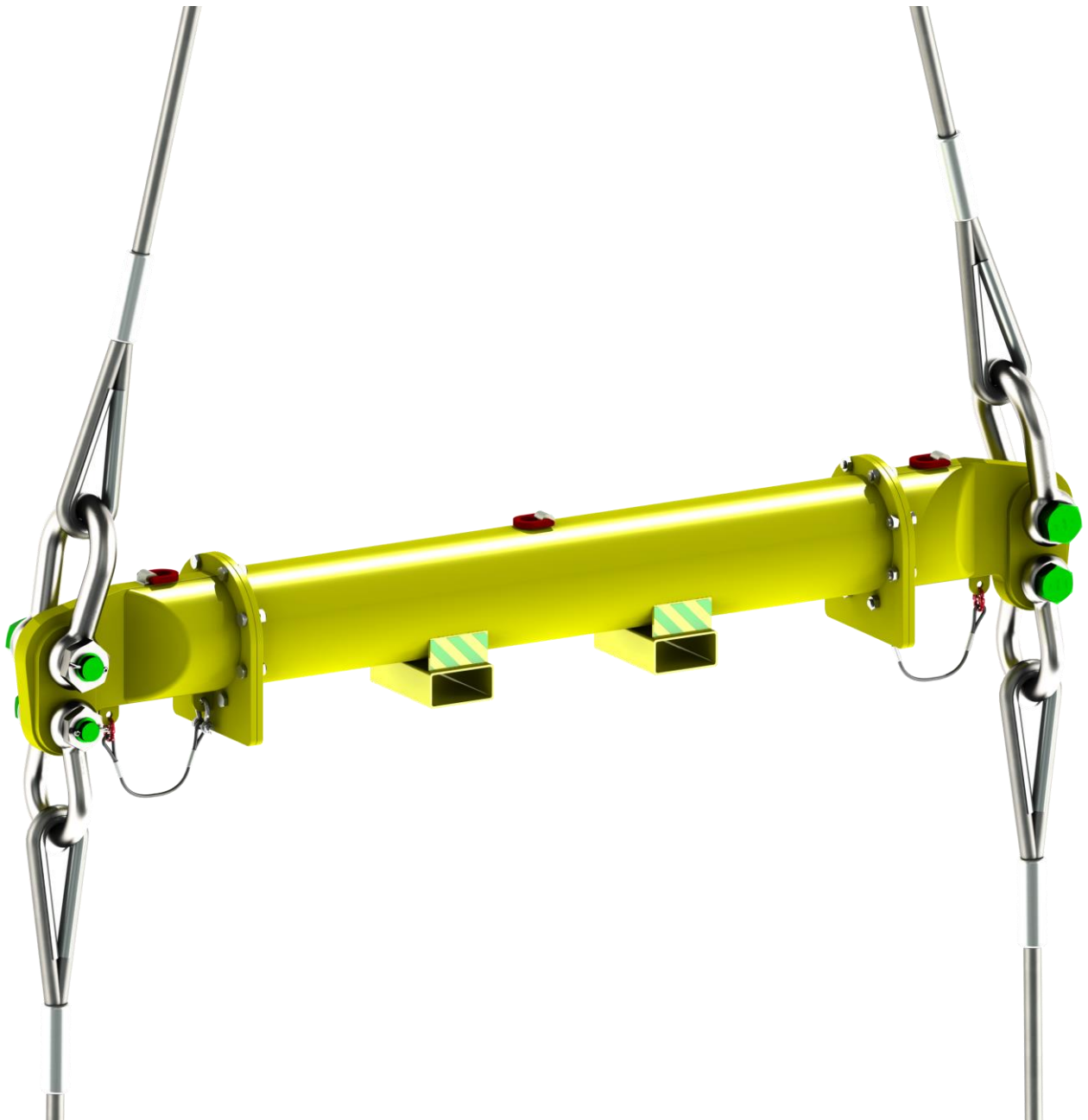




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USAGE AND SAFETY MANUAL SPREADERBEAMS



1. INTRODUCTION:

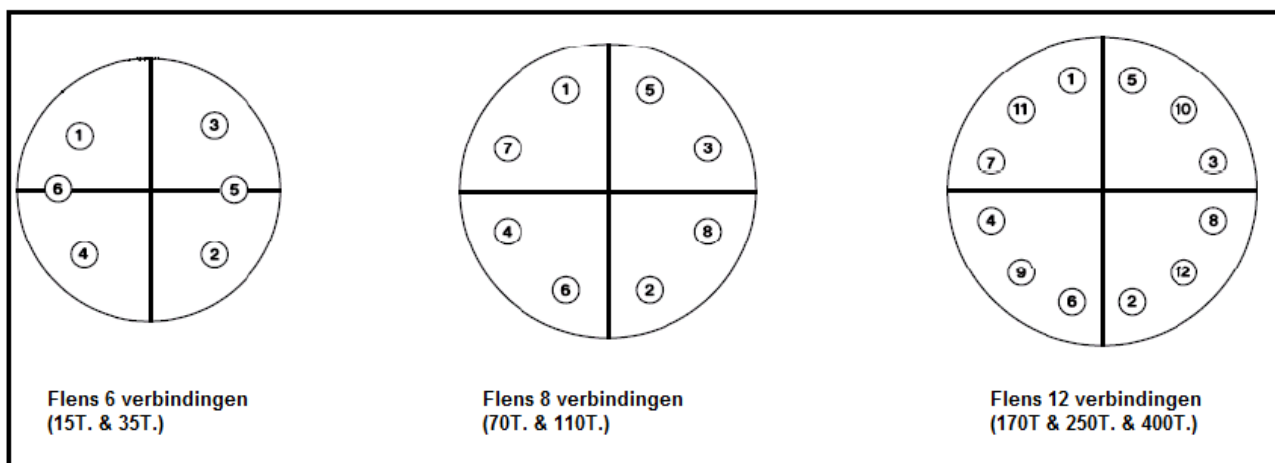
The spreader system exists of modular traverses with possibility of different spans. Each spreaderbeam exists of two head section complete with shackles and various size spreaderbeams.

2. SAFE USE:

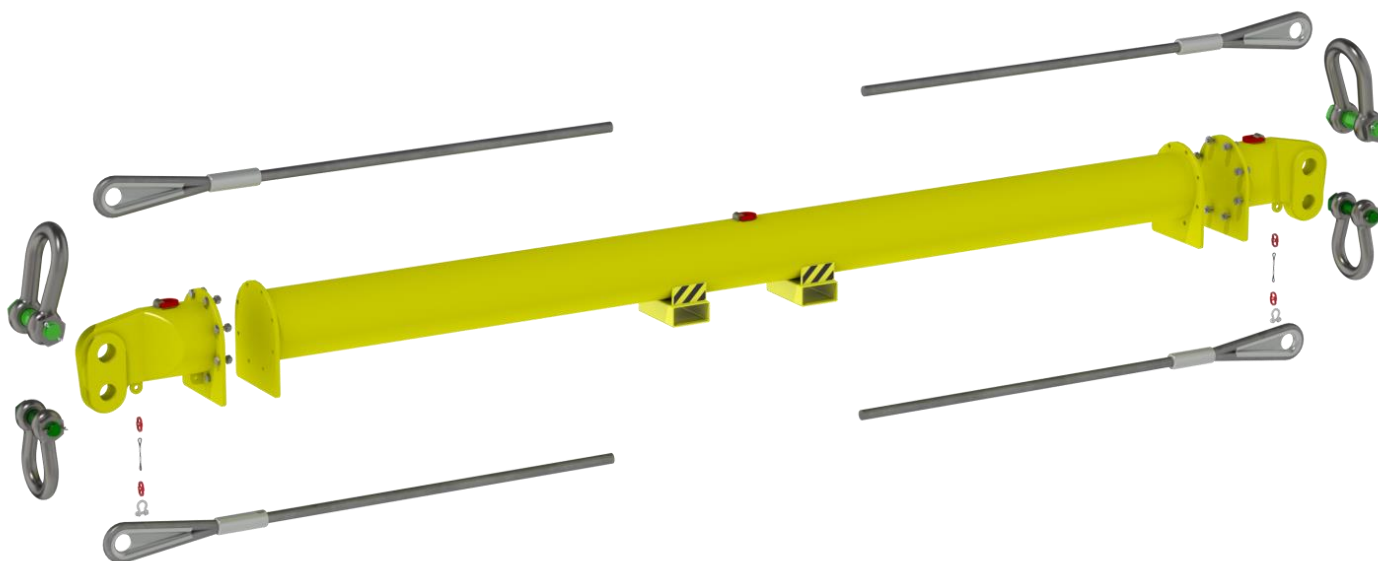
- The manual should be passed to every user of these equipment;
- Users of this system should receive training in the use of spreaderbeams and need to be aware of the rules and procedures for lifting accessory described in the EC Machine directive and health and safety data sheets;
- Never exceed stated W.L.L.;
- Ensure that tare + load is never more than the capacity of the crane;
- Transport of passengers is strictly forbidden;
- Ensure there are no defective or distorted spreaderbeams or attachments;
- The inspection / certification certificate is valid;
- Check the state of the crane hook, shackles, slings, wire etc. If they are not in perfect conditions, they must be replaced by new ones;
- Lifting eye on top only permitted for transport spreaderbeam;
- Statutory requirements and rules are applicable to the (mobile) crane;
- Do not use the spreaderbeam by bad weather and wind speed of 6 Beaufort or more;
- The length and working load limit of the slings is of crucial importance to the proper functioning of the spreaderbeam, the sling angle should not be less as 45 degrees;
- You should always stick to the workload and sling length as defined in the load tables;
- Make sure that all of the flanges are free of debris, sand etc.;
- Check all times if the components are correctly tightened;
- Only parts provided by the supplier can be used for the composition;
- Ensure for lifting that all the personnel are at a safe distance of the crane and spreaderbeam;
- Lift load with care, make sure the spreaderbeam is in balance and avoid any kind of peak load;
- Use rope lines attached on the load for maneuvering in order to take a safe distance from the load;
- Never let the load unattended;
- Use a steel cable in the middle by long lengths spreaderbeam to prevent bending of the spreaderbeam;
- Do not rig the lower sling more than 3 degrees from vertical;
- If bolts are missing, ask your dealer for replacement;
- Spreaderbeams should be stored in a manner that will provide protection from damage whilst in store. Ensure the spreaderbeam is stable and cannot topple over;
- Any modifications / repairs should be made by qualified personnel.

3. ASSEMBLAGE:

1. Place all spreaders and head sections in the right composition. Ensure that all the components are on an even surface to prevent rolling of the spreader;
2. Make sure that all parts are free of debris, sand etc. before connecting;
3. Connect the components with the supplied bolts, nuts and washers to a torque as shown on the technical specifications and conform image below;



4. Place the sling, connected to the crane hook, on the top shackle (the biggest of the 2 pcs), then place the shackle in line with the upper (Biggest) hole;
5. You can now place the bolt/pin trough the shackle, end piece and lifting pad (make sure they are all in line) then place nut on pin and lock;
6. Repeat steps 4 through 6 for the end piece on the other side;
7. Connect the shackles with lifting equipment on lifting pad in the bottom smallest hole of the head section;
8. **The assembled spreaderbeam must be completed checked by a competent person before lifting.**



ATTACHMENT 1.

1.1 TECHNICAL SPECIFICATION SPREADERBEAM W.L.L. 15.000 KG.

<u>DESCRIPTION:</u>	<u>SPECIFICATION / OWN WEIGHT:</u>
Head section (length 0,25 m.)	: 25 kg;
Spreader 0,5 meter	: 20 kg;
Spreader 1 meter	: 30 kg;
Spreader 2 meter	: 50 kg;
Spreader 3 meter	: 70 kg;
Spreader 4 meter	: 90 kg;
H-shackle WLL 8.500 kg	: 3 kg;
H-shackle WLL 13.500 kg	: 6 kg;
Steel wire rope	: Ø 28 mm; 6x36 WS + IWRC; Tensile grade 1960 N/mm ² ;
Steel wire rope against bend	: From 12 meter;
Bolts + nuts + washers	: M16x40;
Bolts each flange	: 6 Pcs;
Bolt tightening torque	: 180 Nm.

Length spreaderbeam:	Working load limit:	Minimale strop length:
2 meter	15.000 kg	1,5 meter
3 meter	15.000 kg	2,5 meter
4 meter	15.000 kg	3 meter
5 meter	15.000 kg	3,5 meter
6 meter	15.000 kg	4,5 meter
7 meter	15.000 kg	5,0 meter
8 meter	15.000 kg	6,0 meter
9 meter	12.000 kg	6,5 meter
10 meter	10.000 kg	7,5 meter
11 meter	8.000 kg	8,0 meter
12 meter	7.000 kg	8,5 meter
13 meter	7.000 kg	9,5 meter
14 meter	6.000 kg	10,5 meter
15 meter	5.000 kg	11,5 meter
16 meter	4.000 kg	12 meter

*** More information see graphics 15.000 kg (45° & 60°)***

1.2 TECHNICAL SPECIFICATION SPREADERBEAM W.L.L. 35.000 KG.

DESCRIPTION:	SPECIFICATION / OWN WEIGHT:
Head section (length 0,25 m.)	: 50 kg;
Spreader 0,5 meter	: 35 kg;
Spreader 1 meter	: 55 kg;
Spreader 2 meter	: 100 kg;
Spreader 3 meter	: 140 kg;
Spreader 4 meter	: 180 kg;
H-shackle WLL 17.000 kg;	: 10 kg;
H-shackle WLL 25.000 kg;	: 16 kg;
Steel wire rope	: Ø 36 mm; 6x36 WS + IWRC; Tensile grade 1960 N/mm ² ;
Steel wire rope against bend	: From 12 meter;
Bolts + nuts + washers	: M16x40;
Bolts each flange	: 6 Pcs;
Bolt tightening torque	: 180 Nm.

Length spreaderbeam:	Working load limit:	Minimal length sling:
2 meter	35.000 kg	1,5 meter
3 meter	35.000 kg	2,5 meter
4 meter	35.000 kg	3 meter
5 meter	35.000 kg	4 meter
6 meter	35.000 kg	4,5 meter
7 meter	35.000 kg	5,5 meter
8 meter	35.000 kg	6,0 meter
9 meter	35.000 kg	7 meter
10 meter	34.000 kg	7,5 meter
11 meter	30.000 kg	8,5 meter
12 meter	26.000 kg	9 meter
13 meter	22.000 kg	10 meter
14 meter	18.000 kg	10,5 meter
15 meter	16.000 kg	11,5 meter
16 meter	14.000 kg	12 meter
17 meter	12.000 kg	13 meter
18 meter	10.000 kg	13,5 meter
19 meter	8.000 kg	14,5 meter
20 meter	6.000 kg	15 meter

*** More information see graphics 35.000 kg (45°)***

1.3 TECHNICAL SPECIFICATION SPREADERBEAM W.L.L. 70.000 KG.

DESCRIPTION:	SPECIFICATION / OWN WEIGHT:
Head section (length 0,5 m.)	: 105 kg;
Spreader 0,5 meter	: 70 kg;
Spreader 1 meter	: 100 kg;
Spreader 2 meter	: 165 kg;
Spreader 3 meter	: 230 kg;
Spreader 4 meter	: 295 kg;
H-shackle WLL 35.000 kg	: 20 kg;
H-shackle WLL 55.000 kg	: 40 kg;
Steel wire rope	: Ø 60 mm; 6x36 WS + IWRC; Tensile grade 1960 N/mm ² ;
Steel wire rope against bend	: From 15 meter;
Bolts + nuts + washers	: M16x60;
Bolts each flange	: 8 Pcs;
Bolt tightening torque	: 180 Nm.

Length spreaderbeam:	Working load limit:	Minimal length sling:
2 meter	70.000 kg	1,5 meter
3 meter	70.000 kg	2,5 meter
4 meter	70.000 kg	3 meter
5 meter	70.000 kg	4 meter
6 meter	70.000 kg	4,5 meter
7 meter	70.000 kg	5,5 meter
8 meter	70.000 kg	6,0 meter
9 meter	70.000 kg	7 meter
10 meter	60.000 kg	7,5 meter
11 meter	50.000 kg	8,5 meter
12 meter	40.000 kg	9 meter
13 meter	36.000 kg	10 meter
14 meter	30.000 kg	10,5 meter
15 meter	26.000 kg	11,5 meter
16 meter	24.000 kg	12 meter
17 meter	22.000 kg	13 meter
18 meter	20.000 kg	13,5 meter
19 meter	18.000 kg	14,5 meter
20 meter	16.000 kg	15 meter

*** More information see graphics 70.000 kg (45° & 60°)***

1.4 TECHNICAL SPECIFICATION SPREADERBEAM W.L.L. 110.000 KG.

DESCRIPTION: SPECIFICATION / OWN WEIGHT:

Head section (length 0,5 m.)	: 165 kg;
Spreader 0,5 meter	: 75 kg;
Spreader 1 meter	: 120 kg;
Spreader 2 meter	: 220 kg;
Spreader 3 meter	: 315 kg;
Spreader 4 meter	: 410 kg;
H-shackle WLL 55.000 kg	: 40 kg;
H-shackle WLL 85.000 kg	: 65 kg;
Steel wire rope	: Ø 76 mm; 8x41 WS + IWRC; Tensile grade 1960 N/mm ² ;
Steel wire rope against bend	: From 16 meter;
Bolts + nuts + washers	: M20x70;
Bolts each flange	: 8 Pcs;
Bolt tightening torque	: 351 Nm.

Length spreaderbeam:		Working load limit:		Minimal length sling:
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2 meter		110.000 kg		1,5 meter
3 meter		110.000 kg		2,5 meter
4 meter		110.000 kg		3 meter
5 meter		110.000 kg		3,5 meter
6 meter		110.000 kg		4,5 meter
7 meter		110.000 kg		5,0 meter
8 meter		110.000 kg		6,0 meter
9 meter		100.000 kg		6,5 meter
10 meter		90.000 kg		7,5 meter
11 meter		80.000 kg		8,0 meter
12 meter		70.000 kg		9 meter
13 meter		60.000 kg		9,5 meter
14 meter		50.000 kg		10,5 meter
15 meter		40.000 kg		11 meter
16 meter		30.000 kg		12 meter
17 meter		25.000 kg		13 meter
18 meter		22.000 kg		13,5 meter
19 meter		20.000 kg		14,5 meter
20 meter		18.000 kg		15 meter

*** More information see graphics 110.000 kg (45° & 60°)***

1.5 TECHNICAL SPECIFICATION SPREADERBEAM W.L.L. 170.000 KG.

DESCRIPTION: SPECIFICATION / OWN WEIGHT:

Head section (length 0,75 m.)	: 510 kg;
Spreader 0,5 meter	: 120 kg;
Spreader 1 meter	: 190 kg;
Spreader 2 meter	: 345 kg;
Spreader 3 meter	: 480 kg;
Spreader 4 meter	: 615 kg;
H-shackle WLL 85.000 kg	: 70 kg;
H-shackle WLL 120.000 kg	: 120 kg;
Steel wire rope	: Ø 80 mm; 6x41 WS + IWRC; Tensile grade 1960 N/mm ² ;
Steel wire rope against bend	: From 16 meter;
Bolts + nuts + washers	: M20x70;
Bolts each flange	: 12 Pcs;
Bolt tightening torque	: 351 Nm.

Length spreaderbeam:		Working load limit:		Minimal length sling:
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2 meter		170.000 kg		1,5 meter
3 meter		170.000 kg		2,5 meter
4 meter		170.000 kg		3 meter
5 meter		170.000 kg		3,5 meter
6 meter		170.000 kg		4,5 meter
7 meter		170.000 kg		5,0 meter
8 meter		170.000 kg		6,0 meter
9 meter		170.000 kg		6,5 meter
10 meter		170.000 kg		7,5 meter
11 meter		165.000 kg		8,0 meter
12 meter		160.000 kg		8,5 meter
13 meter		150.000 kg		9,5 meter
14 meter		140.000 kg		10 meter
15 meter		130.000 kg		11 meter
16 meter		120.000 kg		11,5 meter
17 meter		110.000 kg		13 meter
18 meter		100.000 kg		13,5 meter
19 meter		90.000 kg		14,5 meter
20 meter		80.000 kg		15 meter

*** More information see graphics 170.000 kg (45°)***

1.6 TECHNICAL SPECIFICATION SPREADERBEAM W.L.L. 250.000 KG.

DESCRIPTION:

SPECIFICATION / OWN WEIGHT:

Head section (length 0,75 m.)	: 345 kg;
Spreader 0,5 meter	: 185 kg;
Spreader 1 meter	: 340 kg;
Spreader 2 meter	: 525 kg;
Spreader 3 meter	: 710 kg;
Spreader 4 meter	: 895 kg;
H-shackle WLL 150.000 kg	: 115 kg;
H-shackle WLL 175.000 kg	: 160 kg;
Steel wire rope	: Ø 96 mm; 6x46 WS + IWRC; Tensile grade 1960 N/mm ² ;
Steel wire rope against bend	: From 16 meter;
Bolts + nuts + washers	: M20x70;
Bolts each flange	: 12 Pcs;
Bolt tightening torque	: 351 Nm.

Length spreaderbeam:		Working load limit:		Minimal length sling:
----------------------	--	---------------------	--	-----------------------

2 meter		250.000 kg		1,5 meter
3 meter		250.000 kg		2,5 meter
4 meter		250.000 kg		3 meter
5 meter		250.000 kg		3,5 meter
6 meter		250.000 kg		4,5 meter
7 meter		250.000 kg		5,0 meter
8 meter		250.000 kg		6,0 meter
9 meter		230.000 kg		6,5 meter
10 meter		200.000 kg		7,5 meter
11 meter		190.000 kg		8,0 meter
12 meter		180.000 kg		8,5 meter
13 meter		170.000 kg		9,5 meter
14 meter		160.000 kg		10 meter
15 meter		150.000 kg		11 meter
16 meter		140.000 kg		11,5 meter
17 meter		130.000 kg		13 meter
18 meter		120.000 kg		13,5 meter
19 meter		110.000 kg		14,5 meter
20 meter		100.000 kg		15 meter

*** More information see graphics 250.000 kg (45° & 60°)***

1.7 TECHNICAL SPECIFICATION SPREADERBEAM W.L.L. 400.000 KG.

DESCRIPTION: SPECIFICATION / OWN WEIGHT:

Head section (length 1 m.)	: 920 kg;
Spreader 0,5 meter	: 250 kg;
Spreader 1 meter	: 365 kg;
Spreader 2 meter	: 600 kg;
Spreader 3 meter	: 830 kg;
Spreader 4 meter	: 1.100 kg
H-shackle WLL 200.000 kg	: 205 kg;
H-shackle WLL 300.000 kg	: 360 kg;
Steel wire rope	: Ø 103 mm; 8x41 WS + IWRC; Tensile grade 1960 N/mm ² ;
Steel wire rope against bend	: From 22 meter;
Bolts + nuts + washers	: M24 x 70;
Bolts each flange	: 12 Pcs;
Bolt tightening torque	: 607 Nm.

Length spreaderbeam:	Working load limit:	Minimal length sling:
2 meter	400.000 kg	1,5 meter
3 meter	400.000 kg	2,5 meter
4 meter	400.000 kg	3 meter
5 meter	400.000 kg	3,5 meter
6 meter	400.000 kg	4,5 meter
7 meter	400.000 kg	5,0 meter
8 meter	400.000 kg	6,0 meter
9 meter	400.000 kg	6,5 meter
10 meter	400.000 kg	7,5 meter
11 meter	400.000 kg	8,0 meter
12 meter	400.000 kg	8,5 meter
13 meter	400.000 kg	9,5 meter
14 meter	400.000 kg	10 meter
15 meter	400.000 kg	11 meter
16 meter	380.000 kg	11,5 meter
17 meter	370.000 kg	13 meter
18 meter	350.000 kg	13,5 meter
19 meter	340.000 kg	14,5 meter
20 meter	320.000 kg	15 meter

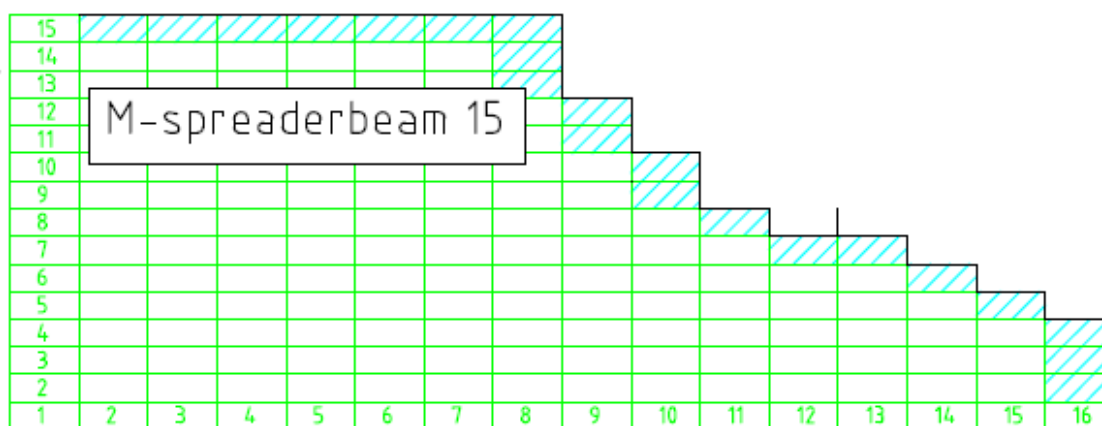
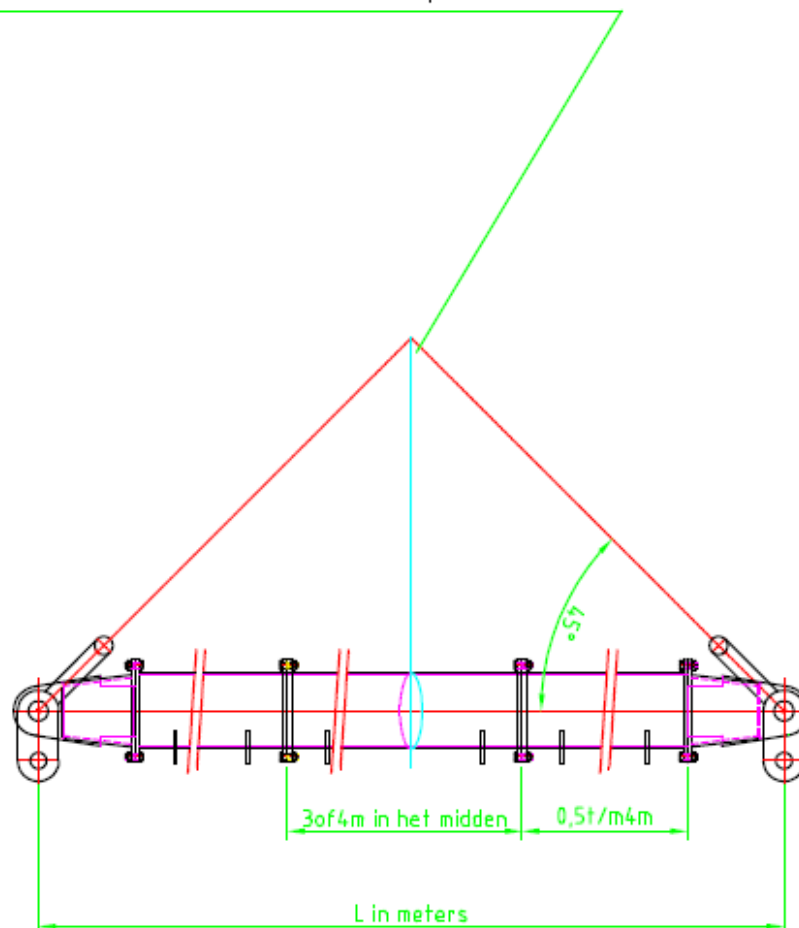
*** More information see graphics 400.000 kg (45° & 60°)***

ATTACHMENT 2.

2.1 GRAPHICS SPREADERBEAM WLL 15.000 KG (45 DEGREES).

M-Sp.beam 15t. boven de 12m strop $\phi 10\text{mm}$

Last in tonnen SWL (Safe Working Load) met een basishoek van 45°

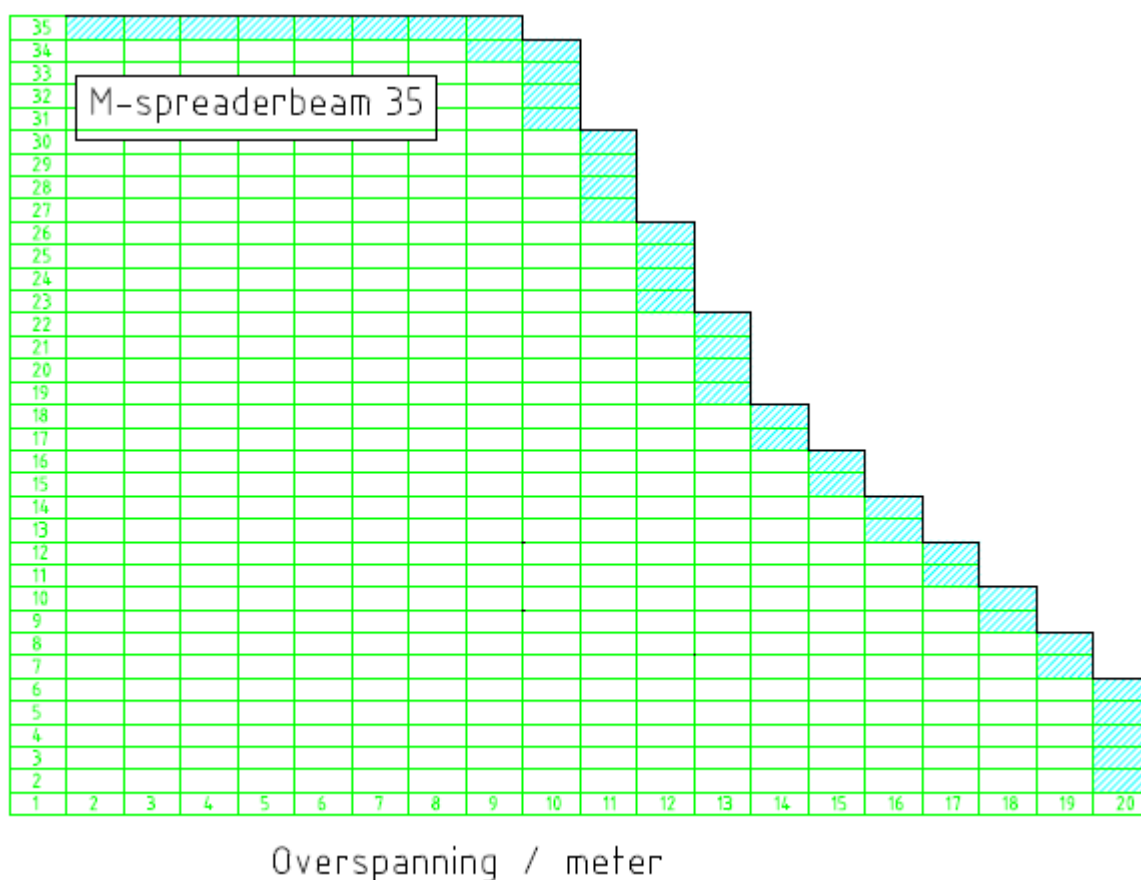
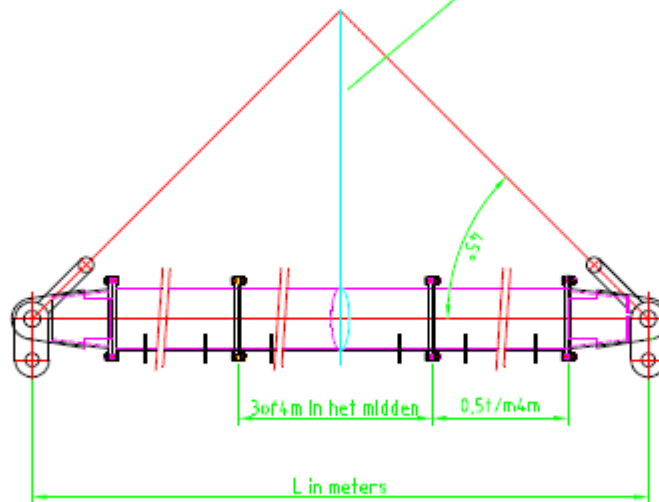


Overspanning / meter

2.3 GRAPHICS SPREADERBEAM WLL 35.000 KG (45 DEGREES).

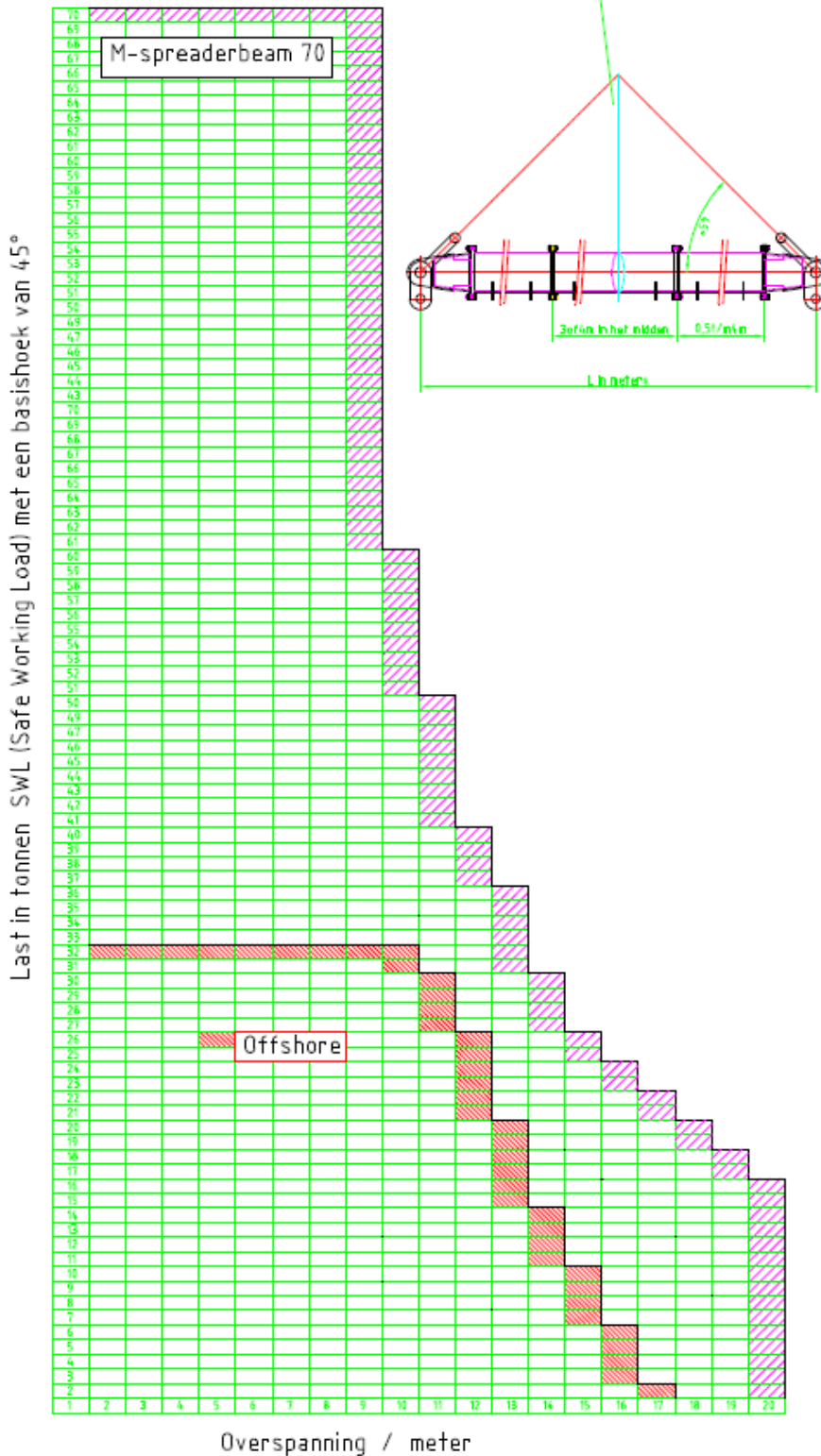
M-Sp.beam 35ton boven de 12m strop $\phi 10\text{mm}$
in het midden tegen grote doorzakking

Last in tonnen SWL (Safe Working Load) met een basishoek van 45°



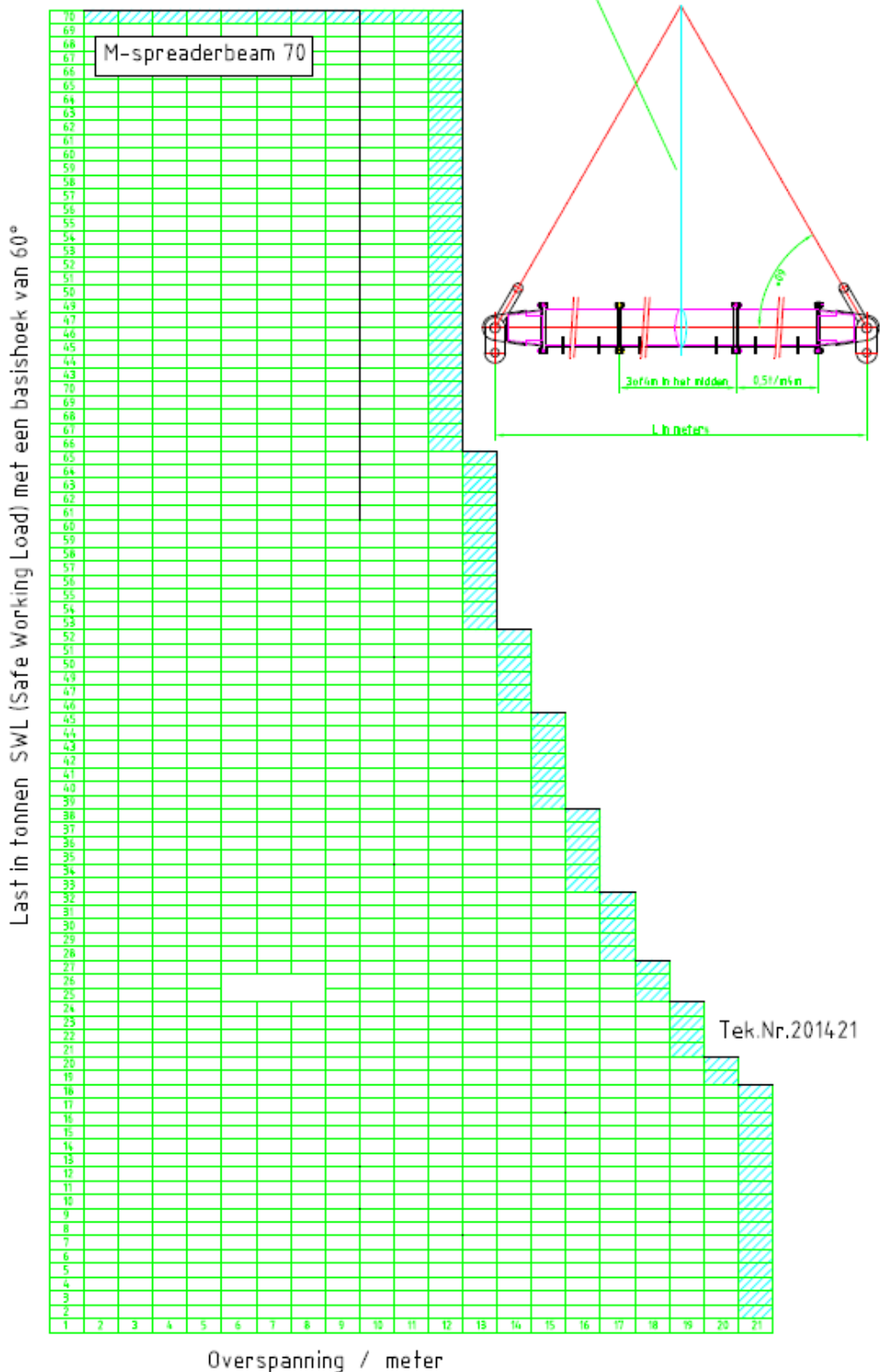
2.4 GRAPHICS SPREADERBEAM WLL 70.000 KG (45 DEGREES).

Voor M-Sp.beam 70 ton boven de 15m strop $\phi 16\text{mm}$
in het midden tegen grote doorzakking



2.5 GRAPHICS SPREADERBEAM WLL 70.000 KG (60 DEGREES).

Voor M-Sp.beam 70 ton boven de 15m strop $\varnothing 16\text{mm}$
in het midden tegen grote doorzakking

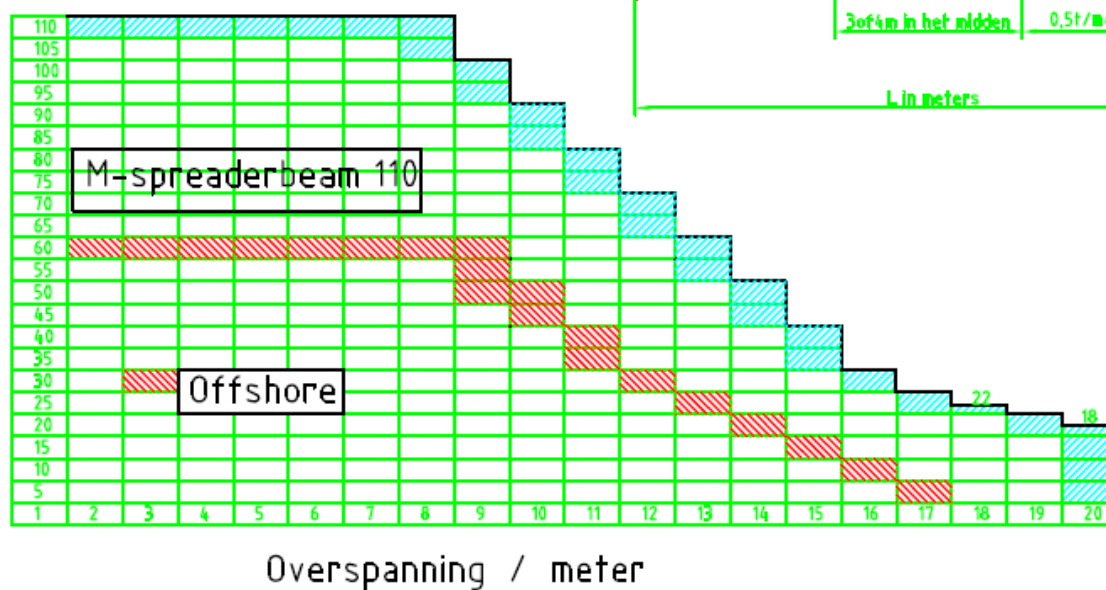


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2.6 GRAPHICS SPREADERBEAM WLL 110.000 KG (45 DEGREES).

Voor M-Sp.beam 110T. boven de 16 meter
 een strop $\phi 24$ in het midden tegen grote doorzakking

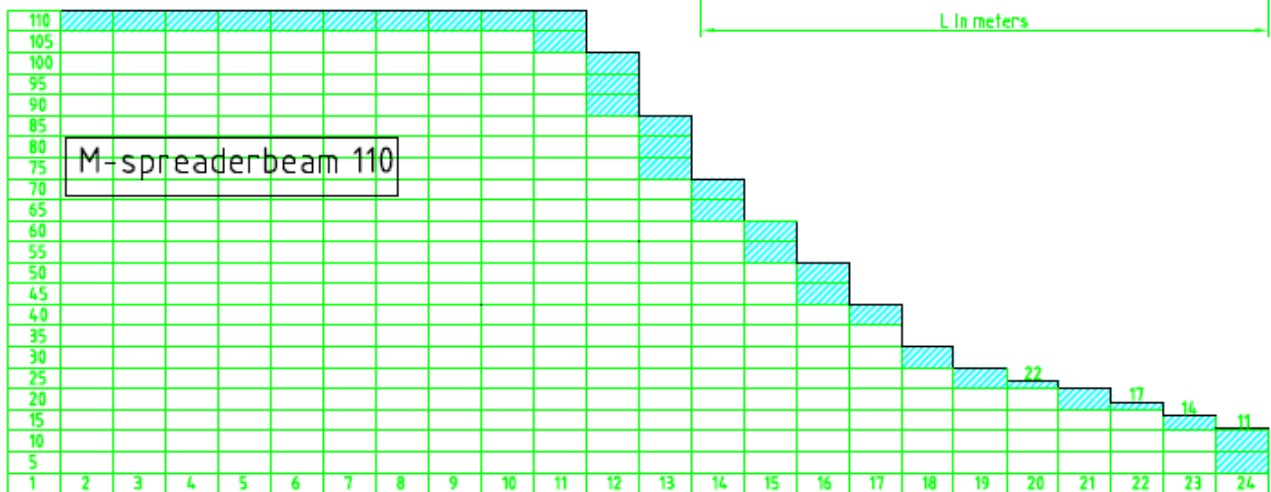
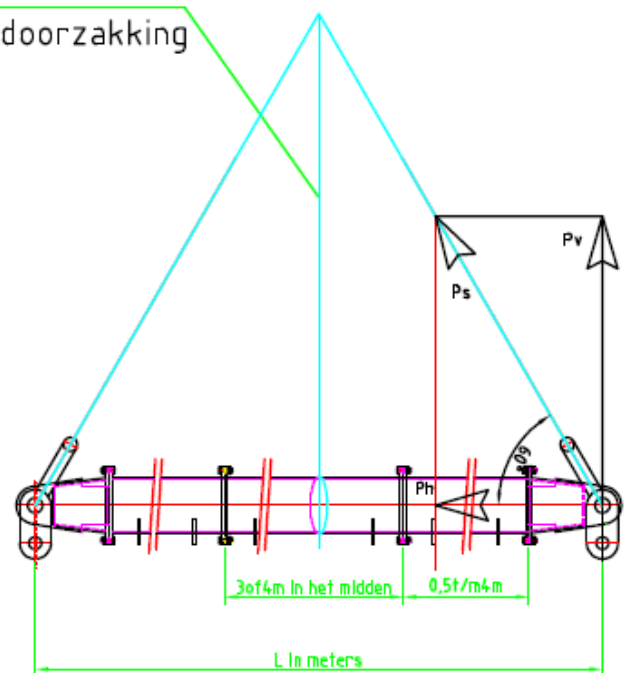
Last in tonnen SWL (Safe Working Load) met een basishoek van 45°



2.7 GRAPHICS SPREADERBEAM WLL 110.000 KG (60 DEGREES).

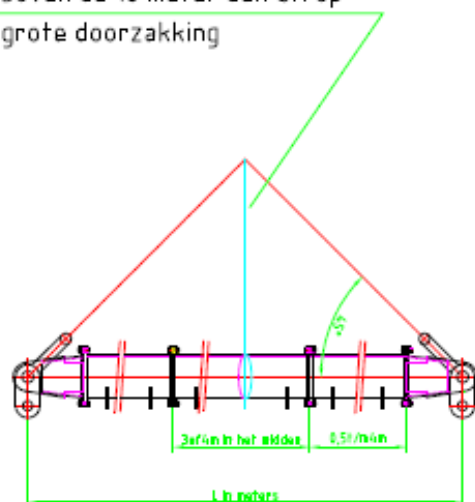
Voor M-Sp.beam 110T. boven de 16 meter
 een strop $\phi 24$ in het midden tegen grote doorzakking

Last in tonnen SWL (Safe Working Load) met een basishoek van 60°

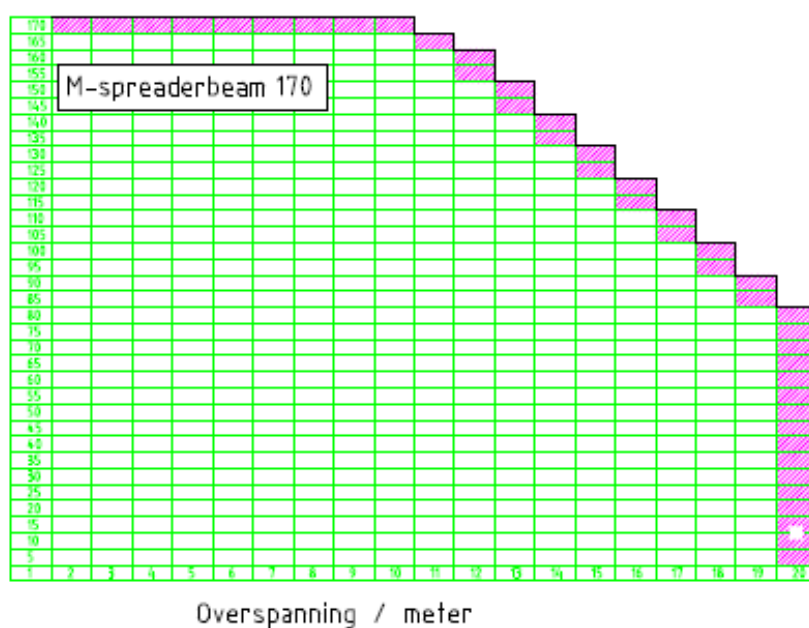


2.8 GRAPHICS SPREADERBEAM WLL 170.000 KG (45 DEGREES).

Voor M-Sp.beam 170 ton boven de 16 meter een strop
 $\varnothing 24$ in het midden tegen grote doorzakking

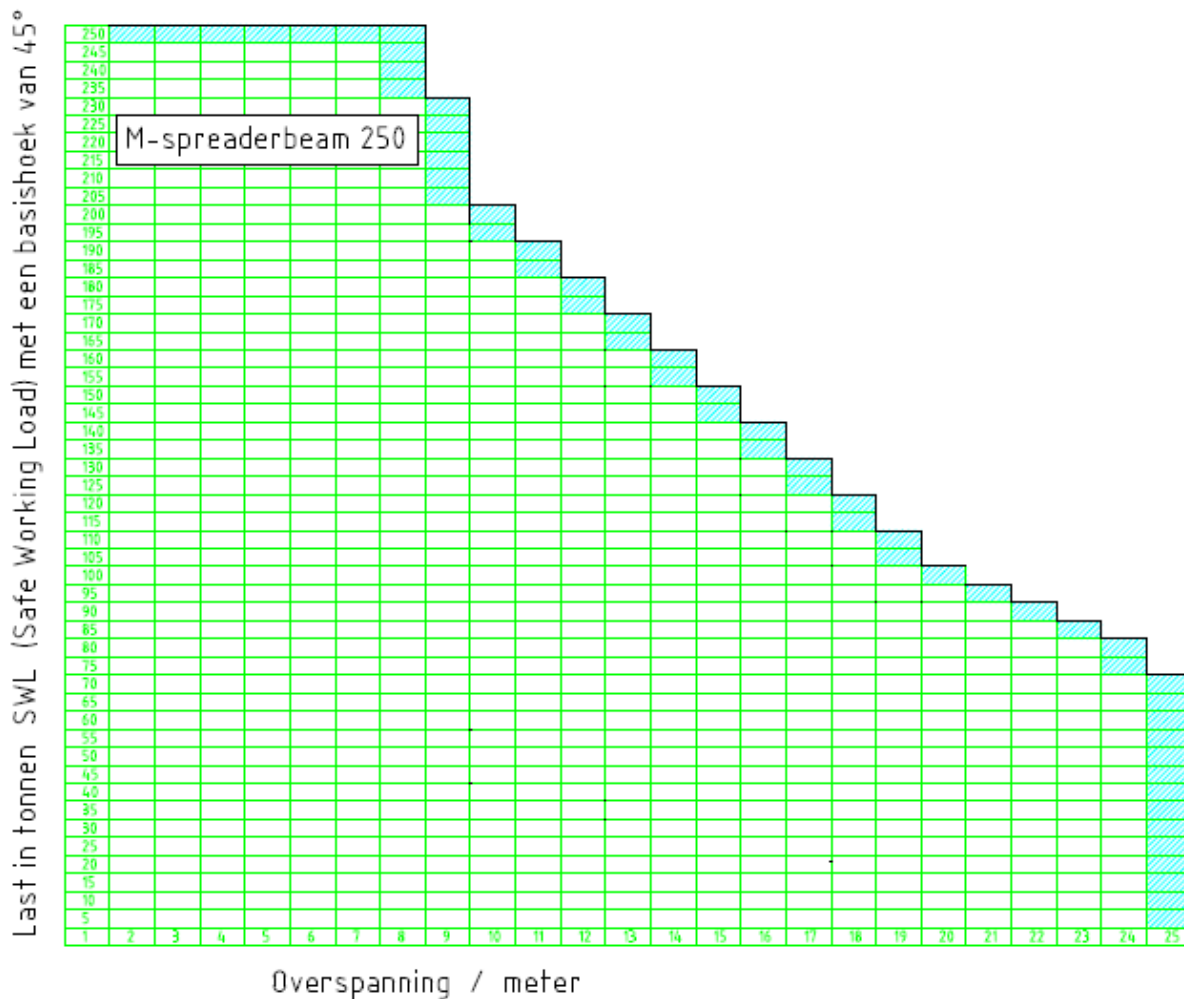
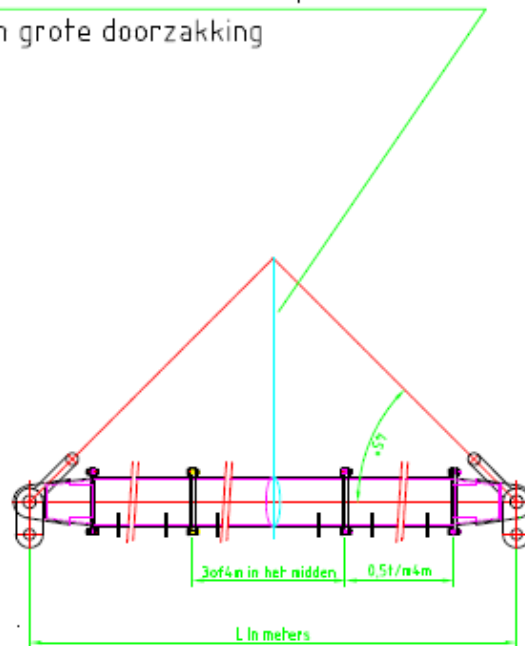


Last in tonnen SWL (Safe Working Load) met een basishoek van 45°



2.9 GRAPHICS SPREADERBEAM WLL 250.000 KG (45 DEGREES).

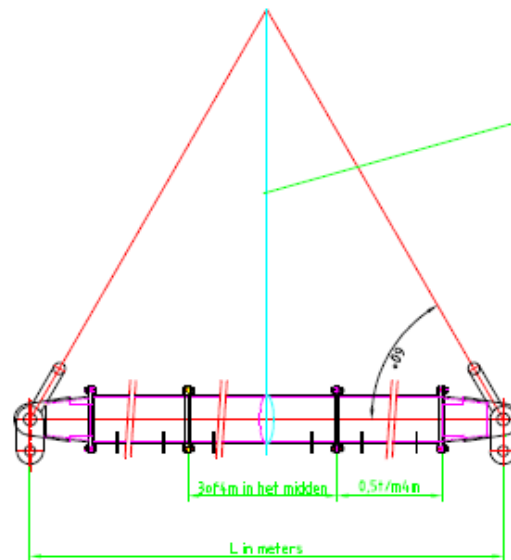
Voor M-Sp.beam 250T. boven de 16 meter een strop van $\phi 24$ in het midden tegen grote doorzakking



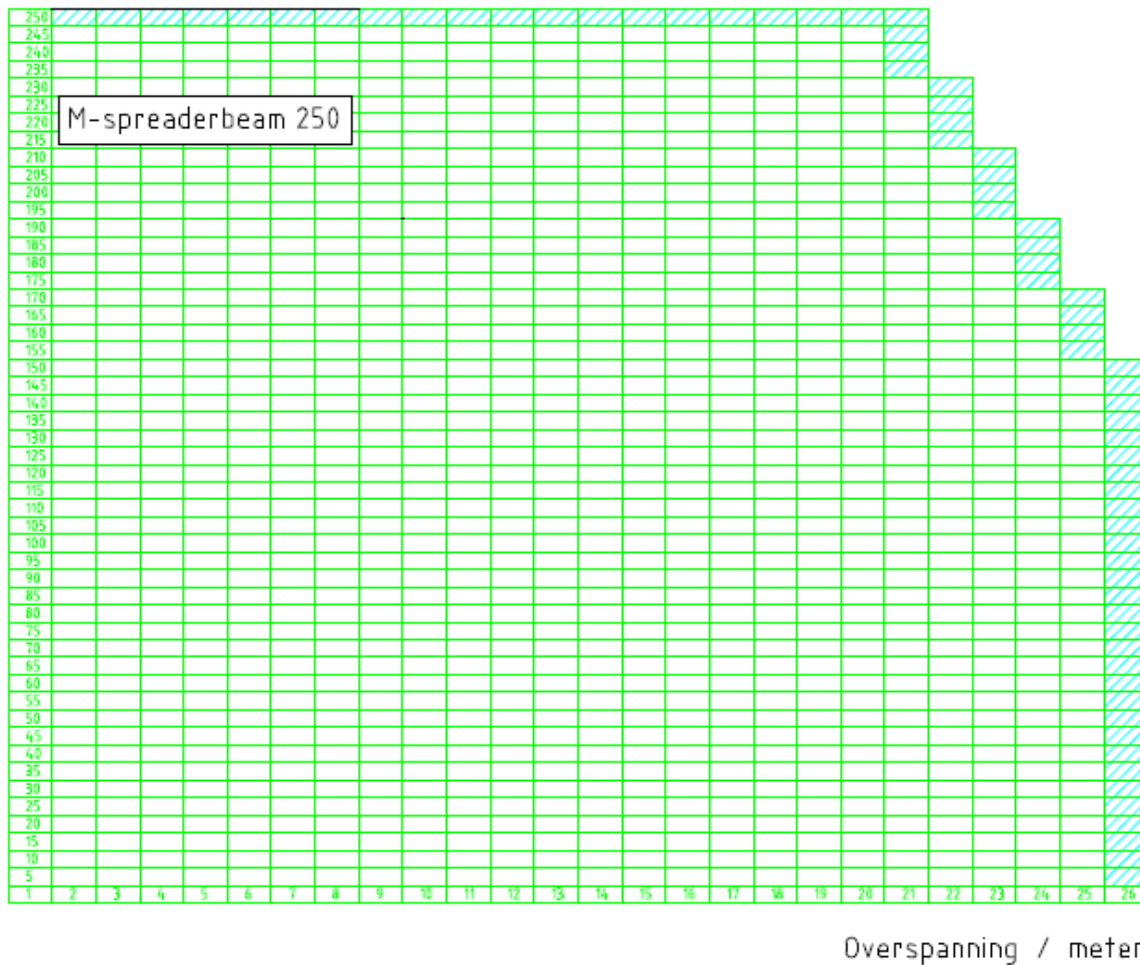
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2.10 GRAPHICS SPREADERBEAM WLL 250.000 KG (60 DEGREES).

Voor M-Sp.beam 250T. boven de 16 meter een stroop in het midden tegen grote doorzakking

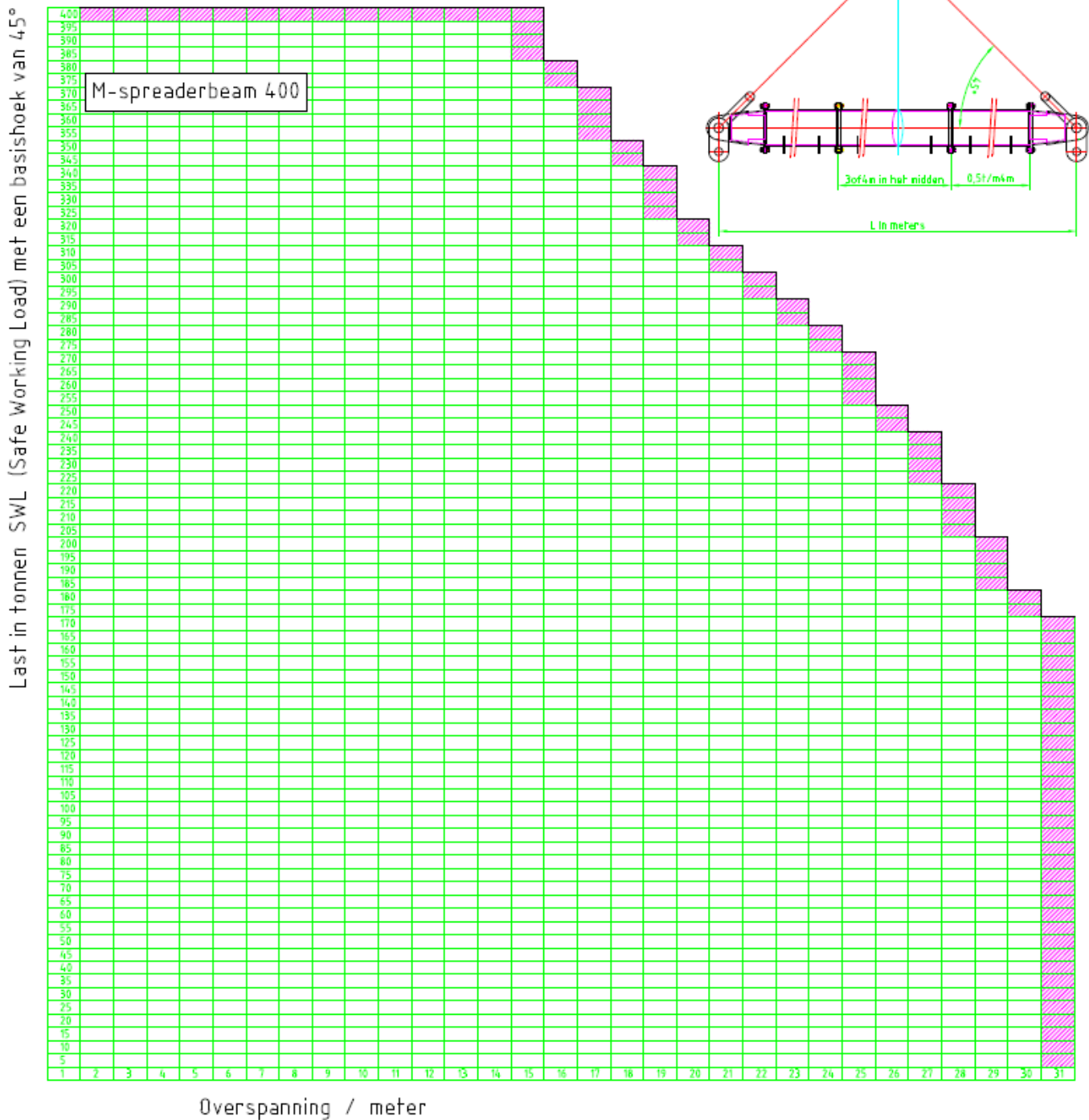


Last in tonnen SWL (Safe Working Load) met een basishoek van 60°



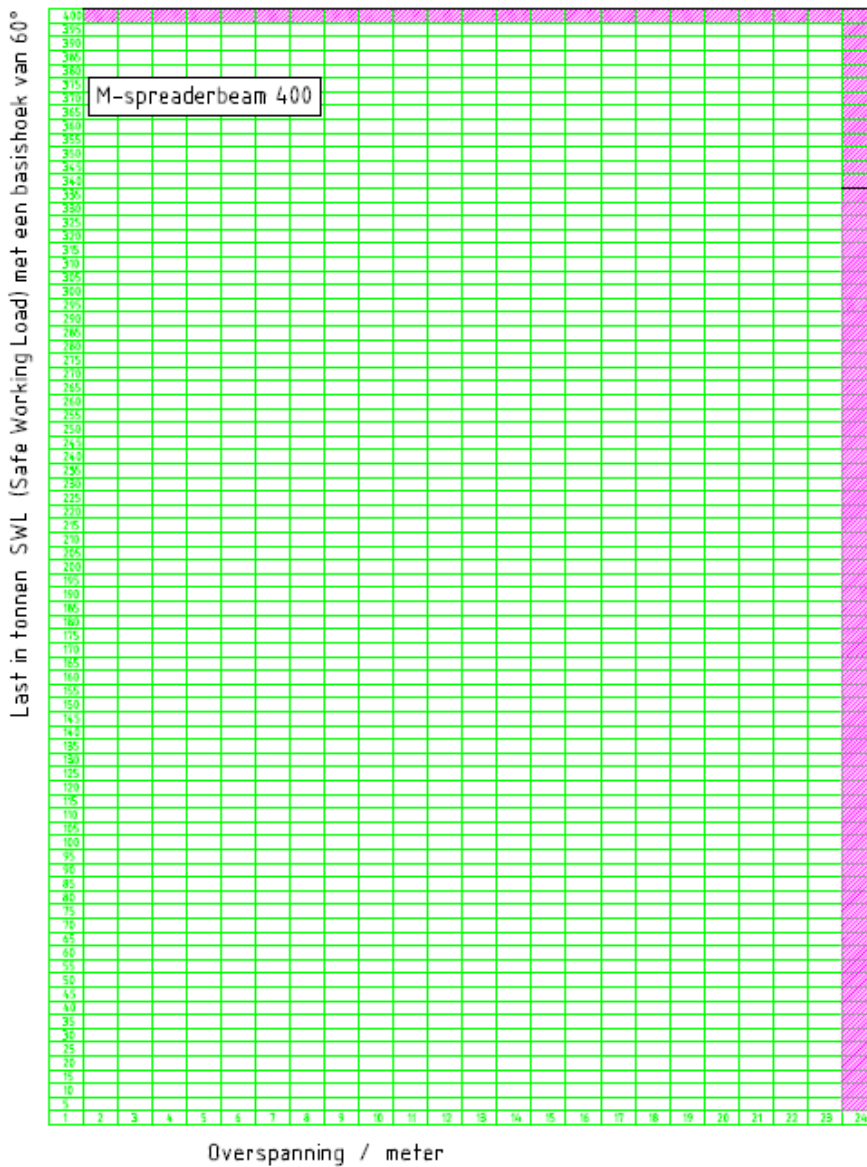
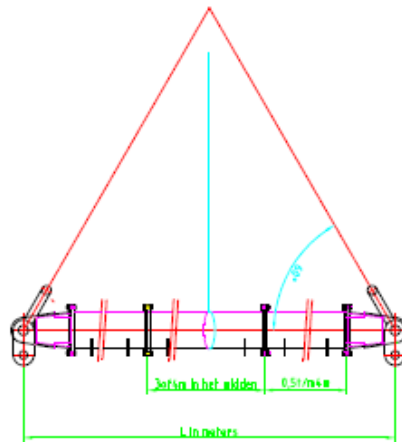
2.11 GRAPHICS SPREADERBEAM WLL 400.000 KG (45 DEGREES).

Voor M-Sp.beam 400 T. boven de 22 meter een strop $\phi 26$ in het midden tegen grote doorzakking



2.12 GRAPHICS SPREADERBEAM WLL 400.000 KG (60 DEGREES).

Voor M-Sp.beam 400 T. boven de 22 meter een strop $\varnothing 26$ in het midden tegen grote doorzakking



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