

JALFORM STEEL SHUTTER

- User's Guide -



COFFRAGE
& ÉTAIEMENT
LOCATION
VENTE
MONTAGE

FORMWORK

ENCOFRADO

هیکل بناء

COFRAJ

COFFRAGE



Altrad-coffrage.com

Update 11/07/2016



> SUMMARY

> CHARACTERISTICS p 4-51

- General description
- **Table of components**
- **Formwork Push**-pull props characteristics
- **Stabilising system characteristics**
- Panels height 2800
- **Panels height 1500**
- **Lower section height 1000**
- **Upper section height 0500**
- **Inner Angles**
- **Outside Angles : height 2800**
- **Outside Angles : height 1500**
- **Outside Angles : height 1000**
- **Outside Angles : height 0500**

> ASSEMBLY INSTRUCTION, USE and MAINTENANCE p 51-92

- Formwork assembly instructions
- Lifting bracket : characteristics and use
- Assembly instructions for panel and formwork elements
- Stability :
 - Wind pressure : general information
 - Superimposition of different formworks and formworks components
 - Push-pull props characteristics
 - Stabilising system : characteristics and assembly instruction.
- **Formwork concrete loads**

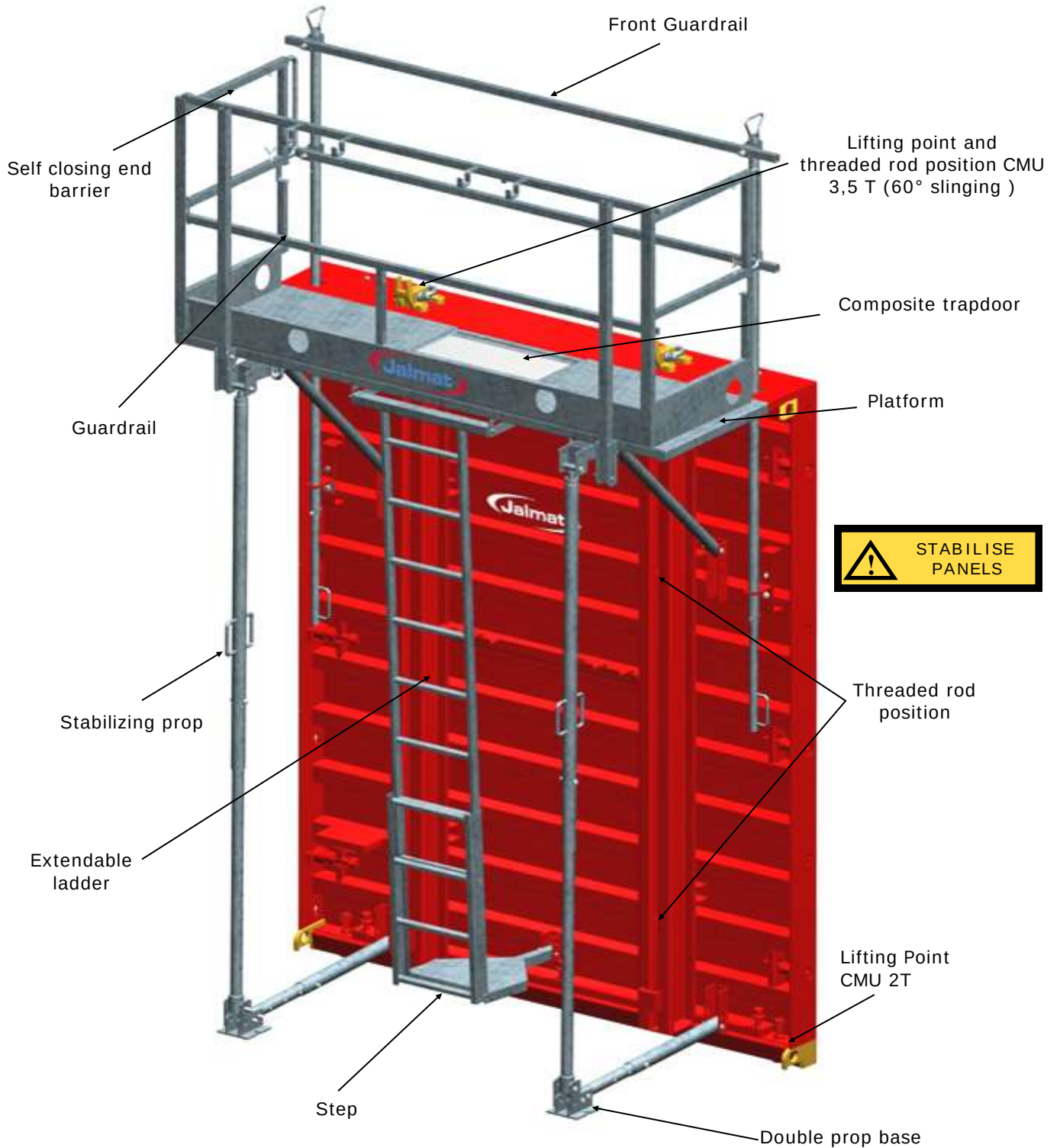
> SAFETY INSTRUCTIONS, LOGISTICS and MAINTENANCEp 93-96

- Safety, storage and transport instructions
- Formwork panels maintenance



JALFORM FORMWORK CHARACTERISTICS

> JALFORM FORMWORK PANEL



> JALFORM FORMWORK PANEL

> Characteristics

Steel shutter panel with steel formwork faces—Red steel Ral 6001.

Formwork face :

Steel 4mm thick steel, laser cut

Original equipment :

- Peripheral protection
- End barrier and strape
- Platform with composite trapdoor
- Extendable ladder
- Upper and lower extensions
- Inner and outside angles
- Frontal Guardrail

Accessories :

- Lifting bracket
- Walk around platform
- Hoisting system
- Toe-end aligner
- Automatic stabilising system

Hot deep galvanised safety and stability equipment

Shutter dimensions :

Standard height : 2,80m - 1m - 1,50m - 0,50m

Available widths (en m) : 0,10/ 0,15/ 0,20/ 0,25/ 0,30/ 0,35/ 0,40/ 0,45/ 0,50/ 0,60/ 0,90/ 1,20/ 2,40.

Concrete loads : 10t/m²

> STRUCTURE ELEMENTS

Standards Panels



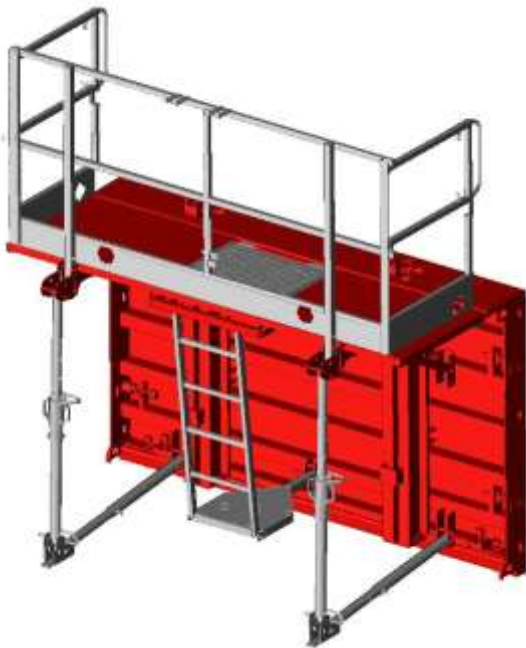
Upper panel
Height 50 cm



Reference	Characteristics	Weight (kg)
219-4240	280x240 cm	938
219-4120	280x120 cm	617
219-4090	280x090 cm	447
219-4060	280x060 cm	388
219-4050	280x050 cm	288
219-4045	280x045 cm	252
219-4040	280x040 cm	218
219-4035	280x035 cm	212
219-4030	280x030 cm	199
219-4025	280x025 cm	126
219-4020	280x020 cm	117
219-4015	280x015 cm	91
219-4010	280x010 cm	63

Reference	Characteristics	Weight (kg)
219-1240	050x240 cm	101
219-1120	050x120 cm	62
219-1090	050x090 cm	52
219-1060	050x060 cm	44
219-1050	050x050 cm	36
219-1045	050x045 cm	32
219-1040	050x040 cm	28
219-1035	050x035 cm	26
219-1030	050x030 cm	24
219-1025	050x025 cm	20
219-1020	050x020 cm	18
219-1015	050x015 cm	13
219-1010	050x010 cm	8

Lower panel
Height 150 cm



Lower panel
Height 100 cm



Reference	Characteristics	Weight (kg)
219-3240	150x240 cm	606
219-3120	150x120 cm	405
219-3090	150x090 cm	290
219-3060	150x060 cm	254
219-3050	150x050 cm	201
219-3045	150x045 cm	177
219-3040	150x040 cm	153
219-3035	150x035 cm	148
219-3030	150x030 cm	141
219-3025	150x025cm	75
219-3020	150x020cm	69
219-3015	150x015 cm	52
219-3010	150x010 cm	35

Reference	Characteristics	Weight (kg)
219-2240	100x240 cm	543
219-2120	100x120 cm	393
219-2090	100x090 cm	269
219-2060	100x060 cm	247
219-2050	100x050 cm	190
219-2045	100x045 cm	164
219-2040	100x040 cm	140
219-2035	100x035 cm	136
219-2030	100x030 cm	131
219-2025	100x025cm	56
219-2020	100x020cm	51
219-2015	100x015 cm	38
219-2010	100x010 cm	25

Outside Angle
Height 280cm



Reference	Characteristics	Weight (kg)
219-6304	V30 2800	327
219-6254	V25 2800	311
219-6204	V20 2800	294
219-6184	V18 2800	287
219-6164	V16 2800	280

Lower outside angle
Height 100cm



Reference	Characteristics	Weight (kg)
219-6302	V30 1000	251
219-6252	V25 1000	243
219-6202	V20 1000	233
219-6182	V18 1000	237
219-6162	V16 1000	230

Lower outside angle
Height 150cm



Reference	Characteristics	Weight (kg)
219-6303	V30 1500	240
219-6253	V25 1500	236
219-6203	V20 1500	225
219-6183	V18 1500	220
219-6100	V16 1500	216

Outside angle upper
section Height 50cm



Reference	Characteristics	Weight (kg)
219-6301	V30 500	34
219-6251	V25 500	31
219-6201	V20 500	28
219-6181	V18 500	27
219-6161	V16 500	26

Inner Angle



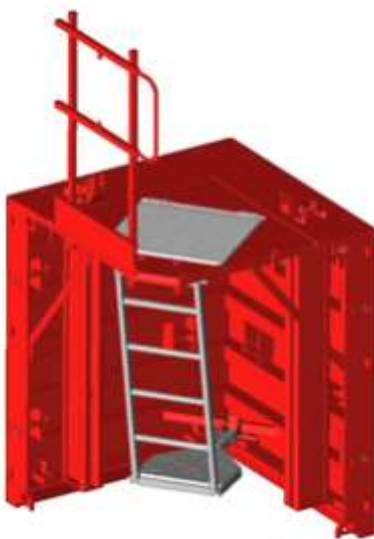
Reference	Characteristics	Weight (kg)
219-5280	280x120+120 cm	807

Inner angle upper section



Reference	Characteristics	Weight (kg)
219-5050	050x120+120 cm	107

Inner angle lower section



Reference	Characteristics	Weight (kg)
219-5150	150x120+120 cm	494

Inner angle lower section



Reference	Characteristics	Weight (kg)
219-5100	100x120+120 cm	427

> STABILITY ELEMENTS

Wind bracing Push-Pull Prop



Reference	Characteristics	Weight (kg)
219-9135	230/350 (2/3,2T) Not equipped	22
219-9155	350/550 (1,2/2,5T)	32
219-9170	495/710 (0,6/3,2T)	42
219-9000	2 crochets BK CMU 2T + 1 adaptator	3.2
219-9001	1 crochet BK CMU 2T + 1 screed	2.4

Wind bracing Push-Pull Prop



Reference	Characteristics	Weight (kg)
112-2990	600/1000 (1/3,4T) Galvanised	100

Automatic stabilising system



Reference	Characteristics	Weight (kg)
219-8010 10	Minimum opening between branch : 12 cm Maximum opening between branch 120 cm	134

Concrete mould block



Reference	Characteristics	Weight (kg)
219-9910	Mould 1T 120x120x32 cm	112
219-9912	Mould 1,25T 120x120x40 cm	120
219-9915	Mould 1,5T 120x120x48 cm	128
219-9917	Mould 1,75T 120x120x56 cm	139
219-9920	Mould 2T 120x120x62 Non superimposable	148

> ACCESSORIES

Closure panels 1cm — 2cm — 3cm — 4 cm — 5 cm



Reference	Characteristics		Weight (kg)
219-7640	1cm	50cm	5
219-7641	1cm	100cm	12.4
219-7642	1cm	150cm	19
219-7643	1cm	280cm	35.6
219-7630	2cm	50cm	3.2
219-7631	2cm	100cm	9
219-7632	2cm	150cm	13
219-7633	2cm	280cm	23
219-7620	3cm	50cm	3.4
219-7621	3 cm	100cm	9
219-7622	3cm	150cm	13
219-7623	3cm	280cm	24.2

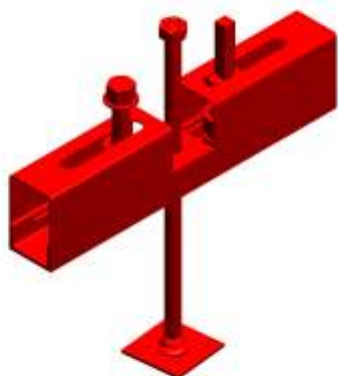
Reference	Characteristics		Weight (kg)
219-7510	4cm	50cm	4
219-7611	4cm	100cm	9
219-7612	4cm	150cm	14
219-7613	4cm	280cm	25
219-7505	5cm	50cm	4
219-7510	5cm	100cm	9
219-7515	5cm	150cm	14
219-7528	5cm	280cm	26
219-7533	5cm	330cm	31

Adjustable Closure panels



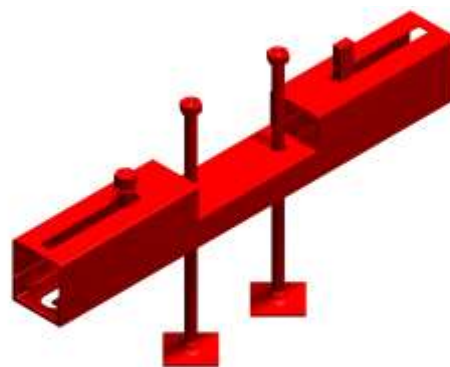
Reference	Characteristics		Weight (kg)
219-7330	7 to 30cm	330cm	83
219-7280	7 to 30cm	280cm	72
219-7150	7 to 30cm	150cm	39
219-7100	7 to 30cm	100cm	26

Toe-end aligner



Reference	Characteristics	Weight (kg)
219-8005	Type 2 Concrete wall : 5 to 30cm	13
219-8006	Type 3 Concrete wall : 20 to 50cm	17

Toe-end aligner



Reference	Characteristics	Weight (kg)
219-8007	Type 4 Concrete wall : 45 to 80cm	28
219-8008	Type 5 Concrete wall : 65 to 100cm	49
219-8009	Type 6 Concrete wall : 95 to 130cm	70

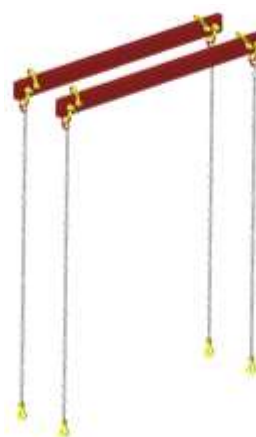
Lifting bracket

New Bracket
easy to use



Reference	Characteristics	Weight (kg)
219-8015 B new	For panel width 120cm and 240cm	46
219-8015 A	For panel width 120cm and 240cm	78

Auto stabilising system for 1/2 Hoisting system



Reference	Characteristics	Weight (kg)
219-8020	For handling of panels assembled by auto stabilising system. Warning : order in pairs	84

Right walk around platform



Left walk around platform



Reference	Characteristics	Weight (kg)
219-9880	Right platform	42
219-9891	Diagonal strut (H2.80m)	7
219-9893	Diagonal strut (H1.50m)	5.4
219-9886	Right walk around GRail + low gate	27.5
219-9890	Angle Guardrail	8.5

Reference	Characteristics	Weight (kg)
219-9881	Left platform	42
219-9892	Diagonal strut (H2.80m)	7
219-9894	Diagonal strut (H1.50m)	5.4
219-9888	Left walk around GRail + low gate	27.5
219-9890	Angle Guardrail	8.5

Guardrail upper section



Reference	Characteristics	Weight (kg)
219-9824	For panel 240cm	10
219-9812	For panel 120cm	8
219-9809	For panel 90cm	7.8
219-9806	For panel 60cm	7
219-9804	For panel 40cm	7
219-9803	For panel 30cm	6.8
219-9874	For outside angle and for right and left walk around platform angles	7.4

Enclosed : for panel 90cm

End barrier upper section



Enclosed : for panel
240cm droite

Reference	Characteristics	Weight (kg)
219-9842	For right panel 240cm	7,8
219-9843	For left panel 240cm	7,8
219-9840	For right panel 120cm	7,8
219-9841	For left panel 120cm	7,8
219-9860	For inside and outside angle panel < 120cm	7,8

Walk around platform for guardrail upper section



Enclosed : left

Reference	Characteristics	Weight (kg)
219-9870	Right	8
219-9872	Left	8
219-9876	For right and left end barrier	6,5
219-9855	Walk around platform for guardrail end barrier	7,4

Collar and unattached nut



Nut with turning washer

Collar +

Reference	Characteristics	Weight (kg)
219-8110	Ø23 - for shutter key 36	0,8
219-8100	Ø23 - for shutter key 36	1,3

Collar nut



Reference	Characteristics	Weight (kg)
219-8105	Ø23 - for shutter key 36	0,8

Ø23 Tie rod



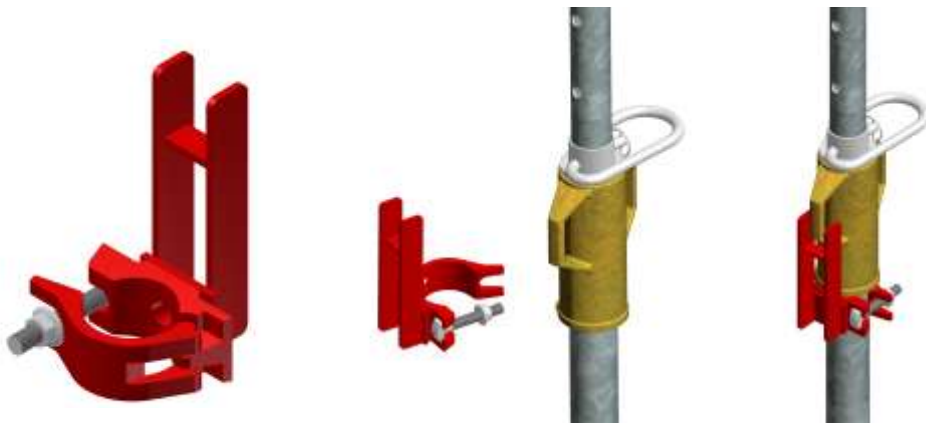
Reference	Characteristics	Weight (kg)
219-8120	1,20m	3,1
219-8150	1,50m	3,9
219-8200	2m	5,2
219-8300	3m	7,8

Ratchet handle



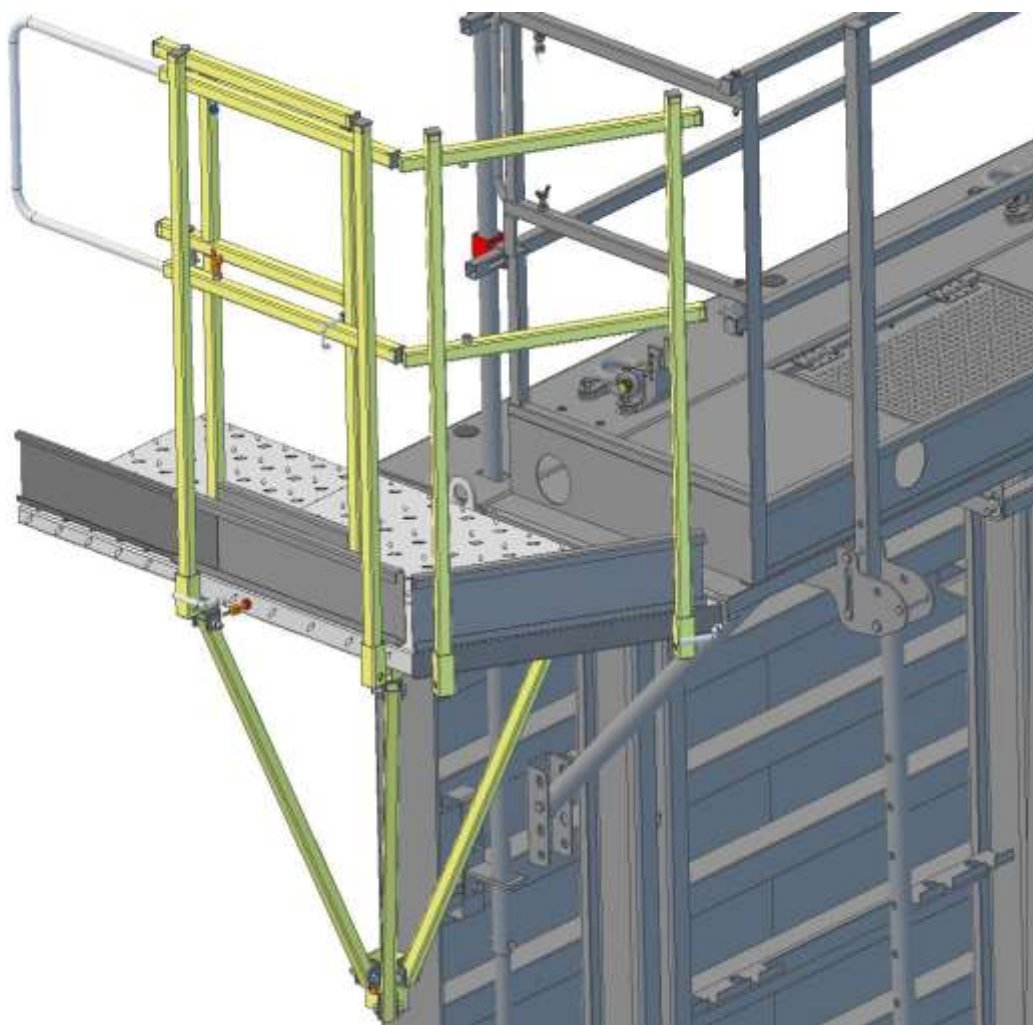
Reference	Characteristics	Weight (kg)
219-8400	Ratchet handle 36	

Locking collar of prop nut



Reference	Characteristics	Weight (kg)
219-9015	Steel collar used to lock the prop adjustment, once the formwork panel is assembled and adjusted	1.3

> WALK AROUND PLATFORM



Example : LEFT walk around platform

> CHARACTERISTICS

Weight :

- type 2 Right or Left (for lower section Height = 1m50) : 68 kg
- type 3 Right or Left (for standard panel Height=2m80) : 70 kg

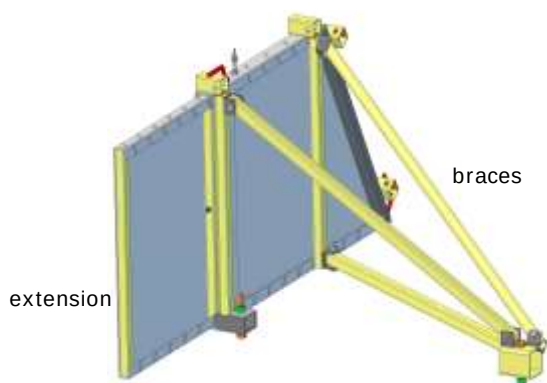
Max output extension : 45cm from the skin formwork

Usable low (closed extension) : 0.45 m²

Max Usable (open extension to 45cm max.) : 0.7 m²

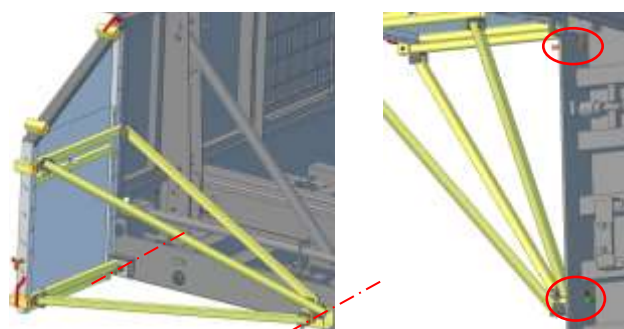
Available load : 150 kg / m² (NF P 93-350)

> Walk around platform Assembly



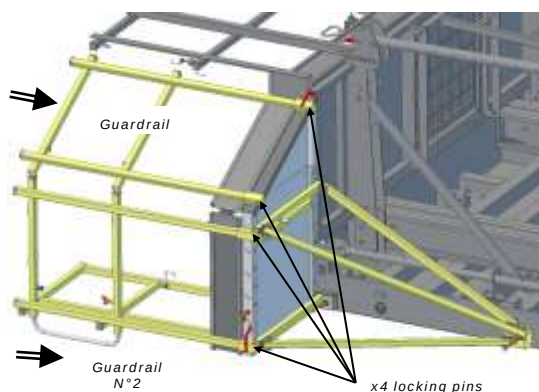
1 - Assembly the 3 braces on the ground with 3 bolts M12x40.

- Put on the extension to minimum and tighten the adjusting screw.

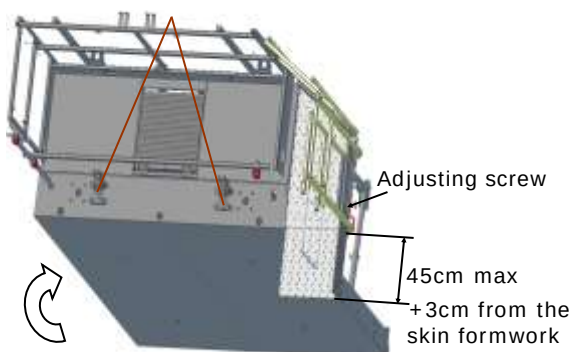


2 - Assembly the platform on the edge of panel using 2 fasteners (M16).

You can lift the platform manually (41kg without guardrail) or with the 3 lifting points.



3 - Assembly the 2 guardrail, then lock them.



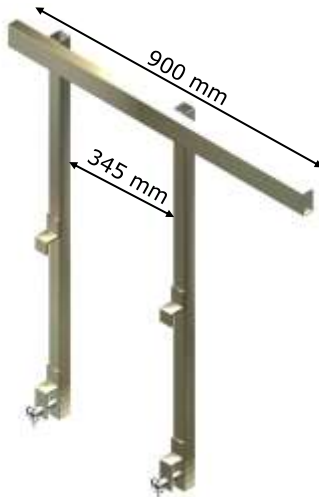
4 - Slock off the screw.

- Slightly lift the panel and then set the output of the extension using the adjustment screw.

5 - Disassembling : use the same steps in reverse order.

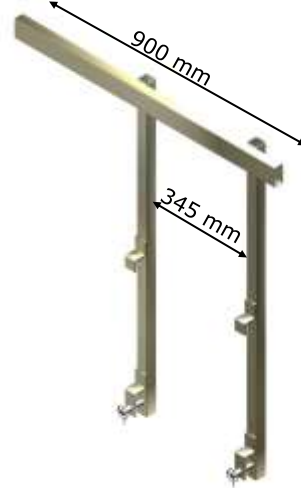
> WALK AROUND PLATFORM for GUARDRAIL UPPER SECTION

Right



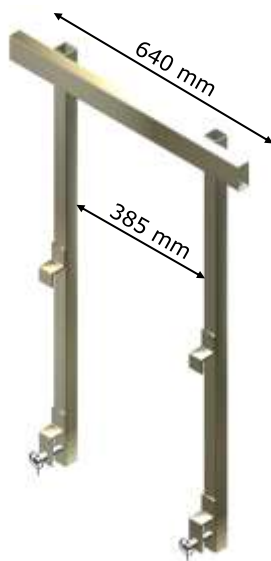
Ref.219-9870

Left



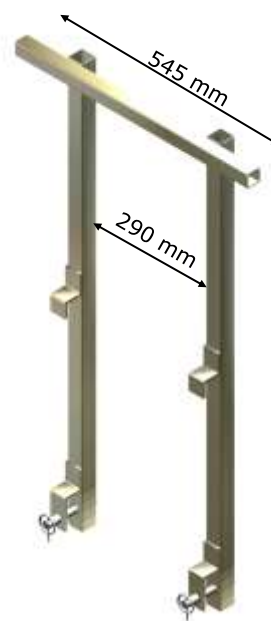
Ref.219-9872

For right and left
guardrail end barrier



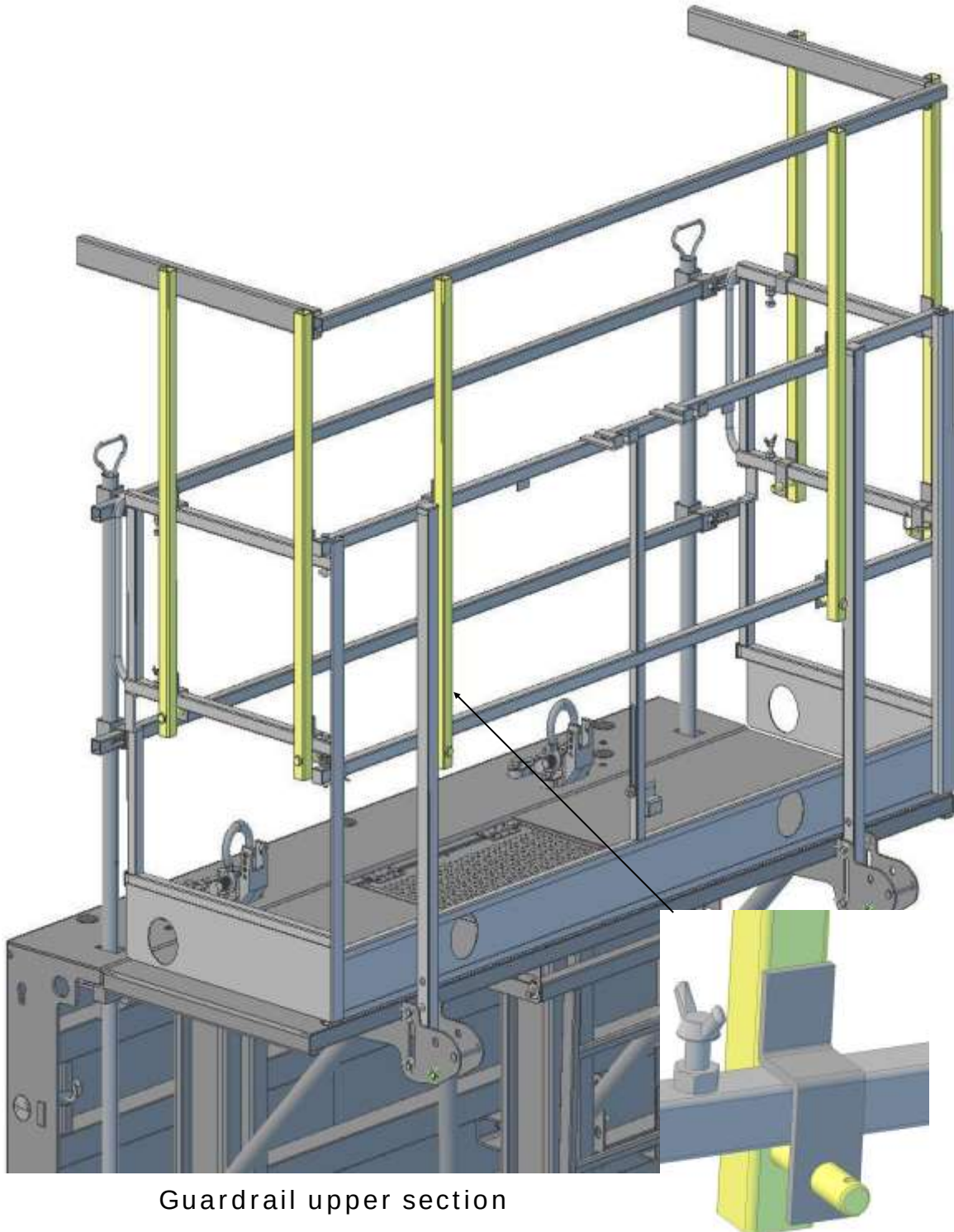
Ref.219-9855

For walk around platform
guardrail end barrier



Ref.219-9876

> OTHERS GUARDRAIL UPPER SECTIONS



Guardrail upper section

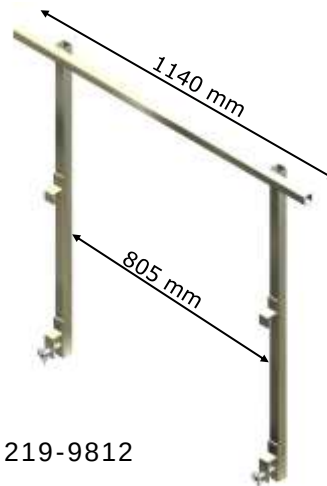
> GUARDRAIL UPPER SECTION

Panel 240



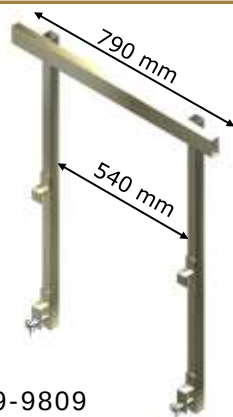
Ref.219-9824

Panel 120



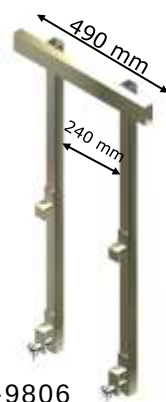
Ref.219-9812

Panel 90



Ref.219-9809

Panel 60



Ref.219-9806

Panel 40



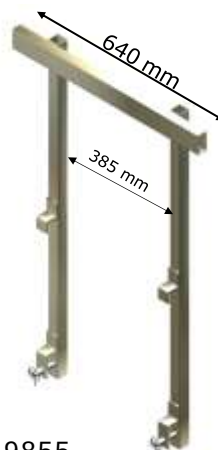
Ref.219-9804

Panel 30



Ref.219-9803

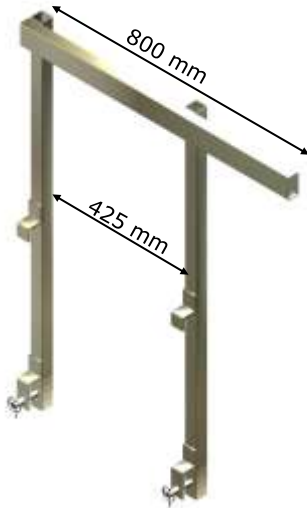
Outside angle



Ref.219-9855

> GUARDRAIL END BARRIER UPPER SECTION

Right panel 240



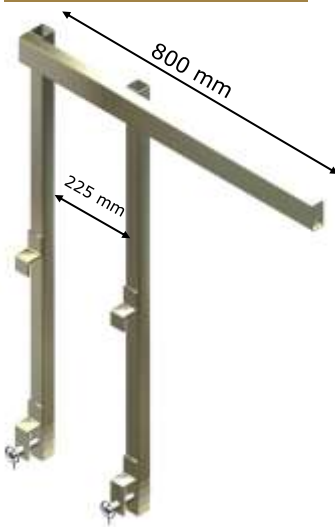
Ref.219-9842

Left panel 240



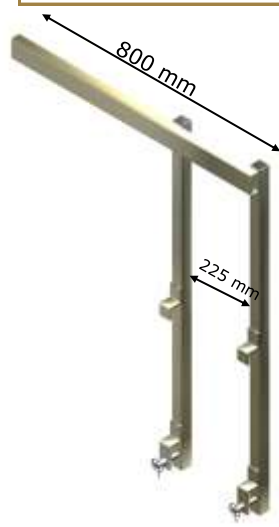
Ref.219-9843

Right panel 120



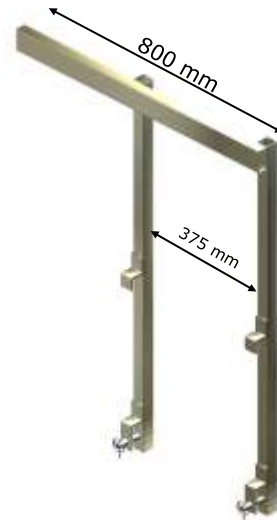
Ref.219-9840

Left panel 120



Ref.219-9841

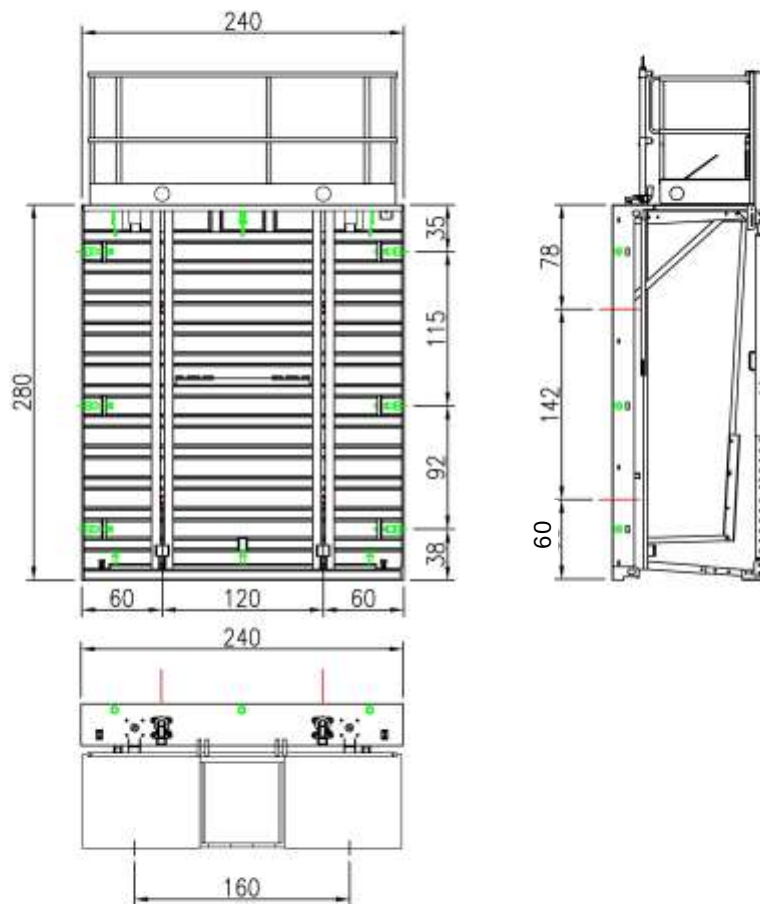
Inside and outside angle
for panel <120cm



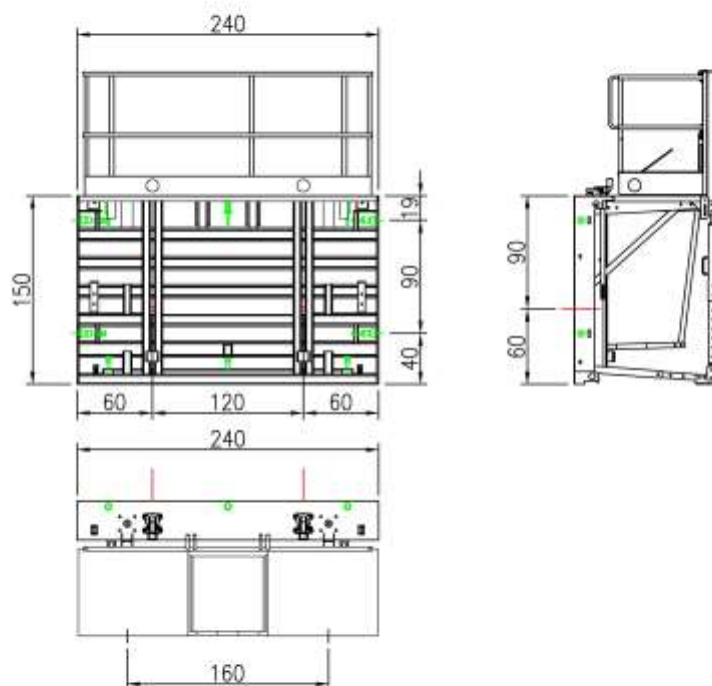
Ref.219-9860

> PANELS : Width 240 cm

Height 280cm

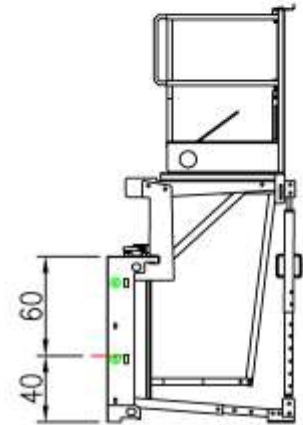
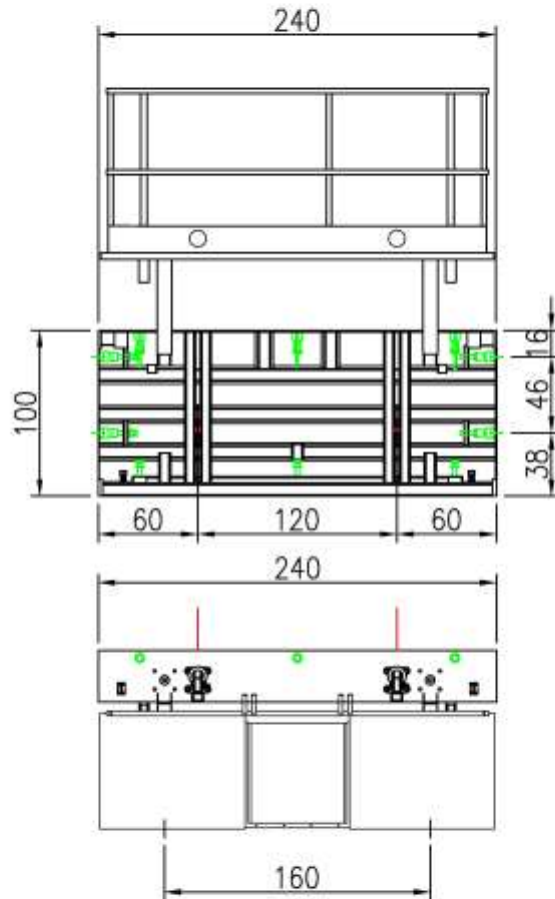


Height 150cm

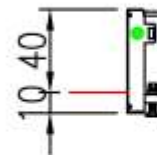
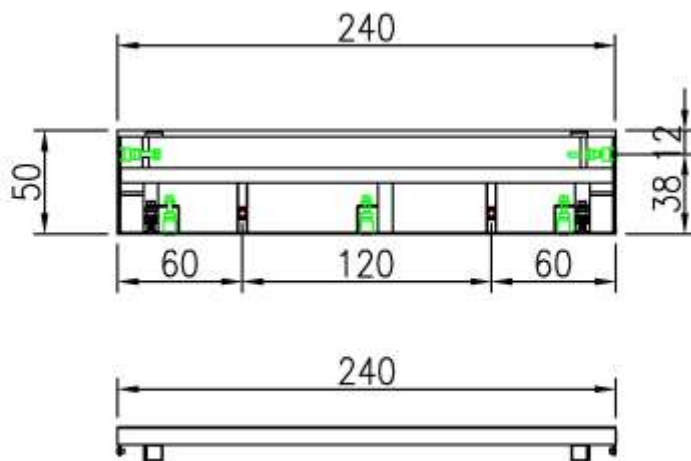


> PANELS : Width 240cm

Height 100cm

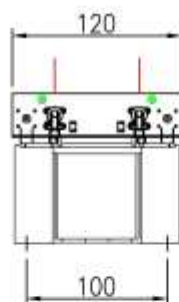
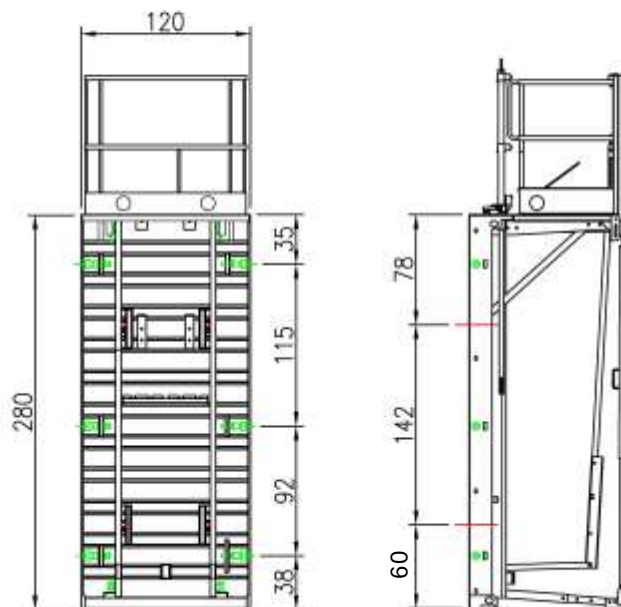


Height 50cm

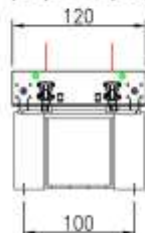
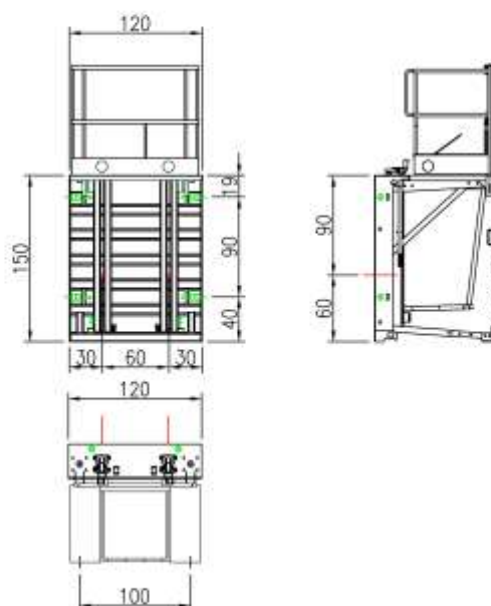


> PANELS : Width 120cm

Height 280cm

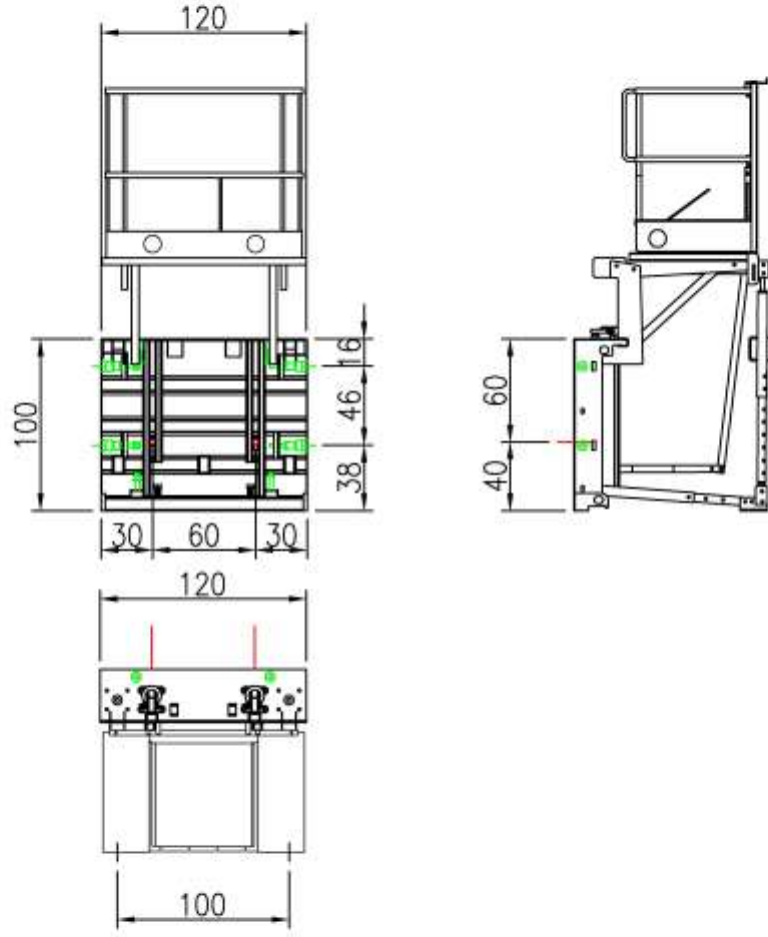


Height 150cm

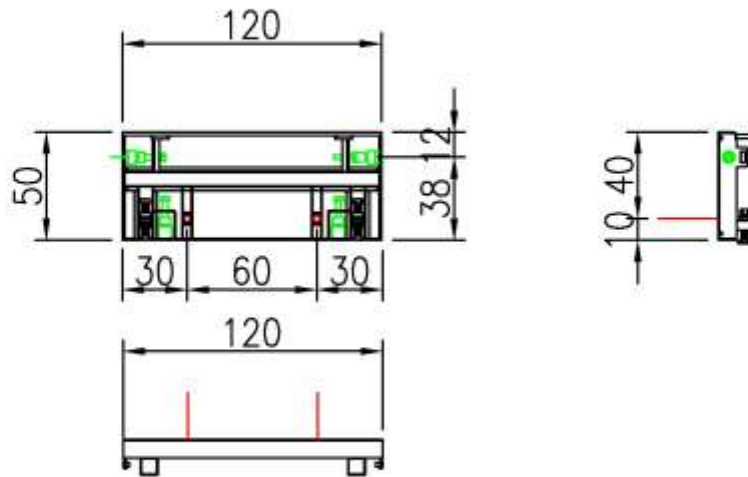


> PANELS : Width 120cm

Height 100cm

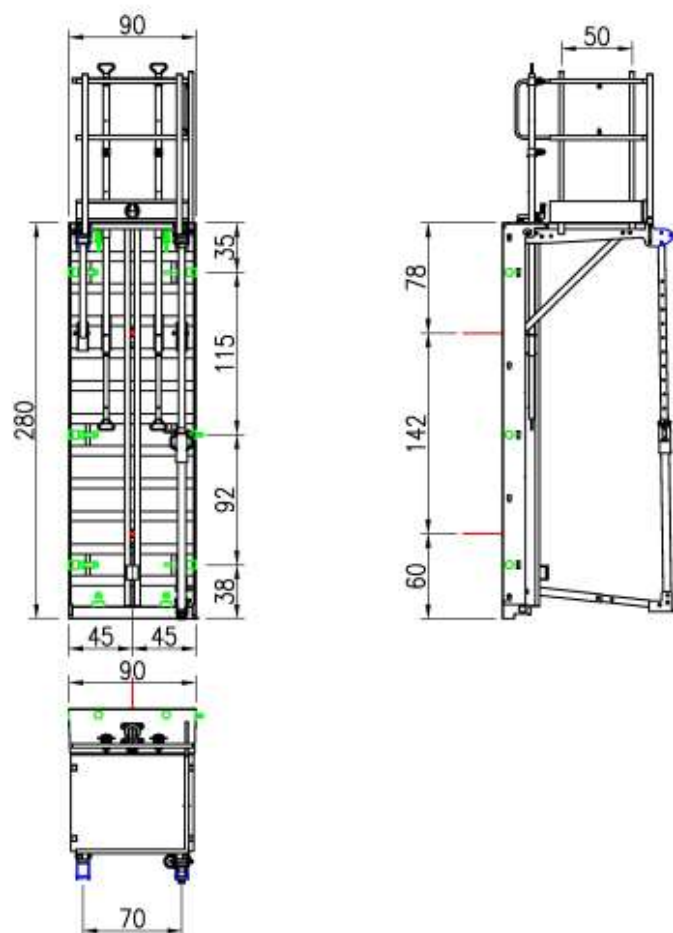


Height 50cm

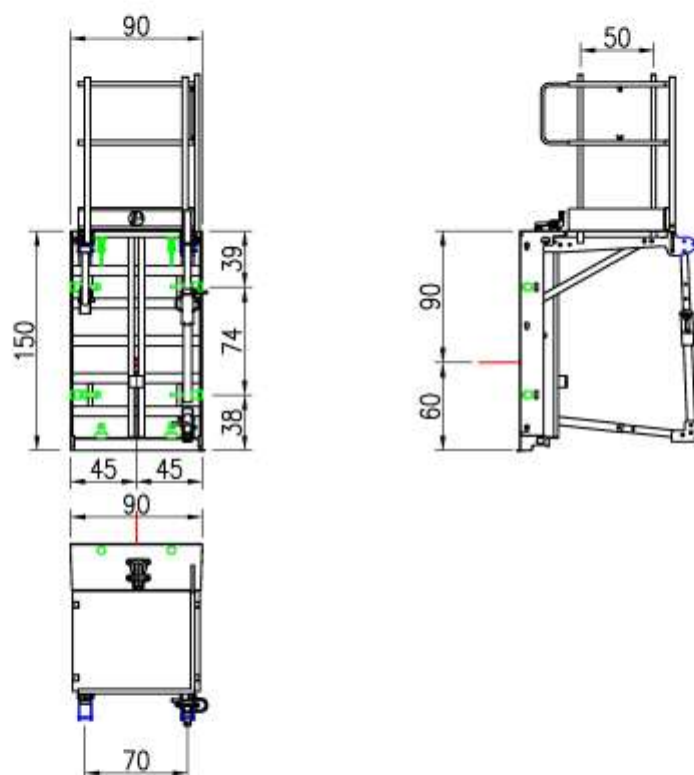


> PANELS : Width 90cm

Height 280cm

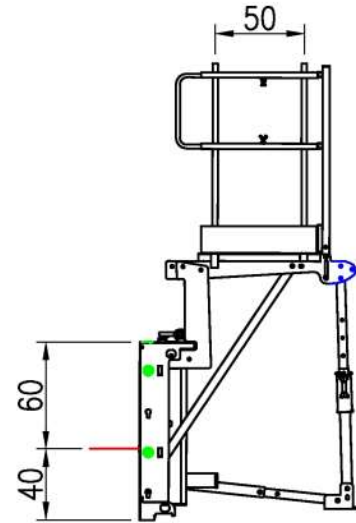
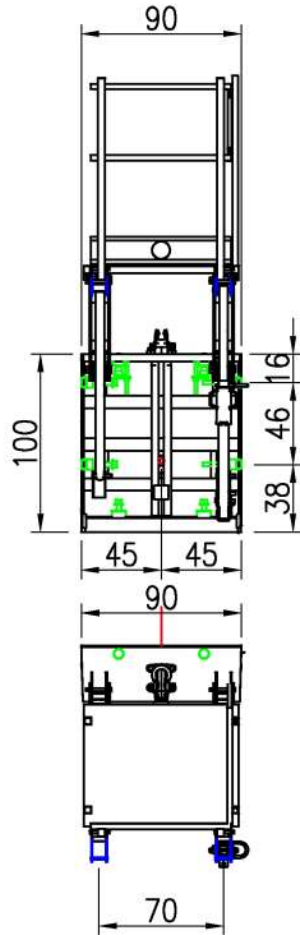


Height 150cm

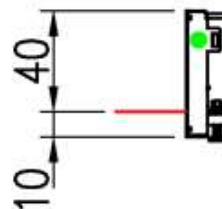
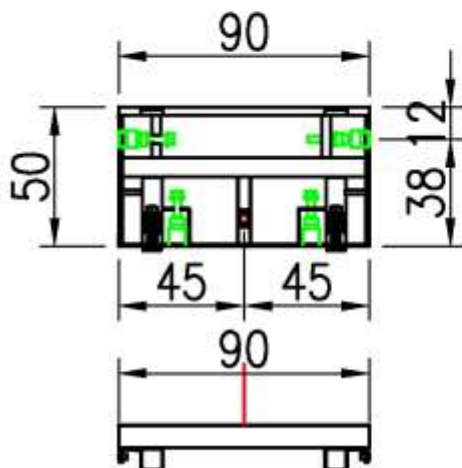


> PANELS : Width 90cm

Height 100cm

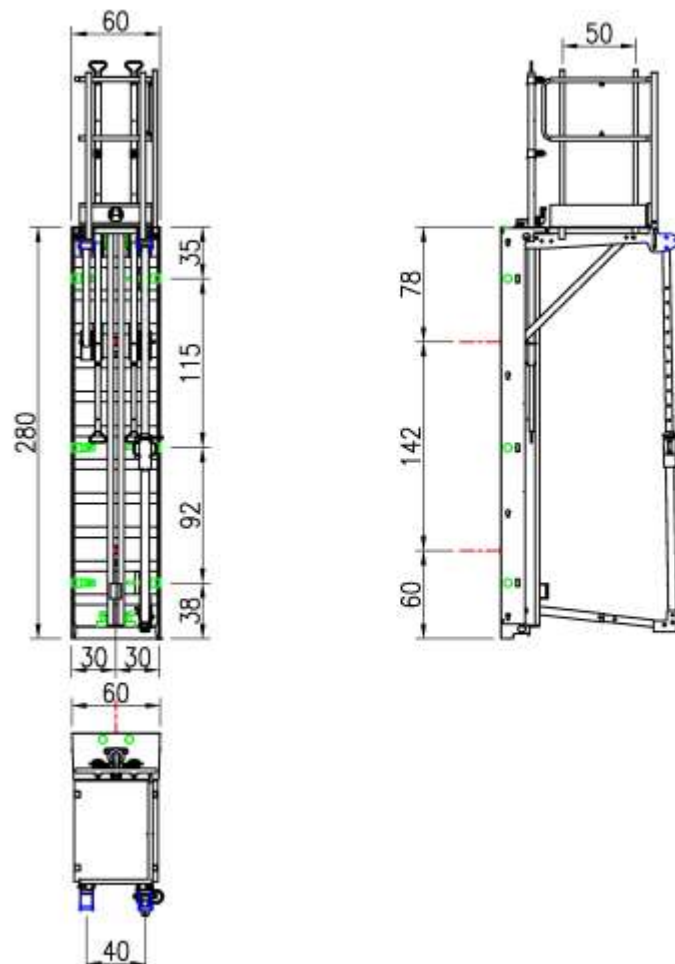


Height 50cm

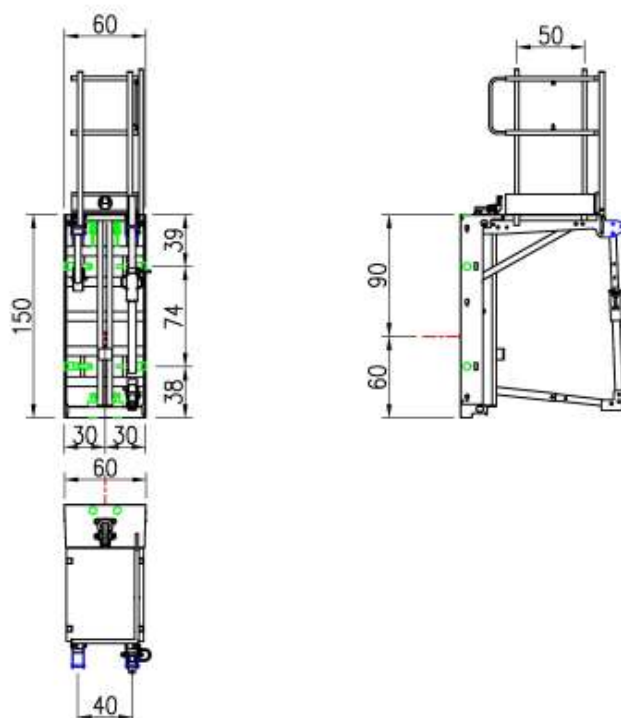


> PANELS : Width 60cm

Height 280cm

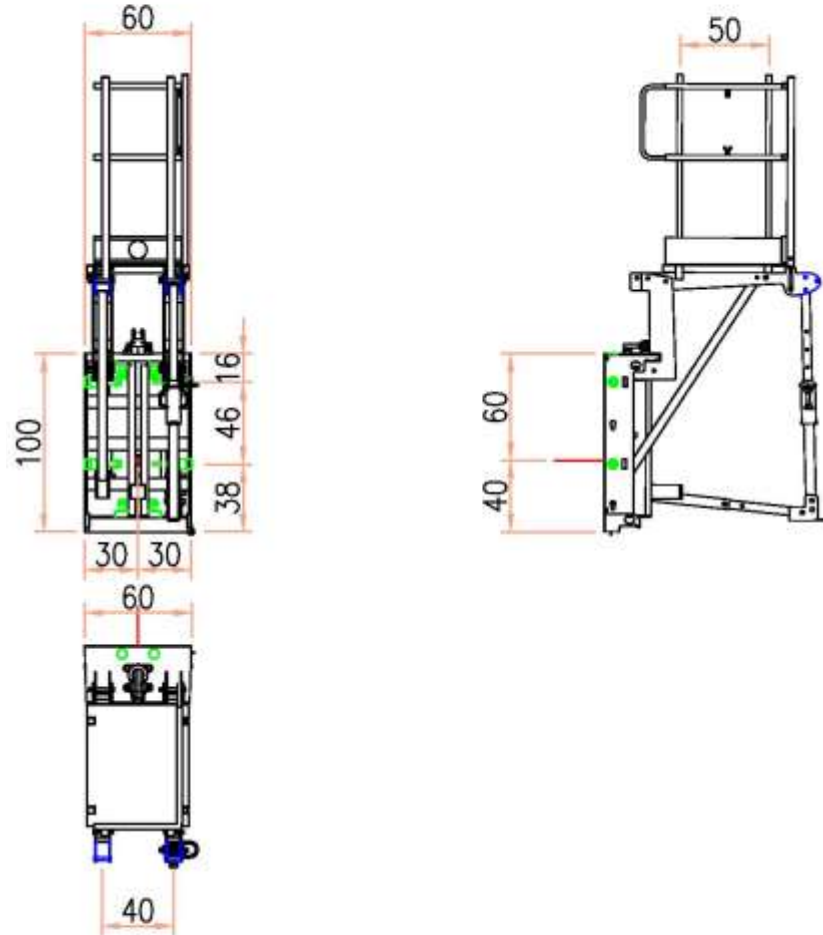


Height 150cm

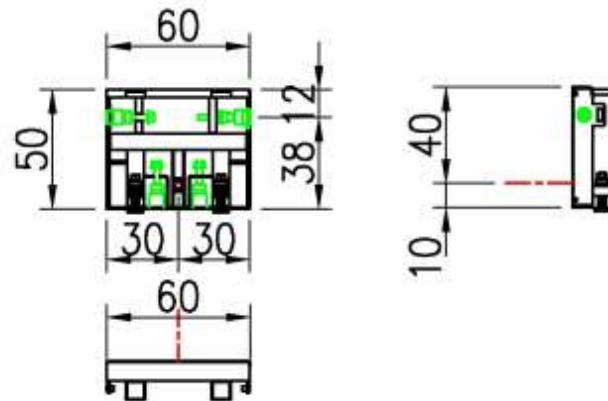


> PANELS : Width 60cm

Height 100cm

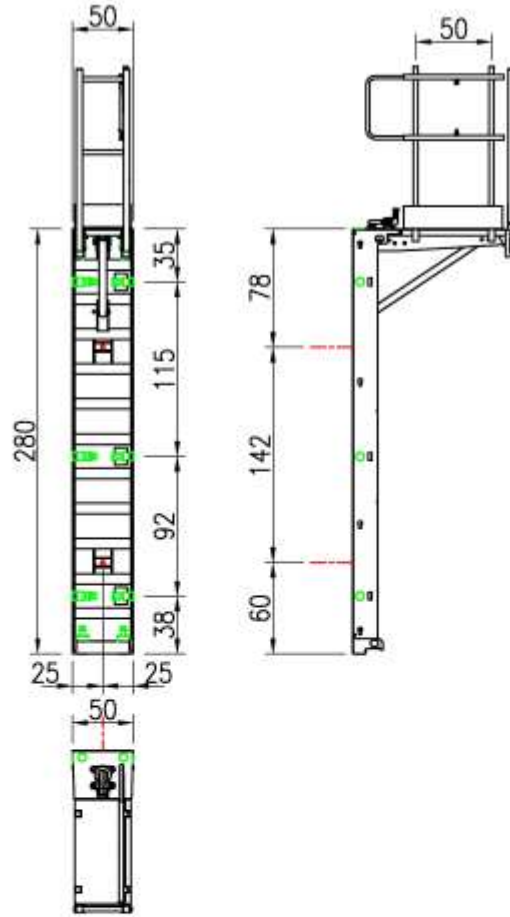


Height 50cm

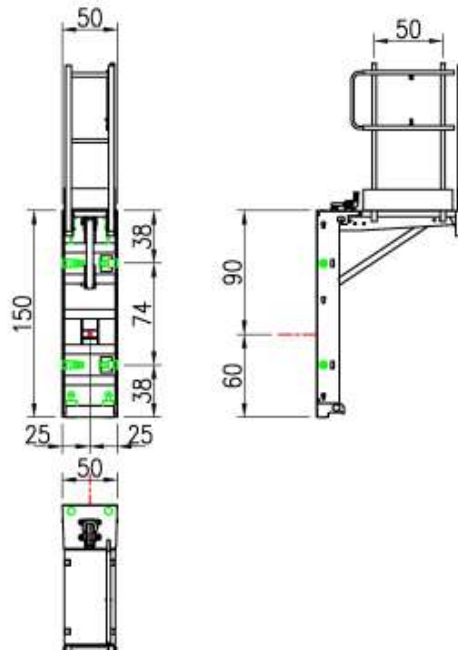


> PANELS : Width 50cm

Height 280cm

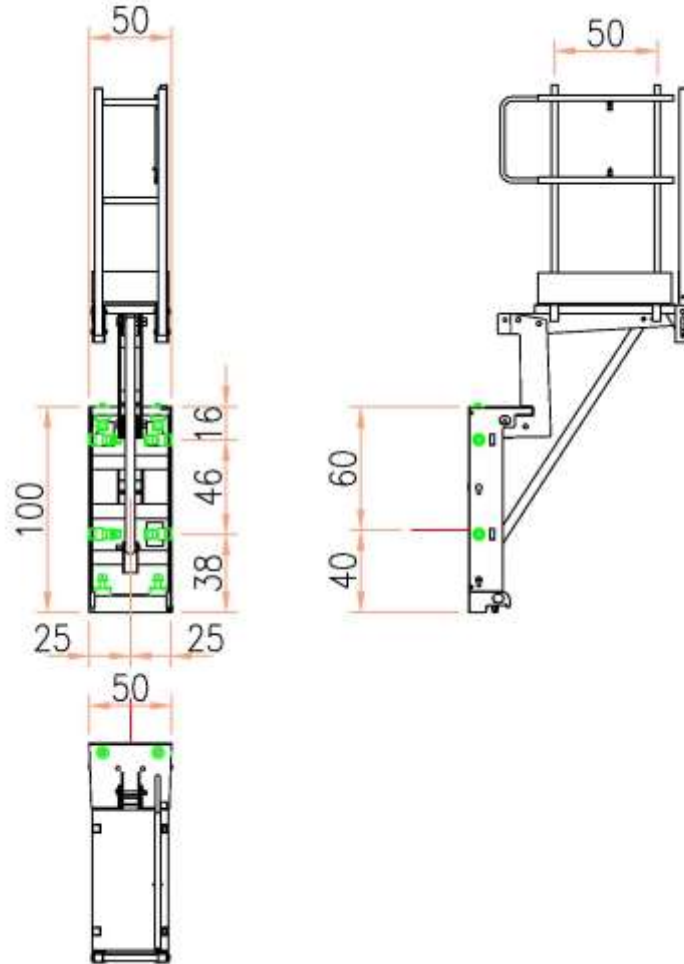


Height 150cm

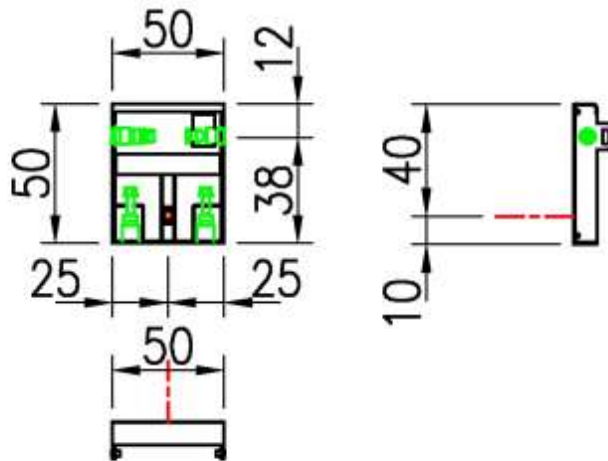


> PANELS : Width 50cm

Height 100cm

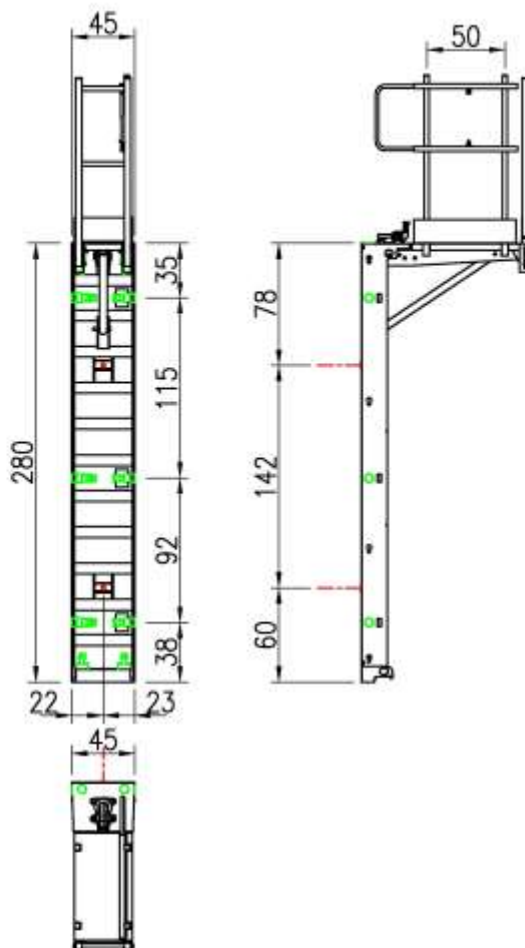


Height 50cm

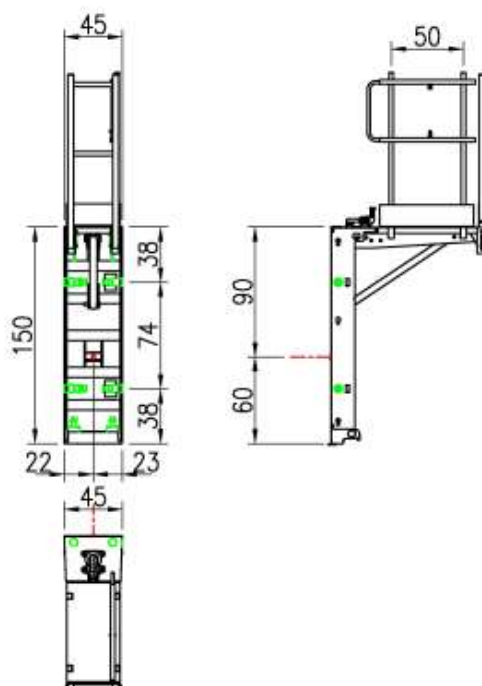


> PANELS : Width 45cm

Height 280cm

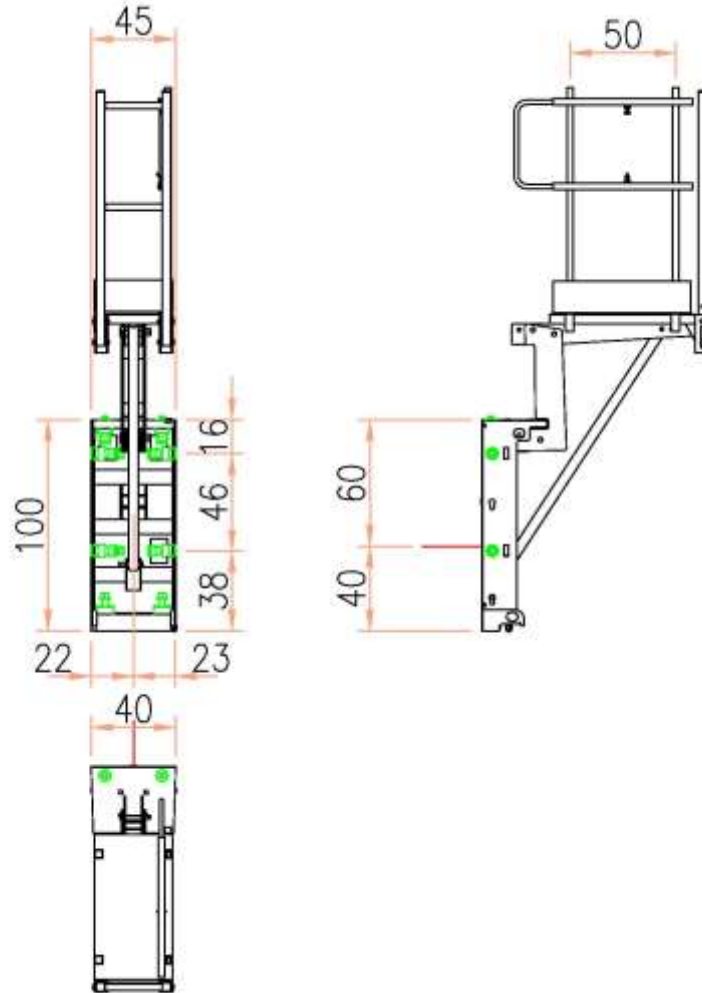


Height 150cm

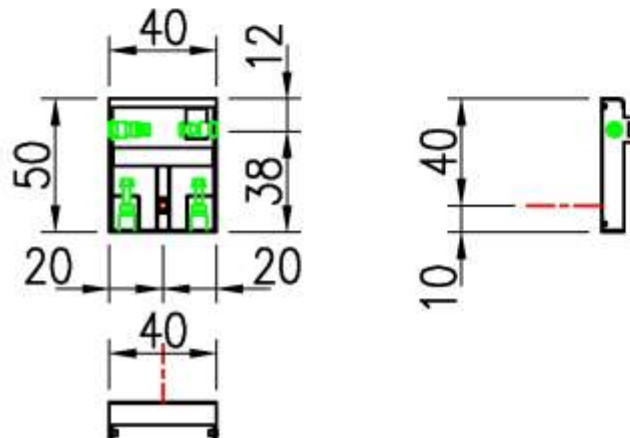


> PANELS : Width 45cm

Height 100cm

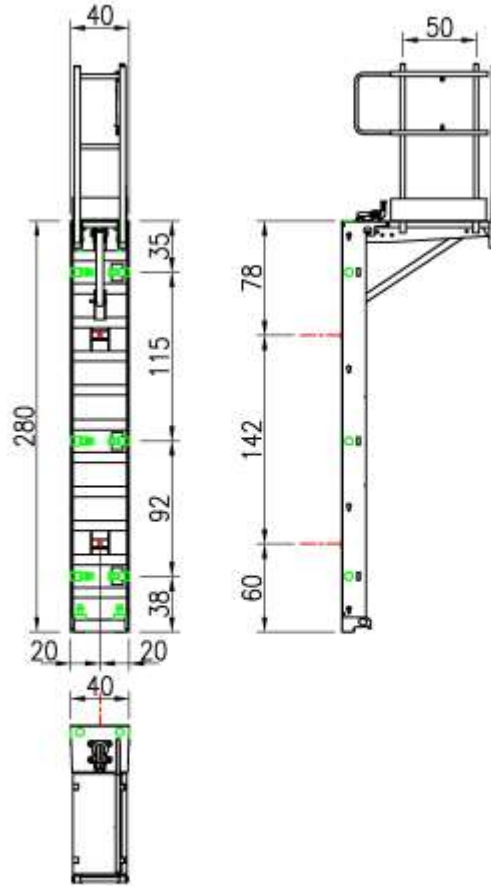


Height 50cm

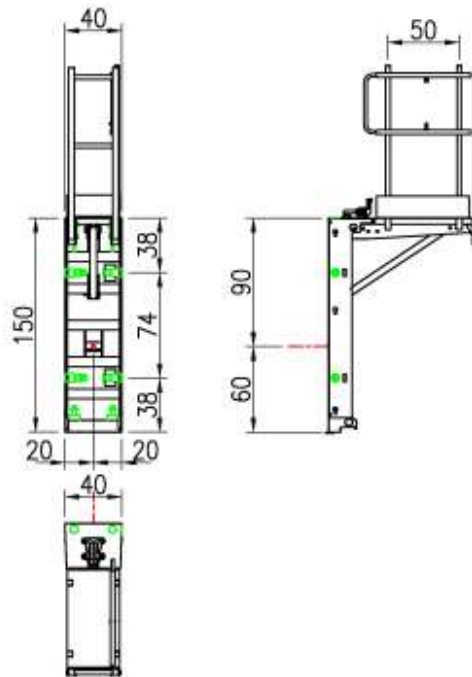


> PANELS : Width 40cm

Height 280cm

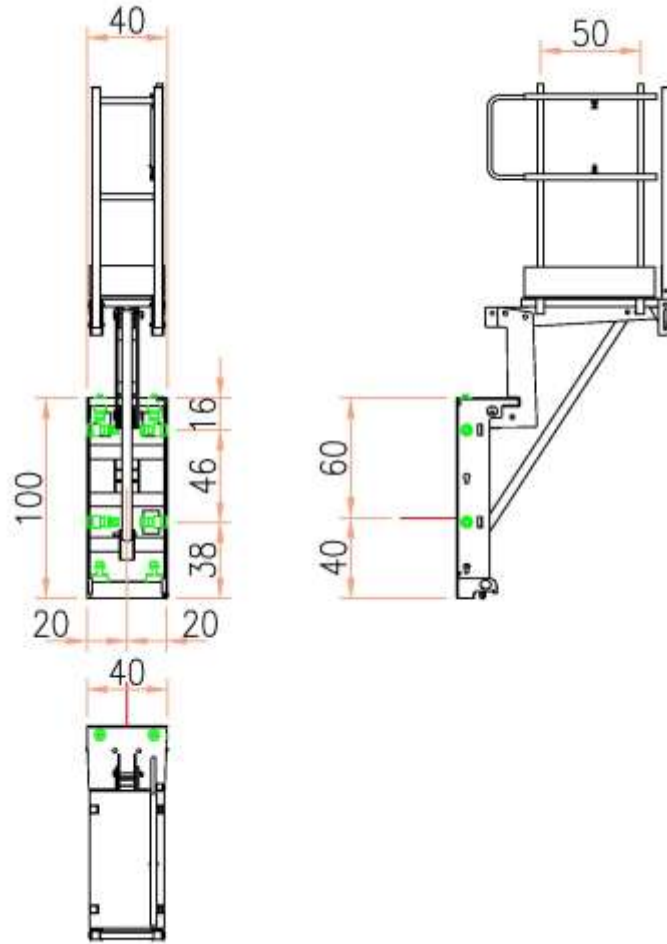


Height 150cm

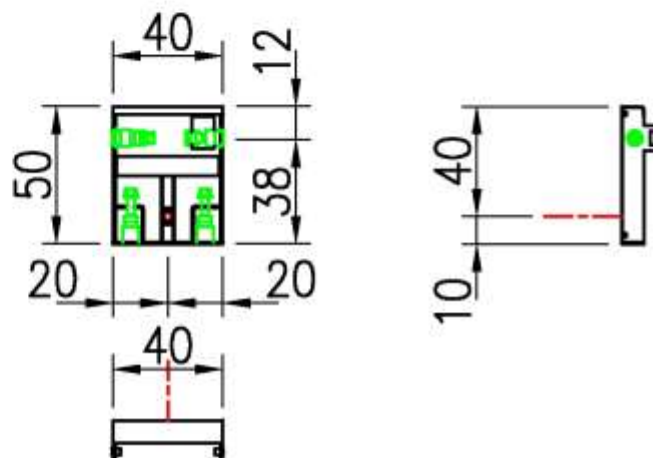


> PANELS : Width 40cm

Height 100cm

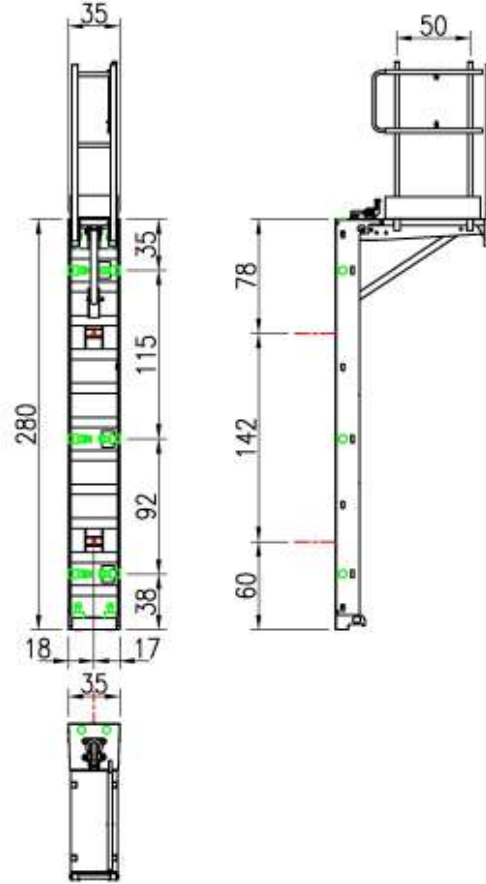


Height 50cm

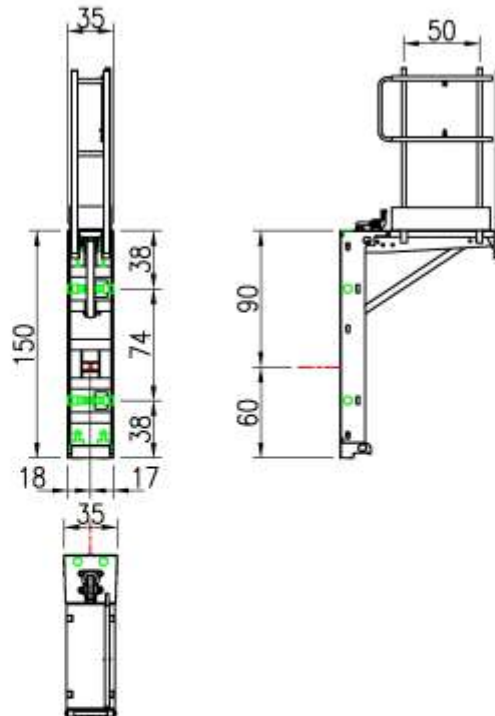


> PANELS : Width 35cm

Height 280cm

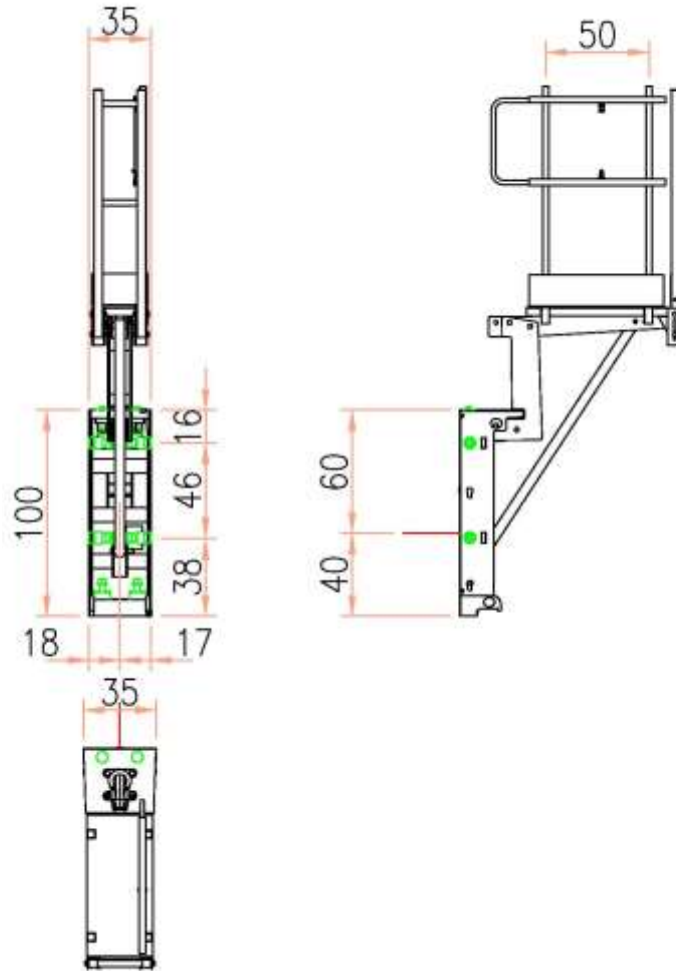


Height 150cm

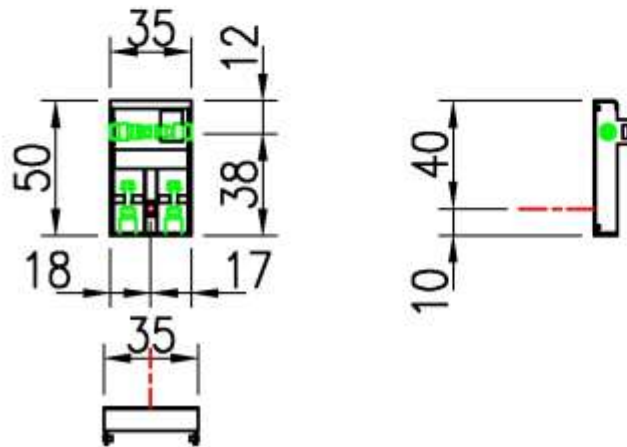


> PANELS : Width 35cm

Height 100cm

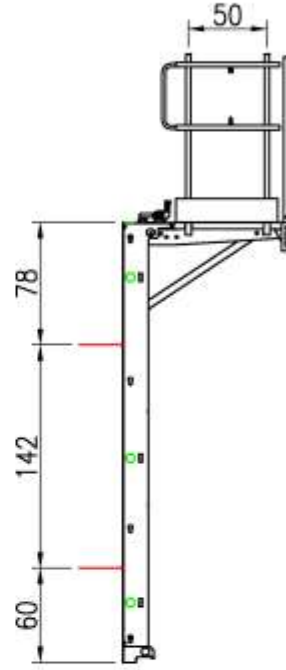
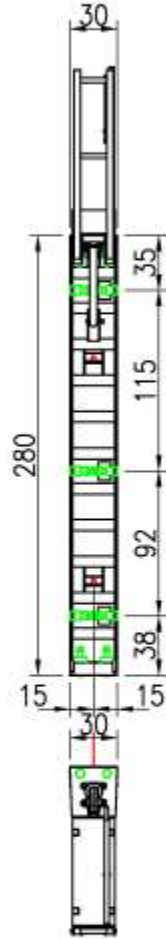


Height 50cm

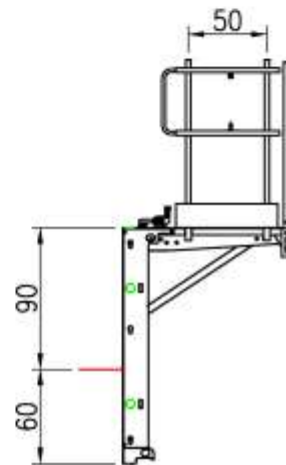
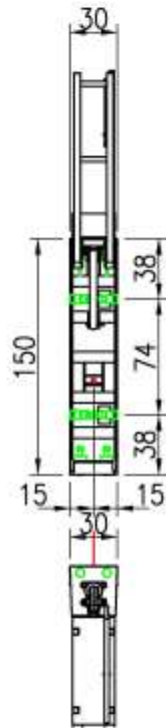


> PANELS : Width 30cm

Height 280cm

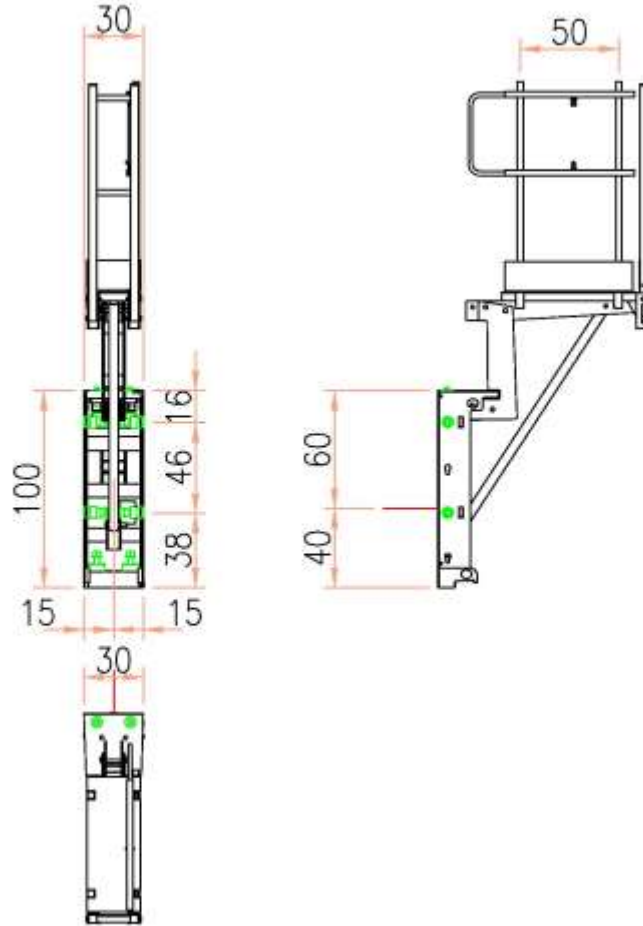


Height 150cm

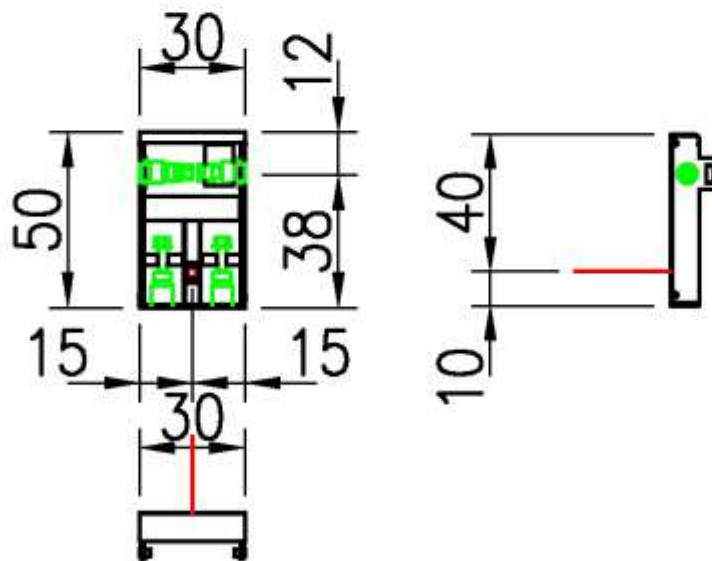


> PANELS : Width 30cm

Height 100cm

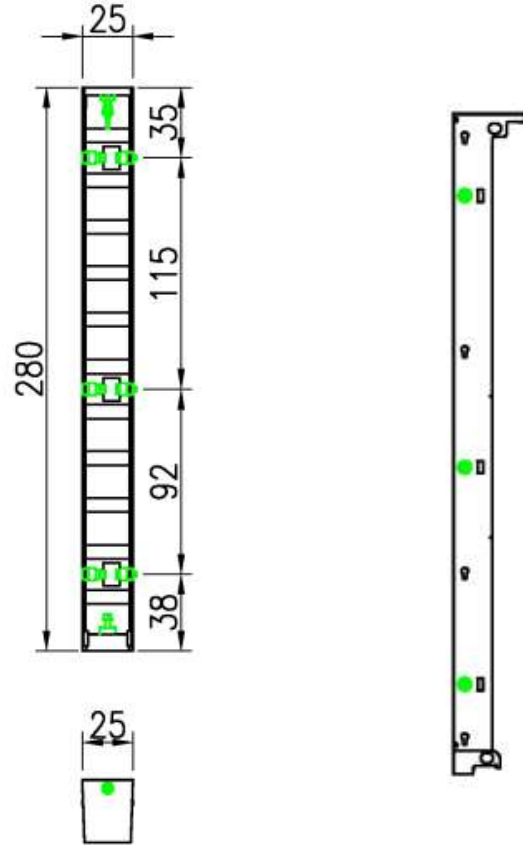


Height 50cm

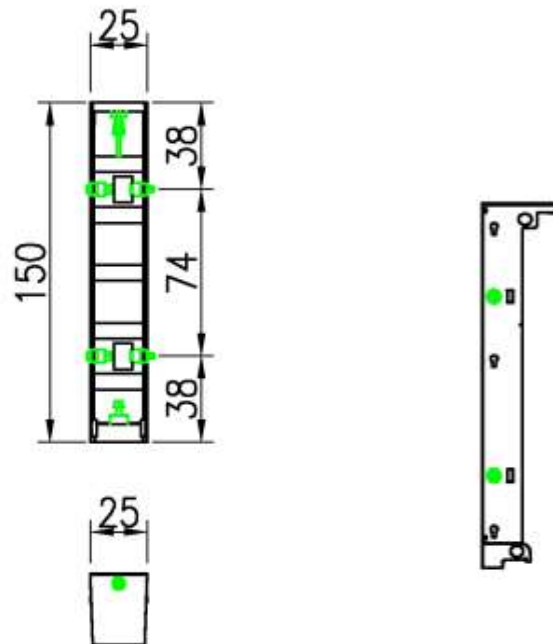


> PANELS : Width 25cm

Height 280cm

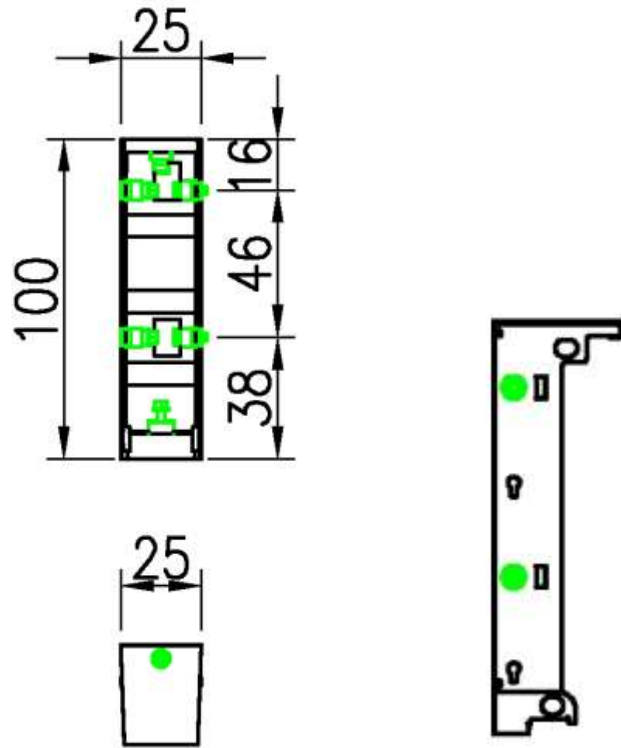


Height 150cm

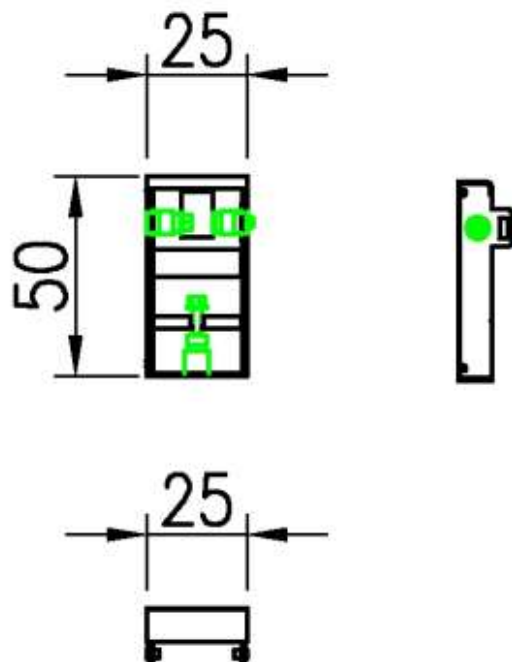


> PANELS : Width 25cm

Height 100cm

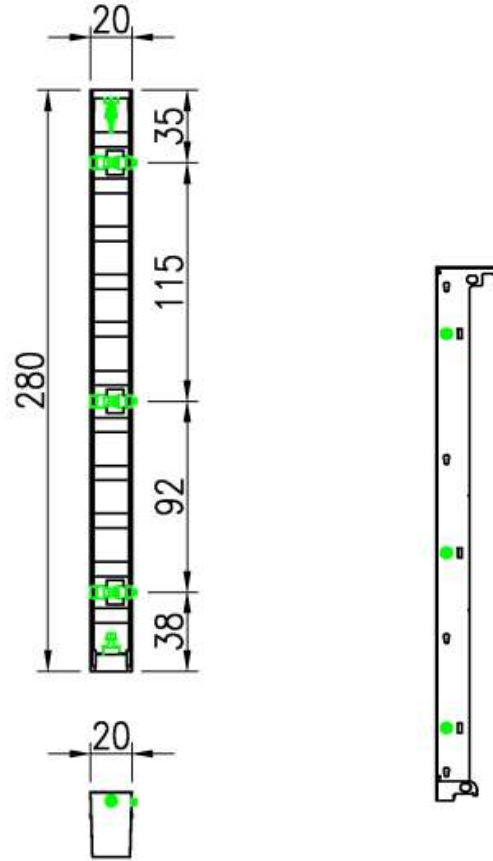


Height 50cm

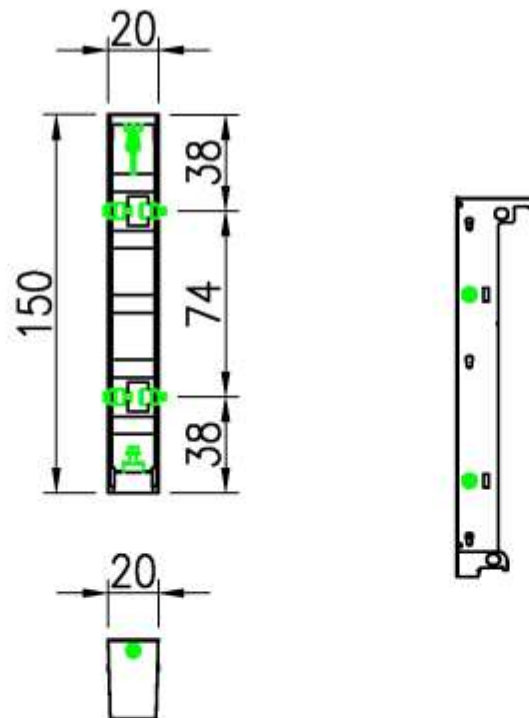


> PANELS : Width 20cm

Height 280cm

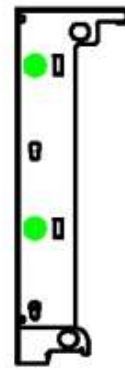
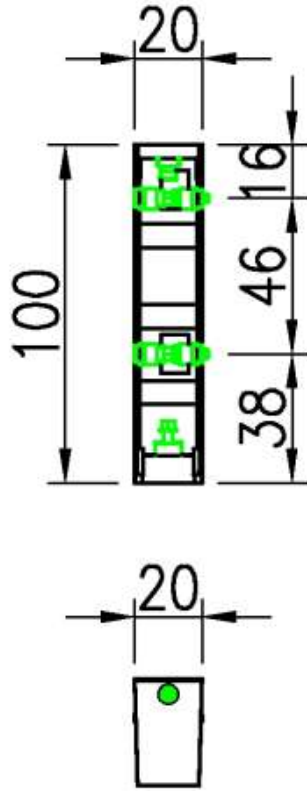


Height 150cm

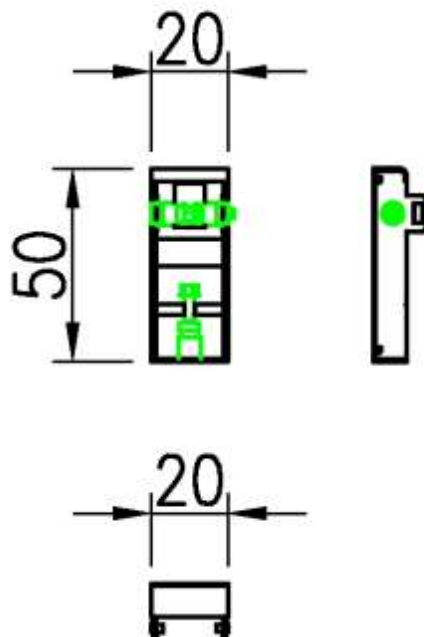


> PANELS : Width 20cm

Height 100cm

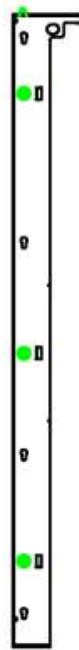
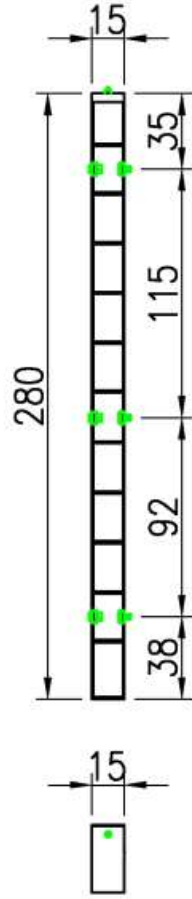


Height 50cm

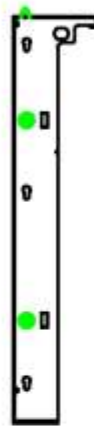
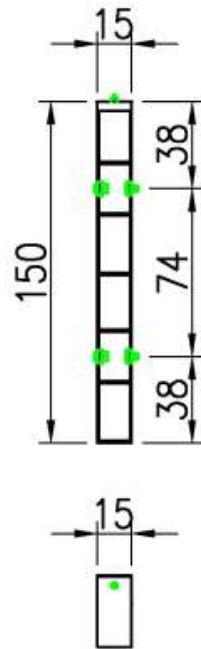


> PANELS : Width 15cm

Height 280cm

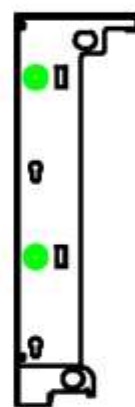
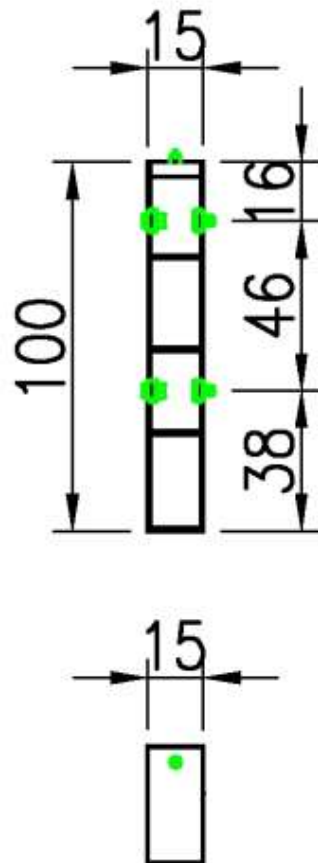


Height 150cm

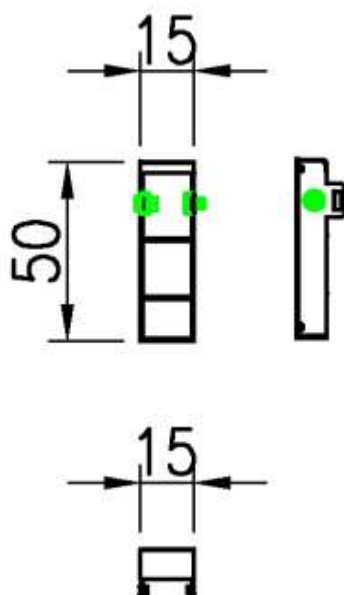


> PANELS : Width 15cm

Height 100cm

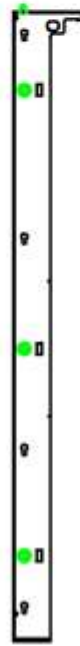
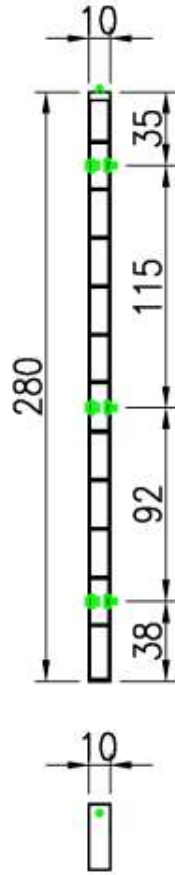


Height 50cm

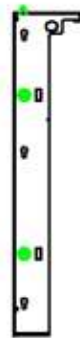
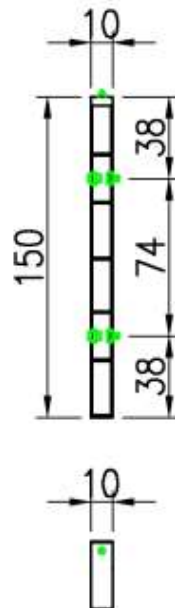


> PANELS : Width 10cm

Height 280cm

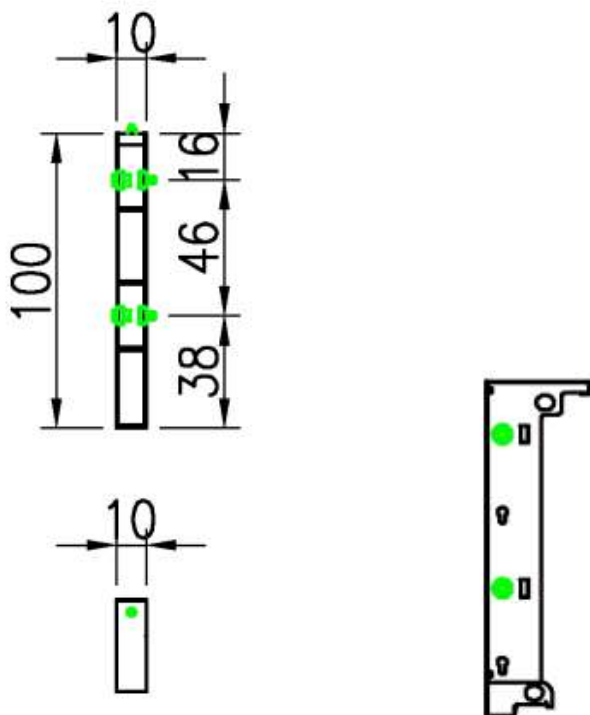


Height 150cm

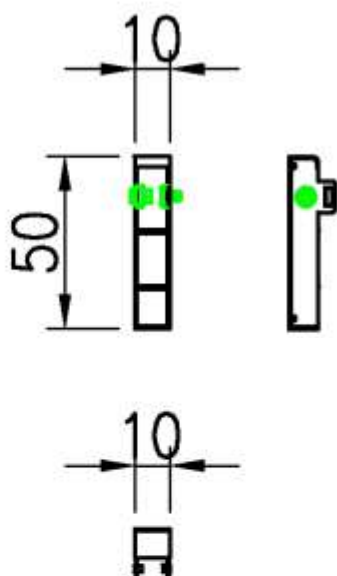


> PANELS : Width 10cm

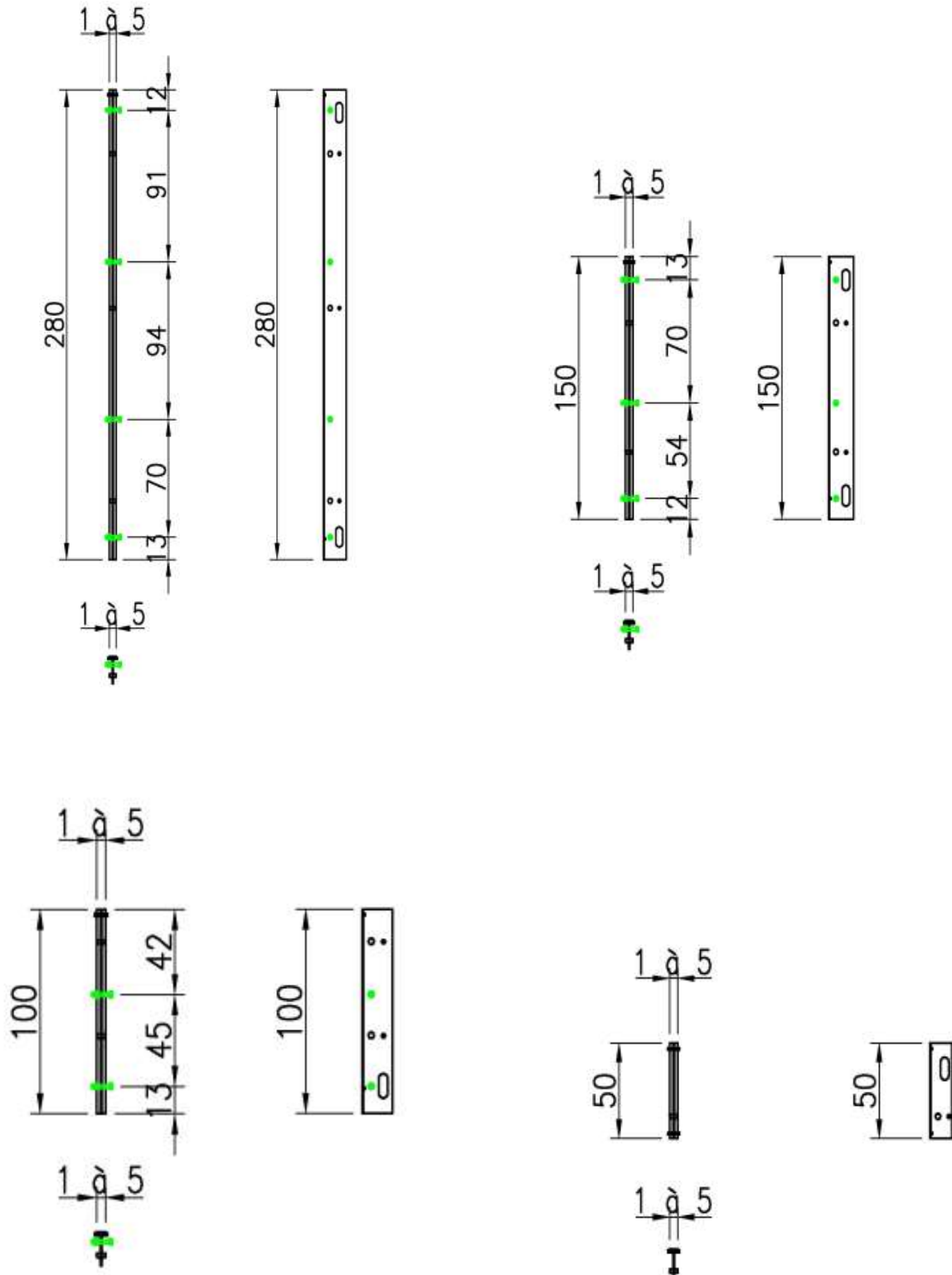
Height 100cm



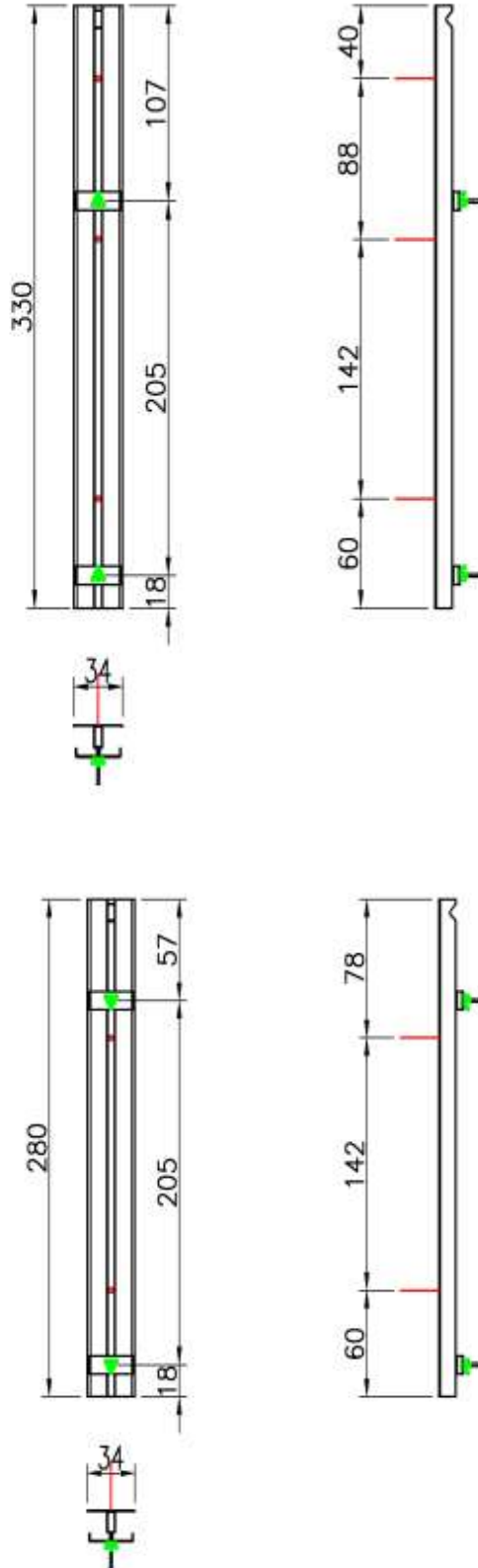
Height 50cm



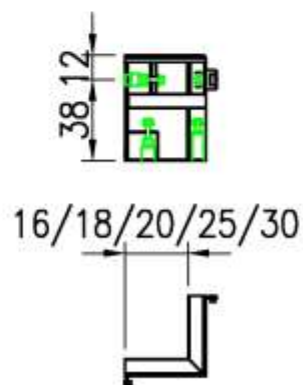
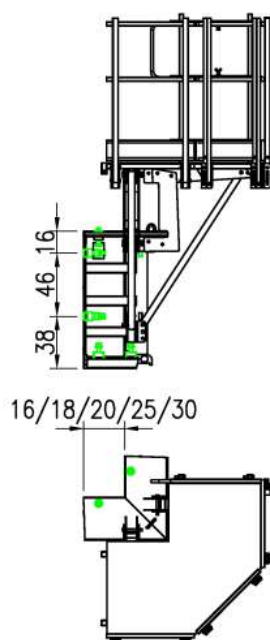
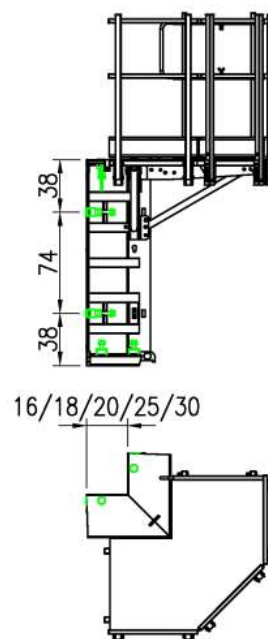
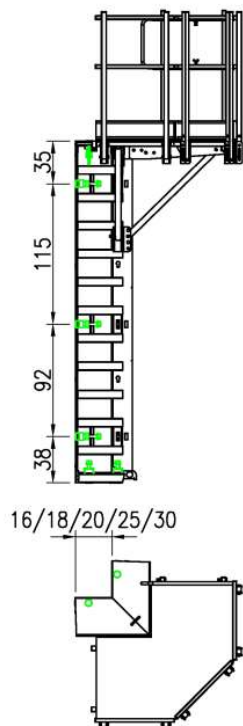
> Closure panels 1, 2, 3, 4 and 5cm



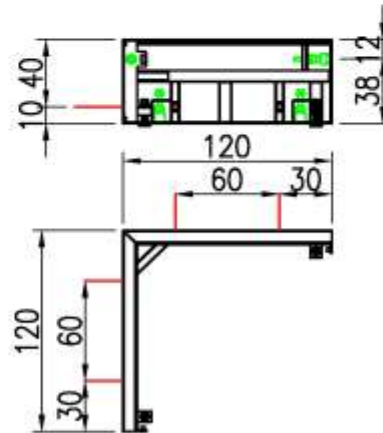
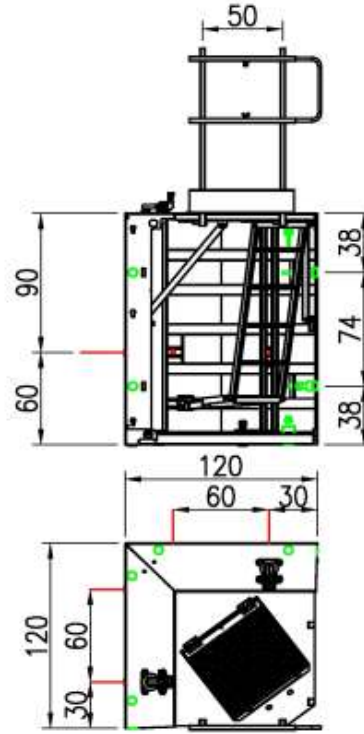
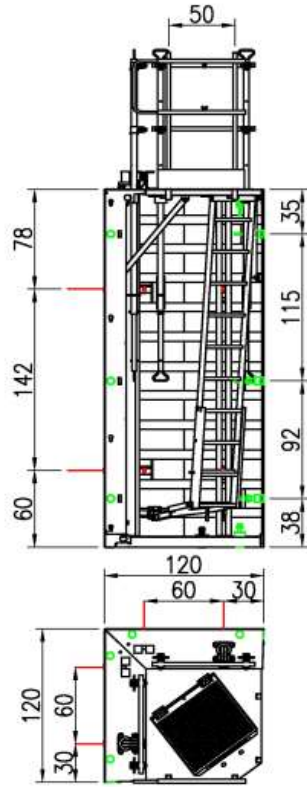
> Adjustable closure panels from 7 to 30cm



> Outside Angle PANELS

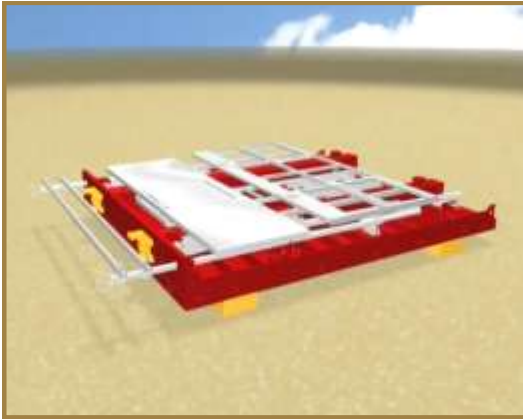


> Inside Angle PANELS



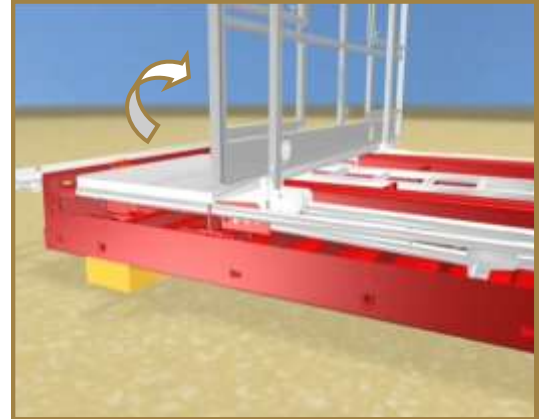


JALFORM ASSEMBLY NOTICE

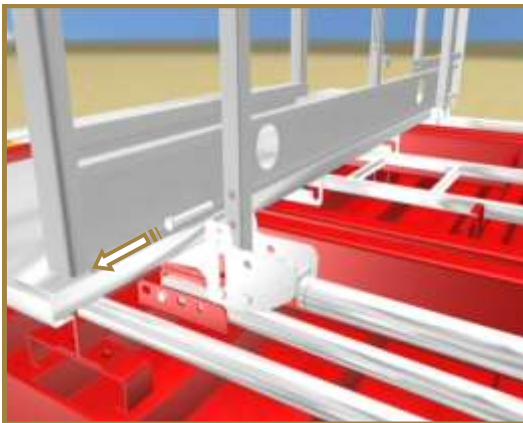


1 - Two operators are required

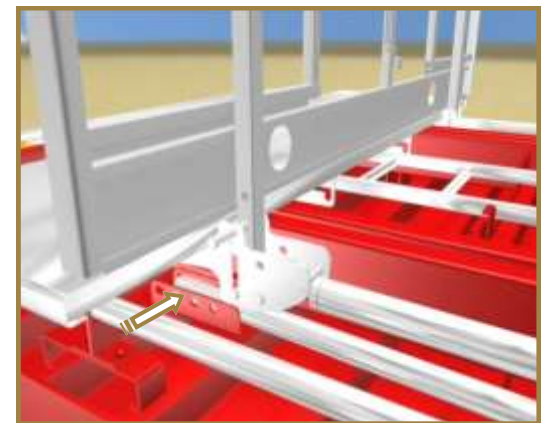
- Formwork panels folded on battens.



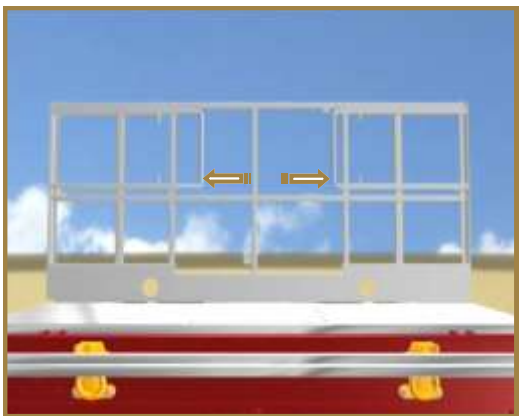
2 - Unfold the guardrails.



3 - Remove the axis from its packing location, (the 2nd operator must maintain the guardrail).



4 - Insert the axis to block the guardrail with captive pins ϕ , (the 2nd operator must maintain the guardrail).

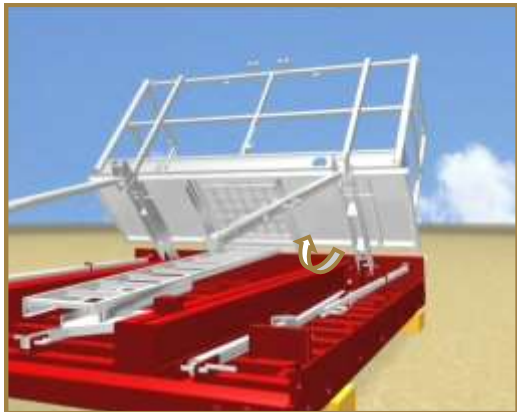


5 - Unscrew the wing nuts.

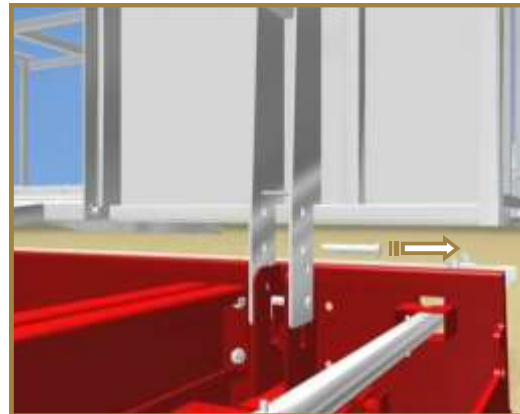
- Slide the guardrails into the studs



6 - The two side guardrails extend automatically.



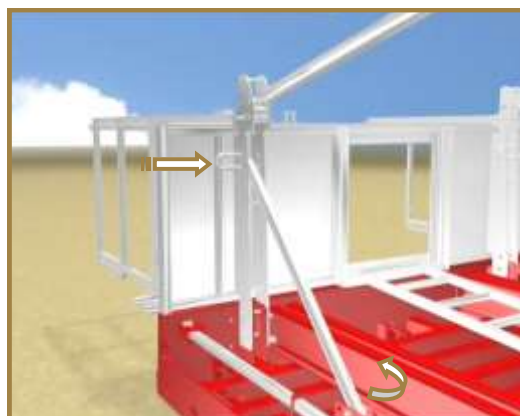
7 - Stand the gangway up.



8 - Remove the axis from its gangway packing location.



9 - Put the gangway in abutment.
- Insert the pin to block the gangway.
- Extend the sliding guardrails and screw the wing screws



10 - Extend the struts.
- Remove the axis from its packing location and insert it on the gangway.
- Check the stability of the whole gangway



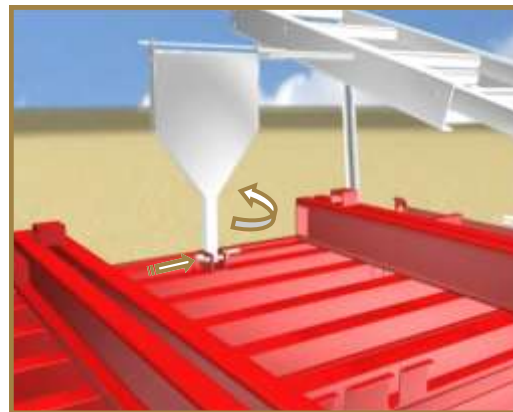
11 - Unlock the props by removing the axes.
- Take out the slides from the props.
- Adjust the slides according to wall formwork height and lock the props with their axes



12 - Extend the struts from their packing location.
- Adjust the slide length of the struts and lock them with their axes.



13 - Lock the props and struts on the double shoe.



14 - Lift the ladder.
- Unlock the ladder step and lock it into working position

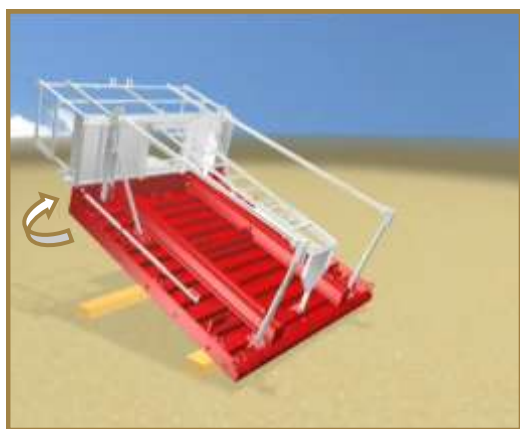


15 - Take out the ladder axis.
- Assemble the step and the ladder inserting the axis into the two elements and lock with the pin ϕ .



16 - Place the ladder into working position.

Beware: After lifting the wall panel and before unslinging into working position, stabilize the wall panels.



17 - Lifting the wall formwork.

- Check the pins of the ladder axis.
- Insert the second ladder axis and the pin ϕ after adjusting its length.



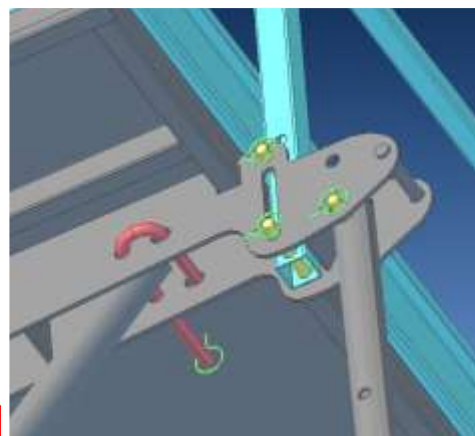
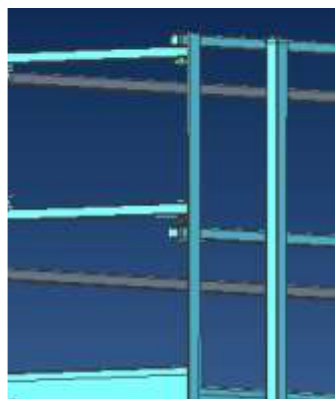
- 18 - Rotate the front guardrail tube to unlock it.
- Extend the front guardrail by sliding it.
- Rotate the front guardrail tube counter clockwise to lock it.

> PLATFORM ASSEMBLY INSTRUCTIONS

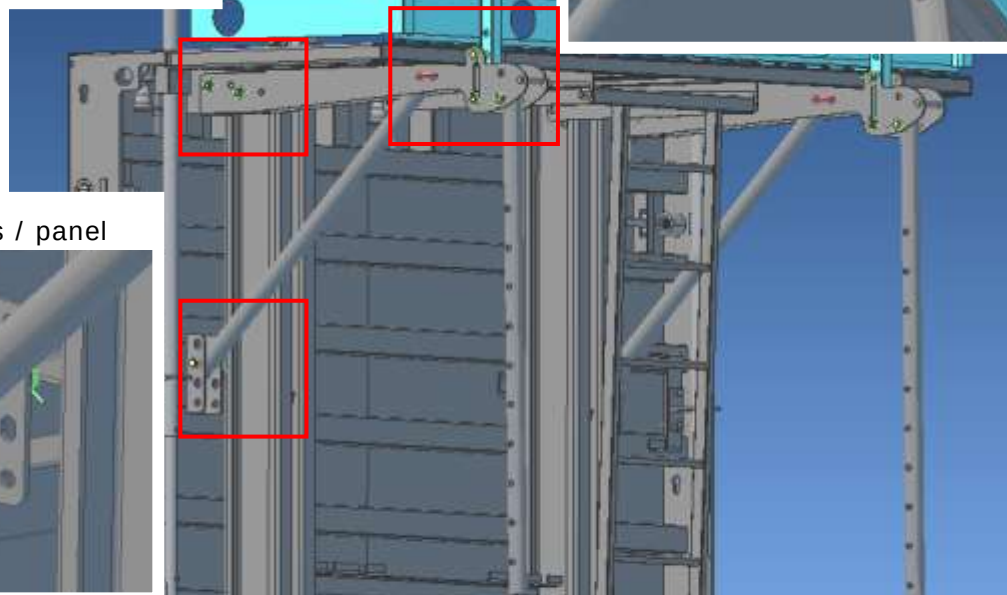
Assembly panel / bracket



Assembly braces / bracket and prop seal / bracket

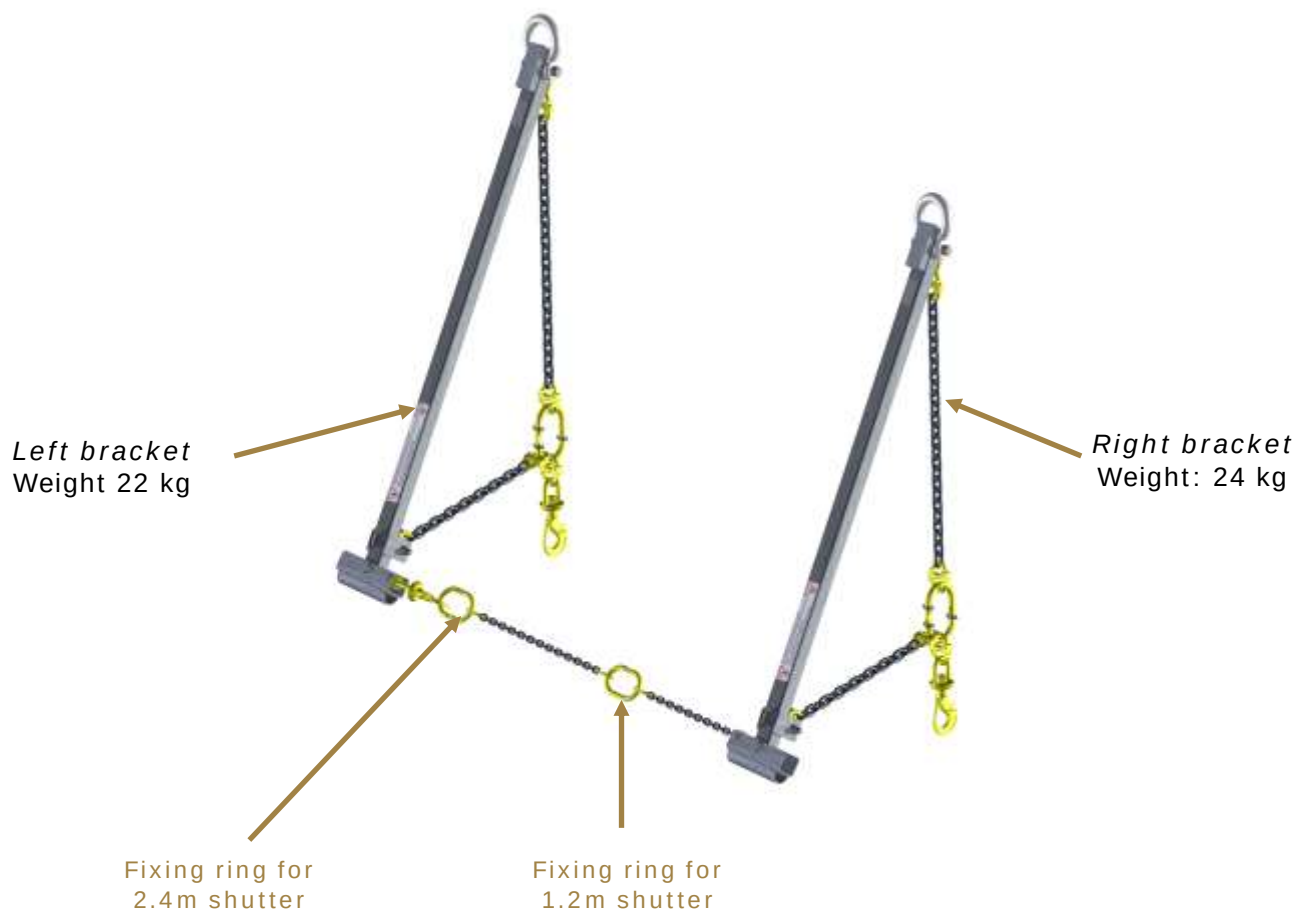


- Assembly braces / panel



> LIFTING BRACKET

> Characteristics



⇒ Total weight of lifting bracket : 46 kg

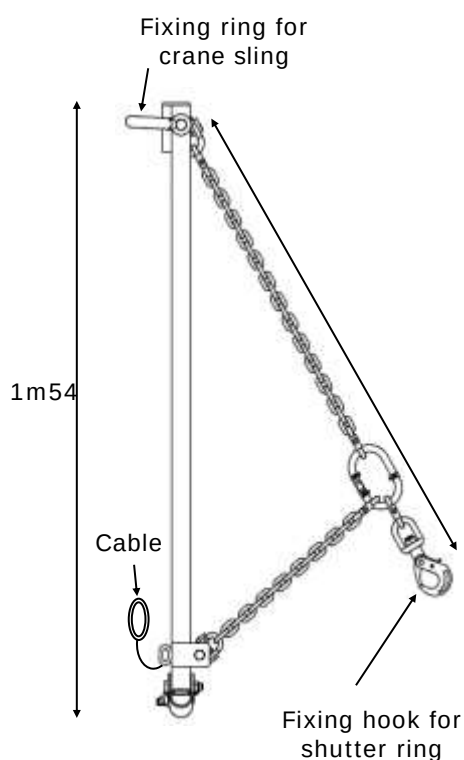
Legislation

Lifting brackets meet the requirements of the European Directive by 2006/42/CE dated may 17, 2006.

Lifting brackets must be formally inspected by a qualified person, other than the user, at least once a year.

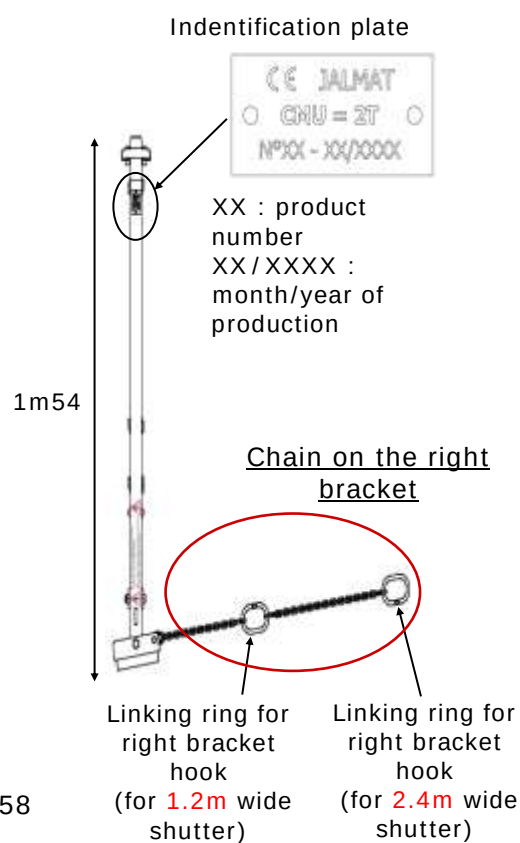
The results of this inspection must be recorded in an inspection file or report.

Left bracket



Weight : 22 kg

Right bracket (with a chain)



58

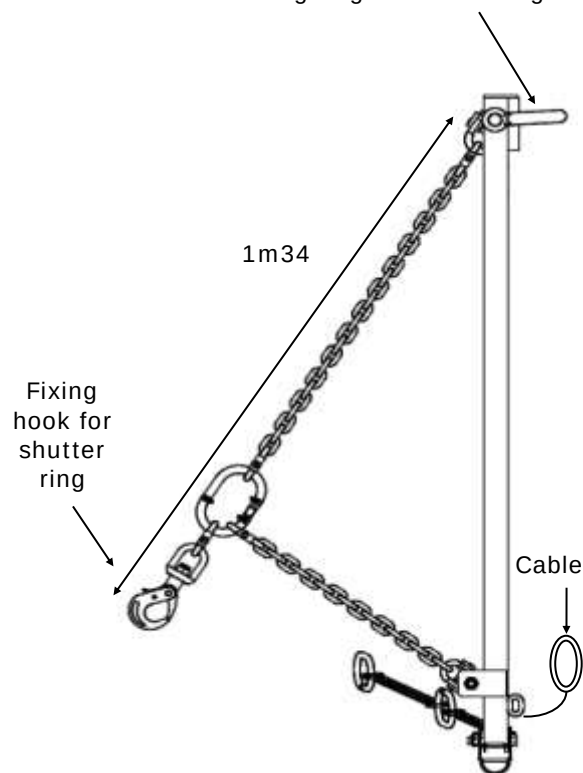
Identification plate



XX : product number
XX/XXXX : month/year of production

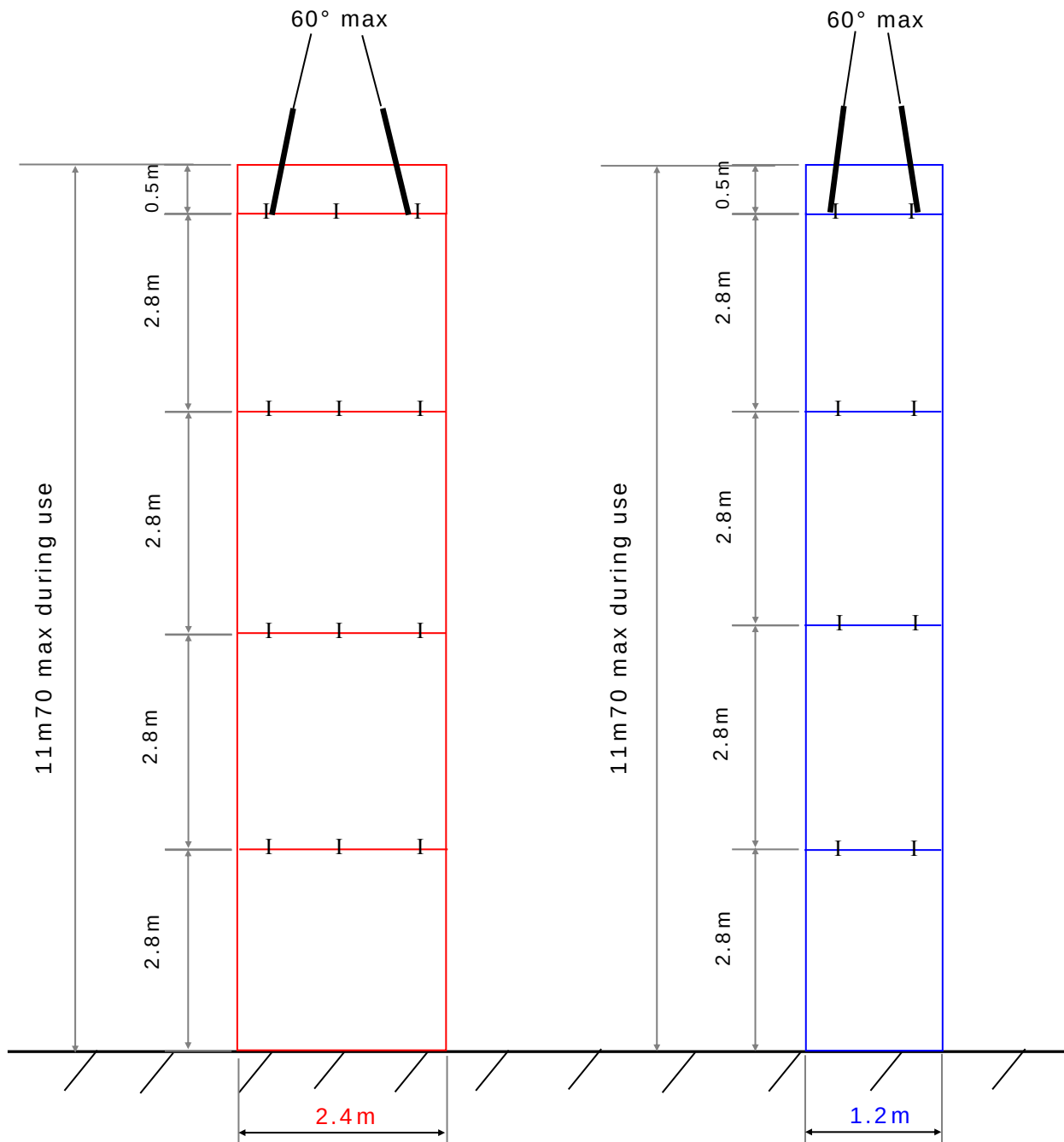


Fixing ring for crane sling



Weight : 24 kg

These brackets can only be used to lift Jalform shutters (width : 2.4m or 1.2m) and to place them on the ground.
Maximum height : 4 superimpositions of 2.8m panels + 50cm upper panel = 11.7 m



SWL (Safety working loads) : 4T

Refer to JALMAT Technical offices for others lifting configurations.

> Assembly NOTICE

Before assembly :

- Individual Safety equipment must be worn when handling lifting brackets.
- Check the product number on the identification plates of the left and right brackets are the same.



- Check the right and left brackets have undergone the annual inspection (valid inspection sticker or inspection file available).
- Check the chains are not twisted before or during assembly.

Nota : lifting brackets can be attached to shutter panels, on the ground or vertical: assembly is the same.



- 1 - Prepare the shutter panels or the set of shutter panels. To raise the panels :
 - The panel must be on the ground, placed on wooden blocks, shuttering face down.
 - The panel must be unfolded, with all pins, end and exterior guardrails in place.
 - Adjust the anchoring props of the set of panels (extend each prop until they are under slight pressure).



Left lifting bracket Right lifting bracket

- 2 - Place the two parts of the brackets in front of the panels.
 - The brackets bases must be against the platform.
 - Check the position of each bracket : they are not symmetrical.



3 - Fix the cable onto one bracket and round the upright of the platform guardrail.



Beware : the cable must be round the upright and not across the hole for the shutter rod on the baseboard.



4 - Fix the hook on the panel lifting ring.

Right



Wrong



4 b — Check the position of the linking rings on the main ring in accordance with the blockers.

5 - Repeat the operations from 1 to 4 for the other bracket.



6 - Fix the right bracket linking ring to the linking hook of the left bracket.
The chain must be taut.



7 - Assembly of the central chain for the 2.4m shutter



8 - Overview of correct assembly_



9 - Fix the crane slings onto the rings of the right and left brackets



Before lifting, check the crane slings are correctly centred in accordance with the brackets.

> Check before lifting

Check the following points before lifting the panels with the lifting brackets :

- The lifting device load capacity is sufficient.
- The two brackets have the same product number.
- The chains are not twisted.
- End and external guardrails are in place and locked.
- The left and right brackets are attached to the two panel lifting rings.
- The bracing props have their collars.
- The bracing props are slightly loaded.
- The cables are fixed around the exterior shutter guardrail and not around the baseboard.
- The right and left brackets are connected and the chain is taut (linking ring size according to the panel width).
- The crane slings are centred between the brackets when raising the panels or placing them on the ground.

> DISMANTLING

Before dismantling :

Individual Safety equipment must be worn when handling lifting brackets.

Nota : lifting brackets can be attached to shutter panels, on the ground or vertical.

If the panel is on the ground:

1. unhook the slings from the lifting bracket rings.
2. Install the front guardrails
3. Undo the connecting hook of the two brackets
4. Unhook the brackets from the lifting rings of the panel



- Undo the cables from the right and left brackets.



- Take off the brackets one by one if the panel is on the ground or distance them using a lifting device. Be careful the brackets do not get caught on any part of the panel.

If the panel is not on the ground:

1. Install the front guardrails
2. unhook the slings from the lifting bracket rings.
3. Undo the connecting hook of the two brackets
4. Unhook the brackets from the lifting rings of the panel

> MAINTENANCE



The user must periodically check the material or have it checked. It is compulsory to inspect :

- The connecting rings (not loose, axis intact etc...).



- Check the chains are not twisted before assembly.
- Check the chains are not twisted before assembly.



- Check the chains are not twisted before assembly.



- Check the chains are not twisted before assembly.
- State of the nuts and self braking bolts must be tight.
- Presence and state of two identification plates (one per bracket). A set of brackets (right and left) must have the same product number.

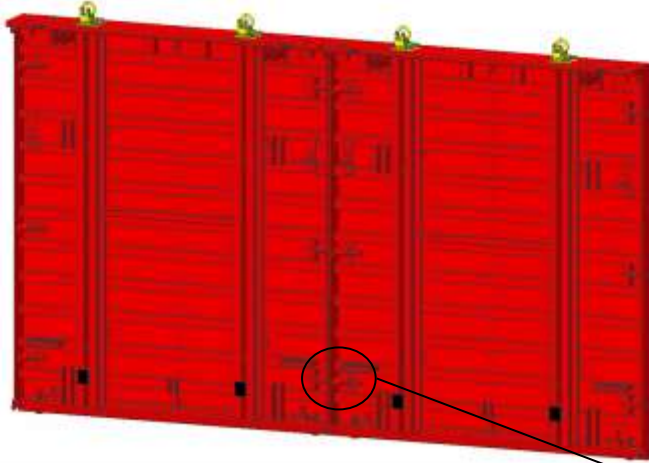


- The bases must pivot.

- No deformation on the brackets.
- No cracks in the welds or any other elements.
- The cable and its ring welded onto the square tube.
 - The hooks must be locked.
- The annual inspection must have been carried out and the inspection sticker must be present on each bracket.

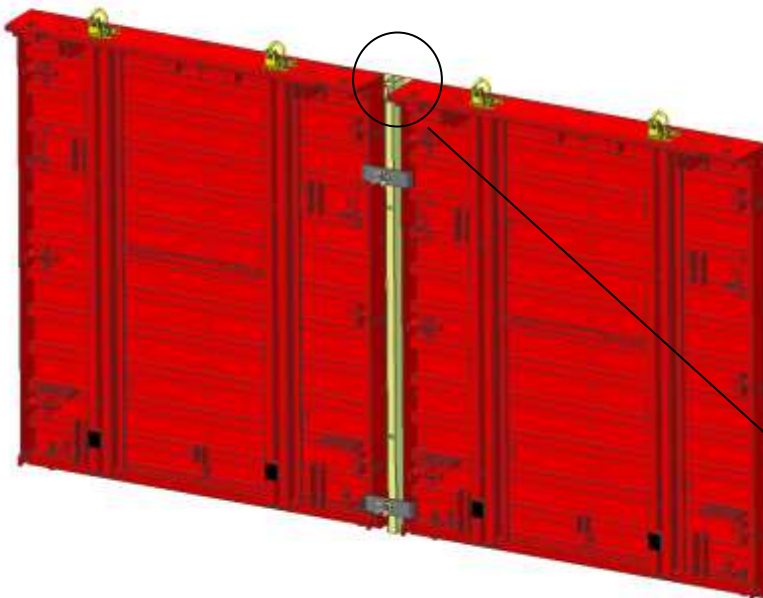
Any bracket with a defect must be isolated from the stock.

> LATERAL ASSEMBLY INSTRUCTIONS



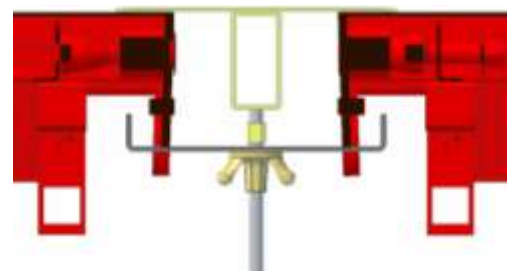
Lateral assembly of two panels :

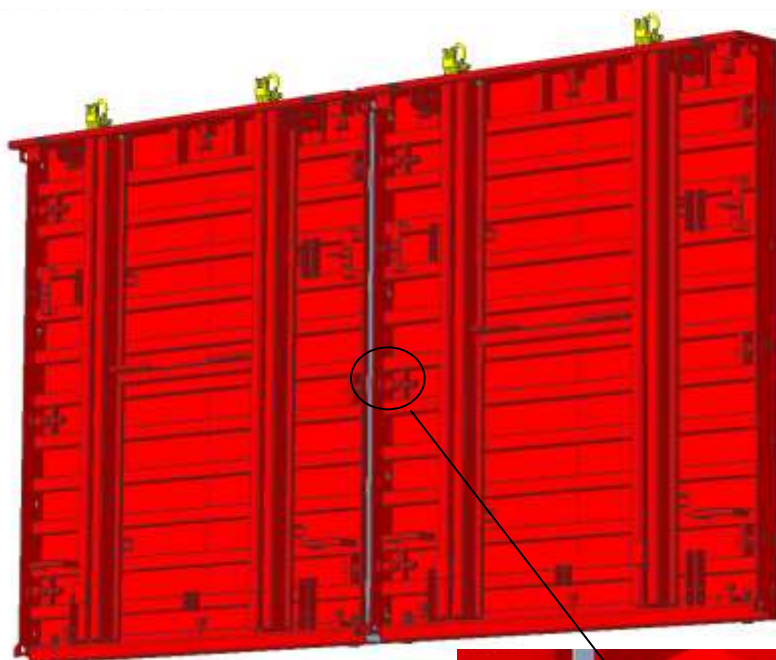
- Place the panels side by side.
- Align the panels.
- Tighten the assembly sleeves.



Assembly of two panels with an adjustable closure panel :

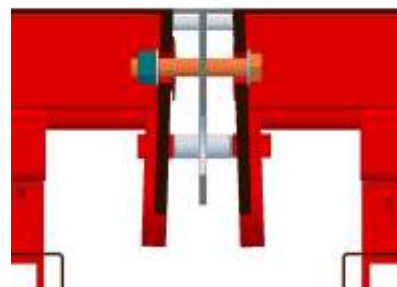
- Closure panel must be aligned and inserted between two panels.
- Its locking system is a clamp system : you must screw it to lock the panels.



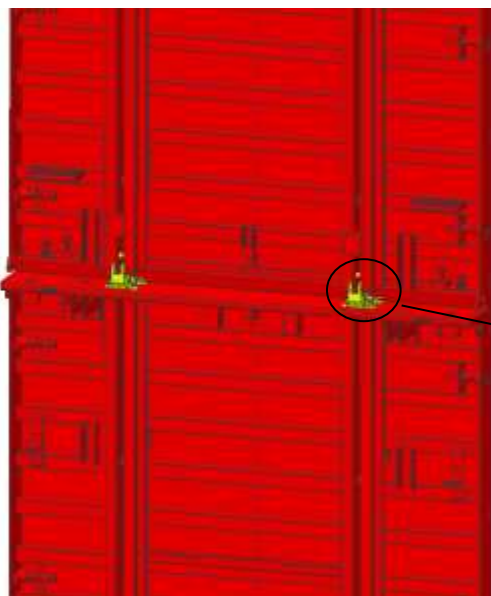


Assembly with a closure panel :

- Closure panel must be aligned and inserted between two panels.
- The assembly is done with M16 bolts : bolt is assembled in the edges of formwork panels.

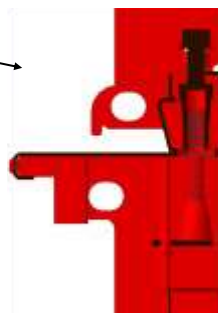


> VERTICAL ASSEMBLY INSTRUCTIONS

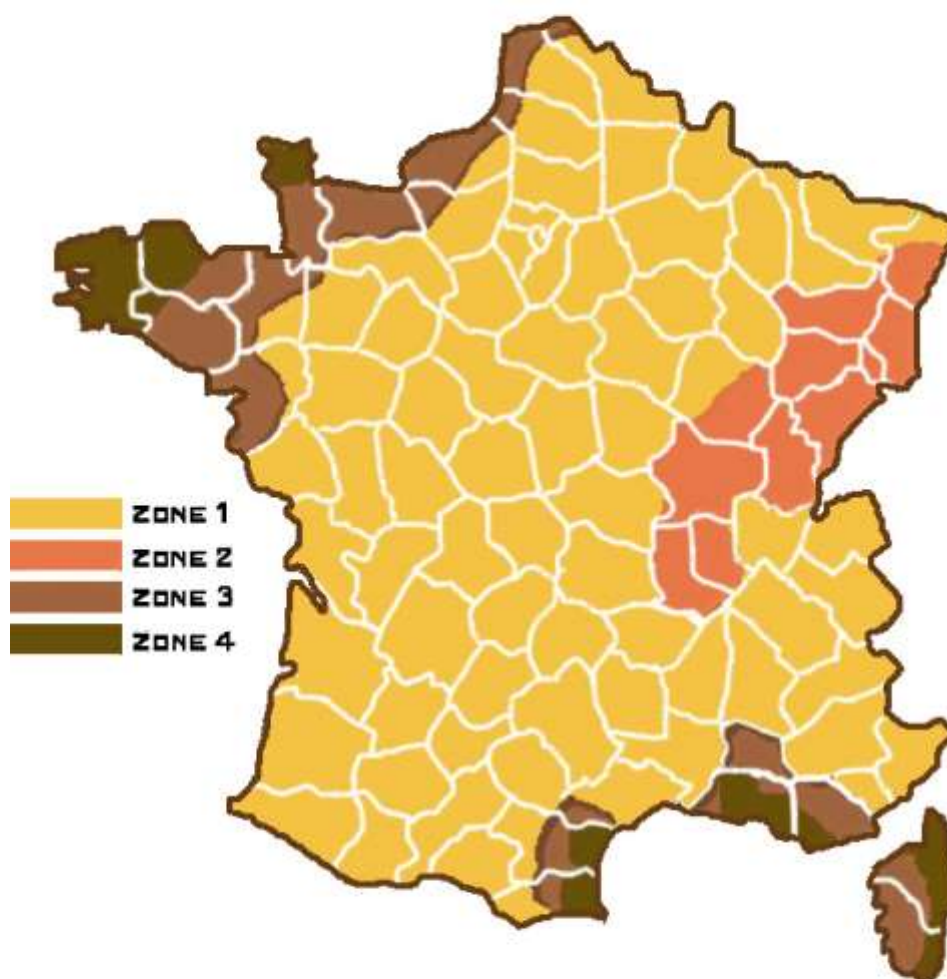


Assembly of panels, panels and upper section or panels and lower section :

- Install the panels on each other.
- The locking systems must be face to face : tighten the screws.



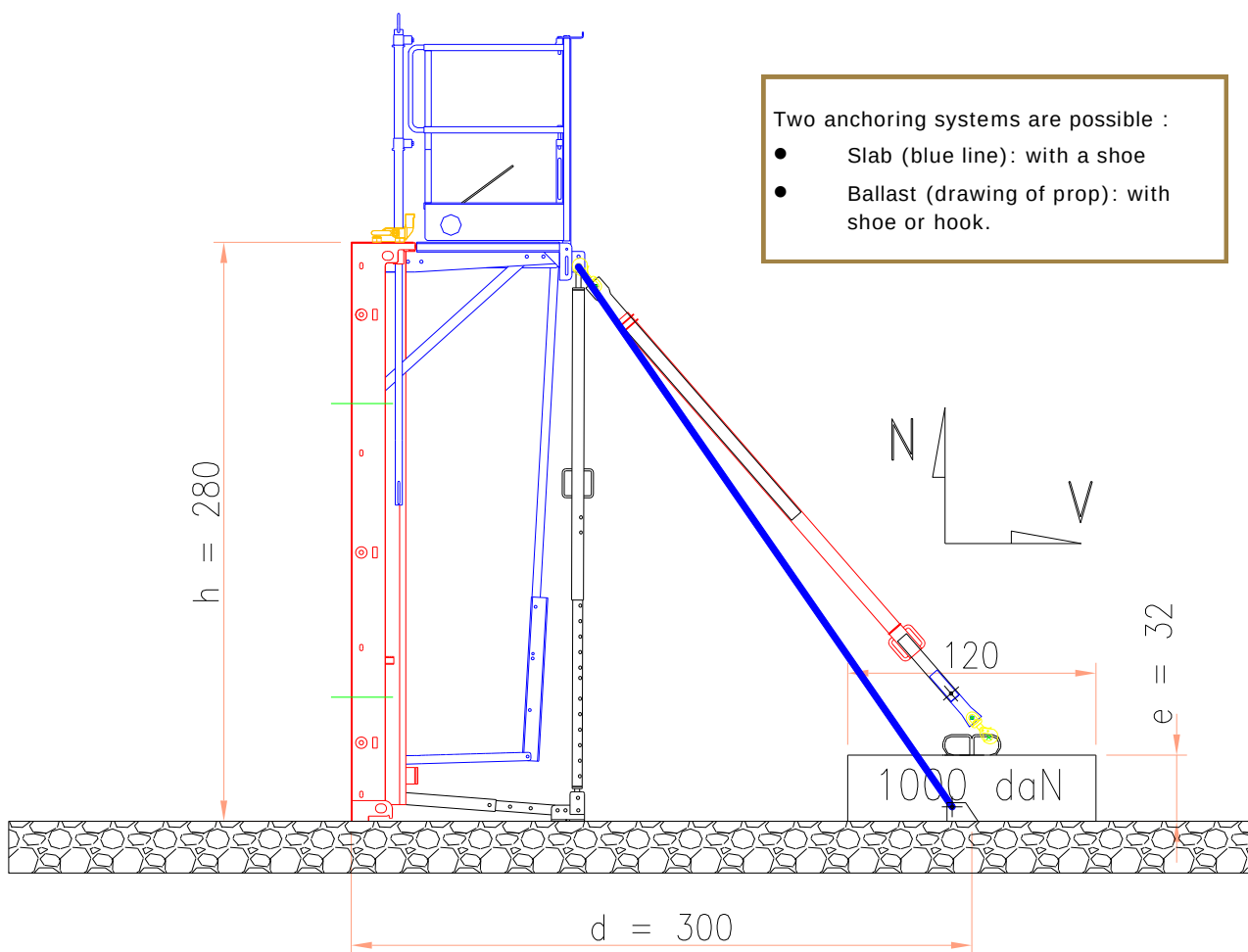
> WIND PRESSURE



NV65 Rules : pressures and wind speeds					
Reference pressures at 10m above ground level					
	Site	Normal Pressure	Extreme Pressure	Normal Speed	Extreme Speed
		Pa	Pa	km/h	km/h
Zone 1	Protected	400,0	700,0	92,0	121,7
	Normal	500,0	875,0	102,9	136,1
Zone 2	Protected	480,0	840,0	100,8	133,3
	Normal	600,0	1050,0	112,7	149,1
Zone 3	Protected	600,0	1050,0	112,7	149,1
	Normal	750,0	1312,5	126,0	166,6
Zone 4	Protected	720,0	1260,0	123,4	163,3
	Normal	900,0	1575,0	138,0	182,6
zone 5 (DOM-TOM)	Protected	1200,0	2100,0	159,3	210,8
	Normal	1200,0	2100,0	159,3	210,8

> STABILITY

> SUPERIMPOSITION 2800

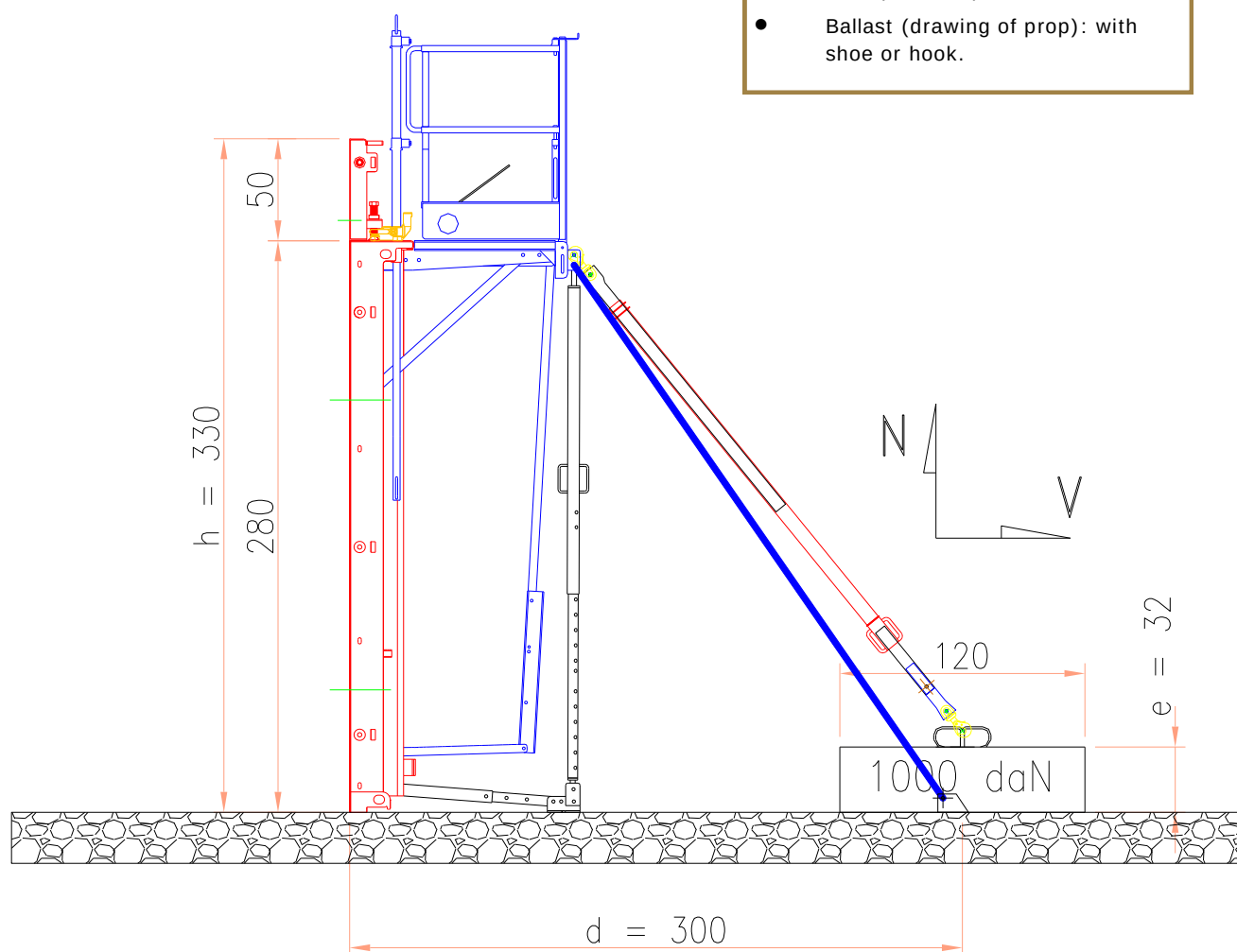


		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h	126km/h Face to face shutter panels	138K/h Face to face shutter panels
Prop (interaxial maxi 120cm)	250/350 Push- pull Prop	250/350 Push- pull Prop	250/350 Push- pull Prop	250/350 Push- pull Prop
Ballast	1000 kg	1000 kg	1250 kg	1500 kg
Request	N= 160daN V=100daN	N=280daN V=180daN	N=345daN V=220daN	N=415daN V=265daN
Max load Stabilising prop	200 kg	350 kg	450 kg	500 kg

> SUPERIMPOSITION 2800+500

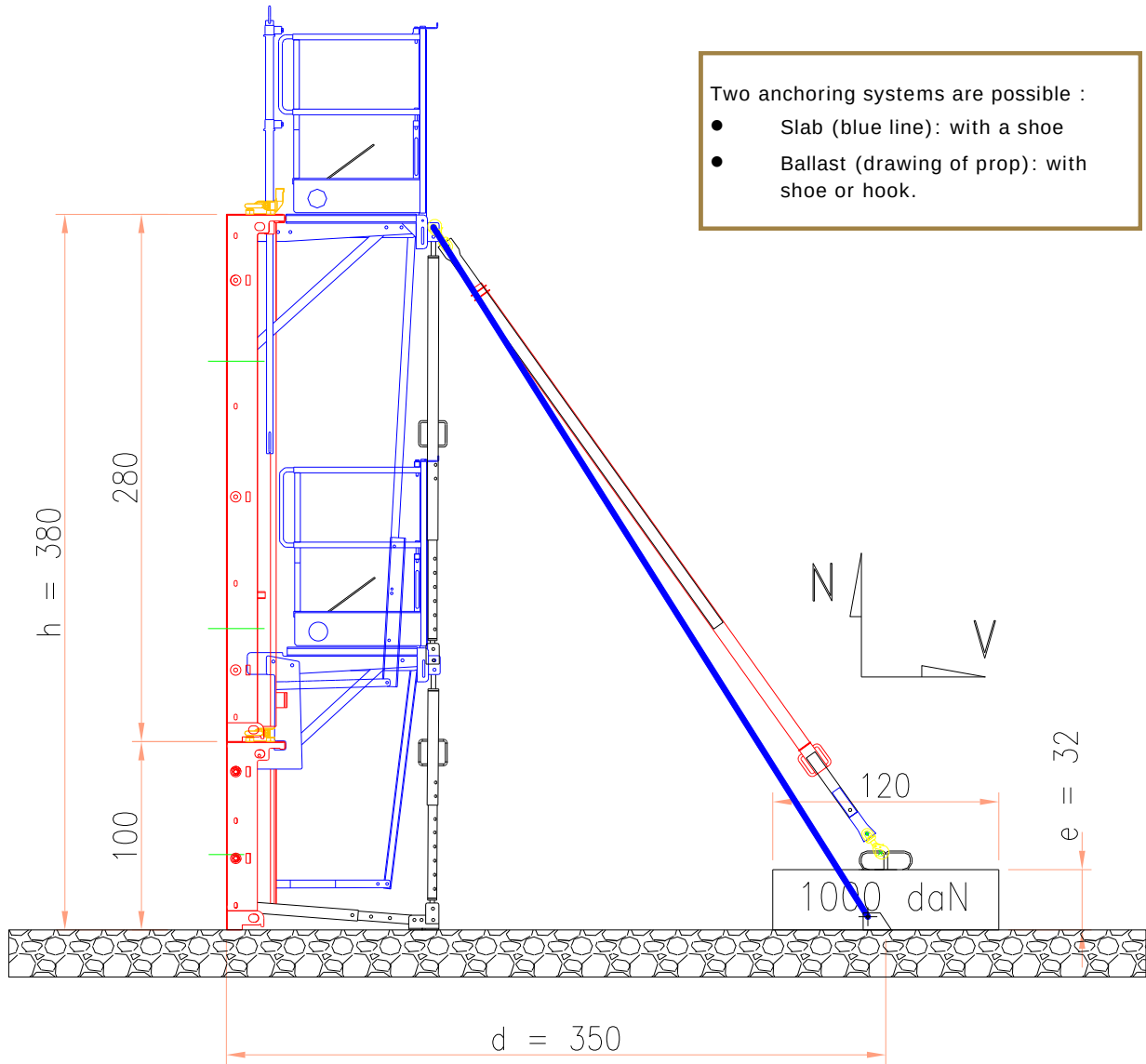
Two anchoring systems are possible :

- Slab (blue line): with a shoe
- Ballast (drawing of prop): with shoe or hook.



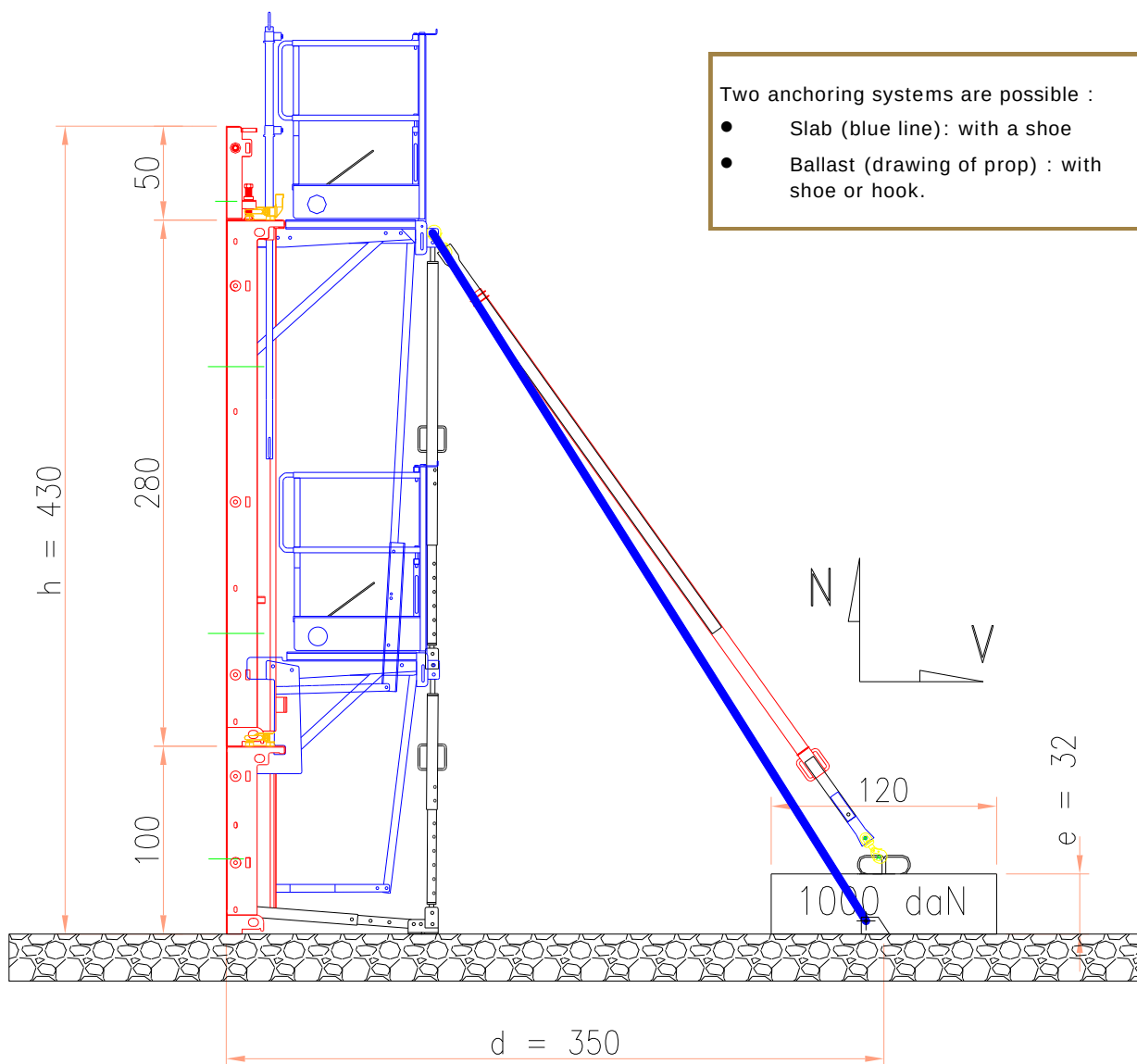
		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop maxi 120cm spacing	250/350 Push- pull Prop	250/350 Push-pull Prop	250/350 Push-pull Prop	250/350 Push-pull Prop
Ballast	1000 kg	1250 kg	1500 kg	2000 kg
Request	N=220daN V=140daN	N=385daN V=250daN	N=480daN V=310daN	N=575daN V=370daN
Max load Stabilising prop	300 kg	500 kg	600 kg	700 kg

> SUPERIMPOSITION 1000 + 2800



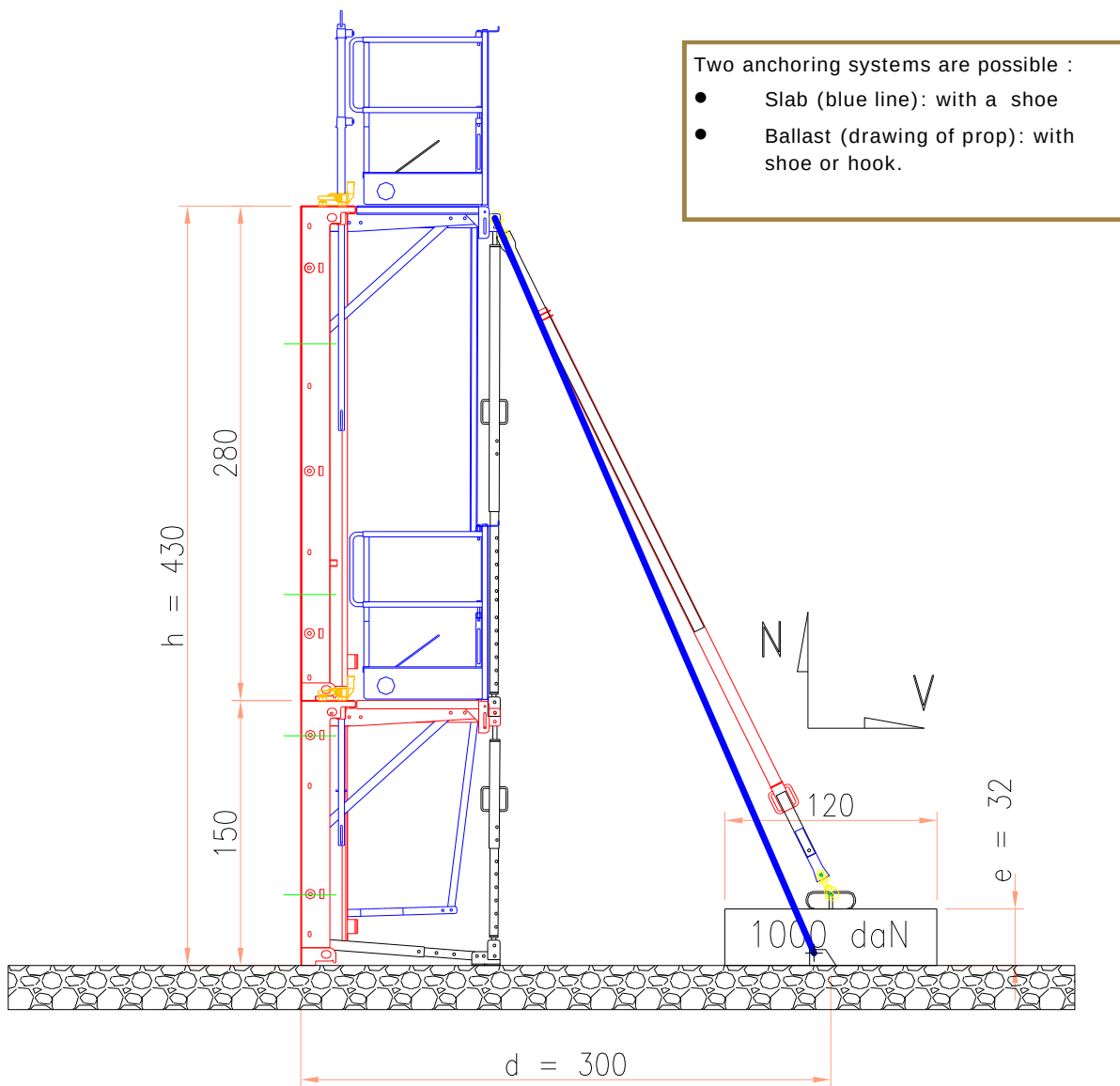
		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h	126km/h Face to face shutter panels	138K/h Face to face shutter panels
Prop (interaxial maxi 120cm)	350/550 Push-pull Prop	350/550 Push-pull Prop	350/550 Push-pull Prop	350/550 Push-pull Prop
Ballast	1000 kg	1250 kg	1500 kg	2000 kg
Request	N=225daN V=140daN	N=400daN V=245daN	N=495daN V=300daN	N=595daN V=360daN
Max load Stabilising prop	300 kg	500 kg	600 kg	700 kg

> SUPERIMPOSITION 1000 + 2800 + 500



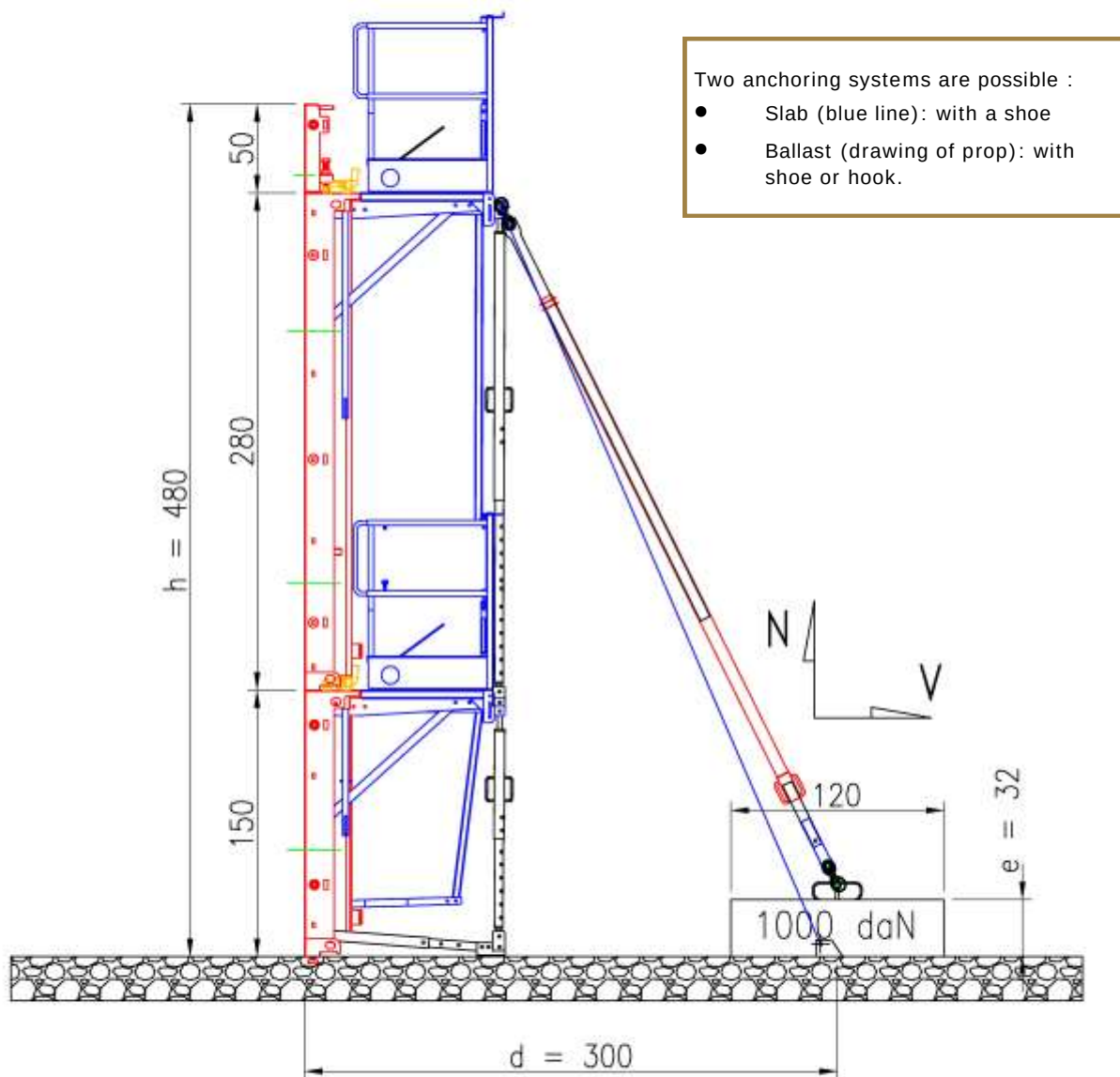
		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop maxi 120cm spacing	350/550 Push-pull Prop	350/550 Push-pull Prop	350/550 Push-pull Prop	350/550 Push-pull Prop
Ballast	1000 kg	1750 kg	2000 kg	2500 kg
Request	N=290daN V=175daN	N=510daN V=310daN	N=540daN V=385daN	N=760daN V=460daN
Max load Stabilising prop	350 kg	600 kg	750 kg	900 kg

> SUPERIMPOSITION 1500 + 2800



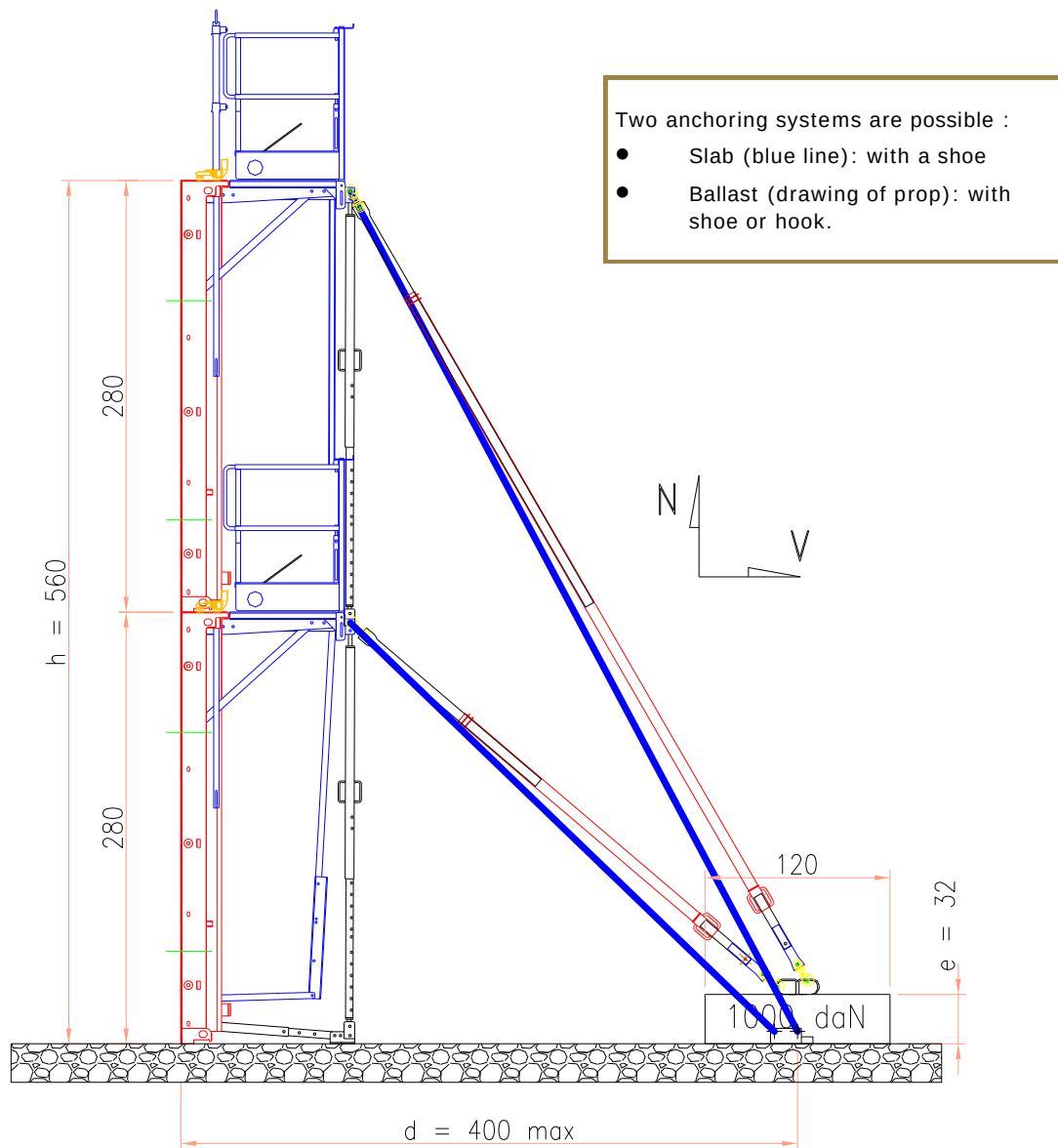
		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop maxi 120cm spacing	350/550 Push-pull Prop	350/550 Push-pull Prop	350/550 Push-pull Prop	350/550 Push-pull Prop
Ballast	1000 kg	1750 kg	2000 kg	2500 kg
Request	N=370daN V=155daN	N=655daN V=275daN	N=810daN V=340daN	N=975daN V=410daN
Max load Stabilising prop	400 kg	750 kg	900 kg	1100 kg

> SUPERIMPOSITION 1500 + 2800 + 500



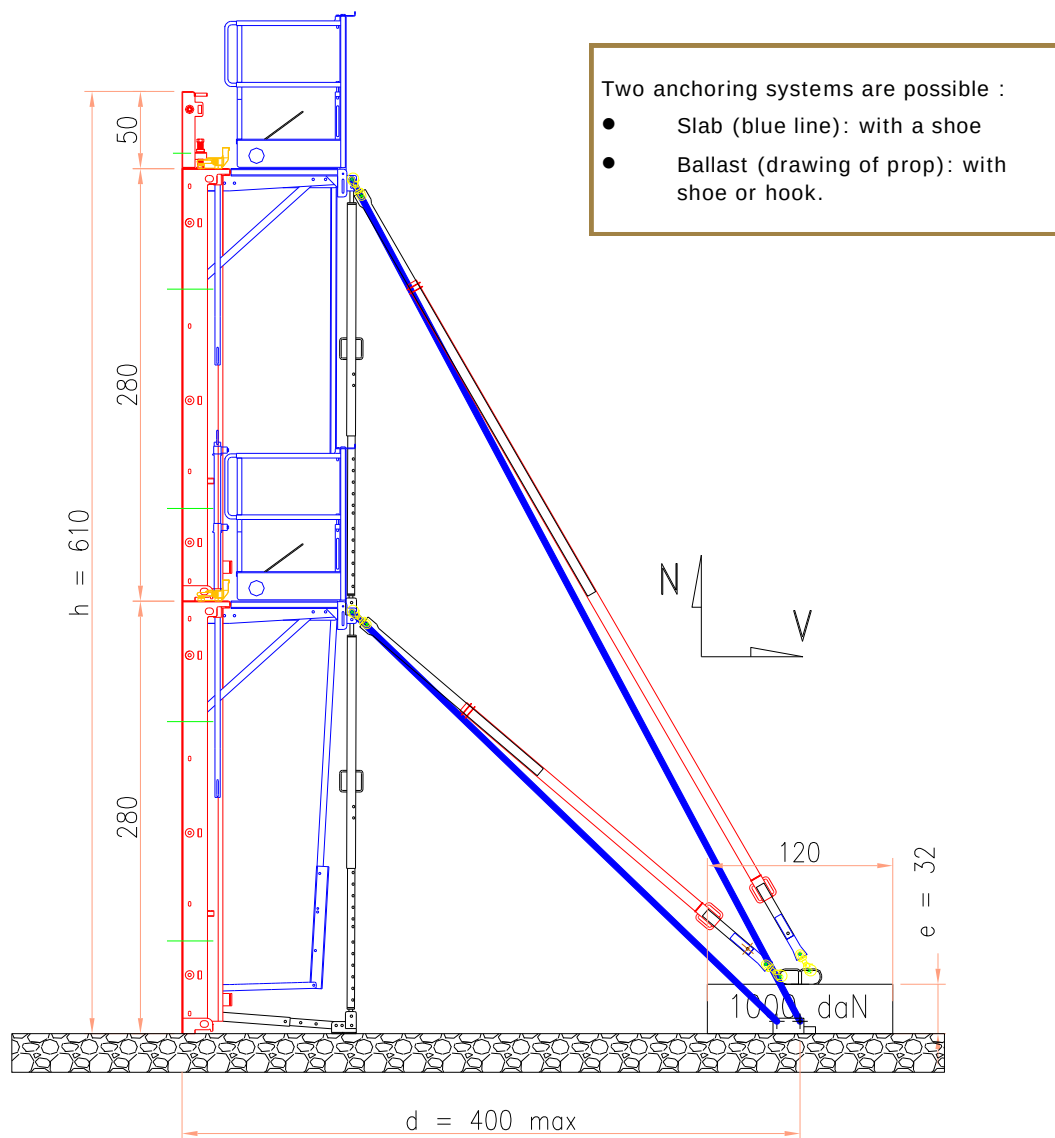
		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop (interaxial maxi 120cm)	350/550 Push-pull Prop	350/550 Push-pull Prop	350/550 Push-pull Prop	350/550 Push-pull Prop
Ballast	1250 kg	1750 kg	2500 kg	3000 kg
Request	N=460daN V=195daN	N=815daN V=340daN	N=1010daN V=425daN	N=1215daN V=510daN
Max effort Stabilising prop	500 kg	900 kg	1100 kg	1350 kg

> SUPERIMPOSITION 2800 + 2800



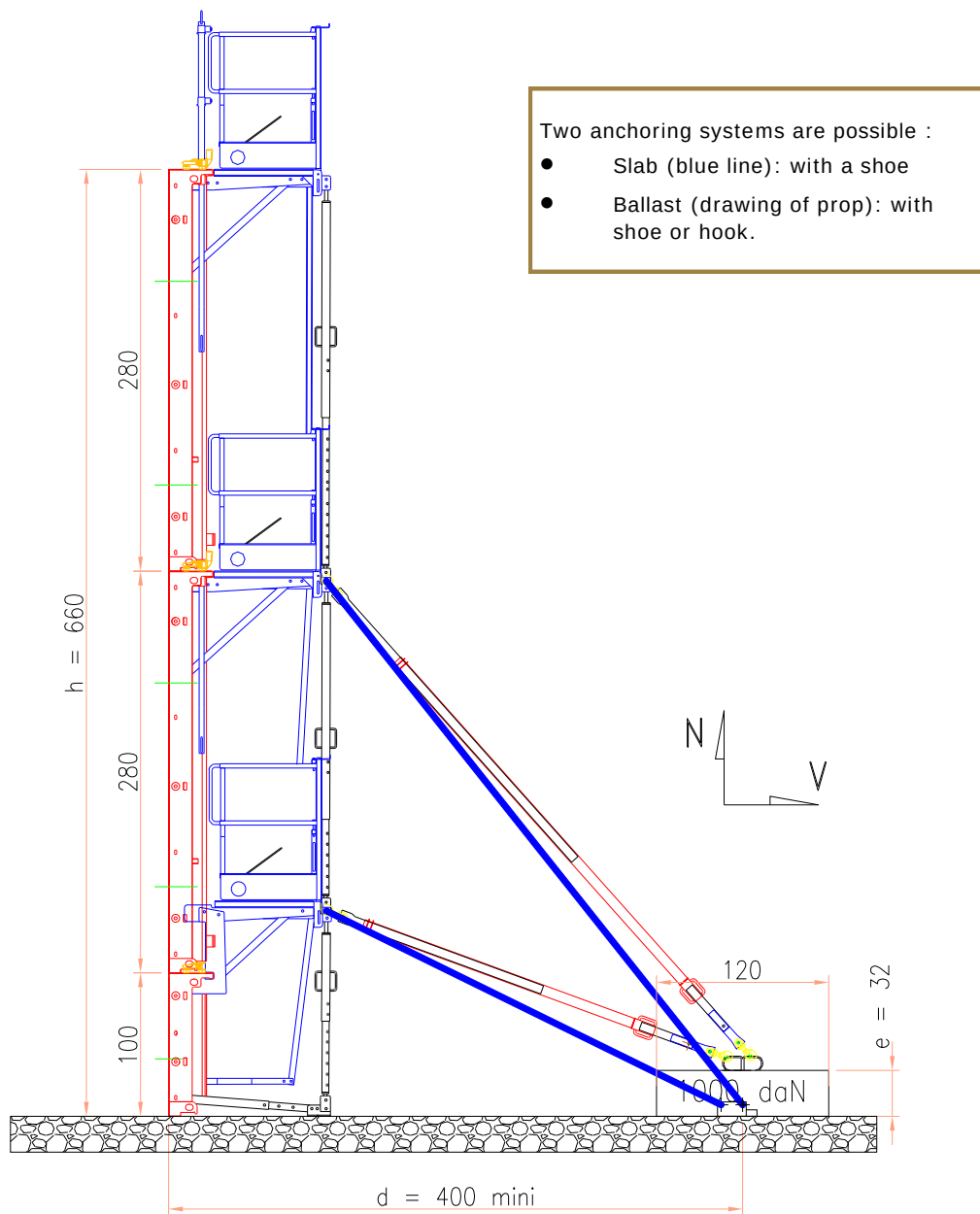
		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop (Maxi prop allowable loads for a 120cm spacing)	350/550 Push-pull prop 450 kg 495/700 Push-pull prop 250 kg	350/550 Push-pull prop 800 kg 495/700 Push-pull prop 400 kg	350/550 Push-pull prop 950 kg 495/700 Push-pull prop 500 kg	350/550 Push-pull prop 1150 kg 495/700 Push-pull prop 600 kg
Ballast	1000 kg	1250 kg	1500 kg	2000 kg
Request	N=405daN V=405daN	N=715daN V=715daN	N=885daN V=885daN	N=1060daN V=1060daN

> SUPERIMPOSITION 2800 + 2800 + 500



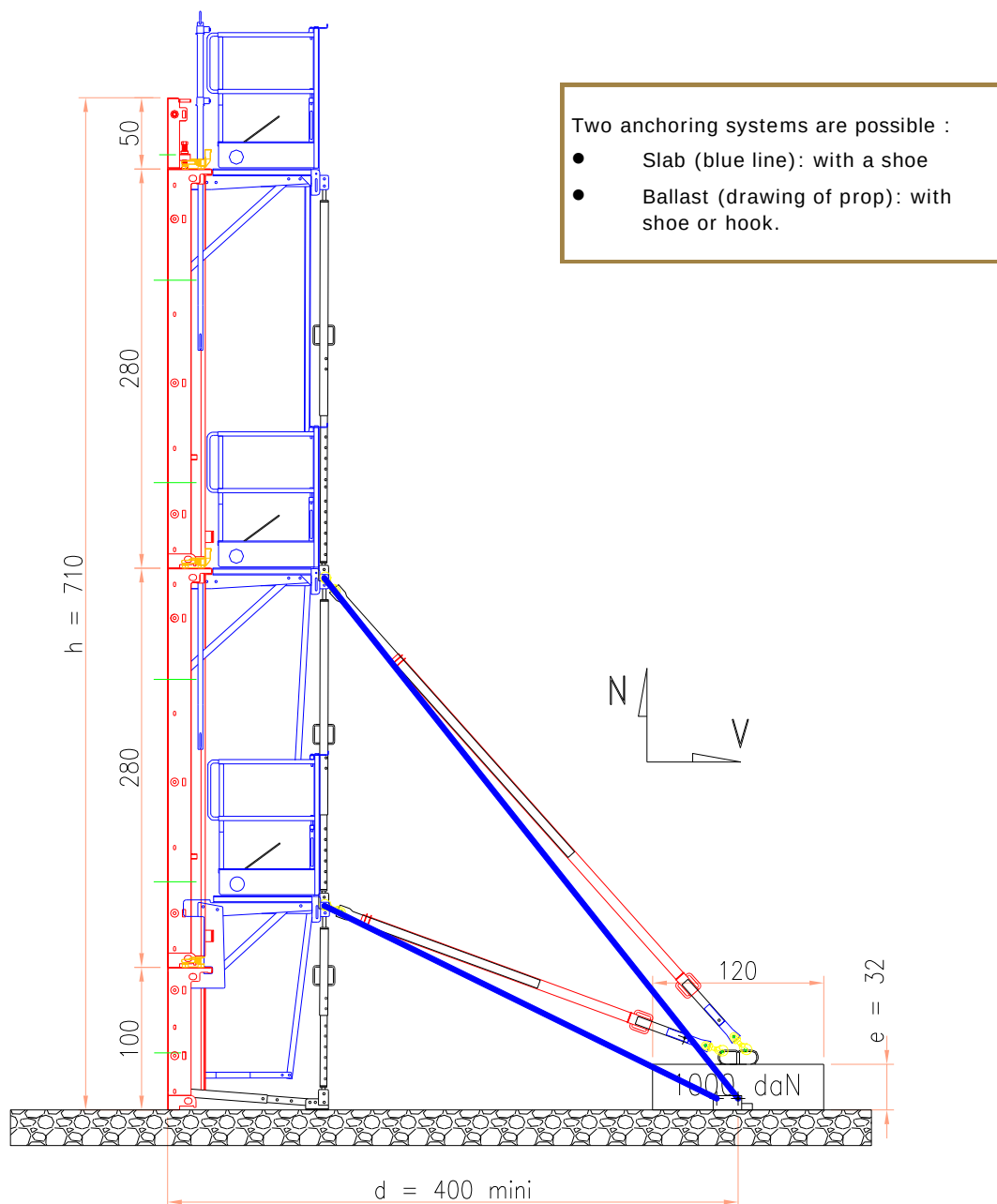
		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h Face to face shutter panels	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop (Maxi prop allowable loads for a 120cm spacing)	350/550 Push-pull prop 600 kg	350/550 Push-pull prop 1000 kg	350/550 Push-pull prop 1250 kg	350/550 Push-pull prop 1500 kg
	495/700 Push-pull prop 100 kg	495/700 Push-pull prop 200 kg	495/700 Push-pull prop 200 kg	495/700 Push-pull prop 250 kg
Ballast	1000 kg	1500 kg	2000 kg	2500 kg
Request	N= 480daN V=440daN	N=845daN V=775daN	N=1050daN V=965daN	N=1260daN V=1155daN

> SUPERIMPOSITION 1000 + 2800 + 2800



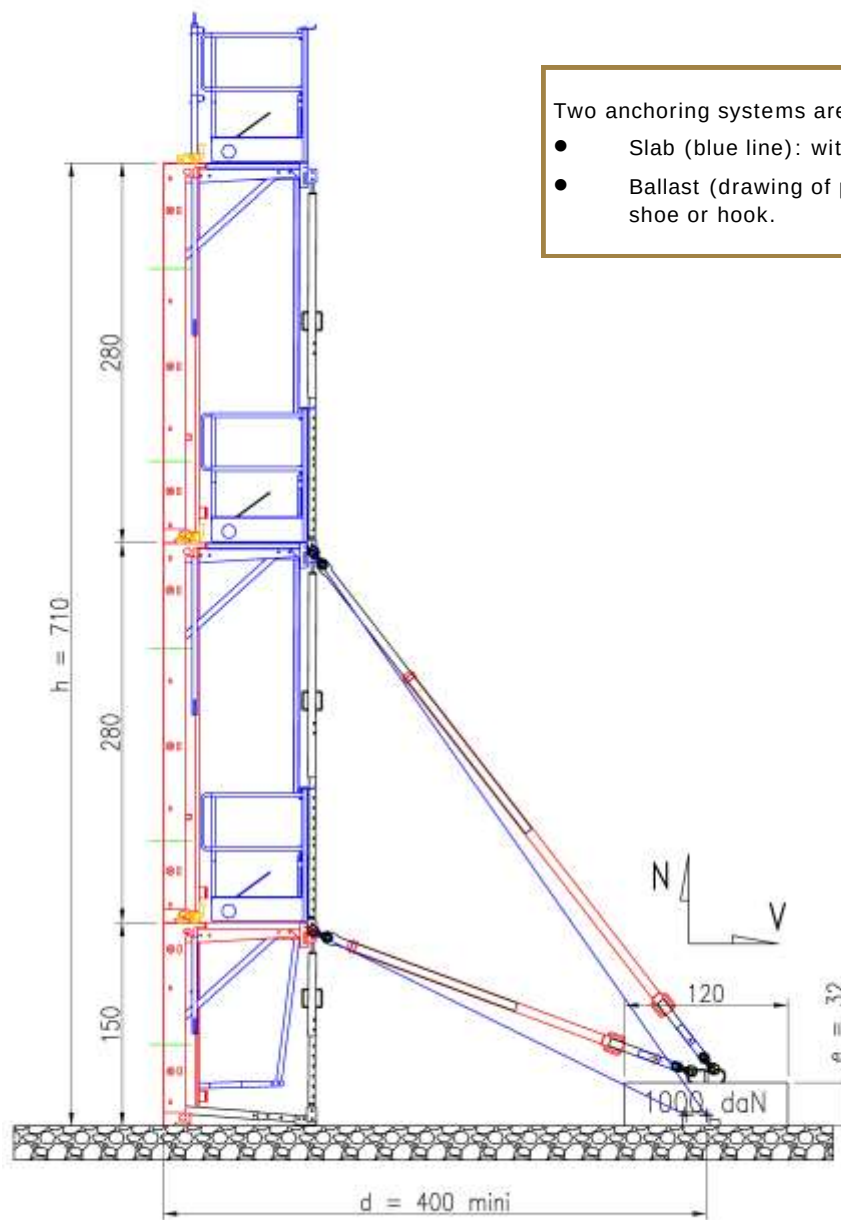
		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h Face to face shutter panels	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop (Maxi prop allowable loads for a 120cm spa- cing)	250/350 Push-pull prop 650 kg 350/550 Push-pull prop 150 kg	250/350 Push-pull prop 1150 kg 350/550 Push-pull prop 200 kg	250/350 Push-pull prop 1400 kg 350/550 Push-pull prop 300 kg	250/350 Push-pull prop 1650 kg 350/550 Push-pull prop 350 kg
Ballast	1000 kg	1750 kg	2500 kg	3250 kg
Request	N=560daN V=475daN	N=990daN V=840daN	N=1230daN V=1045daN	N=1475daN V=1250daN

> SUPERIMPOSITION 1000 + 2800 + 2800 + 500



		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h Face to face shutter panels	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop (Maxi prop allowable loads for a 120cm spacing)	250/350 Push-pull prop 800 kg 350/550 Push-pull prop 100 kg	250/350 Push-pull prop 1400 kg 350/550 Push-pull prop 150 kg	250/350 Push-pull prop 1700 kg 350/550 Push-pull prop 150 kg	250/350 Push-pull prop 2100 kg 350/550 Push-pull prop 200 kg
Ballast	1000 kg	2000 kg	3000 kg	4000 kg
Request	N=650daN V=510daN	N=1145daN V=905daN	N=1420daN V=1120daN	N=1705daN V=1345daN

> SUPERIMPOSITION 1500 + 2800 + 2800

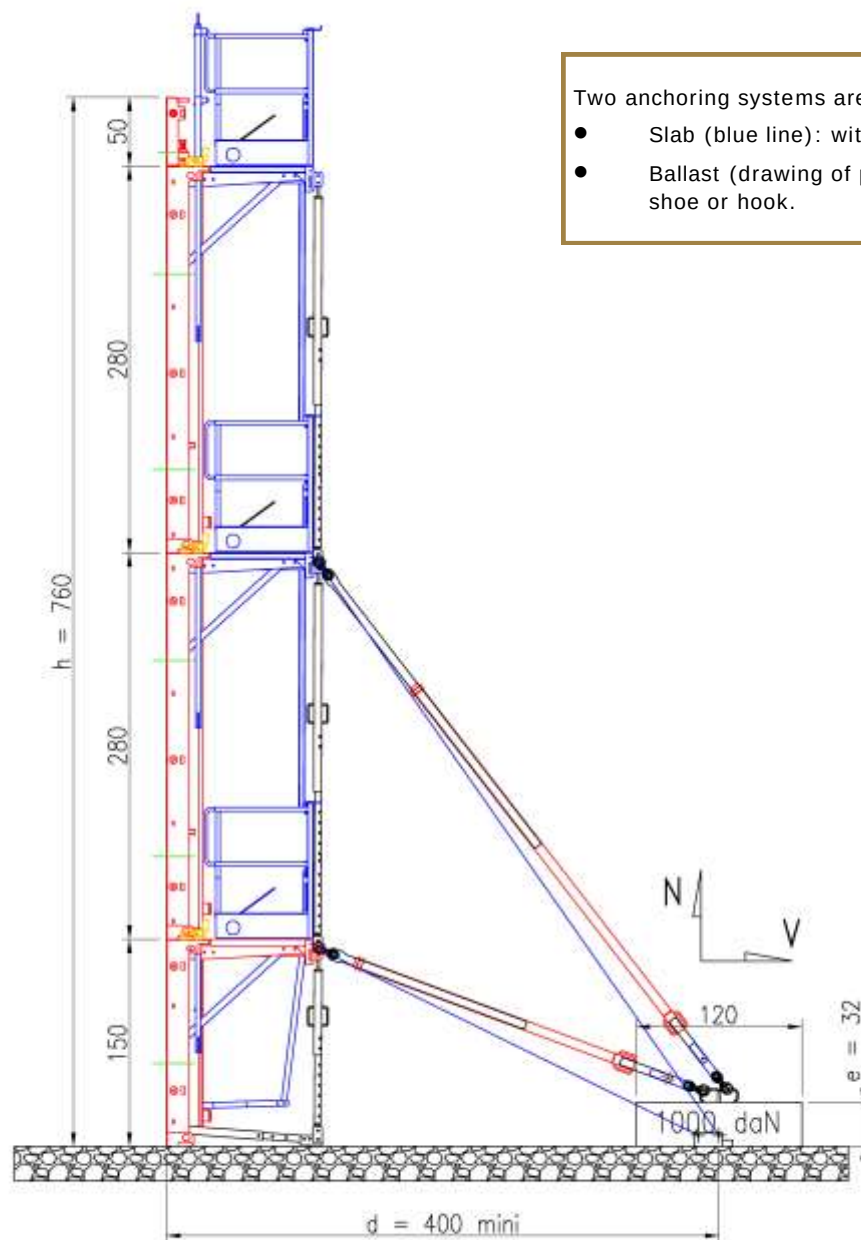


Two anchoring systems are possible :

- Slab (blue line): with a shoe
- Ballast (drawing of prop): with shoe or hook.

		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h Face to face shutter panels	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop (Maxi prop allowable loads for a 120cm spa- cing)	250/350 Push-pull prop 700 kg 350/550 Push-pull prop 200 kg	250/350 Push-pull prop 1250 kg 350/550 Push-pull prop 300 kg	250/350 Push-pull prop 1550 kg 350/550 Push-pull prop 350 kg	250/350 Push-pull prop 1850 kg 350/550 Push-pull prop 450 kg
Ballast	1000 kg	2000 kg	3000 kg	4000 kg
Request	N=645daN V=510daN	N=1145daN V=905daN	N=1420daN V=1120daN	N=1705daN V=1345daN

> SUPERIMPOSITION 1500 + 2800 + 2800 + 500

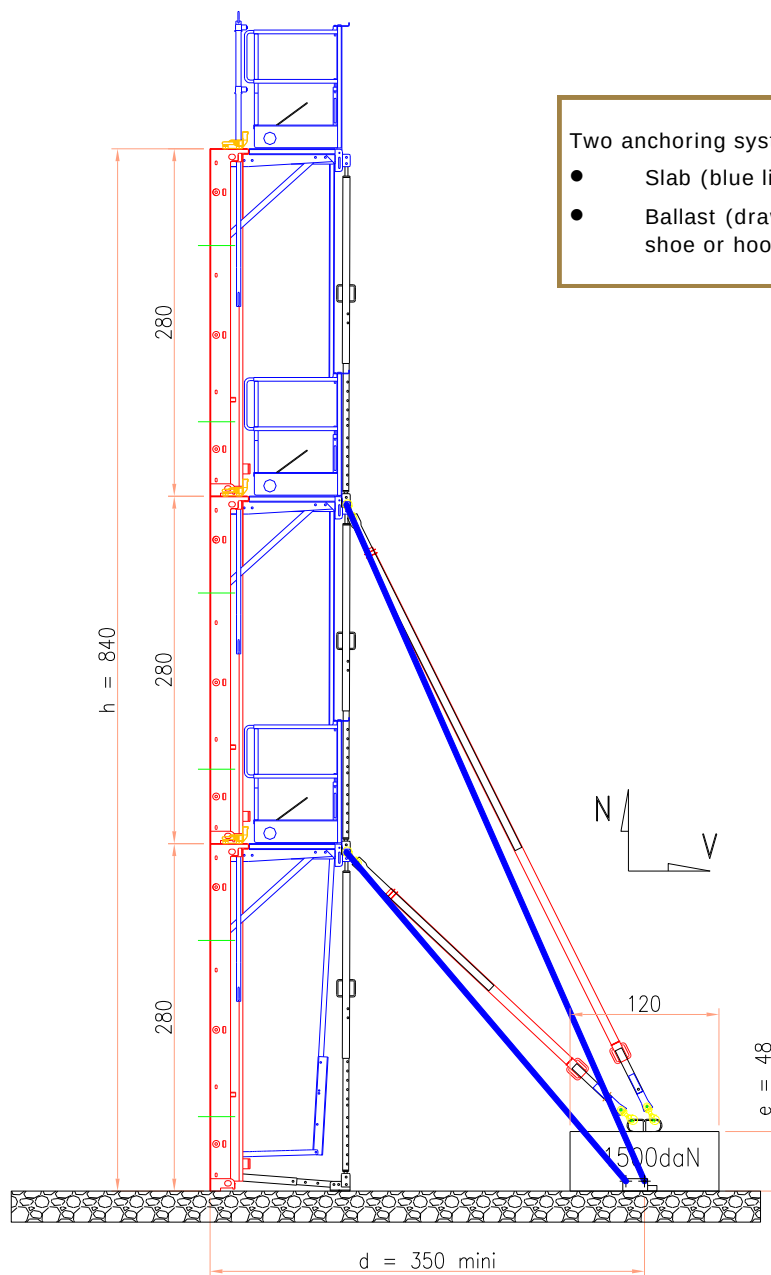


Two anchoring systems are possible :

- Slab (blue line): with a shoe
- Ballast (drawing of prop): with shoe or hook.

		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h Face to face shutter panels	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop (Maxi prop allowable loads for a 120cm spacing)	250/350 Push-pull prop 850 kg 350/550 Push-pull prop 150 kg	250/350 Push-pull prop 1500 kg 350/550 Push-pull prop 200 kg	250/350 Push-pull prop 1850 kg 350/550 Push-pull prop 250 kg	250/350 Push-pull prop 2200 kg 350/550 Push-pull prop 300 kg
Ballast	1000 kg	3000 kg	3000 kg	5000 kg
Request	N=740daN V=545daN	N=1310daN V=965daN	N=1385daN V=1200daN	N=1660daN V=1440daN

> SUPERIMPOSITION 2800 + 2800 + 2800

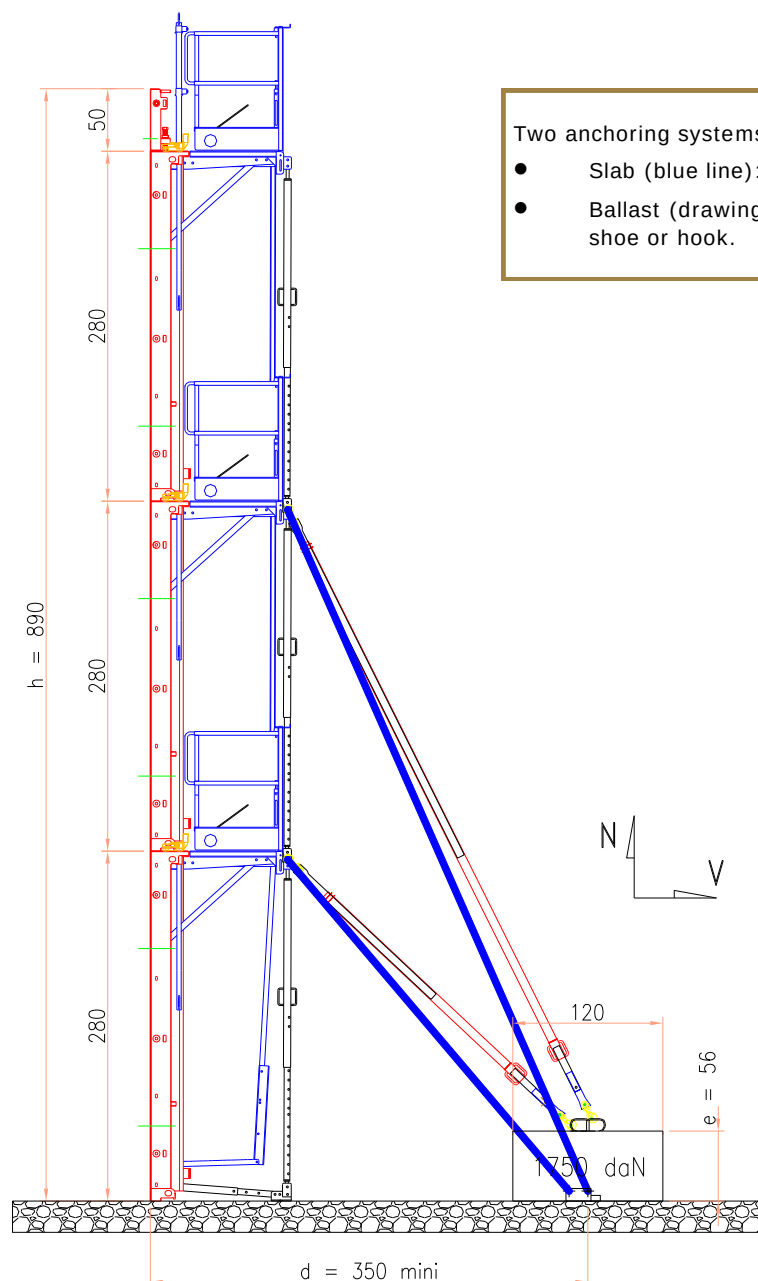


Two anchoring systems are possible :

- Slab (blue line): with a shoe
- Ballast (drawing of prop): with shoe or hook.

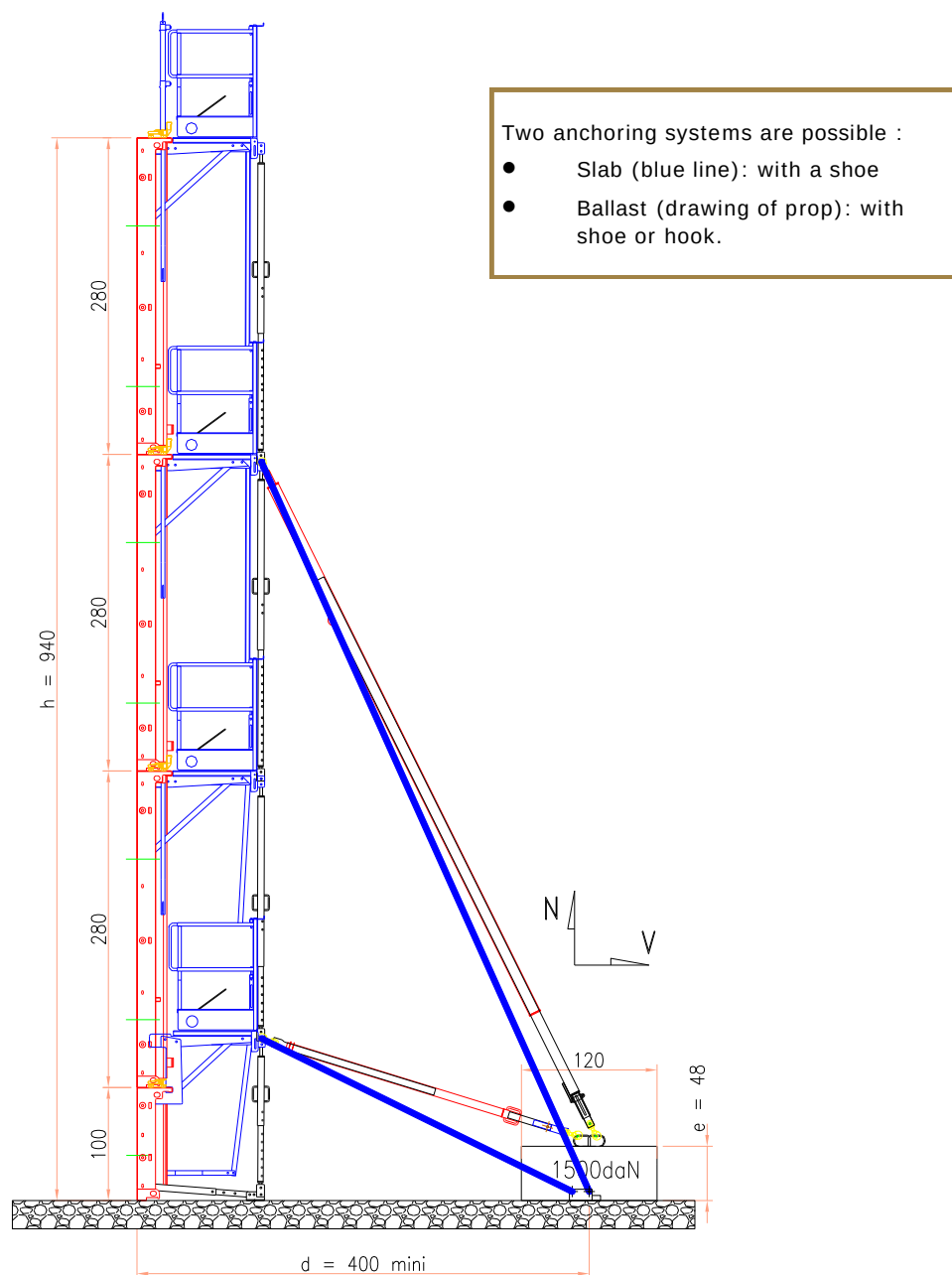
		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h Face to face shutter panels	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop (Maxi prop allowable loads for a 120cm spa- cing)	250/350 Push-pull prop 800 kg 495/700 Push-pull prop 500 kg	250/350 Push-pull prop 1450 kg 495/700 Push-pull prop 850 kg	250/350 Push-pull prop 1750 kg 495/700 Push-pull prop 1050 kg	Lay the panels
Ballast	1500 kg	3000 kg	5000 kg	-
Request	N=1100daN V=905daN	N=1950daN V=1070daN	N=2425daN V=1325daN	-

> SUPERIMPOSITION 2800 + 2800 + 2800 + 500



		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop (Maxi prop allowable loads for a 120cm spacing)	250/350 Push-pull prop 800 kg 495/700 Push-pull prop 500 kg	250/350 Push-pull prop 1450 kg 495/700 Push-pull prop 850 kg	Lay the panels	Lay the panels
Ballast	1750 kg	4000 kg	-	-
Request	N=1235daN V=640daN	N=2190daN V=1130daN	-	-
Max effort Stabilising prop	800 kg 500 kg	1450 kg 850 kg	1750 kg 1050 kg	-

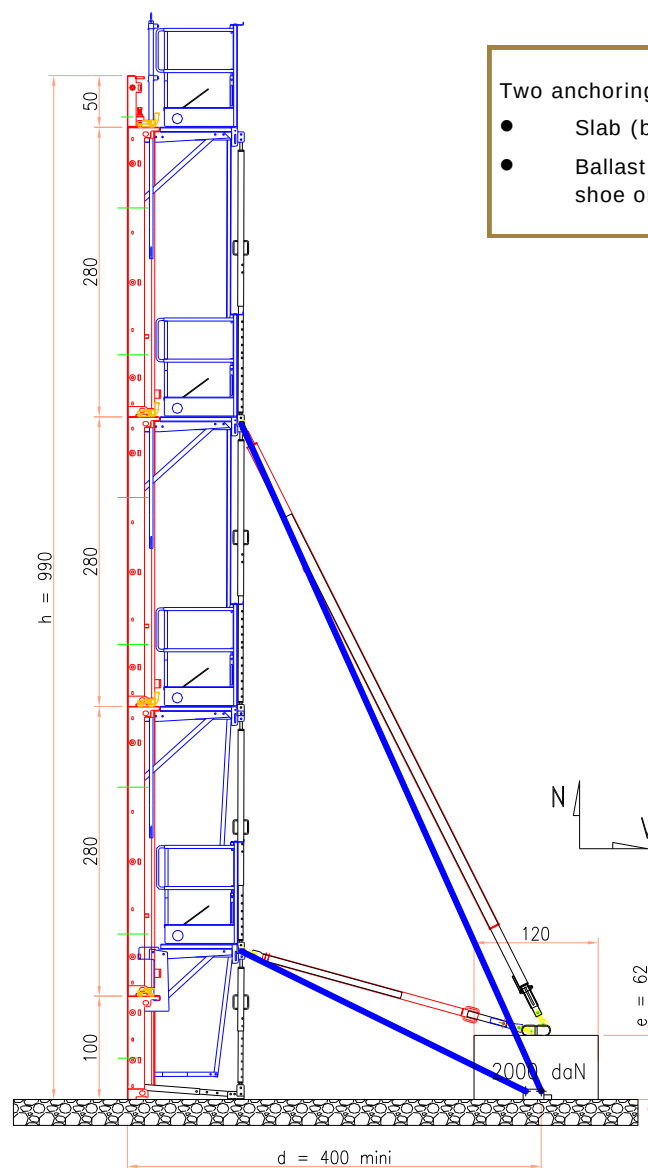
> SUPERIMPOSITION 1000 + 2800 + 2800 + 2800



		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h Face to face shutter panels	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop (Maxi prop allowable loads for a 120cm spacing)	250/350 Push-pull prop 1100 kg 600/1000 Push-pull prop 300 kg	250/350 Push-pull prop 1950 kg 600/1000 Push-pull prop 550 kg	Lay panels on the ground	Lay panels on the ground
Ballast	1750 kg	3500 kg	-	-
Request	N=1335daN V=675daN	N=2005daN V=1195daN	-	-

> SUPERIMPOSITION

1000 + 2800 + 2800 + 2800 + 500



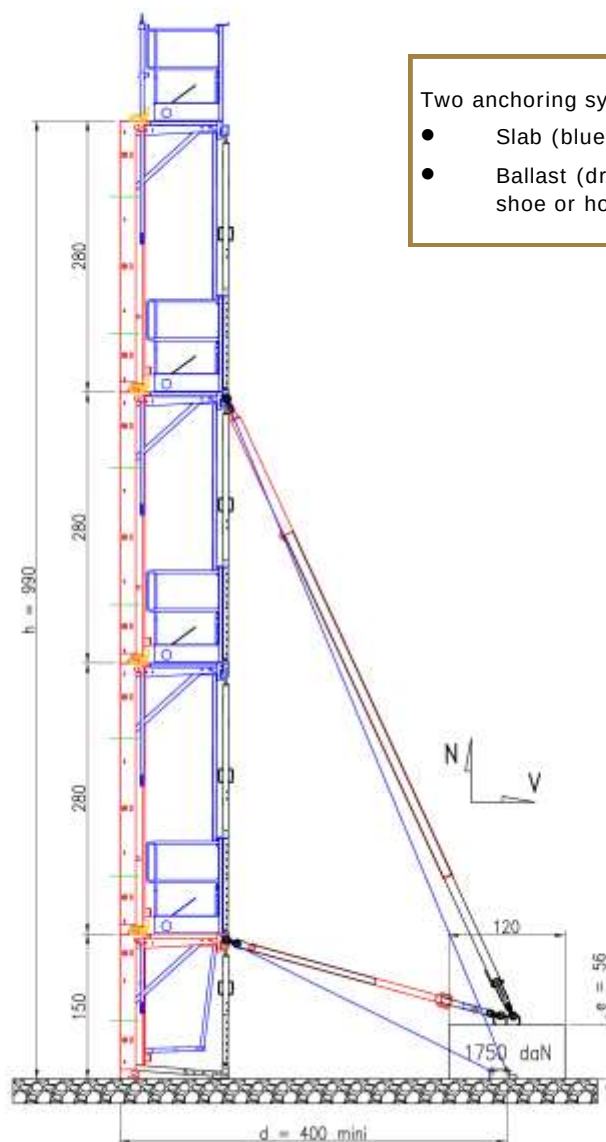
Two anchoring systems are possible :

- Slab (blue line): with a shoe
- Ballast (drawing of prop): with shoe or hook.

		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Kmh	126km/h Face to face shutter panels	138Kmh Face to face shutter panels
Prop (Maxi prop allowable loads for a 120cm spacing)	250/350 Push-pull prop 1300 kg 600/1000 Push-pull prop 250 kg	Lay the panels	Lay the panels	Lay the panels
Ballast	2000 kg	-	-	-
Request	N=1280daN V=710daN	-	-	-

> SUPERIMPOSITION

1500 + 2800 + 2800 + 2800



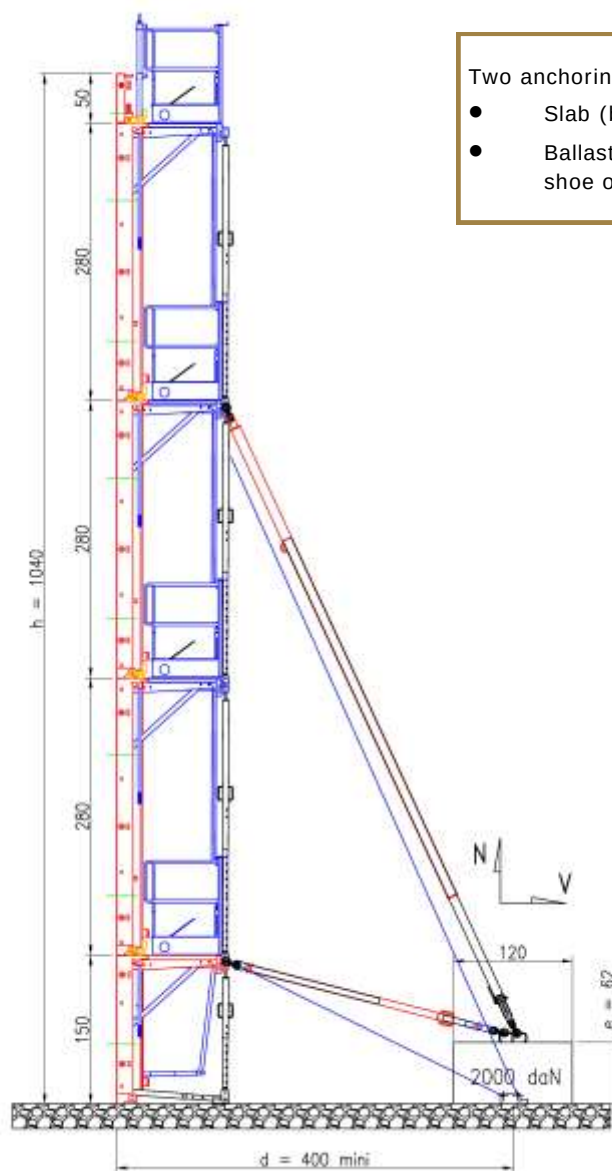
Two anchoring systems are possible :

- Slab (blue line): with a shoe
- Ballast (drawing of prop): with shoe or hook.

		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop (Maxi prop allowable loads for a 120cm spacing)	250/350 Push-pull prop 1200 kg 600/1000 Push-pull prop 350 kg	Lay panels on the ground	Lay panels on the ground	Lay panels on the ground
Ballast	2000 kg	-	-	-
Request	N=1280daN V=710daN	-	-	-

> SUPERIMPOSITION

$$1500 + 2800 + 2800 + 2800 + 500$$



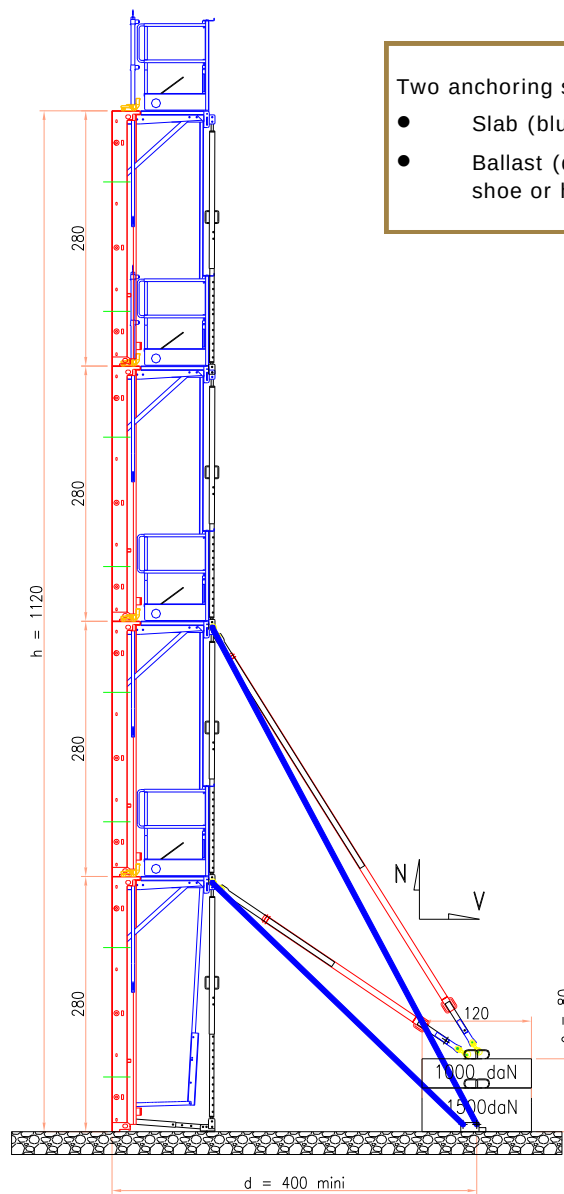
Two anchoring systems are possible :

- Slab (blue line): with a shoe
- Ballast (drawing of prop): with shoe or hook.

		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop (Maxi prop allowable loads for a 120cm spacing)	250/350 Push-pull prop 1350 kg 600/1000 Push-pull prop 350 kg	Lay the panels	Lay the panels	Lay the panels
Ballast	2000 kg	-	-	-
Request	N=1390daN V=750daN	-	-	-

> SUPERIMPOSITION

2800 + 2800 + 2800 + 2800



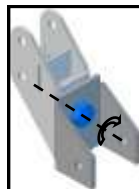
Two anchoring systems are possible :

- Slab (blue line): with a shoe
- Ballast (drawing of prop): with shoe or hook.

		Extreme Wind Zone II	Extreme Wind Zone III	Extreme Wind Zone IV
Wind	85km/h	113Km/h	126km/h Face to face shutter panels	138Km/h Face to face shutter panels
Prop (Maxi prop allowable loads for a 120cm spacing)	495/700 Push-pull prop 600 kg 250/350 Push-pull prop 450 kg	Lay panels on the ground	Lay panels on the ground	Lay panels on the ground
Ballast	2500 kg	-	-	-
Request	N=1610daN V=805daN	-	-	-

> PUSH-PULL PROP CHARACTERISTICS

Fixing system on the prop top : BK hook or shoe.



Shoe



BK Hook

Allowable loads in fixing system : 2T

Fixing system on prop bottom : BK hook, shoe or double shoe.



Double shoe



Shoe



BK Hook

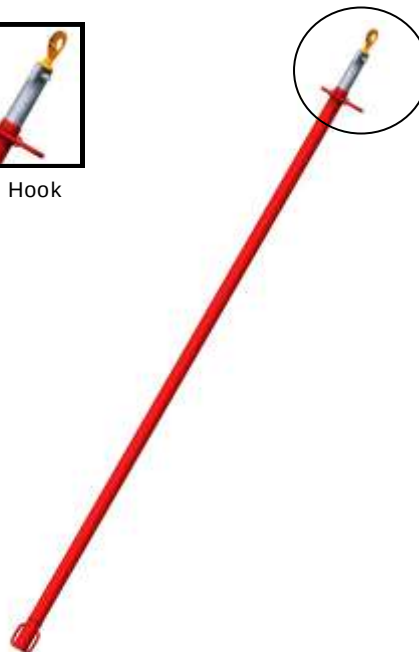
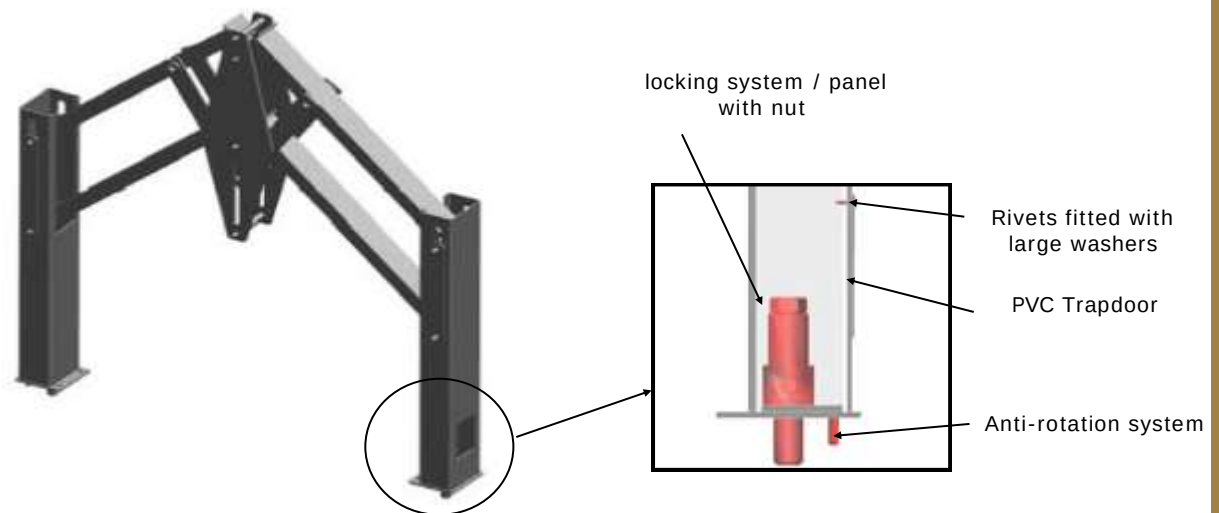


Chart of allowable loads
(Safety factor of 1.65)

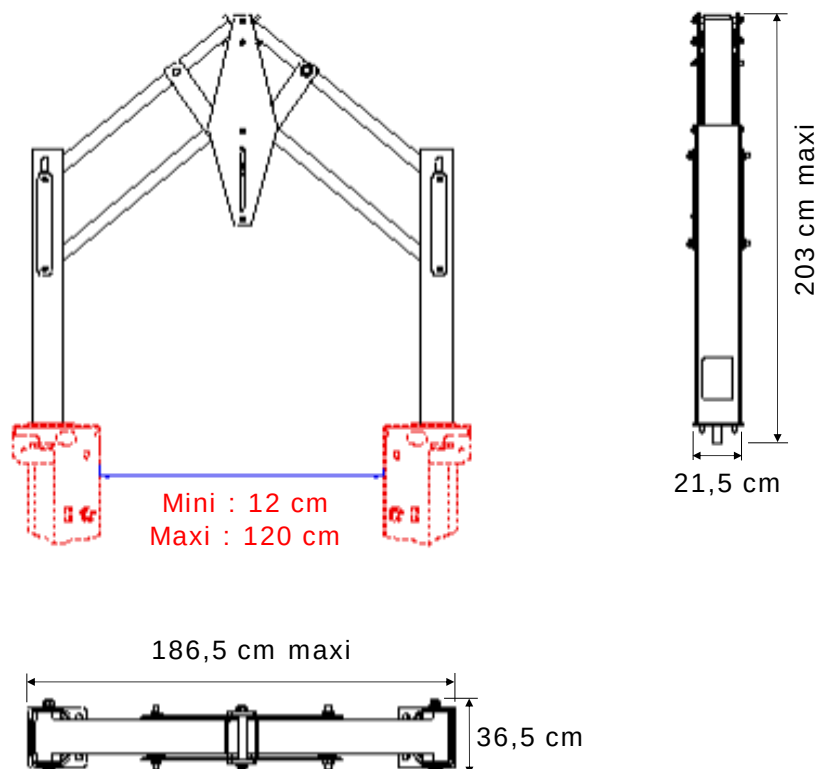
Height	<u>230/350</u> <u>Push-pull prop or</u> <u>290/390 with</u> <u>BK/BK</u> <u>assembly</u>	<u>350/550</u> <u>Push-pull prop</u> <u>or 390/590 with</u> <u>BK/BK</u> <u>assembly</u>	<u>495/720</u> <u>Push-pull prop</u> <u>or 535/740</u> <u>with BK/BK</u> <u>assembly</u>	<u>1000</u> <u>Push-pull prop</u> <u>or 625/1025</u> <u>with BK/BK</u> <u>assembly</u>
2.50 m	3,2T	-	-	-
3.00 m	2,5T	-	-	-
3.50 m	2T	2,5 T	-	-
4.00 m	-	2 T	-	-
4.50 m	-	1,75 T	-	-
5.00 m	-	1,5 T	3,2T	-
5.50 m	-	1,2 T	2,2 T	-
6.00 m	-	-	1,6 T	3,4 T
6.50 m	-	-	1 T	3,4 T
7.00 m	-	-	0,6T	2,9 T
7.50 m	-	-	-	2,4 T
8.00 m	-	-	-	2 T
8.50 m	-	-	-	1,7 T
9.00 m	-	-	-	1,4 T
9.50 m	-	-	-	1,2 T
10.00 m	-	-	-	1 T

> AUTOMATIC STABILISING SYSTEM

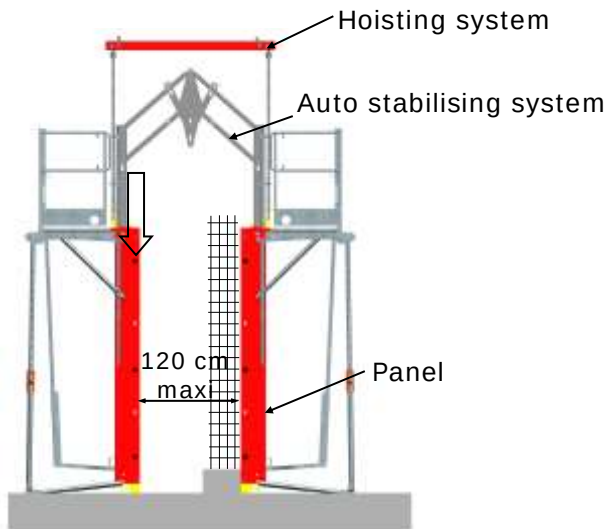


> AUTO STABILISING SYSTEM CONDITIONS of USE for a wind of 85 km / h

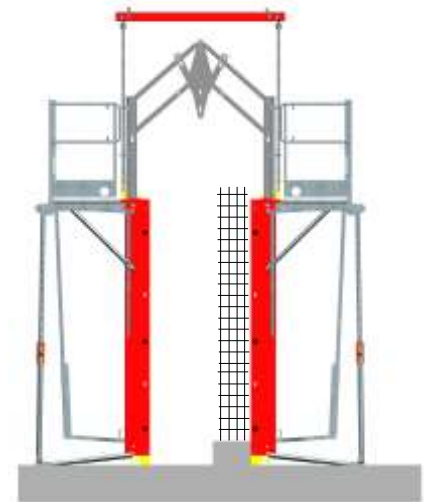
- 2 auto stabilising systems at least for two formwork panels
- 1/ Formwork height : less than or equal to 3.50m
- Maximum spacing between auto stabilising systems : 240cm
- 2 / Formwork height : less than or equal to 6.10m
- Maximum spacing between auto stabilising systems: 120cm



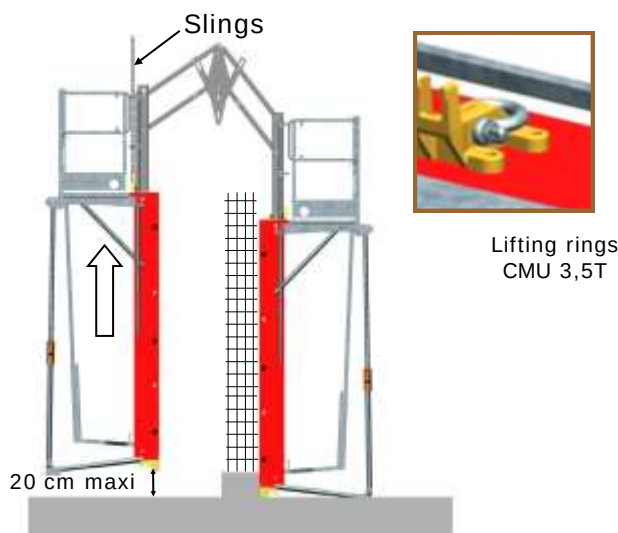
> USE of wind bracing stabilizer type Auto stabilising system



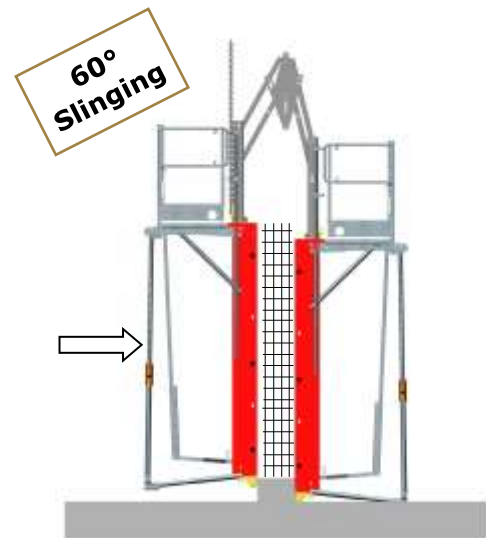
1 — Installation of panels equipped with auto stabilising system
- One of the panels must be pressed against a stop block (needling, abutment ...).



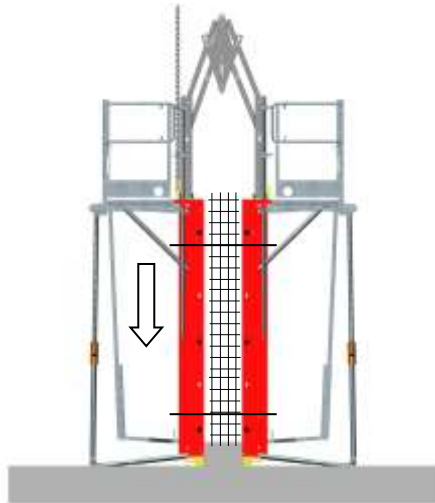
2 — Implementation of the reinforcement ... and various operations schedules ...



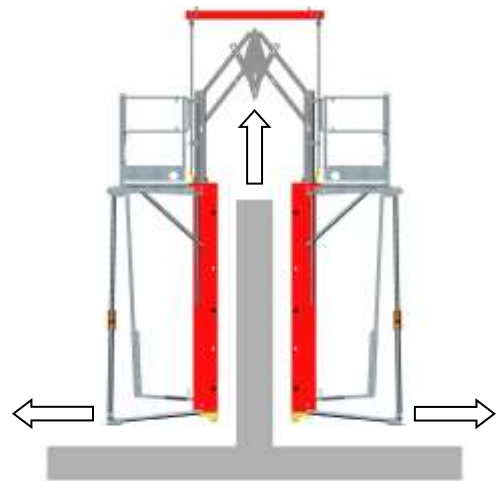
3 — Lifting of the closing panel on 20 cm maximum, thanks to lifting system panel (yellow lifting rings).



4 - Push the closing panel until the stop block.



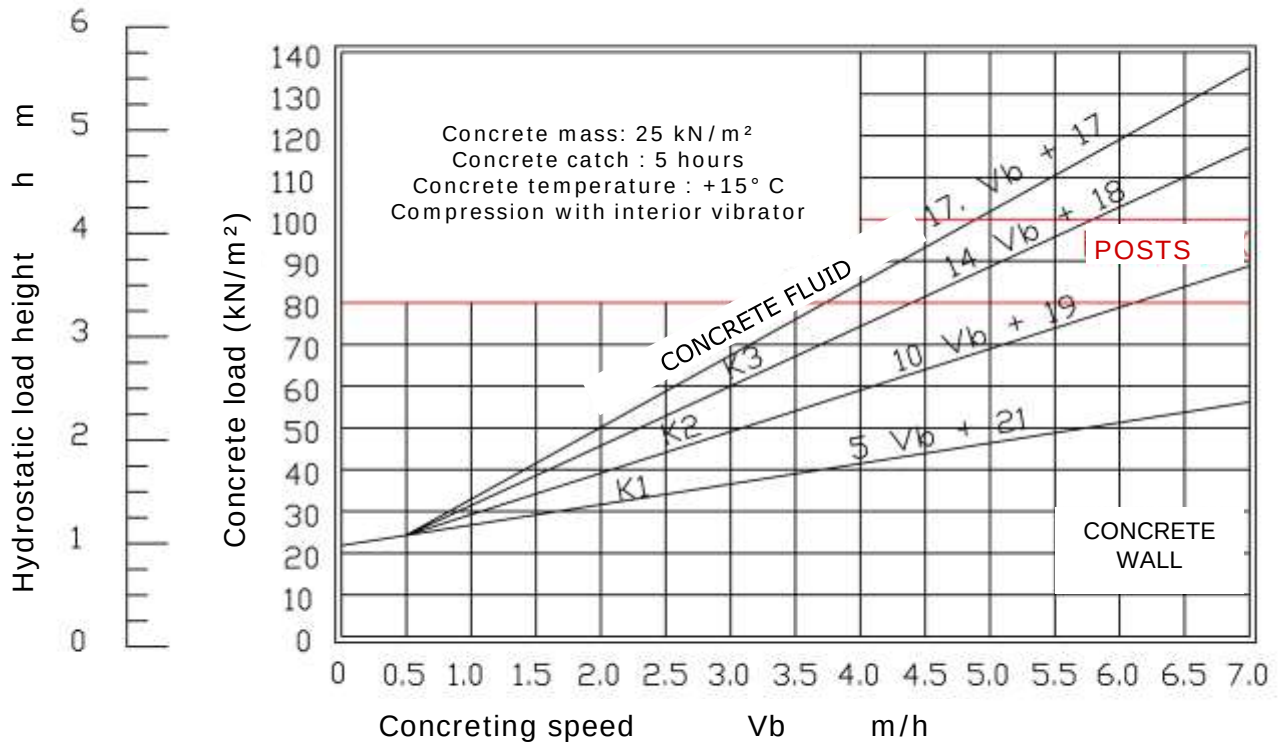
- 5 - Assembly of the closing panel
- Implementation of the formwork tie rods, toe-end aligners ...
 - Check of the panels plumb...
 - Pouring concrete.



- 6 - Remove formwork tie rod, and toe-end aligners ...
- Remove formwork panels.
 - Lift 2 panels with hoisting system : panels automatically move away thanks to auto stabilising system.

> CONCRETE LOAD

VERTICAL FORMWORK CONCRETE LOAD



CONCRETE CONSISTENCY CATEGORY

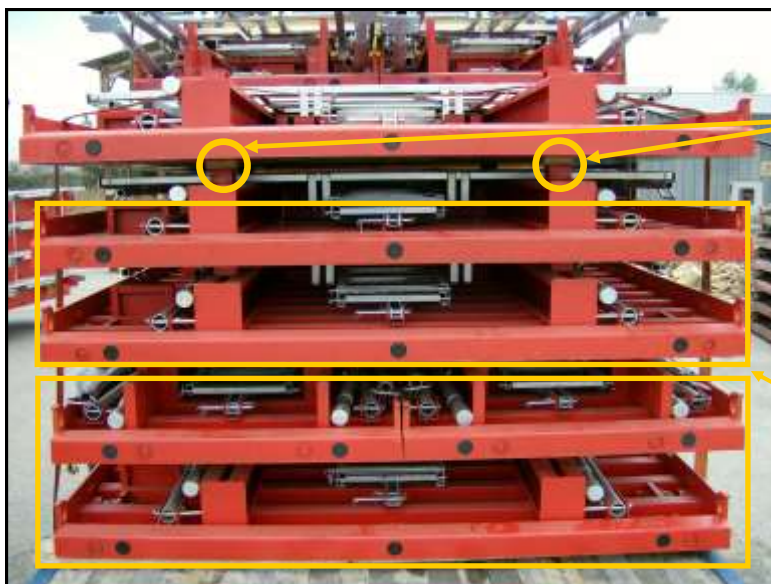
Purport	Symbol	Settlement
Compact	K1	
Plastic	K2	0 < 40
Soft	K3	41 < 50
Liquid		> 50

> SAFETY, STORAGE and SHIPPING INSTRUCTIONS

STORAGE : Panel packing

- Shims must be placed systematically between each level of packed wall formworks. These shims must be placed at the gangway and pad levels.
- Wall formworks must always be packed between them per pack of 2 wall formworks if the wall formworks have the same dimensions, otherwise strapping at each level.
- The greatest wall formworks must always be over the smallest elements.
- The storage and the anchorage on the truck must guarantee an immobilisation and protection of the material during shipment with shims and strapping.
- All the "mobile" elements as internal guardrail and gangway, push-pull prop, etc, must be packed in order they do not move while shipping or unloading.
- The different types of material must not be crossed. Each wall formwork alignment must be independent from the next alignment.

Do not superimpose more than 6 wall formwork !
Maxi load: 4 layers of 6 wall formwork width 2.40 m



Truck overview

SYSTEMATIC SHIMMING AT EACH LEVEL
(4 shims minimum at each level)

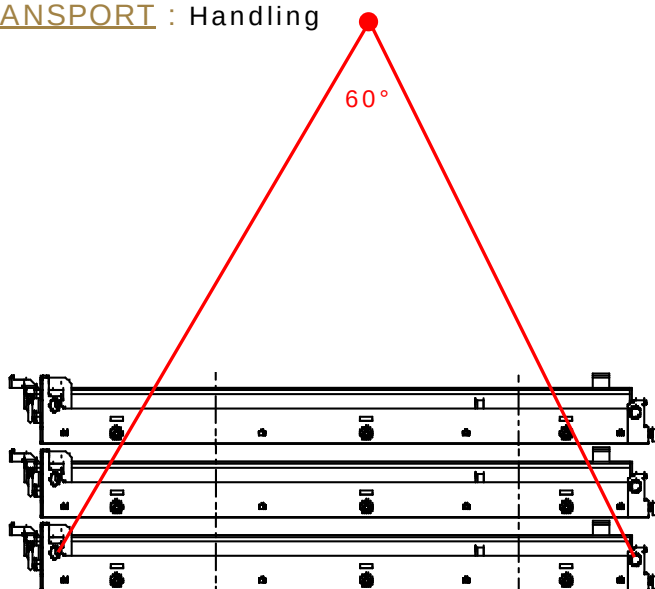
STRAPPING 2 by 2

Wood shims :
Minimum dimensions
100x100x30 mm



> SAFETY, STORAGE and SHIPPING INSTRUCTIONS

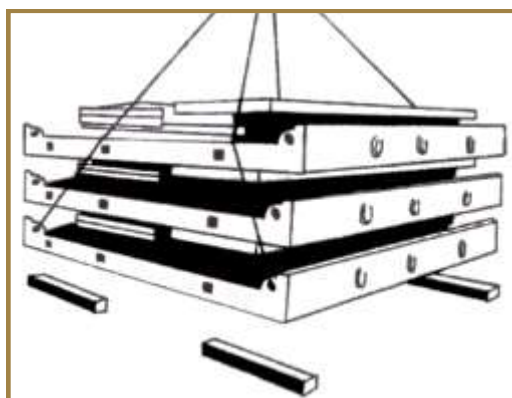
TRANSPORT : Handling



- The angle formed by the two lines must always be smaller than 60° .

- In order to not increase the tensile stress on each sling line, their length X must always be greater than Y.

- 3 wall formwork panels weigh approximately 2,700 kg, each line used must resist to a minimum load of 800 kg.



- All the panels must be laid down on a flat and clean surface, on wood shims parallel to the wall formwork height (see page 22).

- All the wall formworks must be installed in the same direction.

- No offset between the panels.



- Unloading a set of wall formwork panels must be performed with 3 packs of wall formworks.

> MAINTENANCE of PANELS

USE ON SITE

1) Before formwork

In the cleaning area, after unfolding and locking all the safety accessories (bracket, platform and guard-rails) or simply installing them (modular formwork), stabilize the formwork panel :

- Use a high-pressure cleaner to remove storage oil ;
- Spray a fine layer of formwork oil on the formwork face and sides. Wipe away any excess oil.

2) After formwork

Before transferring them to another site or your stockyard :

- Clean the entire panel using a hot water high pressure cleaner ;
- Spray formwork oil auto the formwork face and sides of the panel ;
- Fold and lock safety accessories (or remove them).

GENERAL MAINTENANCE

1) Daily maintenance

- Clean the panel using a hot water high pressure cleaner
- Check the panel face
- Fill in any holes if necessary
- Spray storage oil on the panel face
- Check the safety elements (superimposing and juxtaposing parts, front face protection, folding platform ...)
- If necessary, replace the damaged or worm out fastenings

2) Regular maintenance (frequency according to use)

- Take apart all accessories, check, sand blast and repaint them.
- Sand blast the back and sides of the panel ;
- On the formwork face :
 - Fill holes,
 - Check the flatness of the panel and straight on if necessary,
 - Sand the formwork face,
- Remove any concrete ;
- Oil the formwork face ;
- Paint the formwork panel ;
- Put back all the accessories.



CLEANING AND STORAGE INSTRUCTIONS

Use a spatula to remove any concrete stuck to the formwork face, and to the other parts of the panel ;

- Visual check : all safety elements must be checked by the worker (platform, guardrails, frontal protection, stabilizer). Any damage or broken parts must be replaced and removed from the site.
- Before using, lightly the formwork face and sides with formwork oil and wipe off any excess oil.
- A zone must be reserved for the storage of panels. Flat and clean zone.
- Storage of panels on battens.