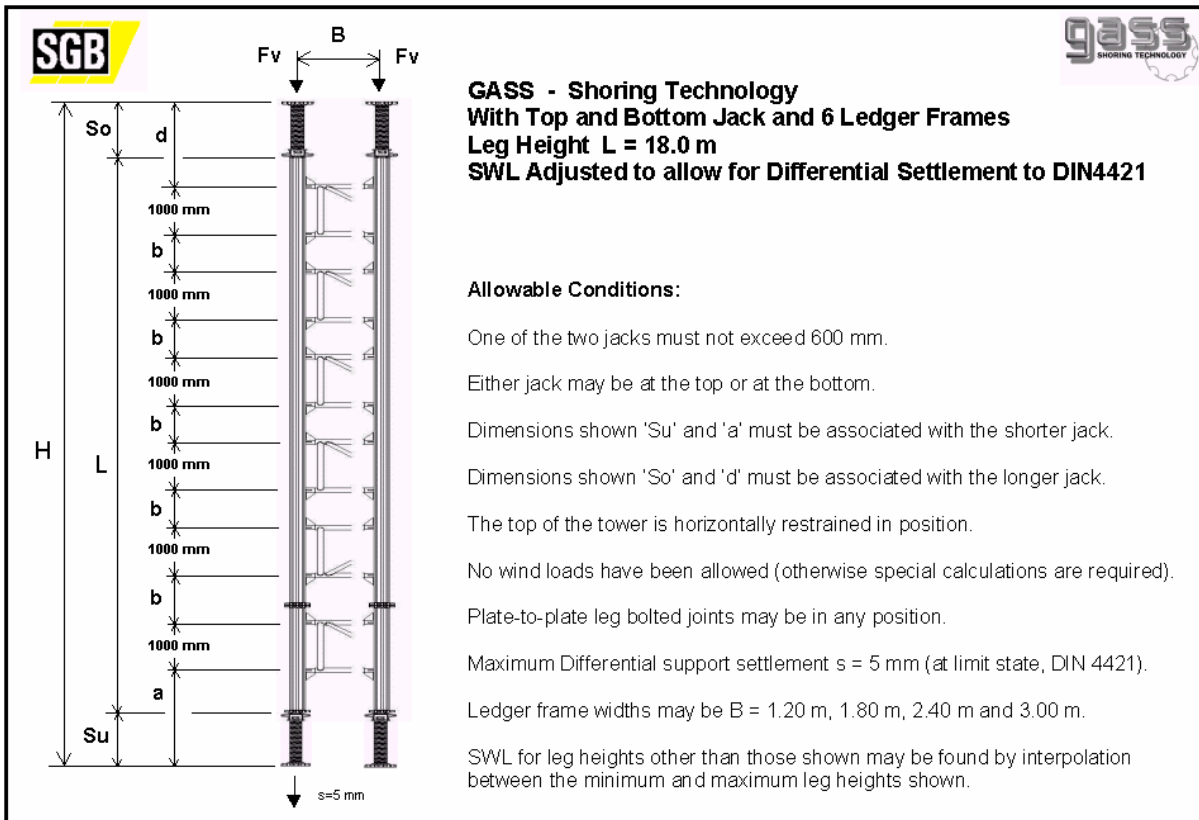
STS = Differential support settlement = 5 mm
(According to DIN 4421)



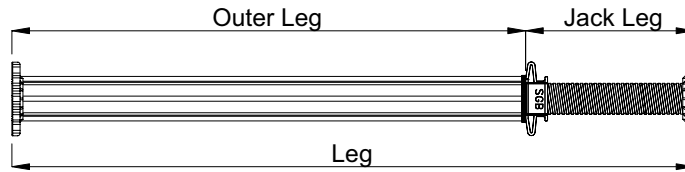
Jack length bottom S_u + Vertical leg length L + Jack length top S_o = Total Height H in m

German Approval
Ref. Sheet TB6017

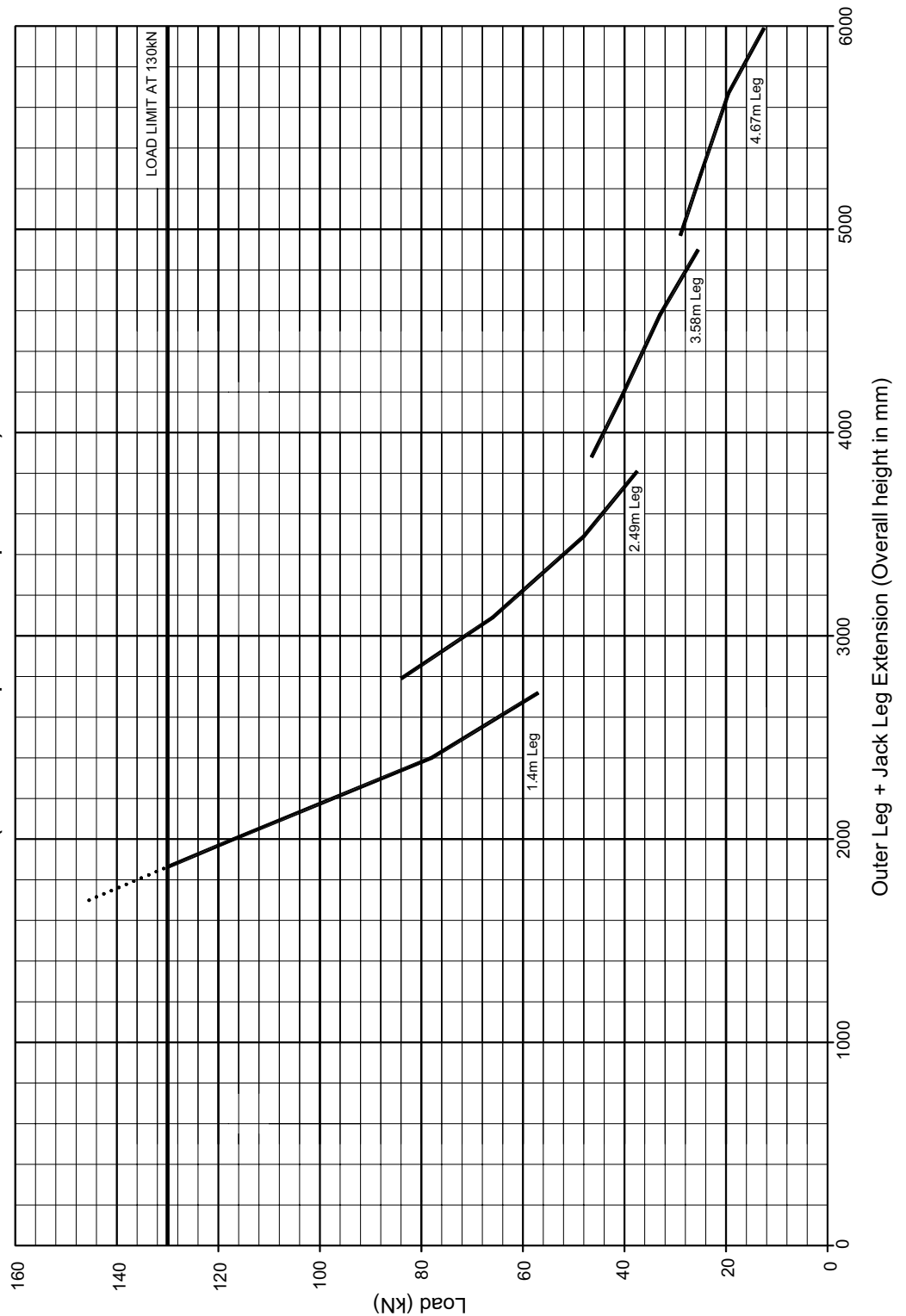
Gass Tower (2 Jacks) Loading Charts - 34 of 34



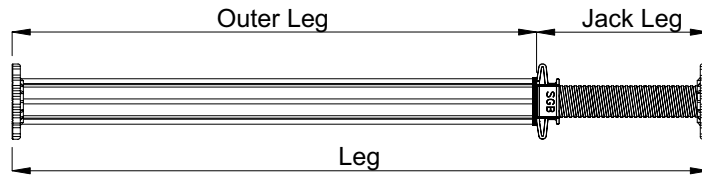
Stand Alone Leg



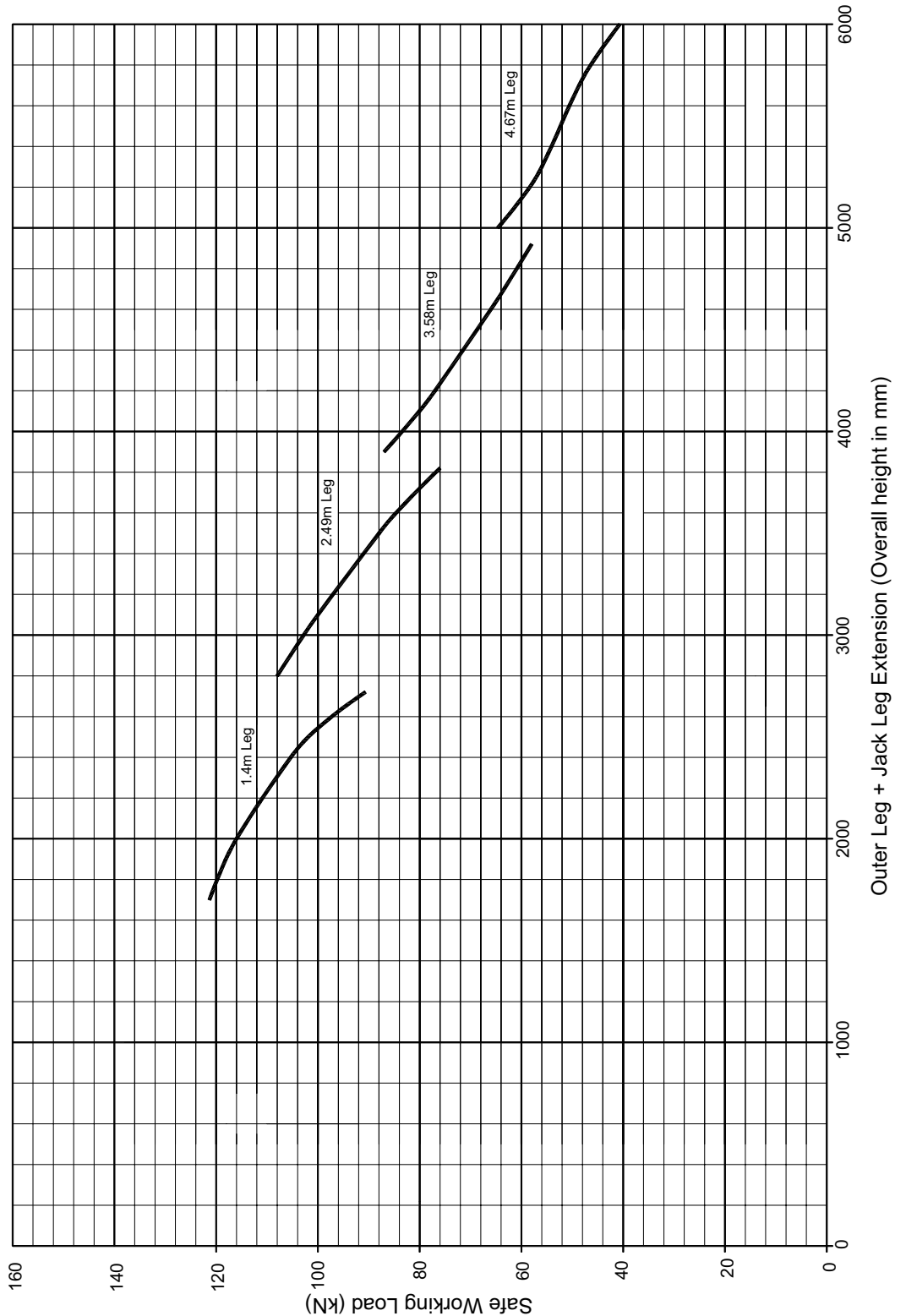
Safe Working Loads - Stand-alone
Based on one single Leg + 1 No. Jack, Top or Bottom
Top and Bottom plates assumed pinned
(SF on computed collapse = 2.0)



Legs Used for Back-Propping



Safe Working Loads - Back Propping
 Based on one single Leg + 1 No. Jack, Top or Bottom
 Top and Bottom plates assumed bearing flat on solid supports
 (SF=3 - Based on computed collapse)

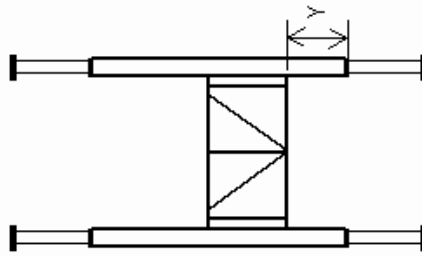


Spare

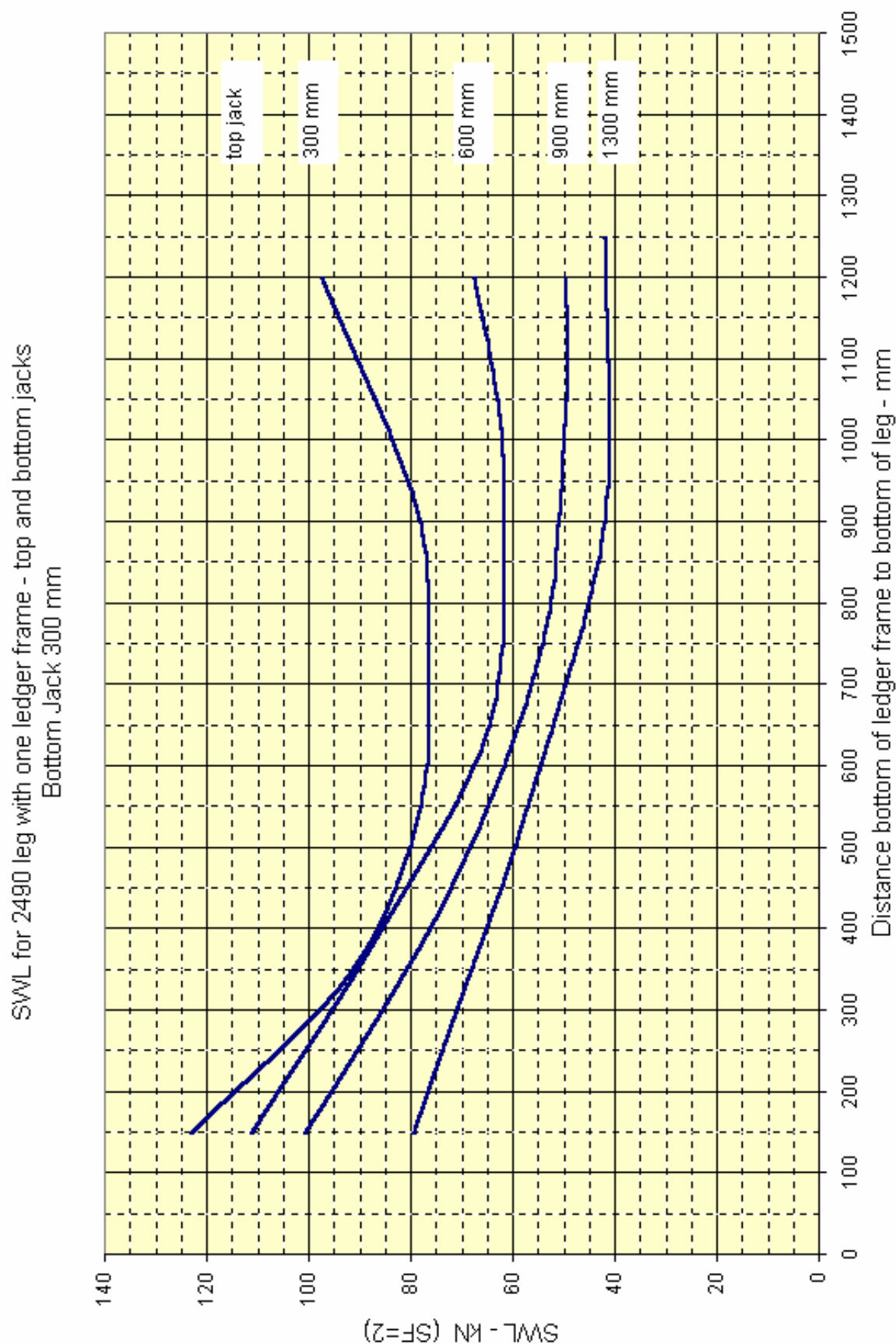
Spare

Safe Working Load Tables – 2490 Leg + Top & Bottom Jacks (1 of 5)

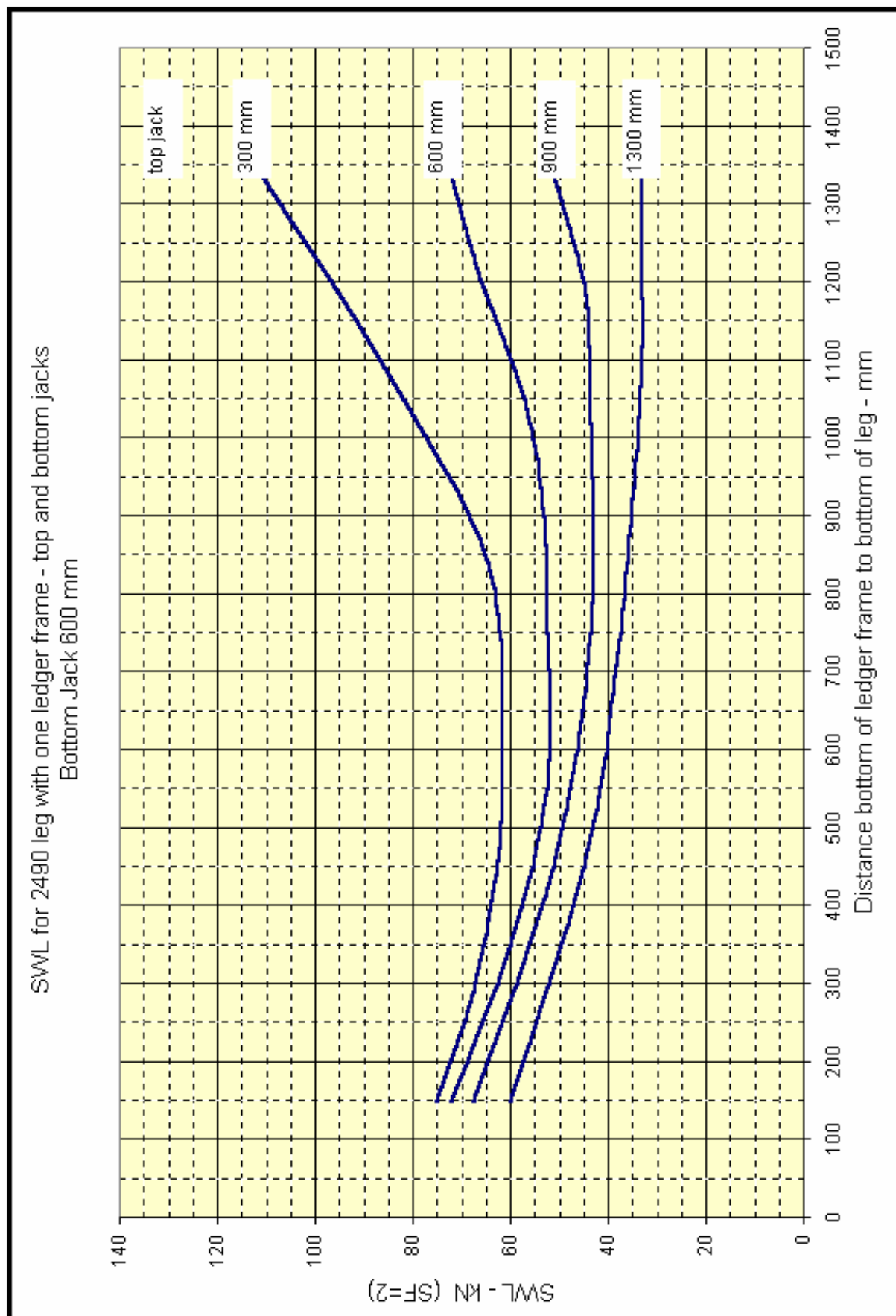
SWL kN for 2490 mm leg with top and bottom jack and one ledger frame in different positions									
Top Jack	Bottom jack 300 mm		Bottom jack 600 mm		Bottom jack 900 mm		Bottom jack 1300 mm		
	Distance Y	SWL kN	Distance Y	SWL kN	Distance Y	SWL kN	Distance Y	SWL kN	
300 mm	150	123.00	150	75.00	150	52.50	150	40.50	
	350	91.50	290	67.50	290	49.50	240	42.00	
	550	78.00	440	63.00	440	49.50	590	42.00	
	750	76.50	590	61.50	740	54.00	940	57.00	
	900	78.00	840	64.50	1040	72.00	1340	79.50	
	1050	87.00	1090	85.50	1340	100.50			
	1200	97.50	1340	111.00					
Top Jack	150	111.00	150	72.00	150	49.50	150	36.00	
600 mm	400	85.50	350	60.00	290	45.00	390	33.00	
	650	64.50	550	52.50	440	43.50	740	37.50	
	900	61.50	750	52.50	740	43.50	1040	45.00	
	1050	63.00	900	53.00	1040	51.00	1340	60.00	
	1200	67.50	1050	57.00	1340	67.50			
			1200	66.00					
			1340	72.00					
Top Jack	150	100.50	150	67.50	150	46.50	150	33.00	
900 mm	450	72.00	450	51.00	350	40.50	290	30.00	
	750	54.00	750	43.50	550	37.50	440	30.00	
	1050	49.50	1050	43.50	750	37.50	540	30.00	
	1200	49.50	1200	45.00	1050	39.00	840	31.50	
			1340	51.00	1200	42.00	1090	34.50	
					1340	48.00	1340	42.00	
Top Jack	150	79.50	150	60.00	150	42.00	150	28.50	
1300 mm	550	57.00	450	45.00	400	34.50	350	27.00	
	900	42.00	750	37.50	650	31.50	550	25.50	
	1250	42.00	1100	33.00	950	30.00	750	25.50	
			1200	33.00	1050	30.00	900	25.50	
			1340	33.00	1200	30.00	1050	27.00	
					1340	30.00	1200	27.00	
							1340	28.50	



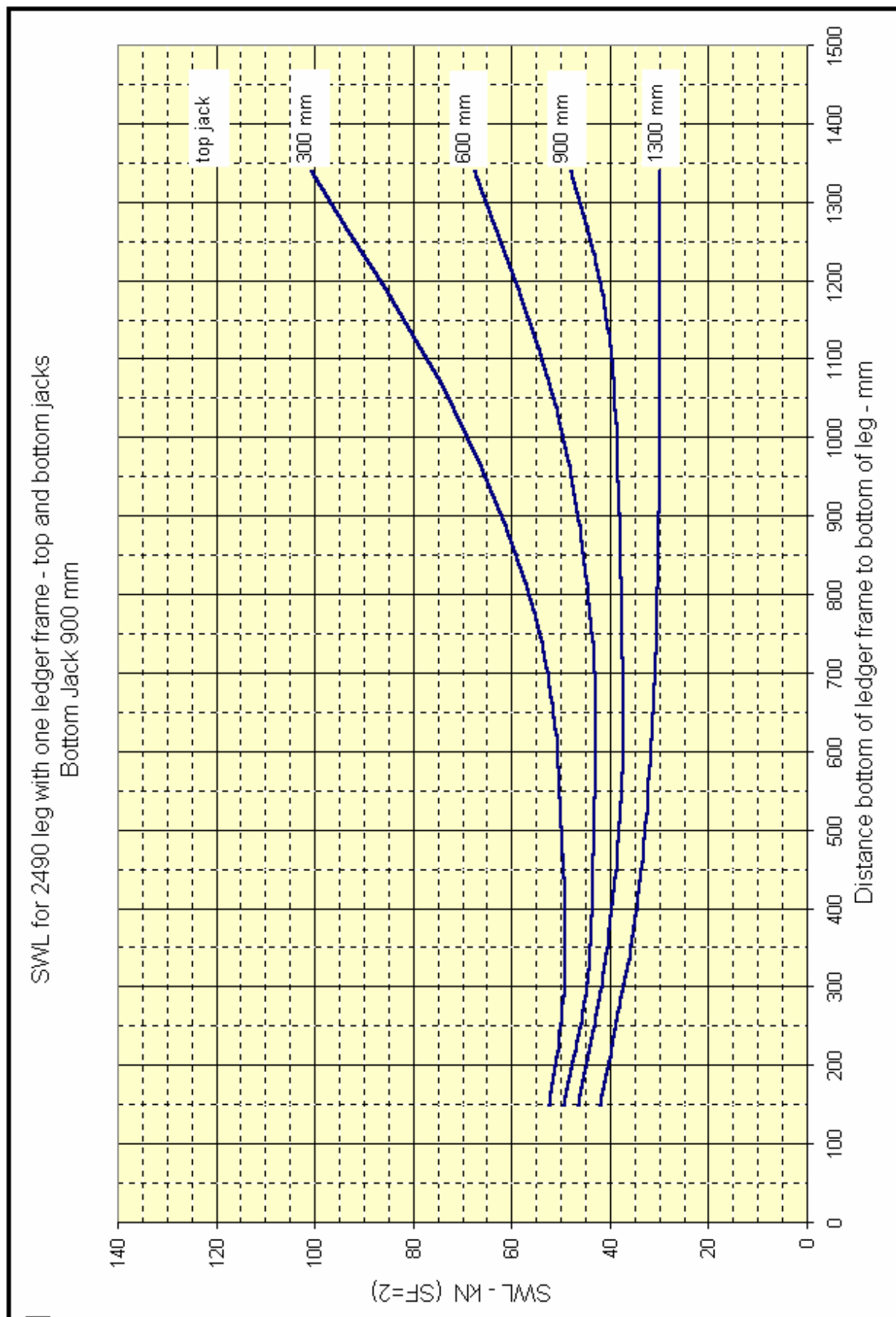
Safe Working Load Tables – 2490 Leg + Top & Bottom Jacks (2 of 5)



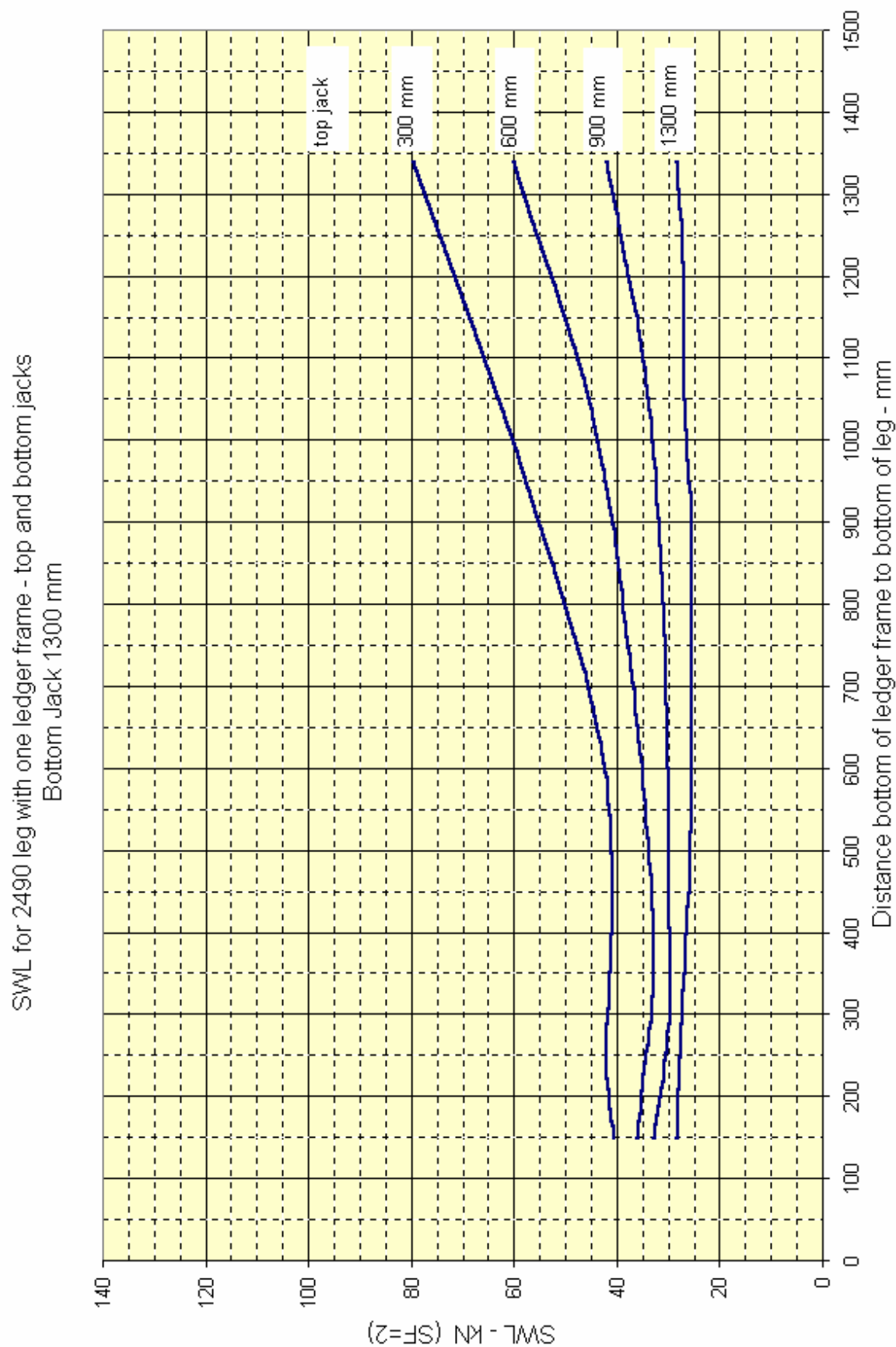
Safe Working Load Tables – 2490 Leg + Top & Bottom Jacks (3 of 5)



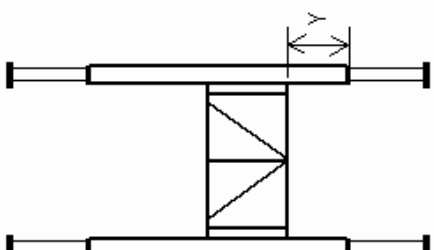
Safe Working Load Tables – 2490 Leg + Top & Bottom Jacks (4 of 5)

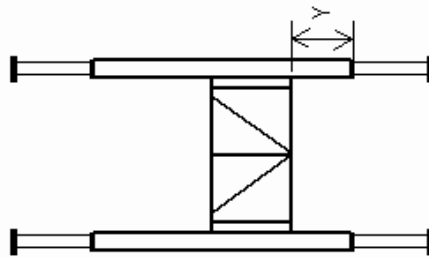


Safe Working Load Tables – 2490 Leg + Top & Bottom Jacks (5 of 5)

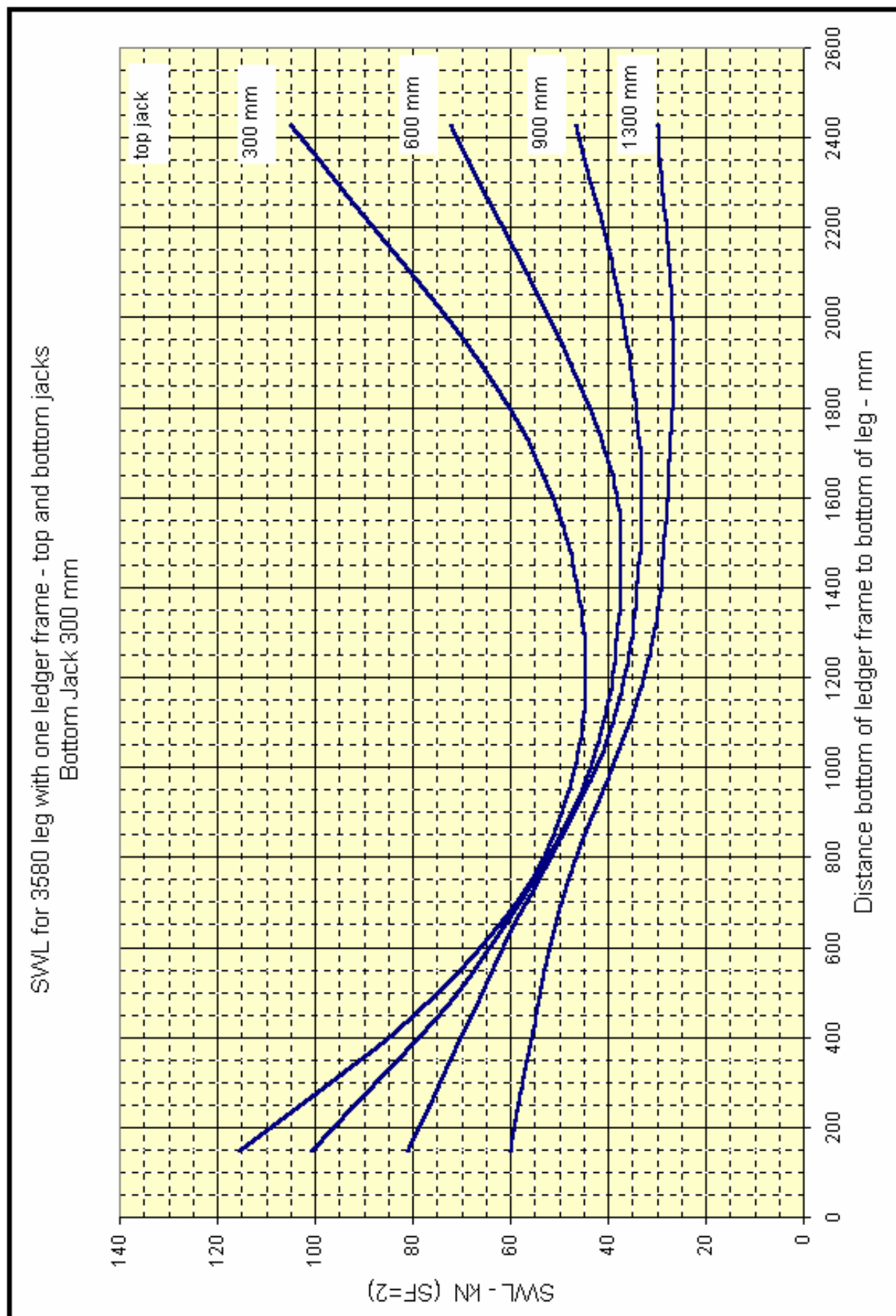


Safe Working Load Tables – 3580 Leg + Top & Bottom Jacks (1 of 5)

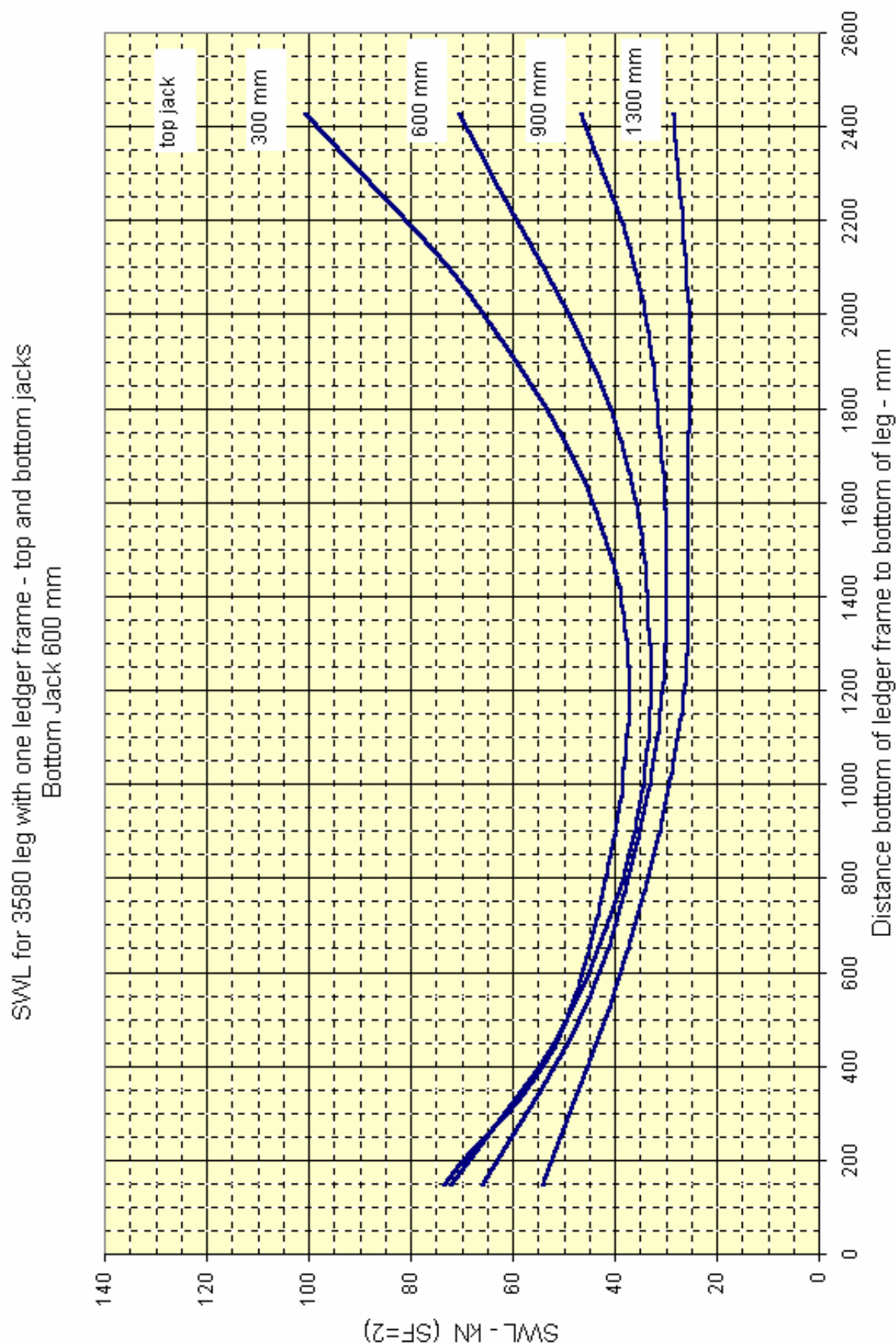
SWL kN for 3580 mm leg with top and bottom jack and one ledger frame in different positions									
Top Jack 300 mm	Bottom jack 300 mm		Bottom jack 600 mm		Bottom jack 900 mm		Bottom jack 1300 mm		
	Distance Y	SWL kN	Distance Y	SWL kN	Distance Y	SWL kN	Distance Y	SWL kN	
	150	115.50	150	73.50	150	48.00	150	31.50	
	500	75.00	500	49.50	500	37.50	500	28.50	
	850	51.00	1130	37.50	980	33.00	780	27.00	
	1300	45.00	1580	43.50	1480	39.00	1330	31.50	
	1800	60.00	2030	67.50	1980	61.50	1880	49.50	
	2430	105.00	2430	100.50	2430	81.00	2430	60.00	
Top Jack 600 mm	150	100.50	150	72.00	150	46.50	150	30.00	
	550	67.50	500	49.50	500	36.00	500	27.00	
	1000	43.50	900	36.00	1130	30.00	930	25.50	
	1450	37.50	1300	33.00	1580	33.00	1430	27.00	
	1800	43.50	1800	40.50	2030	45.00	1930	37.50	
	2430	72.00	2430	70.50	2430	66.00	2430	54.00	
Top Jack 900 mm	150	81.00	150	66.00	150	46.50	150	30.00	
	600	61.50	550	45.00	500	34.50	500	25.50	
	1100	39.00	1000	33.00	900	28.50	1080	22.50	
	1600	33.00	1450	30.00	1300	27.00	1530	24.00	
	2030	37.50	2030	34.50	2030	34.50	1980	30.00	
	2430	46.50	2430	46.50	2430	45.00	2430	42.00	
Top Jack 1300 mm	150	60.00	150	54.00	150	42.00	150	28.50	
	700	49.50	650	37.50	600	30.00	500	24.00	
	1250	31.50	1150	27.00	1050	24.00	900	21.00	
	1800	27.00	1650	25.50	1500	22.50	1300	19.50	
	2030	27.00	2030	25.50	2030	24.00	2030	22.50	
	2430	30.00	2430	28.50	2430	28.50	2430	27.00	



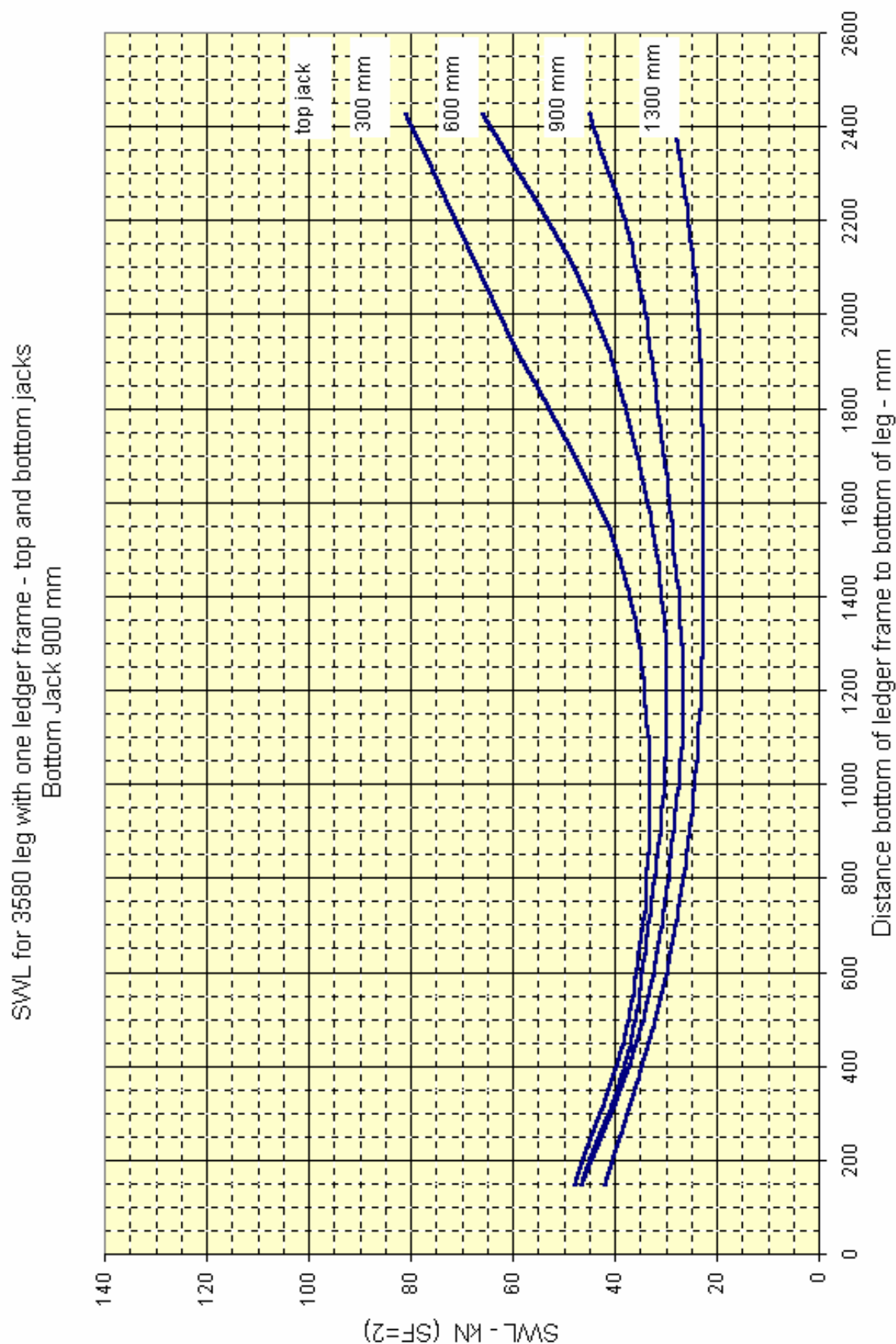
Safe Working Load Tables – 3580 Leg + Top & Bottom Jacks (2 of 5)



Safe Working Load Tables – 3580 Leg + Top & Bottom Jacks (3 of 5)

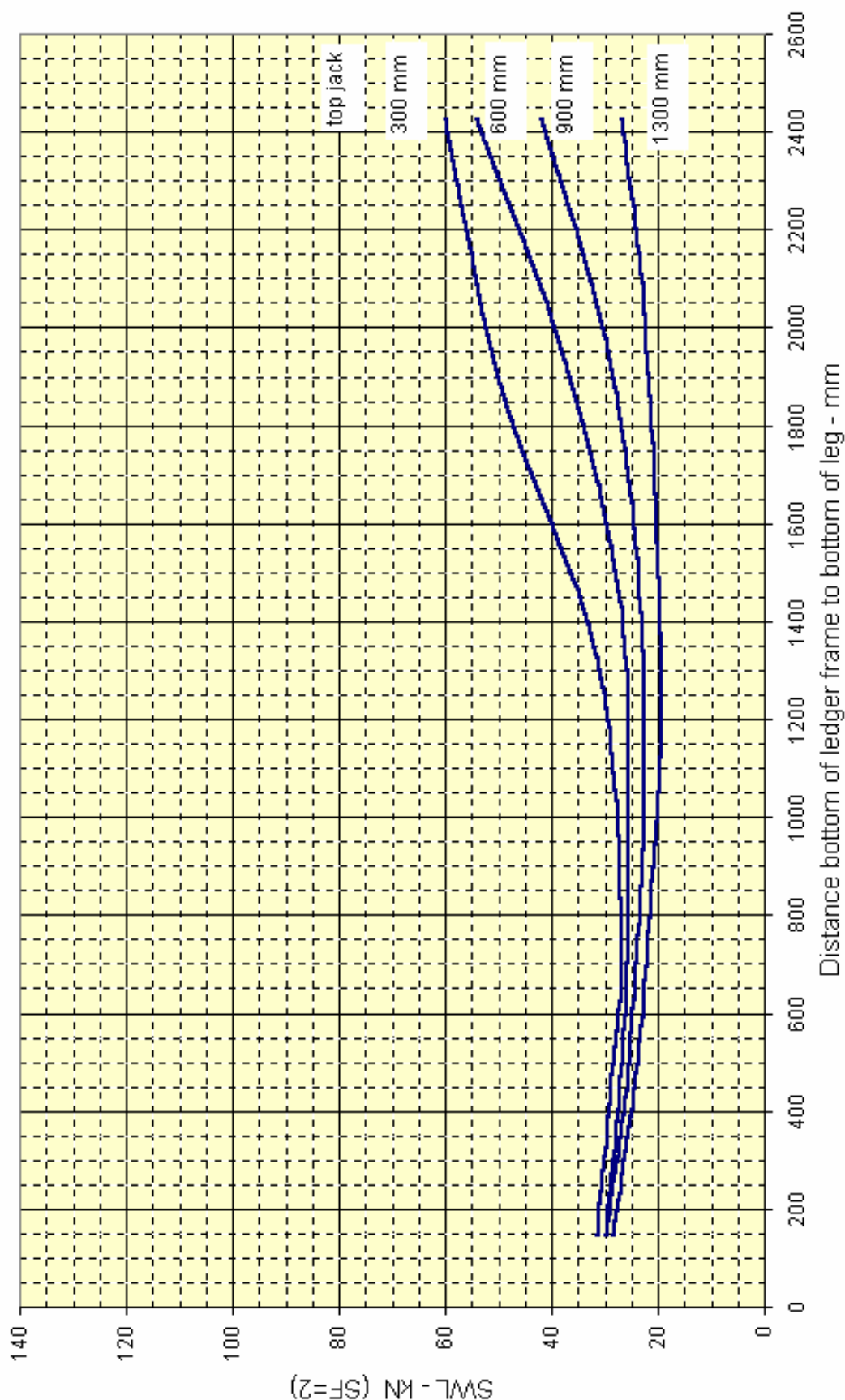


Safe Working Load Tables – 3580 Leg + Top & Bottom Jacks (4 of 5)

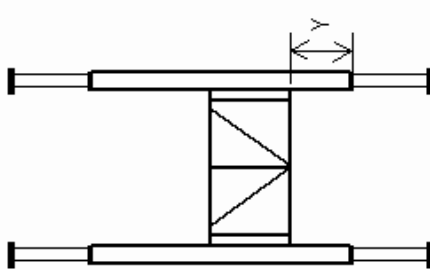


Safe Working Load Tables – 3580 Leg + Top & Bottom Jacks (5 of 5)

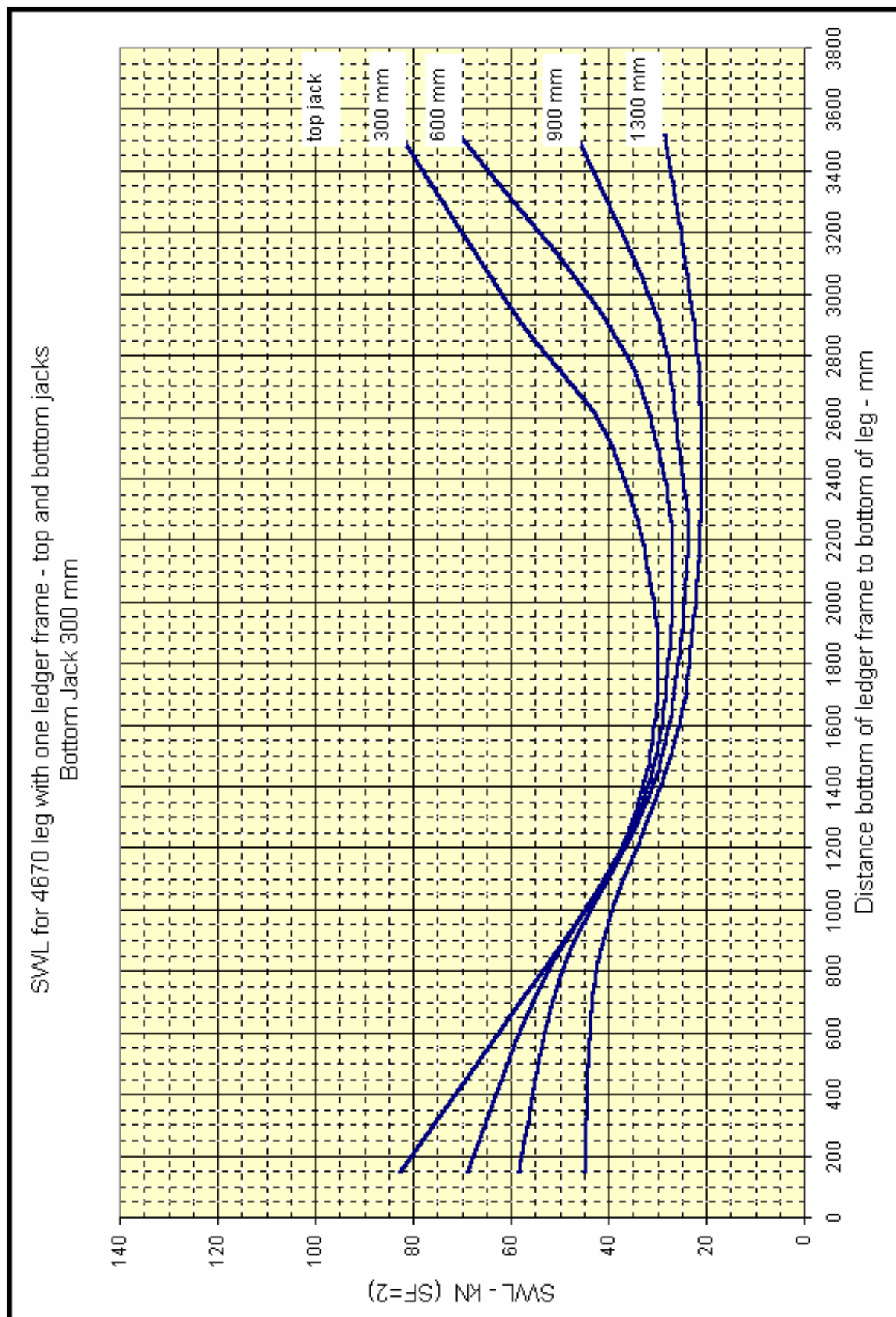
SWL for 3580 leg with one ledger frame top and bottom jacks
Bottom Jack 1300 mm



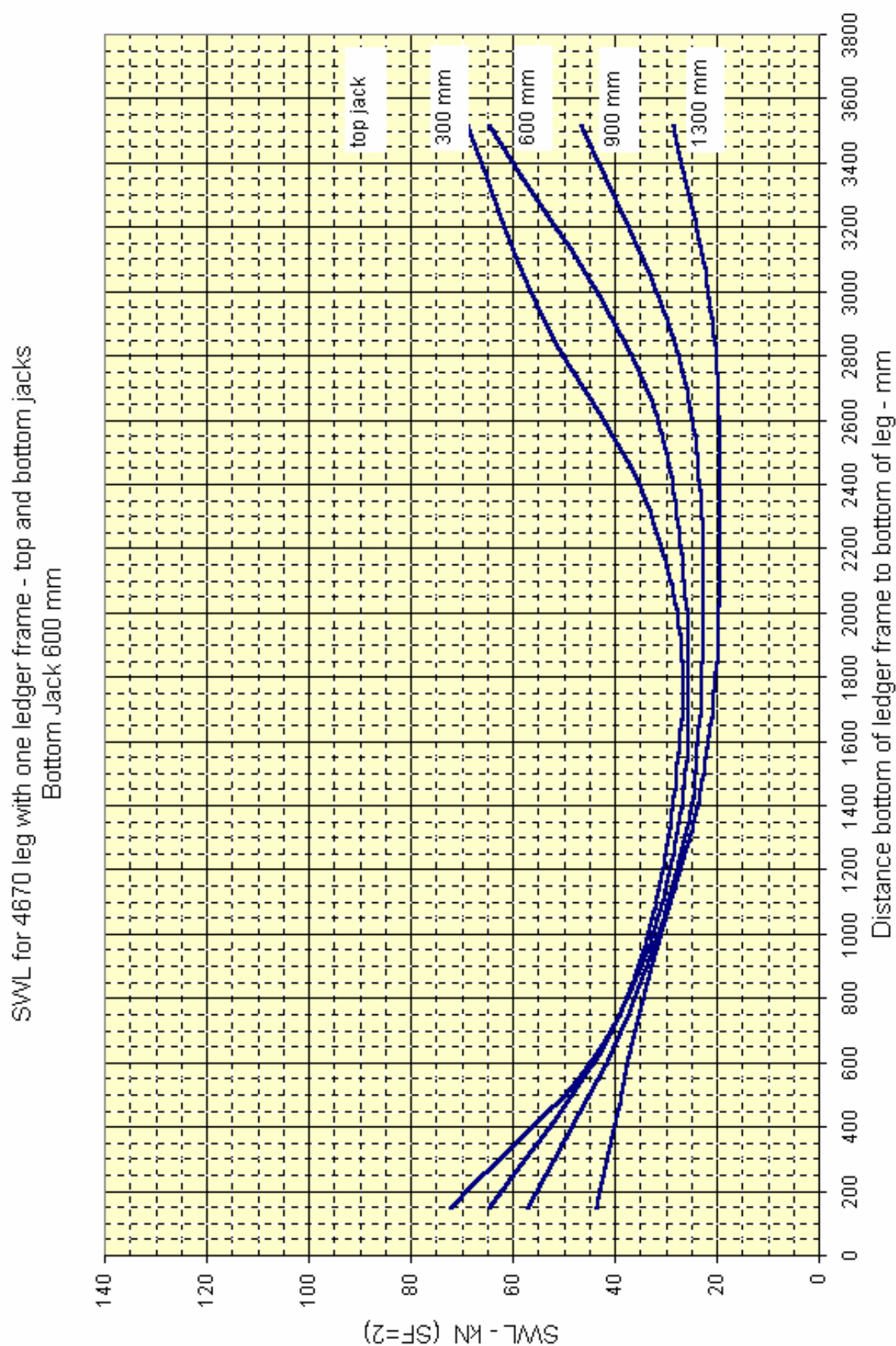
Safe Working Load Tables – 4670 Leg + Top & Bottom Jacks (1 of 5)

SWL kN for 4670 mm leg with top and bottom jack and one ledger frame in different positions									
	Bottom jack 300 mm		Bottom jack 600 mm		Bottom jack 900 mm		Bottom jack 1300 mm		
	Distance Y	SWL kN	Distance Y	SWL kN	Distance Y	SWL kN	Distance Y	SWL kN	
Top Jack 300 mm	150	82.50	150	72.00	150	48.00	150	30.00	
	700	58.50	750	39.00	750	30.00	750	22.50	
	1250	36.00	1670	27.00	1520	24.00	1320	21.00	
	1850	30.00	2320	33.00	2220	30.00	2070	25.50	
	2500	39.00	2920	54.00	2870	49.50	2820	42.00	
	2920	58.50	3520	69.00	3520	58.50	3520	45.00	
Top Jack 600 mm	150	69.00	150	64.50	150	48.00	150	30.00	
	750	54.00	700	40.50	750	30.00	750	22.50	
	1350	33.00	1250	28.50	1670	22.50	1470	19.50	
	2000	27.00	1850	25.50	2320	25.50	2170	22.50	
	2500	30.00	2500	30.00	2920	37.50	2870	34.50	
	2920	40.50	2920	40.50	3520	57.00	3520	43.50	
Top Jack 900 mm	150	58.50	150	57.00	150	45.00	150	30.00	
	800	49.50	750	37.50	700	30.00	750	21.00	
	1450	30.00	1350	25.50	1250	22.50	1250	18.00	
	2150	24.00	2000	22.50	1850	19.50	1620	16.50	
	2500	25.50	2500	24.00	2500	24.00	2270	19.50	
	2920	30.00	2920	30.00	2920	28.50	2920	27.00	
Top Jack 1300 mm	150	46.50	3520	46.50	3520	45.00	3520	40.50	
	850	45.00	150	43.50	150	40.50	150	28.50	
	1600	42.00	800	34.50	750	27.00	700	21.00	
	2350	25.50	1500	22.50	1400	19.50	1250	16.50	
	2920	21.00	2200	19.50	2050	16.50	1850	16.50	
	3520	22.50	2920	21.00	2500	18.00	2500	16.50	
	150	28.50	3520	28.50	2920	21.00	2500	19.50	
	850	28.50	3520	28.50	2920	21.00	2500	19.50	
	1600	28.50	3520	28.50	2920	21.00	2500	19.50	
	2350	28.50	3520	28.50	2920	21.00	2500	19.50	
	2920	28.50	3520	28.50	2920	21.00	2500	19.50	
	3520	28.50	3520	28.50	2920	21.00	2500	19.50	

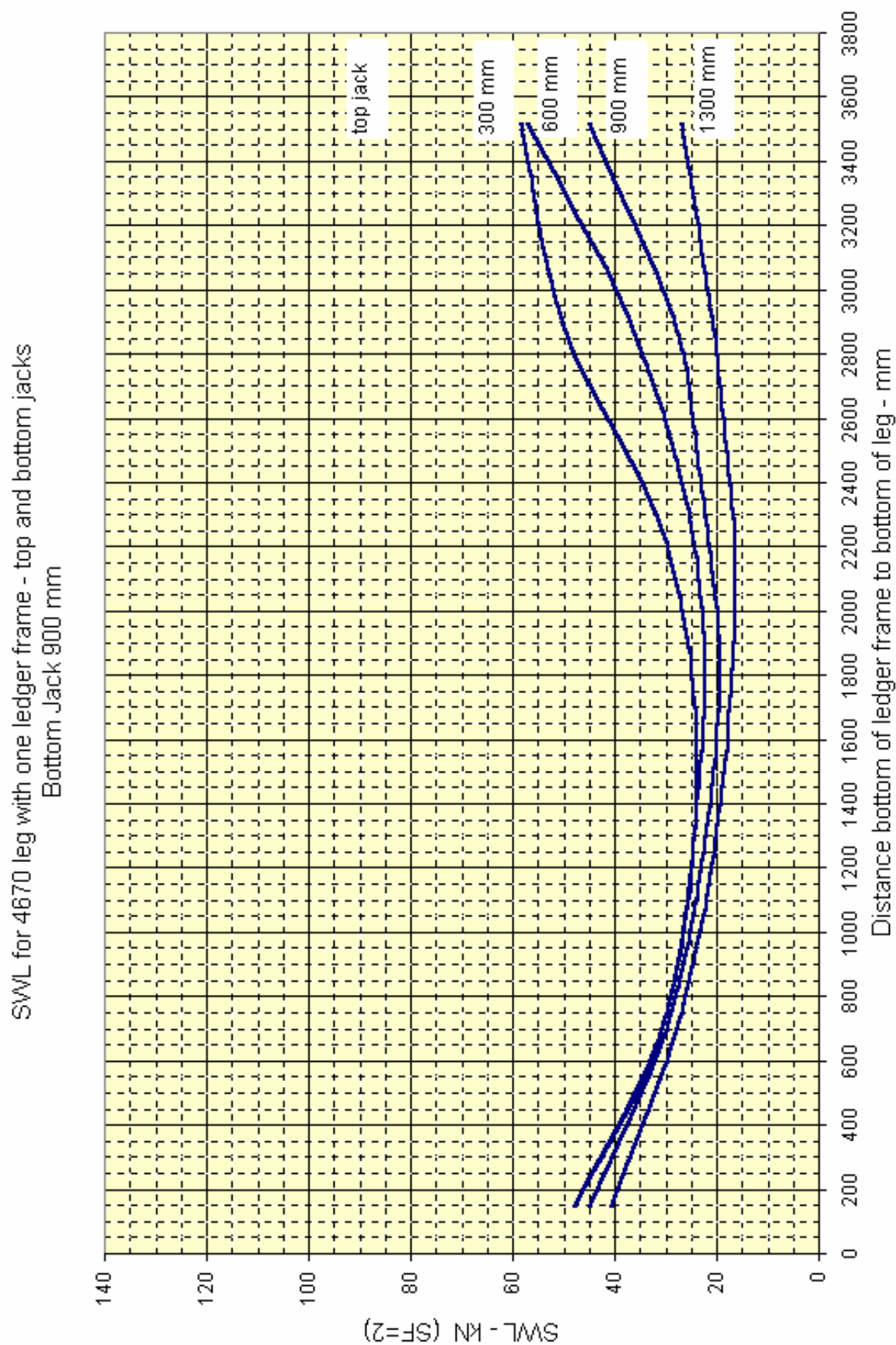
Safe Working Load Tables – 4670 Leg + Top & Bottom Jacks (2 of 5)



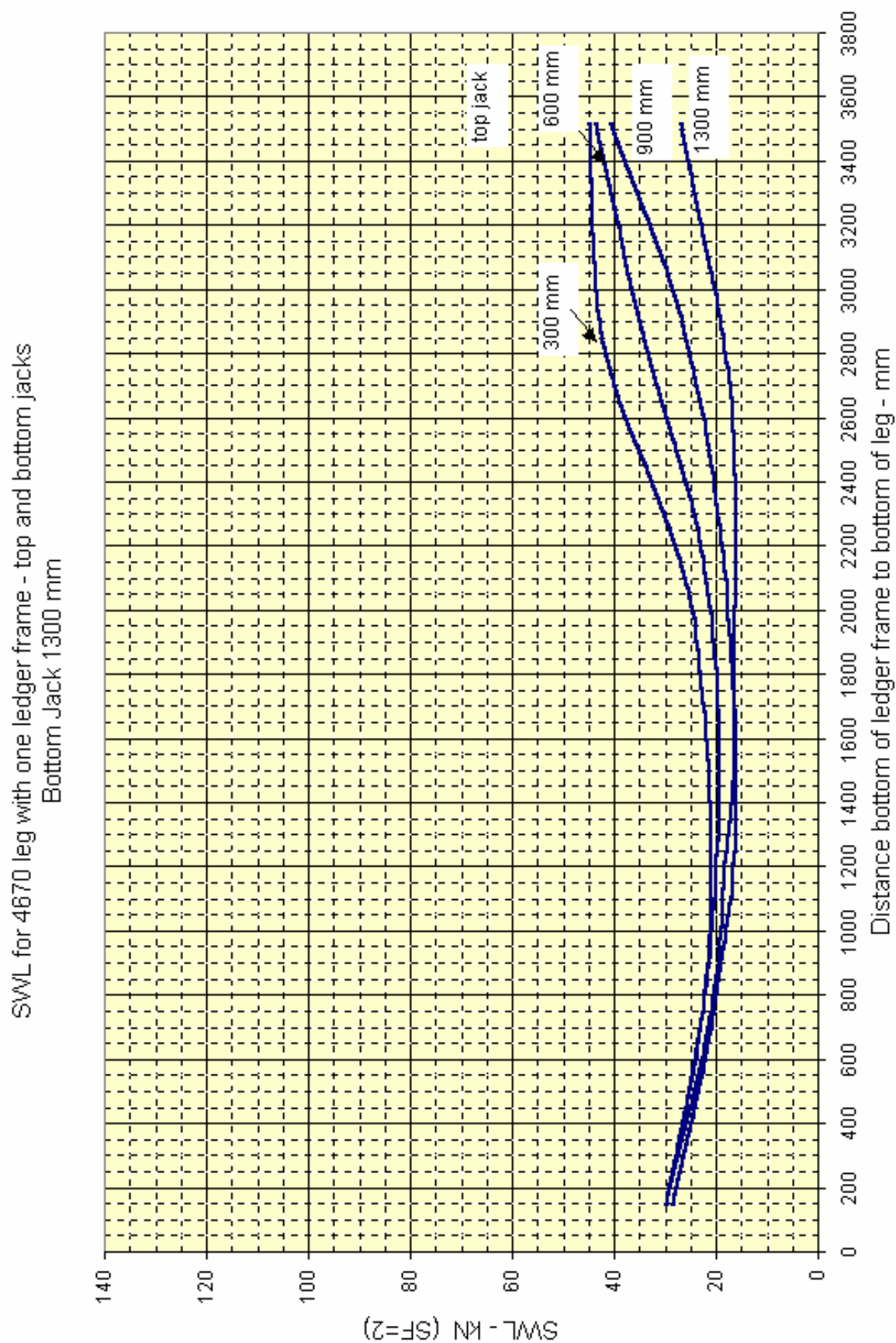
Safe Working Load Tables – 4670 Leg + Top & Bottom Jacks (3 of 5)



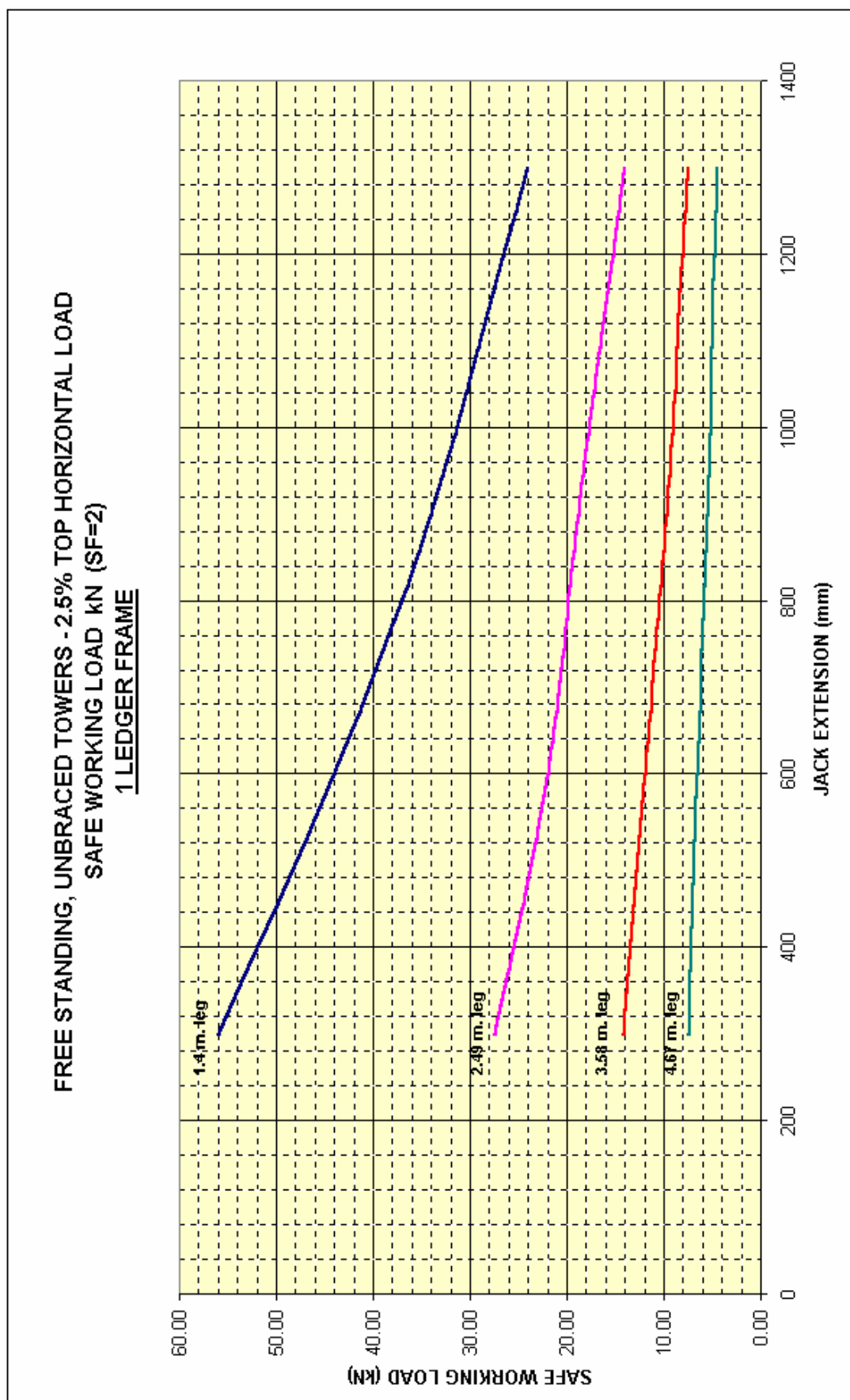
Safe Working Load Tables – 4670 Leg + Top & Bottom Jacks (4 of 5)



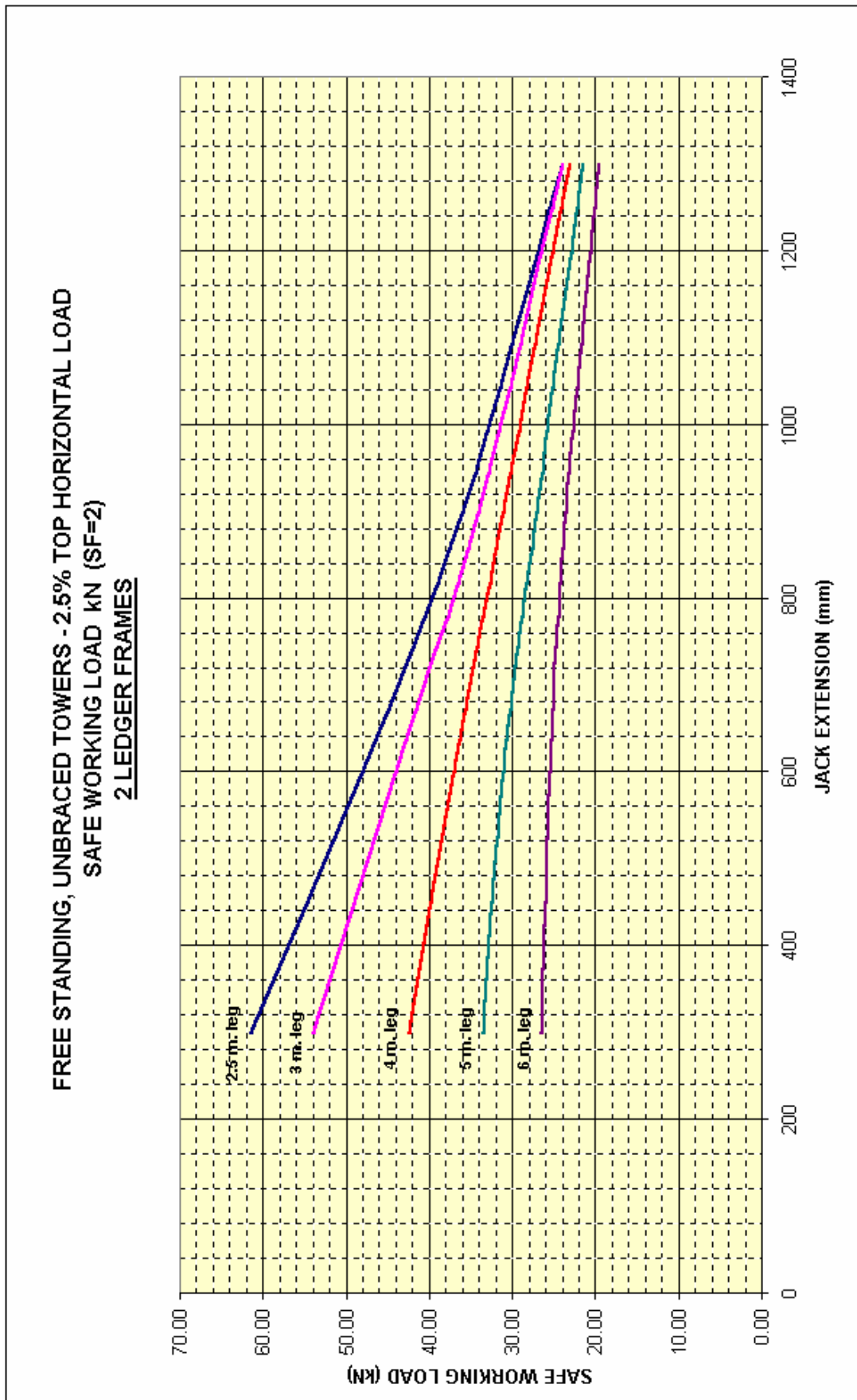
Safe Working Load Tables – 4670 Leg + Top & Bottom Jacks (5 of 5)



Free Standing Unbraced Towers – Safe Working Load Tables (1 of 8)

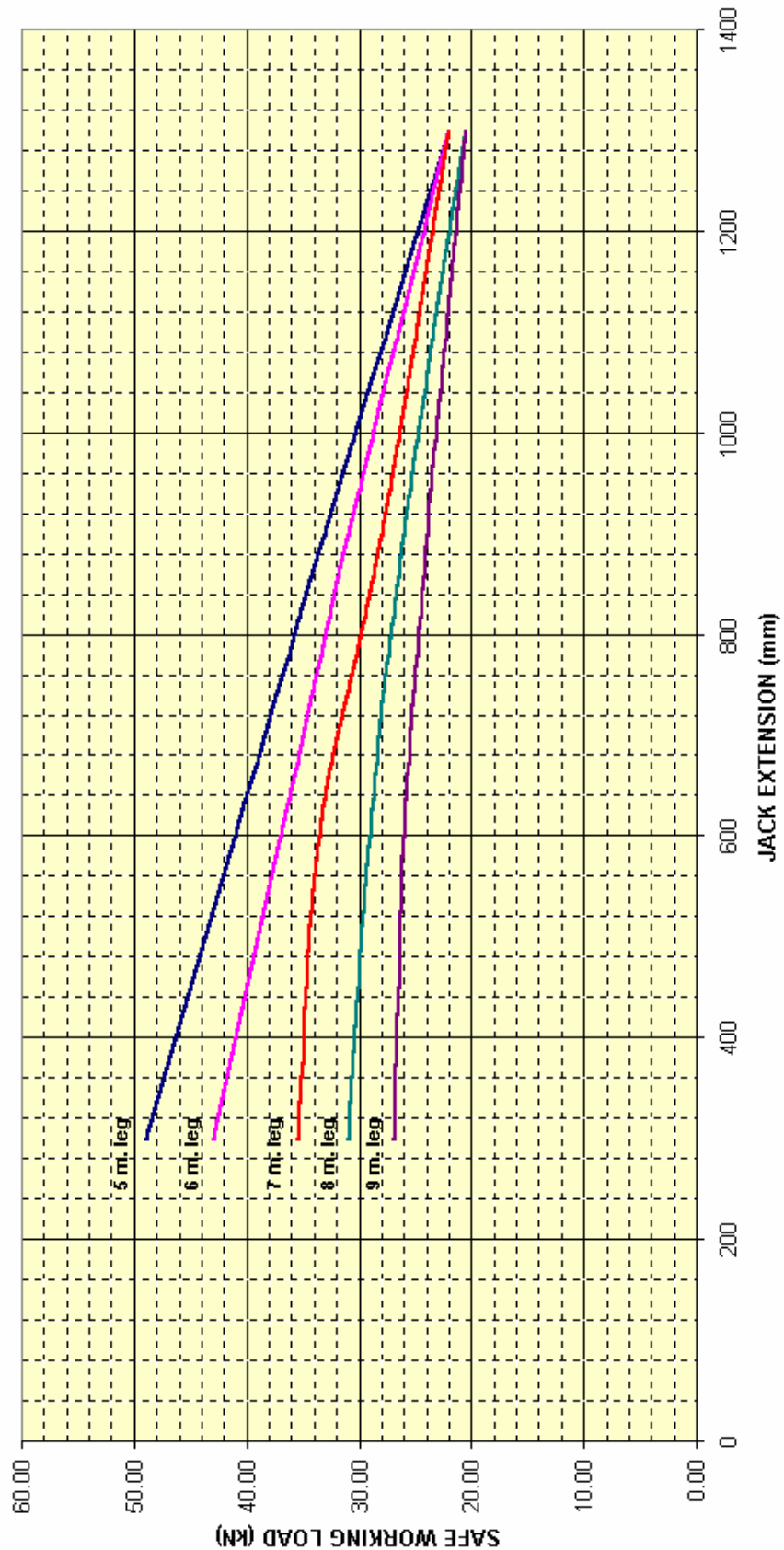


Free Standing Unbraced Towers – Safe Working Load Tables (2 of 8)

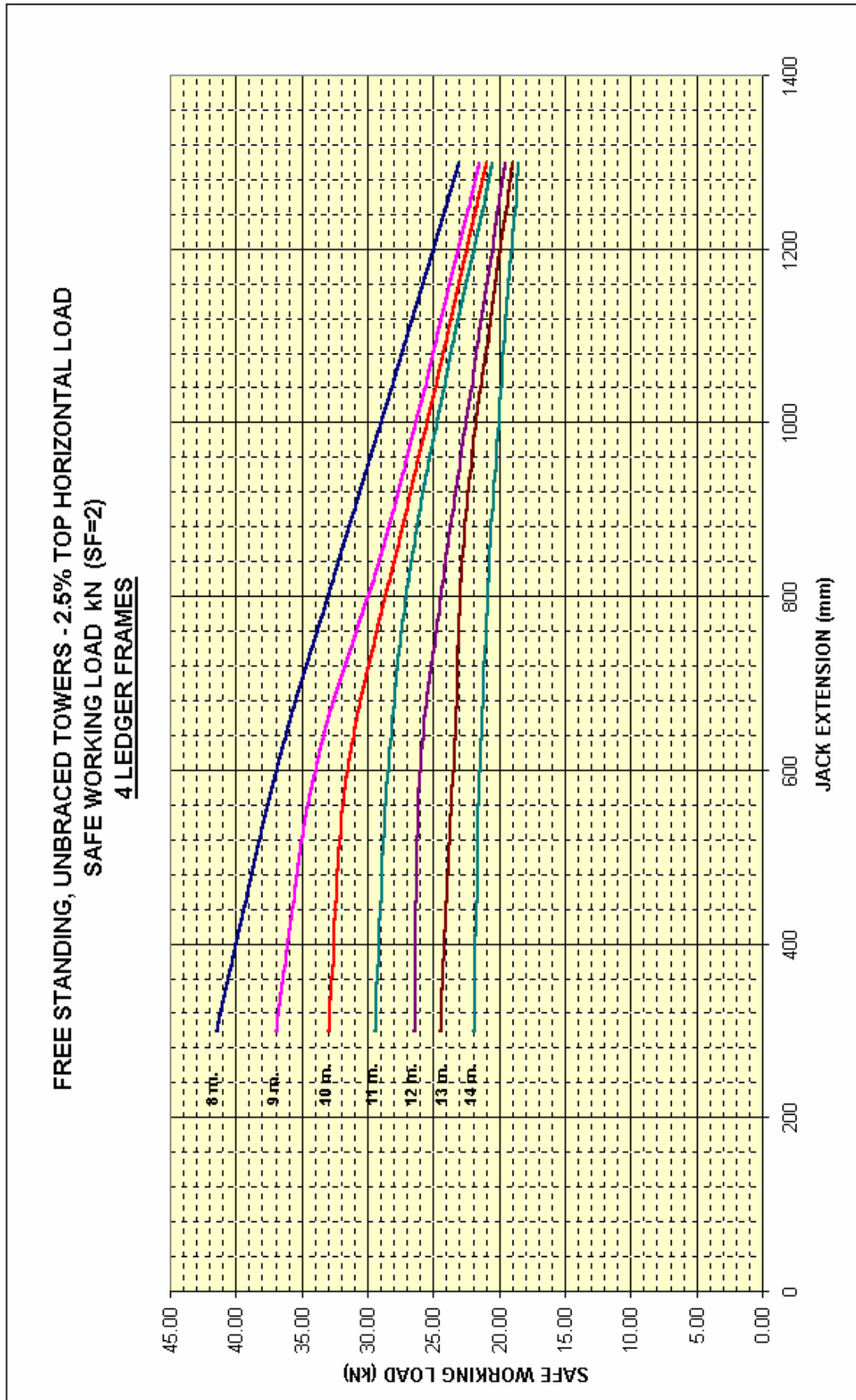


Free Standing Unbraced Towers – Safe Working Load Tables (3 of 8)

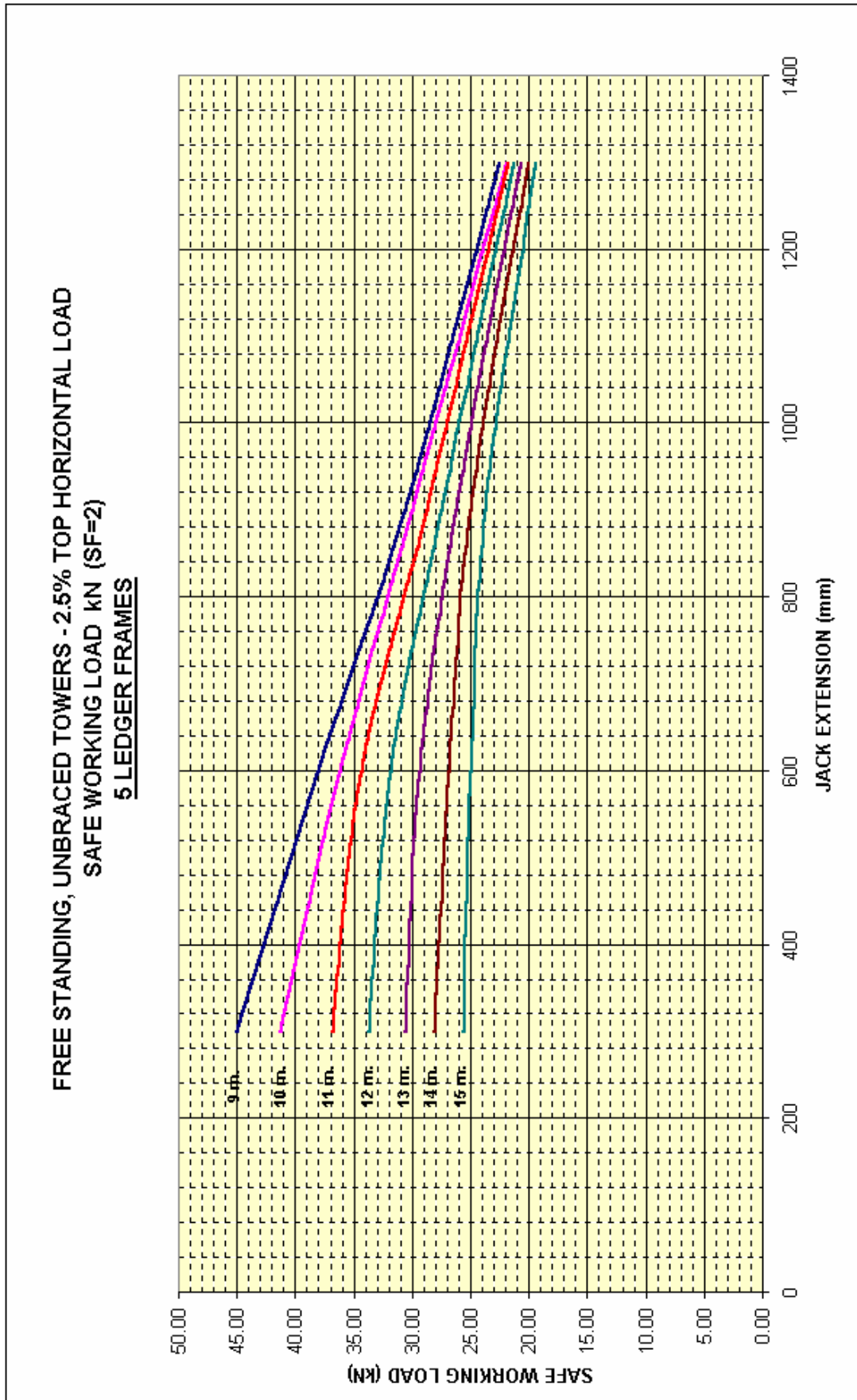
FREE STANDING, UNBRACED TOWERS - 2.5% TOP HORIZONTAL LOAD
SAFE WORKING LOAD kN (SF=2)
3 LEDGER FRAMES



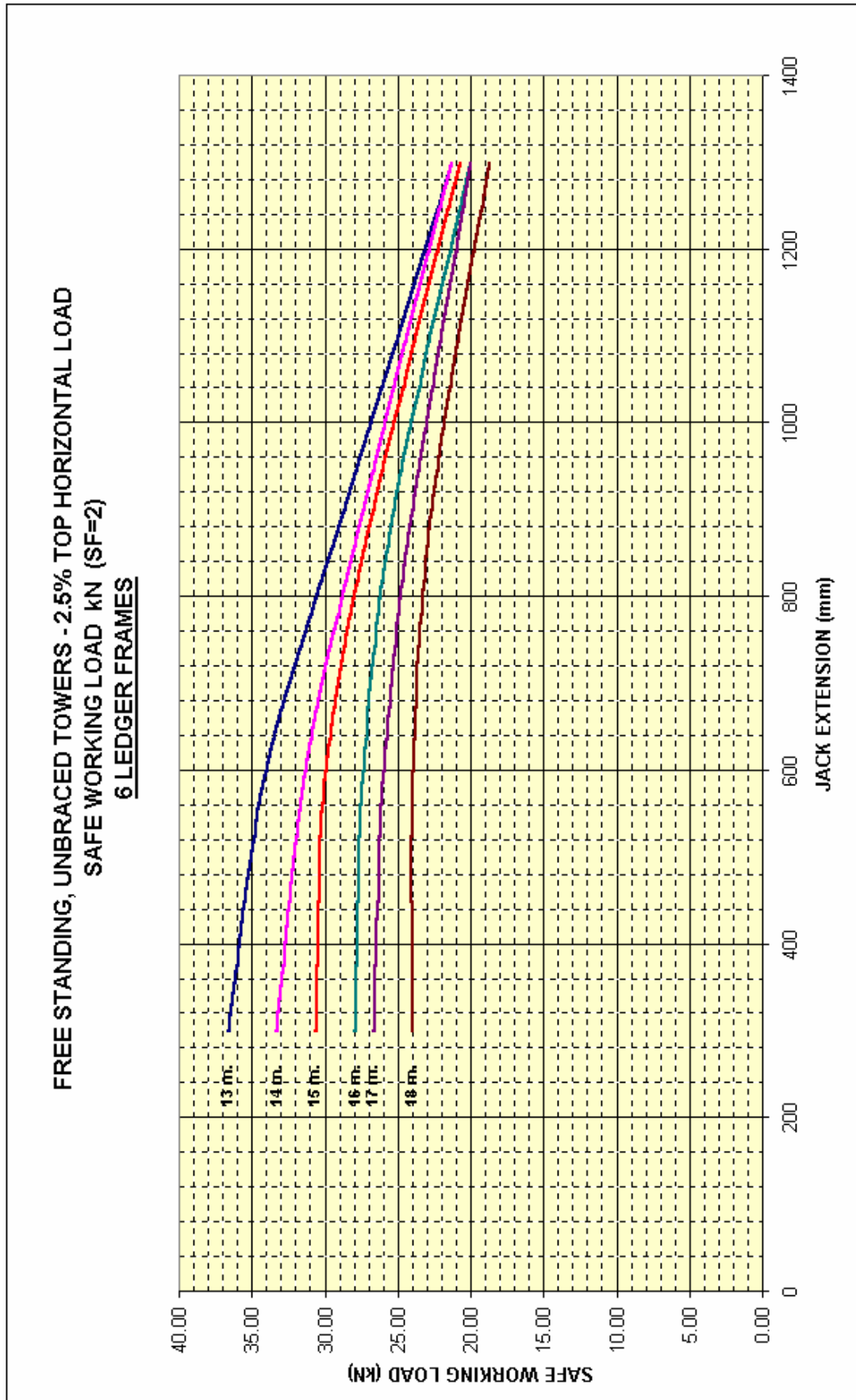
Free Standing Unbraced Towers – Safe Working Load Tables (4 of 8)



Free Standing Unbraced Towers – Safe Working Load Tables (5 of 8)



Free Standing Unbraced Towers – Safe Working Load Tables (6 of 8)



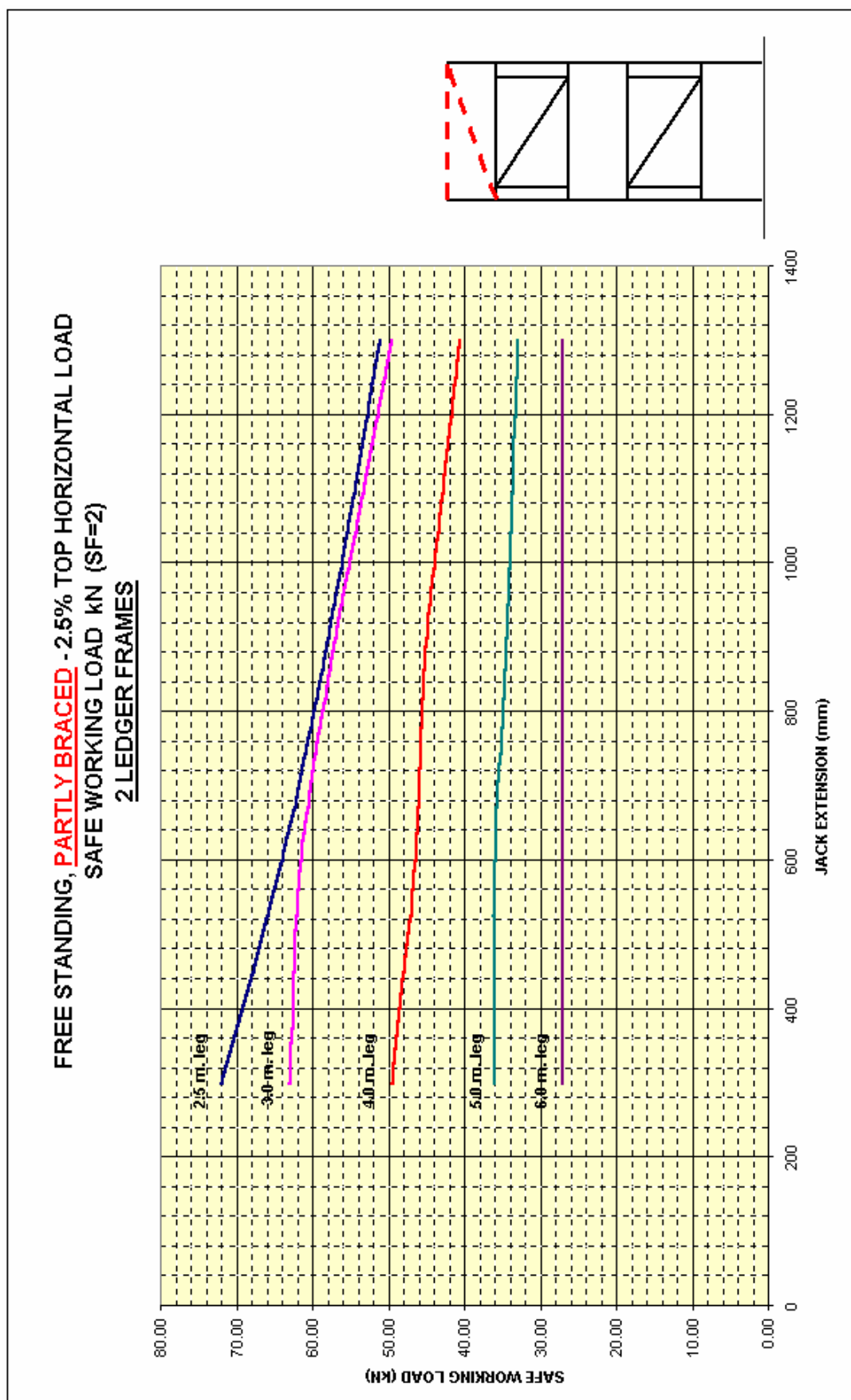
Free Standing Unbraced Towers – Safe Working Load Tables (7 of 8)

FREE STANDING, UNBRACED, TOWERS - 2.5% TOP HORIZONTAL LOAD SAFE WORKING LOADS KN (SF=2)																								
Jack extension (mm)	1						2						3						4					
	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300
No. of ledgers																								
Leg Height (m)																								
1.4	56.00	44.00	34.00	24.00																				
2.49	27.50	22.00	18.75	14.00																				
3.58	14.25	12.00	9.75	7.50																				
4.67	7.50	6.50	5.50	4.50																				
2.5					61.50	48.00	36.00	24.00																
3					54.00	44.00	34.00	24.00																
4					42.50	37.00	31.00	23.00																
5					33.50	31.00	27.00	21.50	49.00	41.00	33.00	22.00												
6					26.50	25.50	23.50	19.50	43.00	37.00	31.00	22.00												
7									35.50	33.50	28.00	22.00												
8									31.00	29.00	26.00	20.50	41.50	37.00	31.00	23.00								
9									27.00	26.00	24.00	20.50	37.00	34.00	28.00	21.50	45.00	38.12	30.62	22.50				
10													33.00	31.50	27.00	21.00	41.25	36.25	30.00	21.87				
11													29.50	28.50	26.00	20.50	36.87	34.37	28.75	21.80				
12													26.50	26.00	23.50	19.50	33.75	31.87	27.50	21.25				
13													24.50	23.50	22.50	19.00	30.62	29.37	26.25	20.62	36.65	34.00	28.65	21.32
14													22.00	21.50	20.50	18.50	28.12	26.87	25.00	20.00	33.32	31.32	27.32	21.32
15																	25.62	25.00	23.75	19.37	30.65	30.00	26.66	20.66
16																					28.00	27.32	25.32	20.00
17																					26.66	26.00	24.00	20.00
18																					24.00	24.00	22.66	18.66

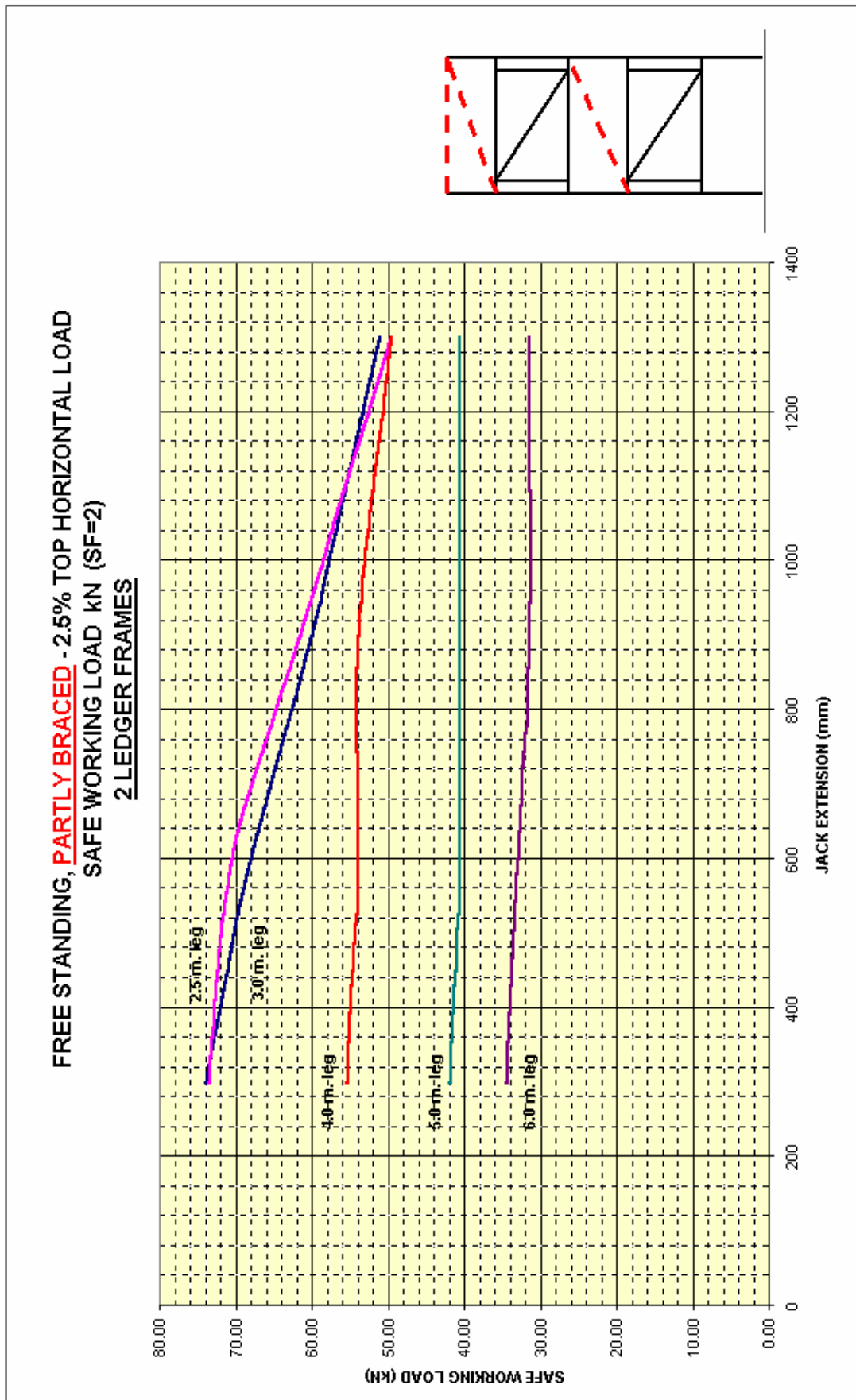
Free Standing Unbraced Towers – Safe Working Load Tables (8 of 8)

		FREE STANDING, UNBRACED, TOWERS - 2.5% TOP HORIZONTAL LOAD TOP HORIZONTAL DISPLACEMENT (mm) AT SAFE WORKING LOAD																							
		1						2						3						4					
Jack extension (mm)		300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300
No. of ledgers																									
Leg Height (m)																									
1.4		7.4	11.4	16.3	26.5																				
2.49		22.2	28.5	34.1	45.8																				
3.58		46.2	52.3	54.2	56.1																				
4.67		57.4	62.8	57.5	64.2																				
2.5						9.2	14.2	19.5	30.7																
3						11.8	15.3	20.2	30.5																
4						18.2	20.3	25.1	33.0																
5						27.5	28.6	31.5	40.2	19.9	22.3	26.7	32.1												
6						43.0	38.7	40.5	49.2	31.0	29.1	30.3	39.3												
7										34.5	37.7	37.6	43.8												
8										43.3	45.8	47.5	51.7	37.0	38.7	40.1	48.1								
9										53.1	55.3	59.6	68.4	44.9	46.1	44.3	50.2	39.1	40.0	40.3	45.0				
10														53.2	57.6	54.5	56.4	49.5	48.2	47.4	51.7				
11														59.7	64.8	67.2	68.1	58.0	59.7	55.8	59.9				
12														73.8	77.0	78.0	77.7	66.7	70.3	65.8	65.4				
13														85.2	89.4	88.6	88.9	74.1	80.7	76.9	77.0	74.4	71.1	70.7	66.0
14														89.2	102.0	105.1	101.0	89.1	91.5	89.5	84.7	82.2	80.3	81.2	76.8
15																		99.6	100.6	103.3	100.1	93.3	93.1	92.5	89.1
16																						103.8	104.5	104.6	95.9
17																							115.8	117.4	111.8
18																							129.1	130.5	130.8

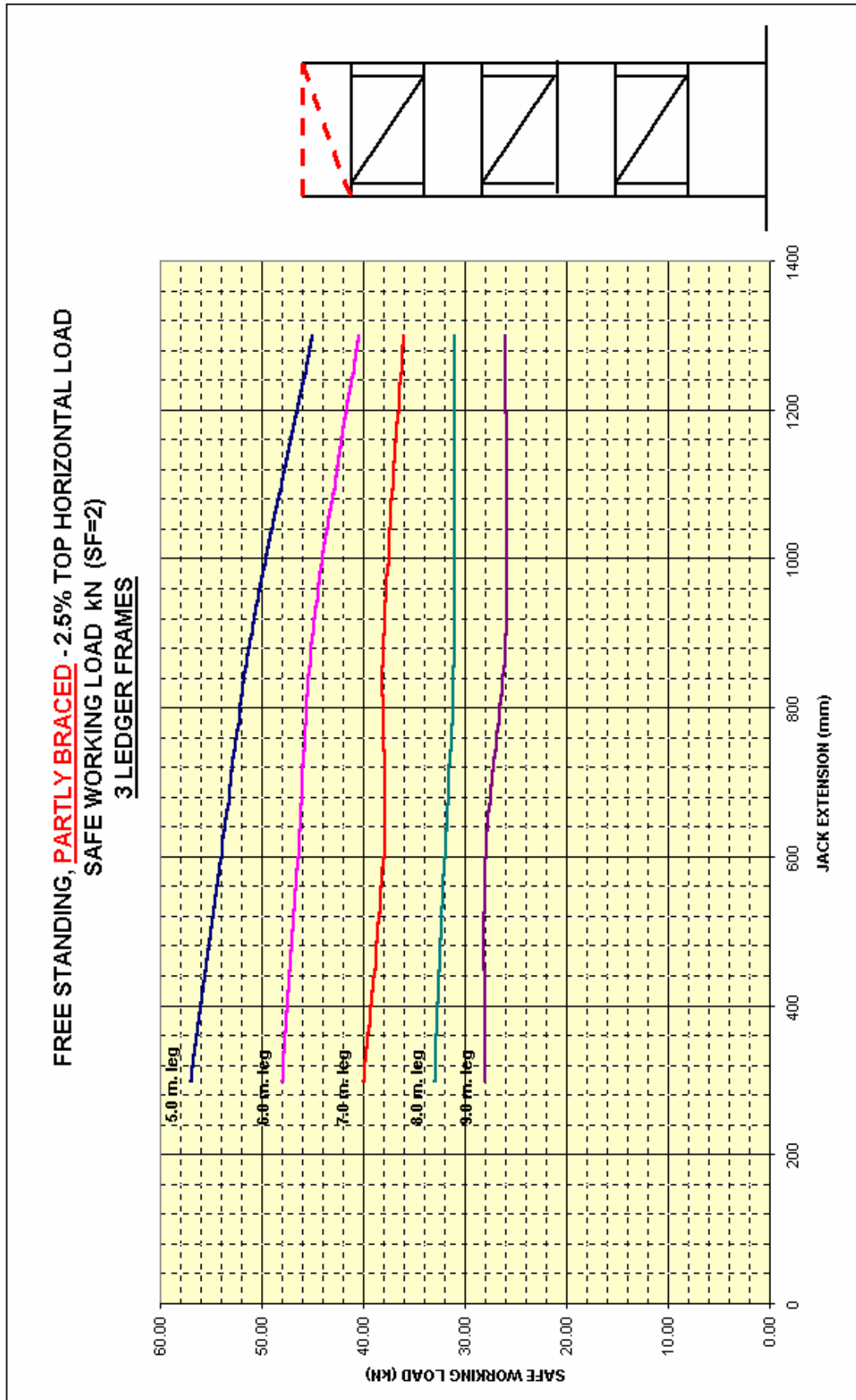
Free Standing Partly Braced Towers - Safe Working Load Tables (1 of 8)



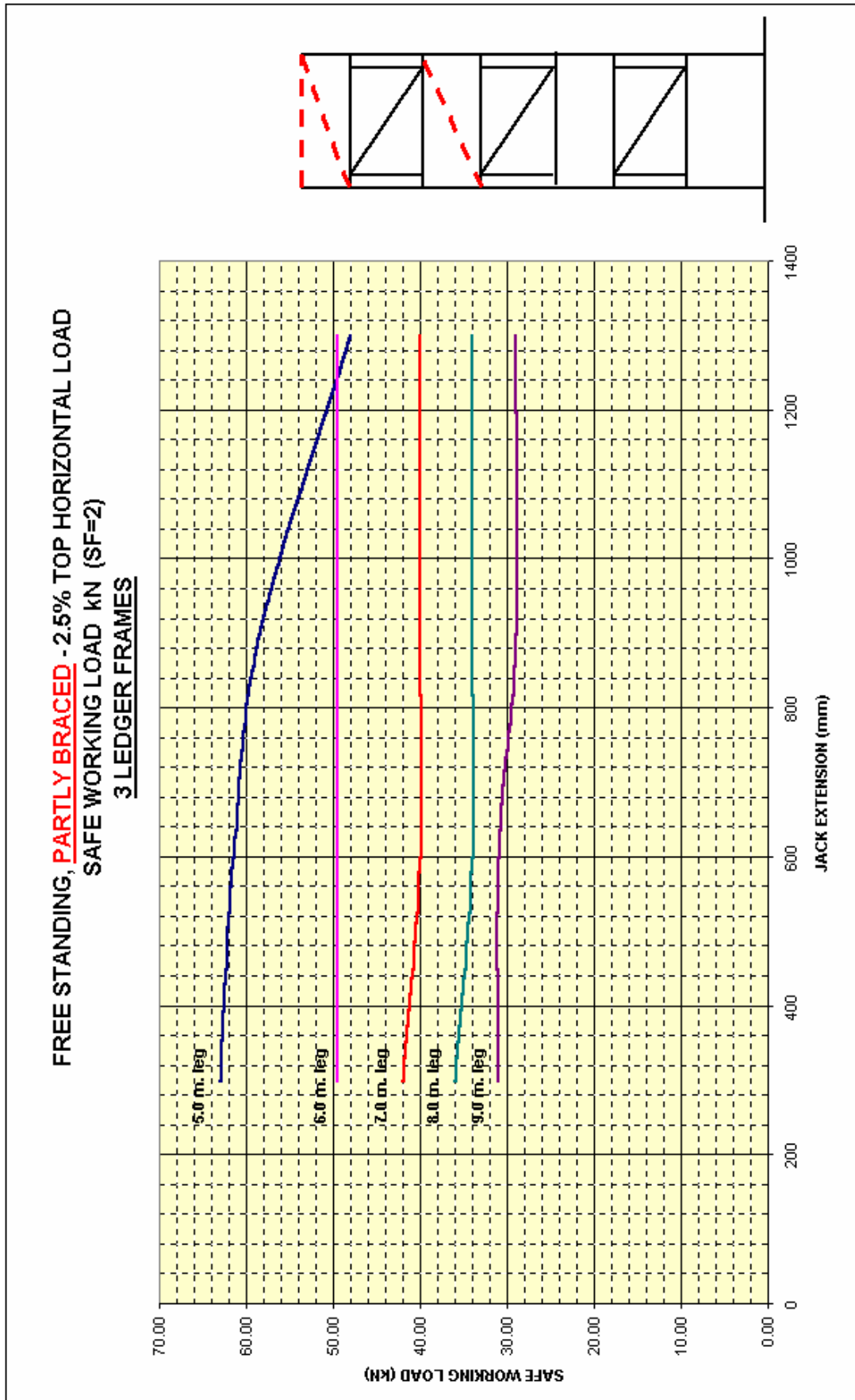
Free Standing Partly Braced Towers - Safe Working Load Tables (2 of 8)



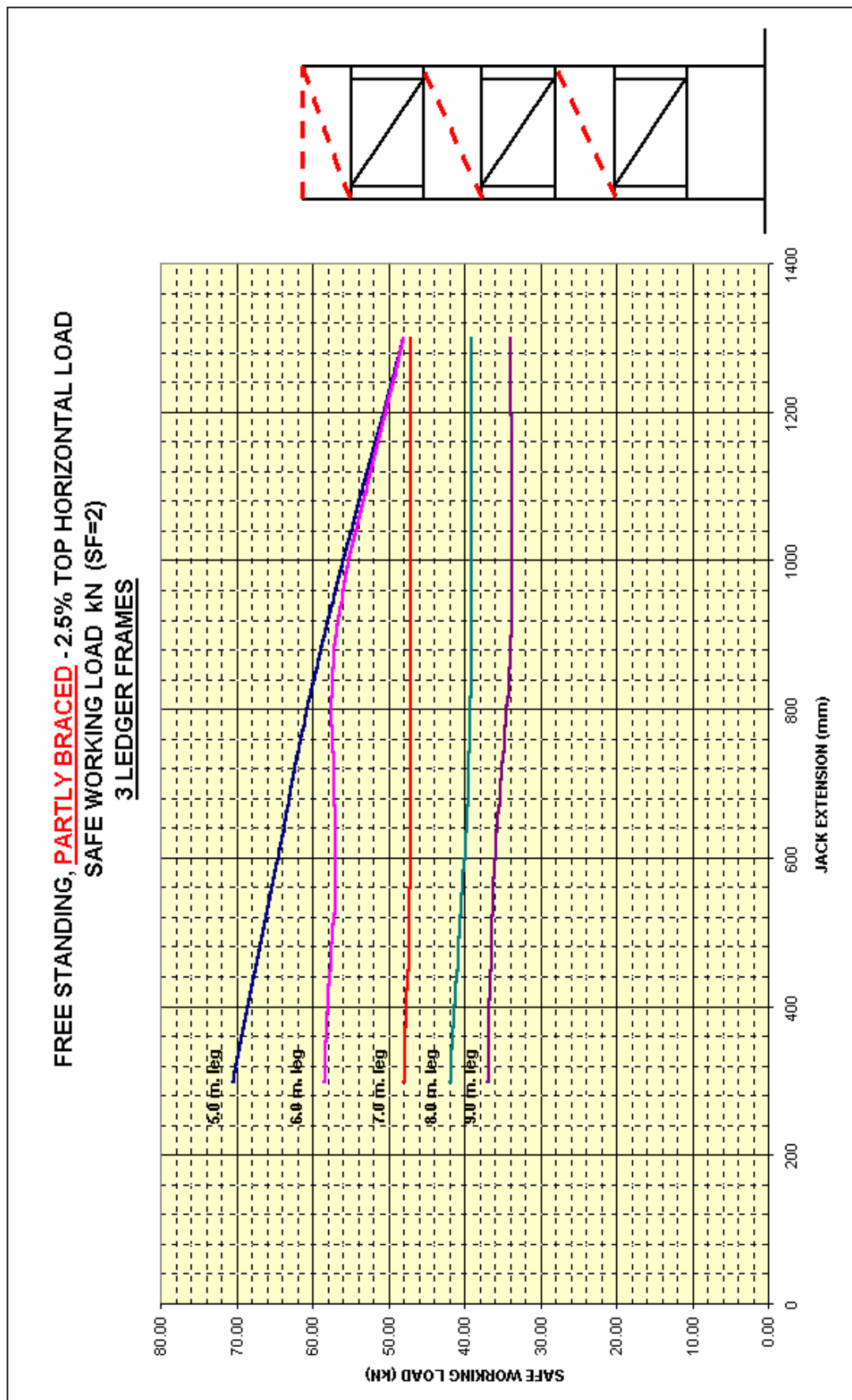
Free Standing Partly Braced Towers - Safe Working Load Tables (3 of 8)



Free Standing Partly Braced Towers - Safe Working Load Tables (4 of 8)

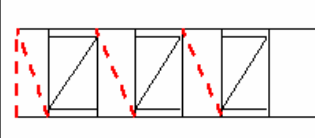
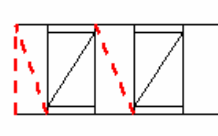


Free Standing Partly Braced Towers - Safe Working Load Tables (5 of 8)

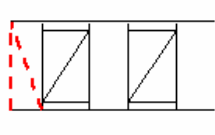
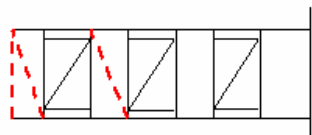


Free Standing Partly Braced Towers - Safe Working Load Tables (6 of 8)

FREE STANDING, PARTLY BRACED , TOWERS - 2.5% TOP HORIZONTAL LOAD SAFE WORKING LOADS kN (SF=2)																								
Jack extension (mm)	1				2				3				4				5				6			
No. of ledgers	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300
Leg Height (m)																								
1.4																								
2.49																								
3.58																								
4.67																								
2.5																								
3																								
4																								
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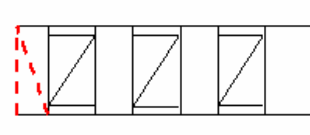


Free Standing Partly Braced Towers - Safe Working Load Tables (7 of 8)

FREE STANDING, PARTLY BRACED , TOWERS - 2.5% TOP HORIZONTAL LOAD SAFE WORKING LOADS KN (SF=2)																								
Jack extension (mm)	1				2				3				4				5				6			
	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300
No. of ledgers																								
Leg Height (m)																								
1.4																								
2.49																								
3.58																								
4.67																								
2.5					72.00	64.00	58.00	51.00																
3					63.00	61.50	57.00	49.50																
4					49.50	46.50	45.00	40.50																
5					36.00	36.00	34.50	33.00	63.00	61.50	58.50	48.00												
6					27.00	27.00	27.00	27.00	49.50	49.50	49.50	49.50												
7									42.00	40.00	40.00	40.00												
8									36.00	34.00	34.00	34.00												
9									31.00	31.00	29.00	29.00												
10																								
11																								
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14																								
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16																								
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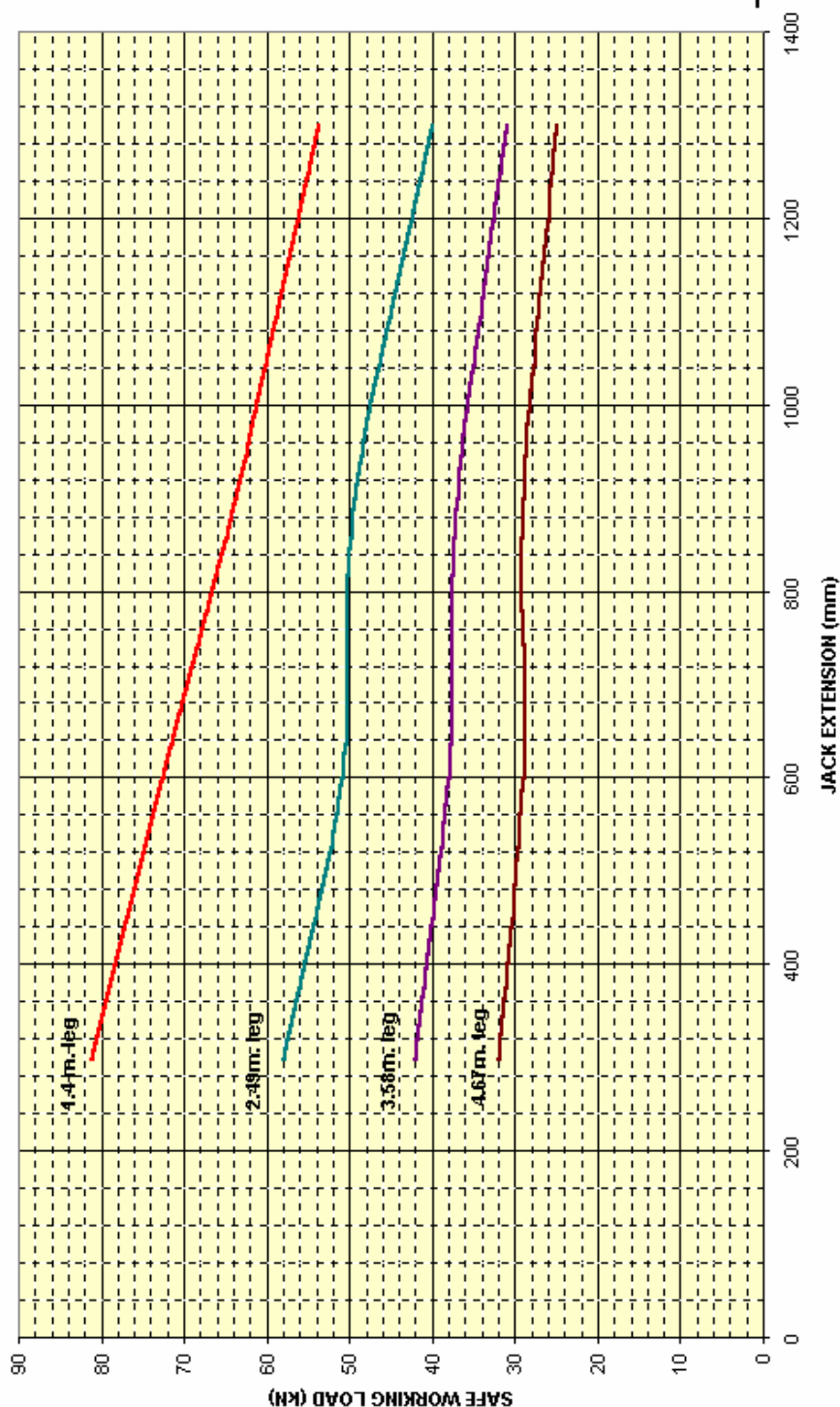
Free Standing Partly Braced Towers - Safe Working Load Tables (8 of 8)

FREE STANDING, PARTLY BRACED , TOWERS - 2.5% TOP HORIZONTAL LOAD SAFE WORKING LOADS kN (SF=2)																								
Jack extension (mm)	1				2				3				4				5				6			
	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300
No. of ledgers																								
Leg Height (m)																								
1.4																								
2.49																								
3.58																								
4.67																								
2.5																								
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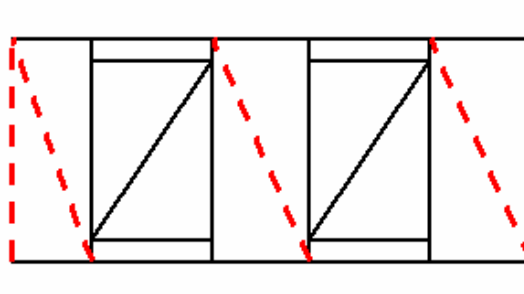
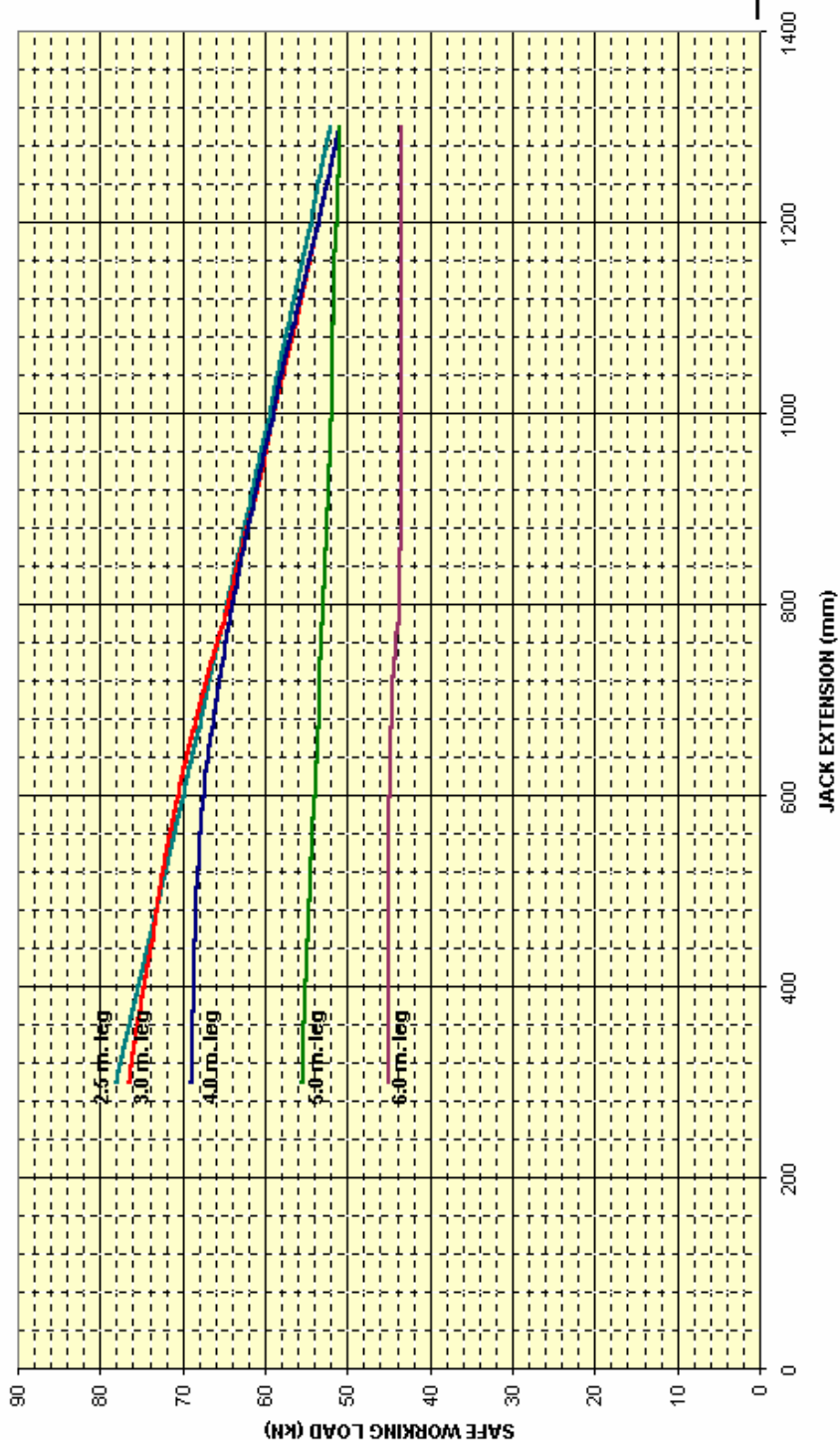
Free Standing Fully Braced Towers – Safe Working Load Tables (1 of 4)

FREE STANDING, **FULLY BRACED** - 2.5% TOP HORIZONTAL LOAD
SAFE WORKING LOAD kN (SF=2)
1 LEDGER FRAME



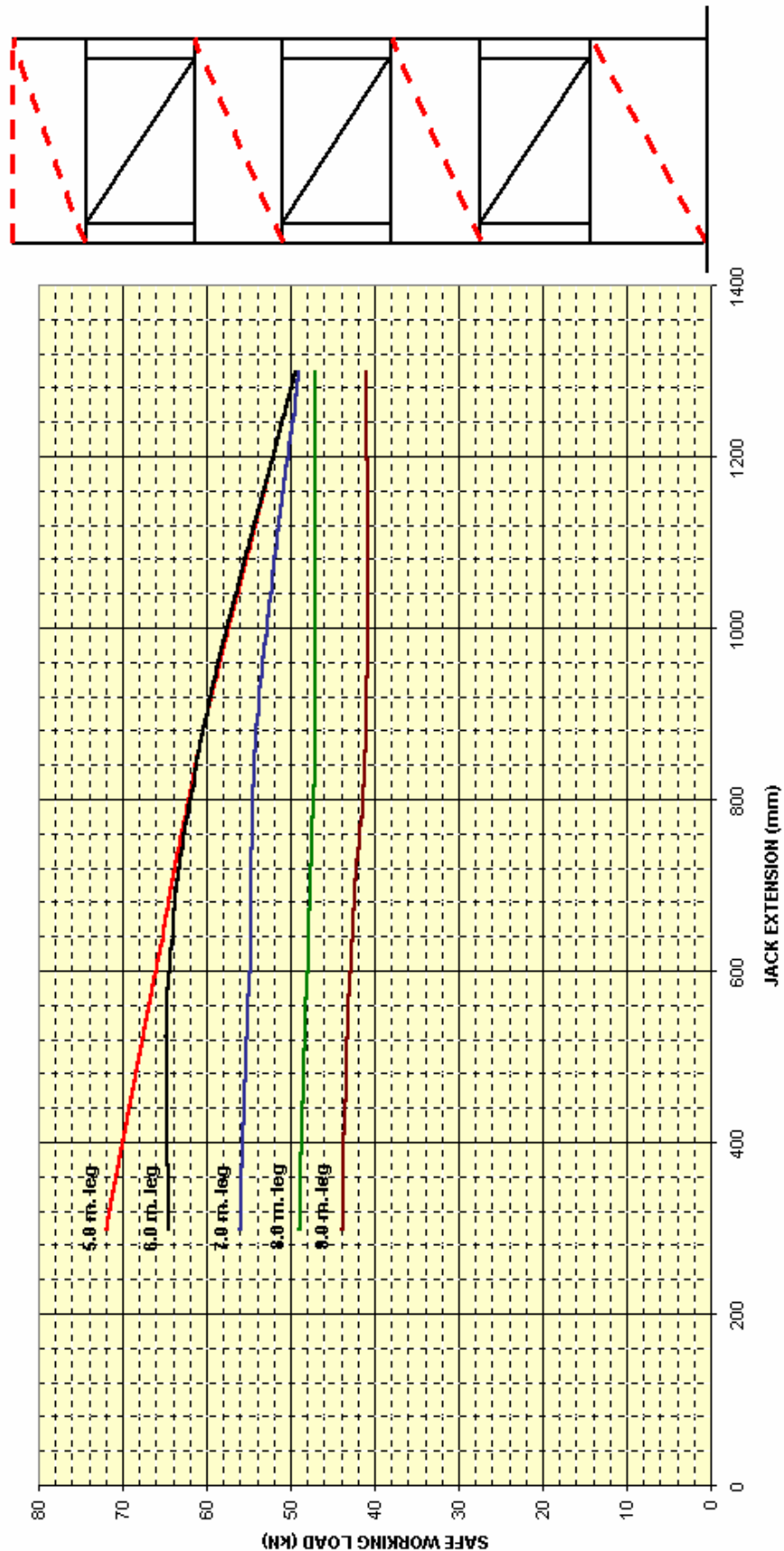
Free Standing Fully Braced Towers – Safe Working Load Tables (2 of 4)

FREE STANDING, **FULLY BRACED** - 2.5% TOP HORIZONTAL LOAD
SAFE WORKING LOAD kN (SF=2)
2 LEDGER FRAMES

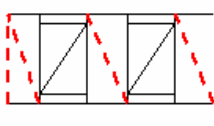


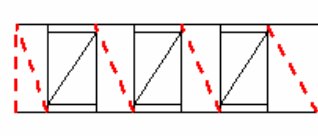
Free Standing Fully Braced Towers – Safe Working Load Tables (3 of 4)

FREE STANDING, **FULLY BRACED** - 2.5% TOP HORIZONTAL LOAD
SAFE WORKING LOAD kN (SF=2)
3 LEDGER FRAMES

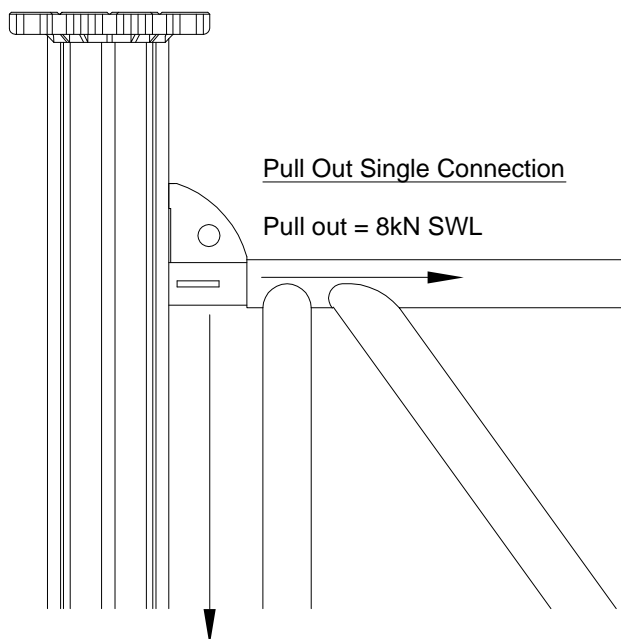


Free Standing, Fully Braced Towers - Safe Working Load Tables (4 of 4)

FREE STANDING, FULLY BRACED, TOWERS - 2.5% TOP HORIZONTAL LOAD SAFE WORKING LOADS KN (SF=2)																																						
Jack extension (mm)	1				2				3				4				5				6																	
	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300	300	600	900	1300														
No. of ledgers																																						
Leg Height (m)																																						
1.4	81.25	72.50	63.75	53.75																																		
2.49	58.00	51.00	49.50	40.00																																		
3.58	42.00	38.00	37.00	31.00																																		
4.67	32.00	29.00	29.00	25.00																																		
2.5					78.00	70.00	62.00	52.00																														
3					76.50	70.50	61.50	51.00																														
4					69.00	67.50	61.50	51.00																														
5					55.50	54.00	52.50	51.00	72.00	66.00	60.00	49.50																										
6					45.00	45.00	43.50	43.50	64.50	64.50	60.00	49.50																										
7									56.00	55.00	54.00	49.00																										
8									49.00	48.00	47.00	47.00																										
9									44.00	43.00	41.00	41.00																										
10																																						
11																																						
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Ledger Frame T-Bolt Loadings



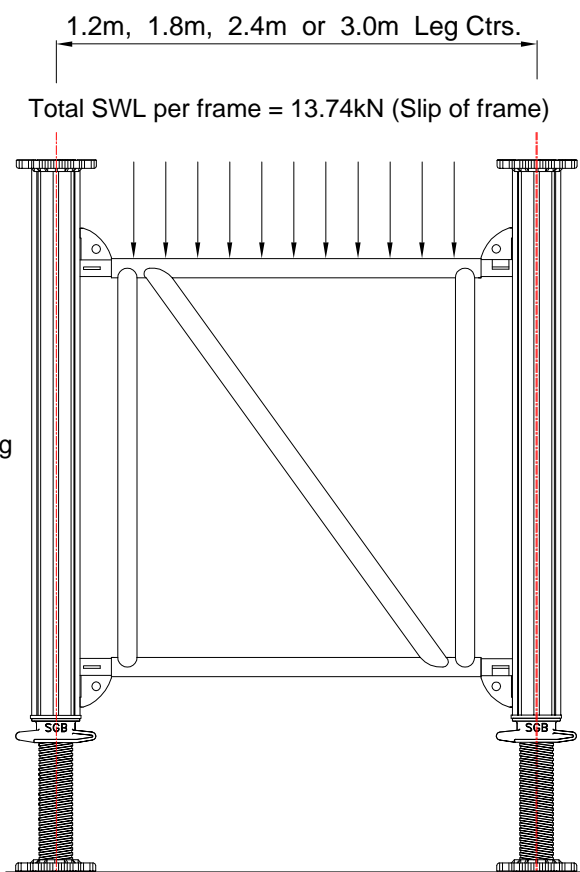
Pull Out Single Connection

Pull out = 8kN SWL

Pure Shear = 1.41kN per T-bolt SWL
Test on single connection

Slip on Single Connection


Note : Frame capacity may be limited by local bending

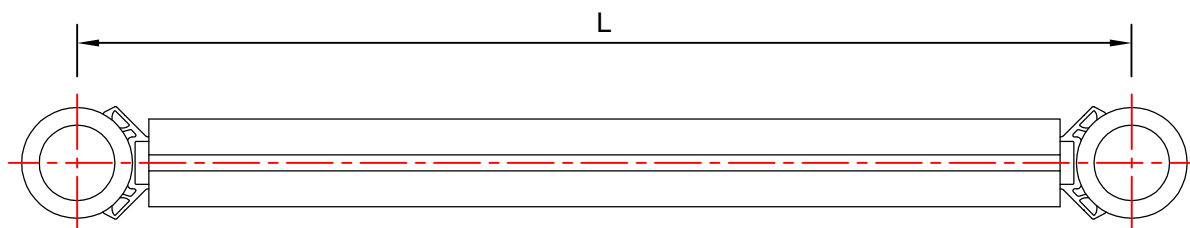


1.2m, 1.8m, 2.4m or 3.0m Leg Ctrs.

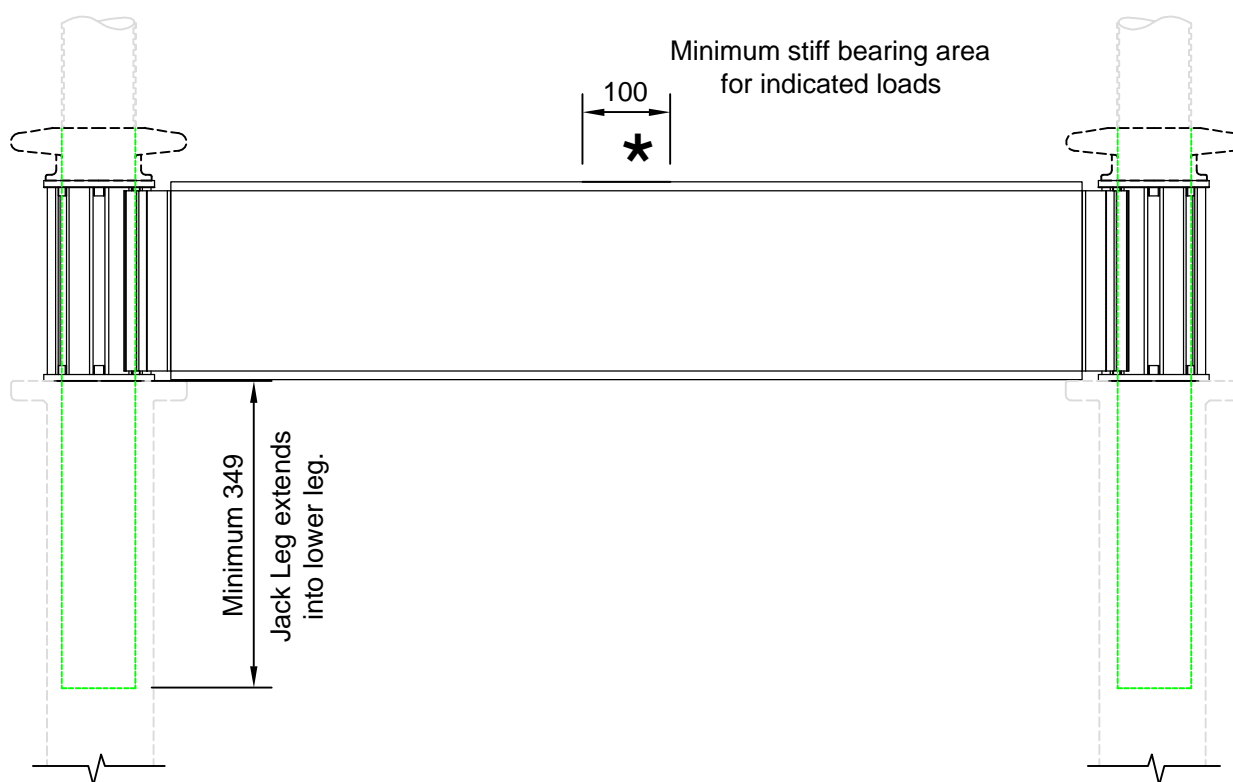
Total SWL per frame = 13.74kN (Slip of frame)

Slip on Frame

GASS System		
Loadings	Saddle Beam	



Plan View
(Jack Legs Omitted for Clarity)



Specification/Properties:		Safe Working Load		Code No
Description	*	Point	UDL	
1200mm Long (L)		97.5kN	100kN	718068
1800mm Long (L)		65kN	96kN	718069
2400mm Long (L)		36kN	54kN	718070

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