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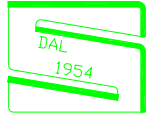
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# *PUSH FLOOR DISCHARGER PRODUCTION SEQUENCE*

*CUSTOMER : .....*

*PLANT : "....."*



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## **PRODUCTION SEQUENCE FOR " SAMEC PUSH FLOOR DISCHARGER " :**

The information in this booklet have been developed in order to highlight the right sequence of operations and priorities that have to be taken into consideration to produce a proper dump pit for the installation of mobile screens "leg discharger".

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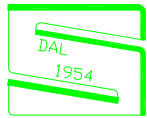
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-File rev. 01 del 06-02-2007



## 1.1 DUPM PIT GENERAL NOTES

The housing dump pit of a leg discharger mobile screens is comprised of a reinforced concrete tank, internally covered by plates, that take in the screens and the material to be discharged.

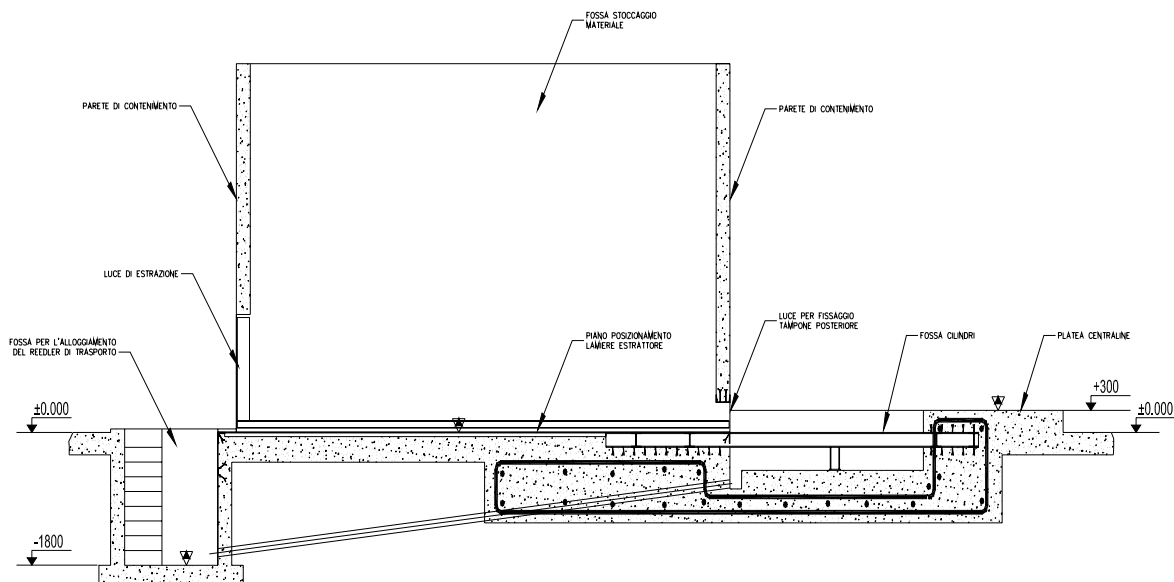
The tank will be at floor thread, in this specific case the reference building line is  $+0.00$ .

As builder and supplier, SAMEC S.p.A. cannot give information concerning the existence and water bed or of geologically inapt areas to this kind of civil works.

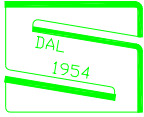
All the information about any field tests and/or aquifer existence have to be requested to the final commissioner.

All the building wall thicknesses that we report on the discharger drawings are exclusively indicative and have there for to be verified and checked by the civil builder.

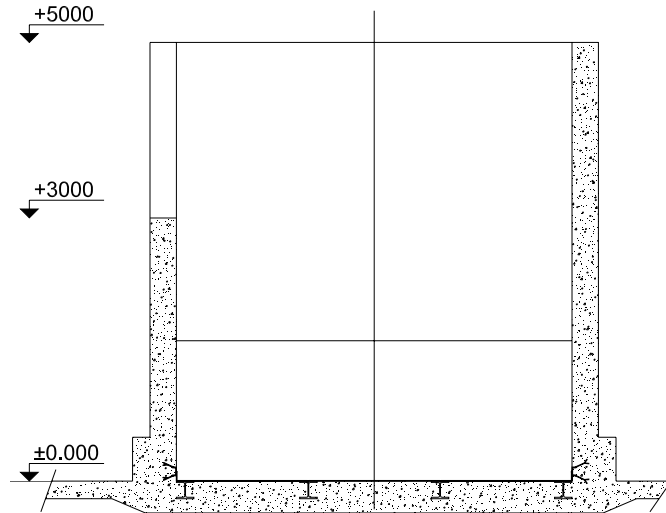
### *Leg Discharger Outline Longitudinal Scheme:*



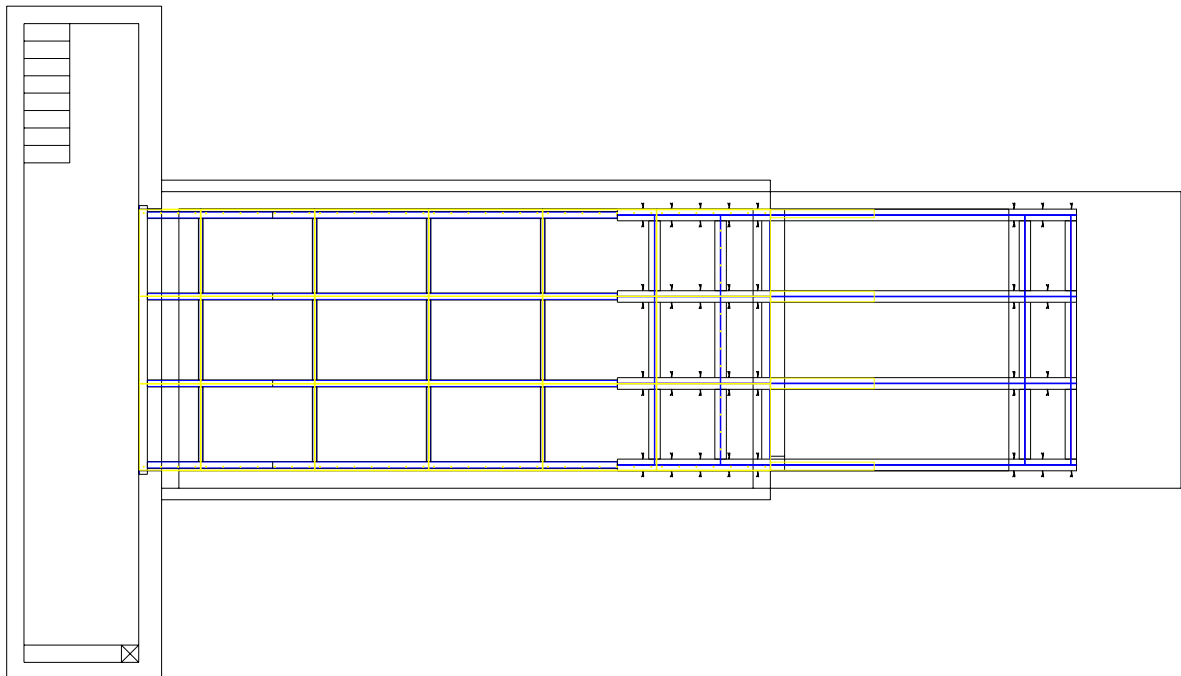
### *Leg Discharger Transversal Scheme:*

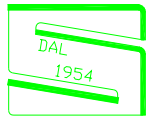


Section A-A



*Leg Discharger Plant View Scheme:*





## 1.1.1 LOADS ON FOUNDATIONS

The dump pit that house the mobile screens is a reinforced concrete tank that contains biomass. The biomass volume is defined by the geometry of the tank itself.

There are also loads due to the presence of the plate supporting metal griddings and of the plate itself, which create the gridding sliding bed.

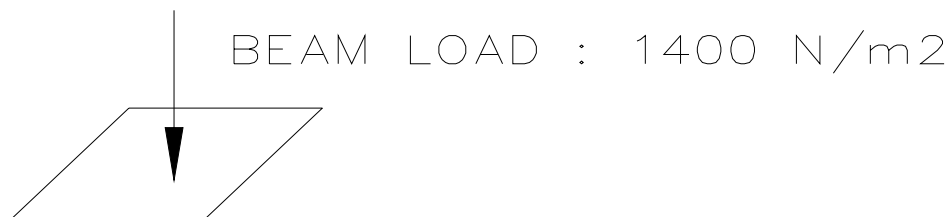
Medium specific gravity of dry material: 300 Kg/m<sup>3</sup>.

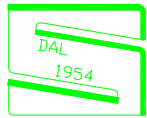
Medium specific gravity of wet material: 450 Kg/m<sup>3</sup>.

Medium specific gravity of material as project: 1000 Kg/m<sup>3</sup>.

(\*\*\* extreme condition in which the rain is taken into account. The water that has been absorbed by the biomass as rain lead the specific gravity of the wet material towards the specific gravity of water 1000Kg/m<sup>3</sup>.)

Maximum height that can be reached during the dump pit load: 5 mt.





## 1.1.2 ROLLS LOAD

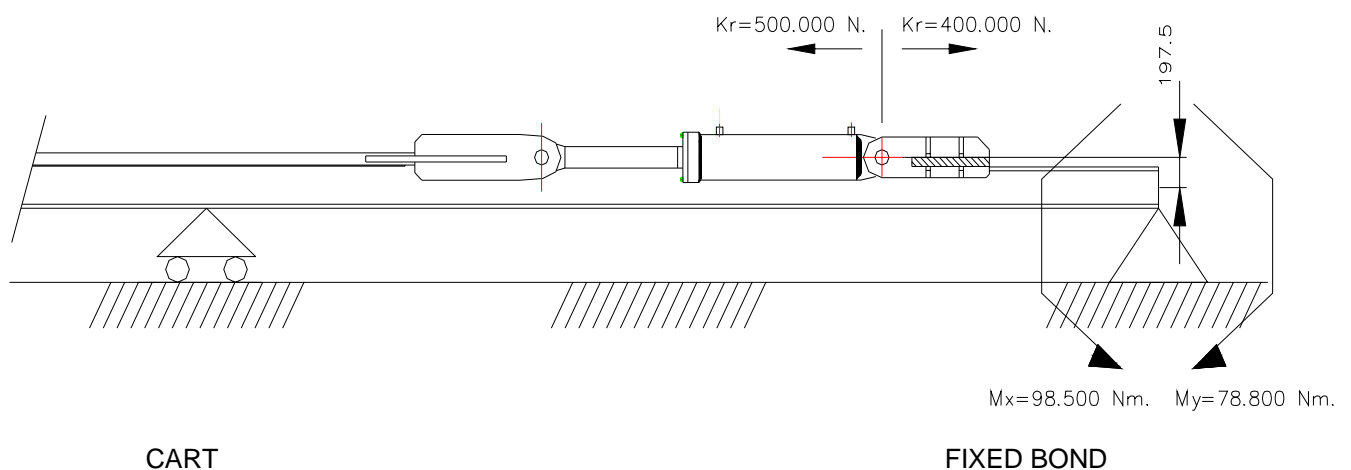
The mobile screens are enabled by using the double effect hydraulic cylinder which are able to convey big loads, both in thrust and return at low linear displacement speed.

Each screen is attended by its own roll which empower the stroke as  $C=800\text{mm}$ .

The hydraulic cylinder are anchored to the beams HEB200 with anchoring brackets that SAMEC S.p.A. will send on site. The brackets will have to be positioned as our drawing 06221IV3551B-0.

The loads produced by the rolls will be transmitted to the beams HEB200 underneath them. The beams will have to be anchored to the civil work.

Loads and reactions as scheme below:



The indicated loads are to be calculate with a max pressure of the electro valve system at the 200 bar.

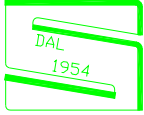
Thrust roll area: 254 cm<sup>2</sup>.

Return roll area: 204 cm<sup>2</sup>.

Working pressure: 120 bar.

Limit reachable pressure: 200 bar.

**NOTE:** it is advisable to consider a lateral component on the beam bonds of 10% of the beam itself because of the position and form tolerances of the screens.

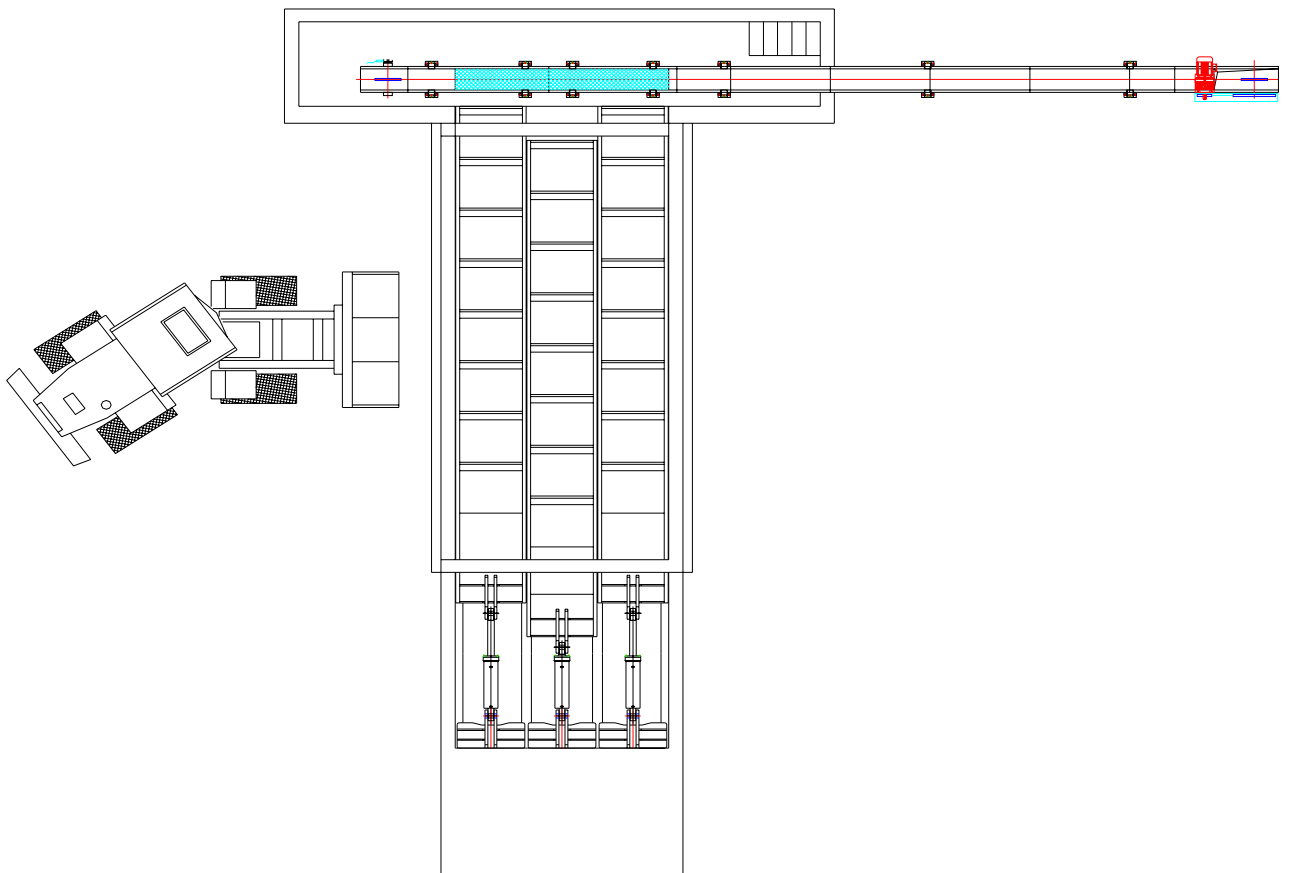


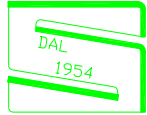
### 1.1.3 TRUCKABLE LOAD AREAS

The leg dump pit will be charged by trucks or any appropriate biomass means of conveyance. The trucks will approach the tank retaining wall and they will discharge from an altitude that we will set at 3.000mm from the dump pit walking floor.

If the dump pit is empty, the maximum fall distance will be 5.000 mm.

The high leghted areas of the drawings are to be considered truckable and there for reachable by vehicle with more then one axle with a maximum hold as stated in the track transport Code.





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N° 160280

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HOLDER

## 1.1.4 HYDRAULIC PUMP EQUIPMENT LOADS

Hydraulic system equipment load:

Hydraulic tank for oil switch board load + base + oil: 13.000 N.

Motor load(4pieces) + pumps + joint + base: 20.000 N.

Heat exchanger load: 3.600 N.

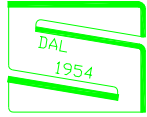
## 2.1 DUMP PIT DRAWINGS

### 2.1.1 GENERAL LAYOUT

### 2.1.2 CARPENTRY AND PLATE POSITIONING

### 2.1.3 DUMP PIT ASSONOMETRIC





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### 3.1 DUMP PIT CREATION OPERATING SEQUENCE

The creation of a dump pit for leg discharger is a work that needs the alternation of civil work phase and carpenters intervention phase. Carpenters intervene to lay the beams that are needed to fixing the shifting plate and the screen operation roll.

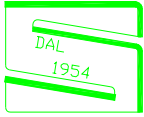
#### 3.1.1 BUILDING WORK PART 1

The discharger cement bottom has to encompass the whole profile metal frame works in St37. The framework will be needed to take in the plates of the screen shifting level at the end of the building work.

The cement bottom will have to be at an building line that will enable to position the beams (HEB200) and the attached anchoring at an building line of approximately 350mm, which will be a lower building line compared to the futur finished level.

First part of cement bottom discharger sequence:

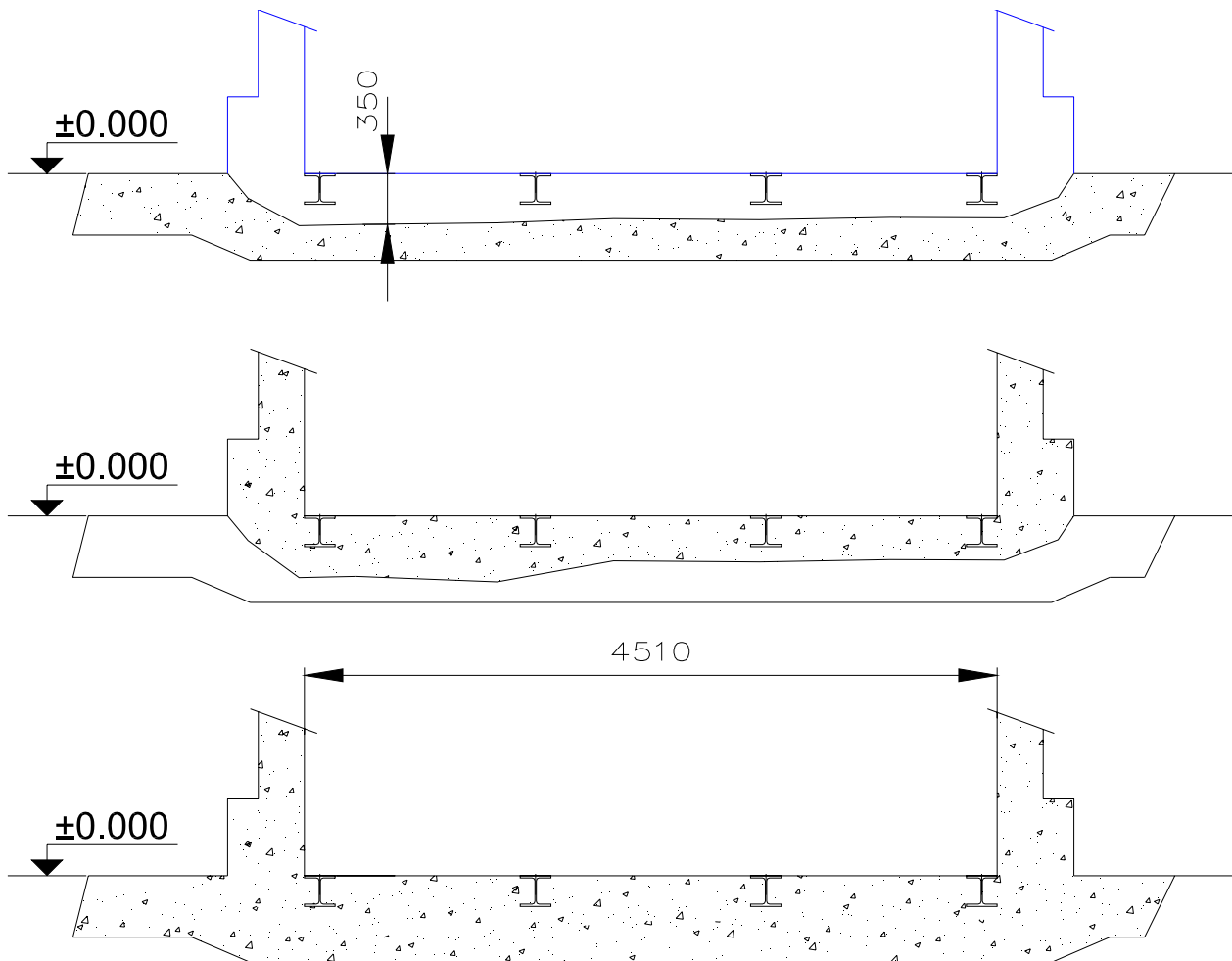
- a) Cement bottom laying with concrete cement with a final building line of 350/400mm, tolerance  $\pm 3$ cm.
- b) Building of lateral and head dump pit wall as drawings with the inclusion of the right lateral and angle inserts (see X,H,K,J details table 06221IV3551B rev.0). We remind to embed in cement the beams that are needed for fixing the discharge system to the tubes, the frame work of the sliding guides mobile discharge system UNP300 and the regulated hook up slug for dust tight on the vertical head dump pit wall.
- c) Building of a rear discharger area for rolls and switchboard seats with positioning and anchoring of frame work HEB200. We advise to tie the beams with the armature beams in order to guarantee the fastness and load distribution.
- d) Quartz finishing of: cement bottom, switchboard and underneath rolls area.
- e) Implementation of dump pit lateral retaining wall shoulder at the end part of the load truck area, and retaining material wall both at a building line of +300.



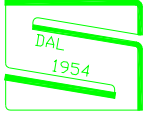
Dump in transversal production sequence.

The positioning is an operation that require the maximum attention: the smoother the discharger working level will be, the fewer regulation will have to be made during start up.

We can start inserting the structures in the dump pit and fixing them with fixing pins after the production of the first concrete cement bottom that is at a distance of 300/350mm from the steal frame.



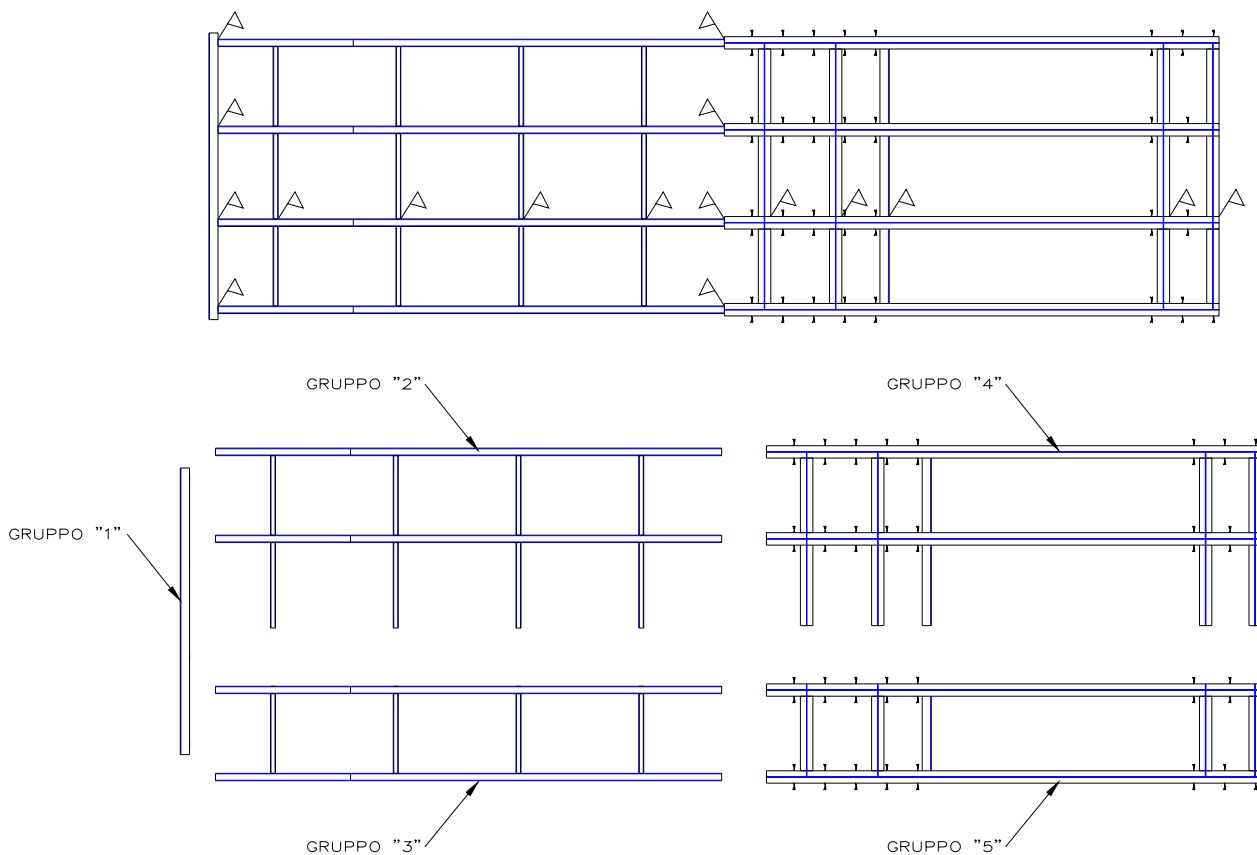
Final sequence of a correct dump pit implementation.



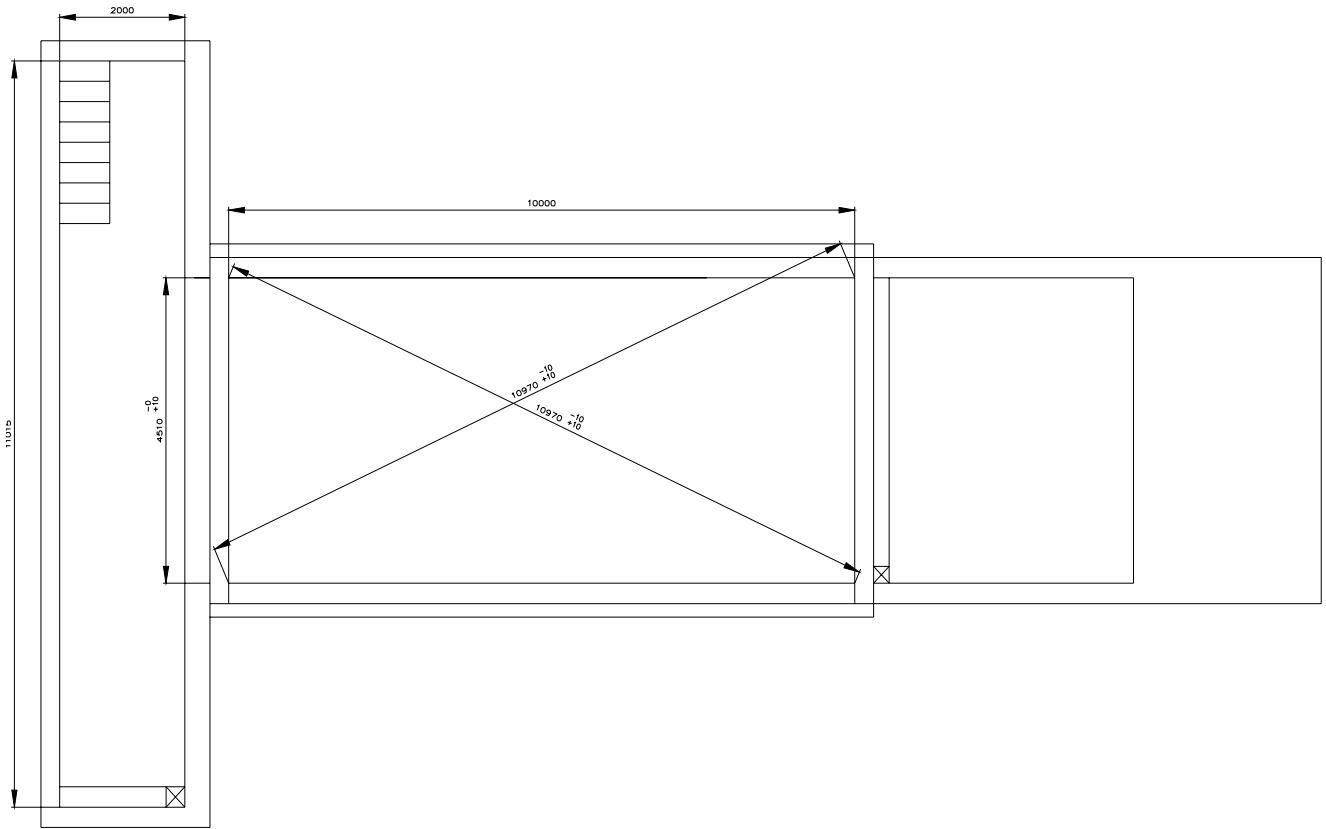
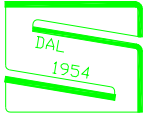
### 3.1.2 DISCHARGER SCREEN AND STRUCTURE POSITIONING

Carpentry work sequence:

- Laying of the modules that have been previously assembled in workshop and welding them directly on site.
- Bracketing of screens to the concrete cement bottom with tie rod.
- Screen planarity verification after welding and beams alignment before final plunge.

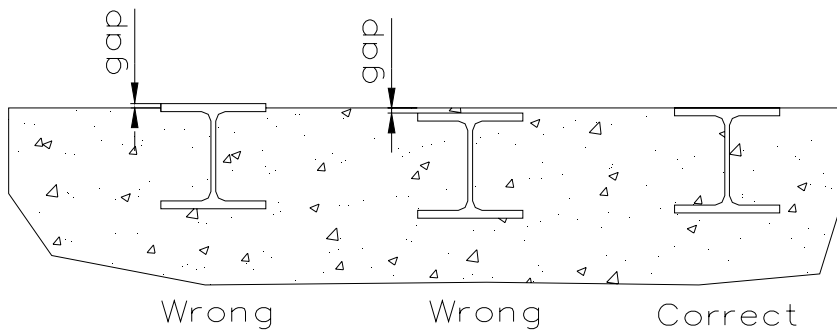


ASSEMBLED SCEER PLANT VIEW

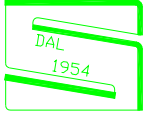


### MAXIMUM ACCEPTED TOLLERANCE BETWEEN THE DUMP PIT SHOULDERS

The maximum accepted tolerance on the checking diagonals is of ±20mm only. We indicate this check as the most important in order to create the most squared off dump pit. This will allow us to position at best the bottom plates on the bottom building line level.

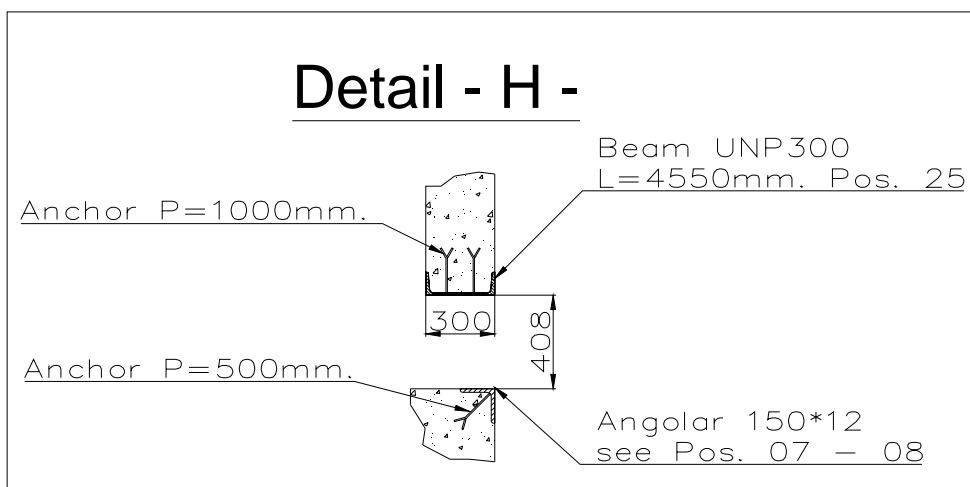


### EXEMPLES OF POSSIBLE WRONG POSITIONINGS

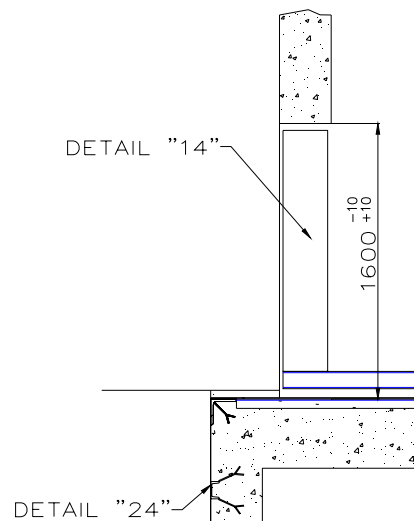


### 3.1.3 ACCESSORY STRUCTURE POSITIONING

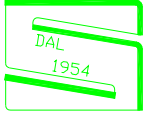
All the leg discharger dump pit accessory structure are supplied by SAMEC S.p.A. although their installation will be committed to civil. The civil will have to insert the beams and frame works, which have been previously equipped with lateral brackets, and have to be anchored during the construction of walls and reinforced concrete slab in order to have everything embedded at concrete level as the schemes below:



#### TYPICAL FRAME WORKS DETAILS TO BE INSERTED



TYPICAL DETAILS OF THE TWO PLATES TO BE INSERTED IN THE LATERAL WALLS OF THE DUMP PIT IN THE EXTRACTION MATERIAL ZONE – SEQUENCE OF MECHANICS PARTS TO BE INSTALLED



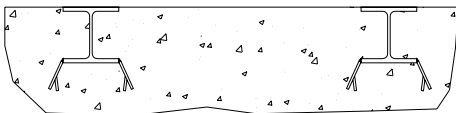
### 3.1.4 BUILDING WORK PART 2

It is possible to go ahead with the final plunge, that will embed the frame works up to the top thread, after having finished the screens bracketing and the planarity regulation and alignment.

The minimum requested finishing of the concrete bottom are extremely restrictive in tolerance and finishing.

The quartz finishing is requested in order to allow an optimal adherence with the plates positioning and for a tolerance issue in order to avoid unhooking of the reinforced concrete slab that must not occur (see schemes).

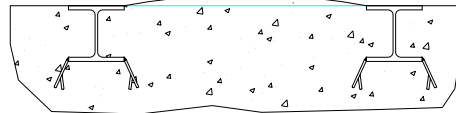
ESEMPIO SU  
PLATEA ESEGUITA CORRETTAMENTE



ESEMPIO SU  
PLATEA ERRATA



ESEMPIO SU  
PLATEA ERRATA

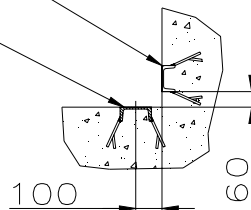


TOLERANCE ACCEPTED : ±2mm.

#### Detail - X -

Beam UNP100

Beam UNP120

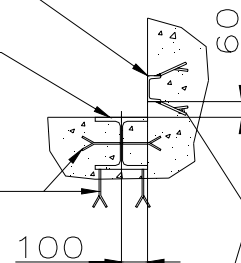


#### Detail - K -

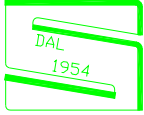
Beam UNP100

Beam HEB200

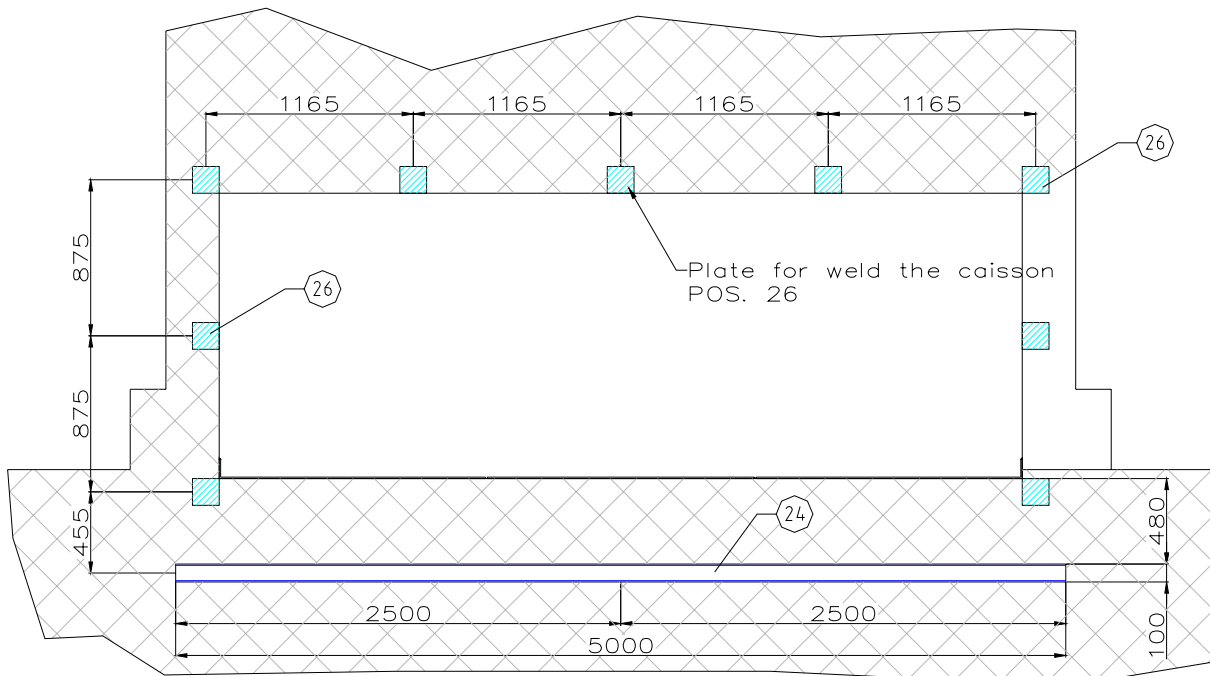
Anchor pitch=500



Ancor pitch=1000

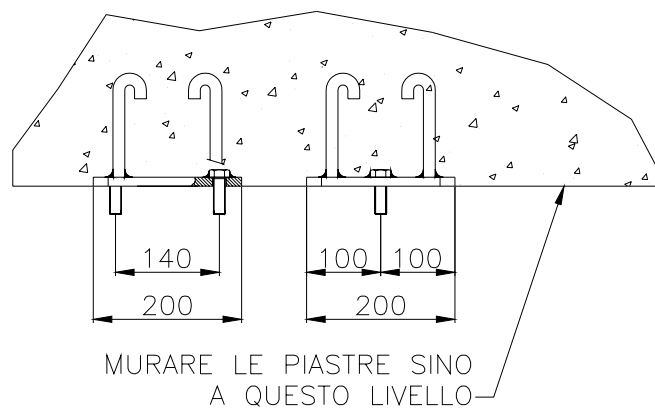


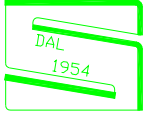
### 3.1.5 DISCHARGE HOPPER PLATES POSITIONING



Some plates will have to be fixed to the discharge dump pit wall at masonry level for the bracketing of the closing hopper between the discharger and the reedler.

The plates equipped with the fixing pins won't have to jut out from the wall.





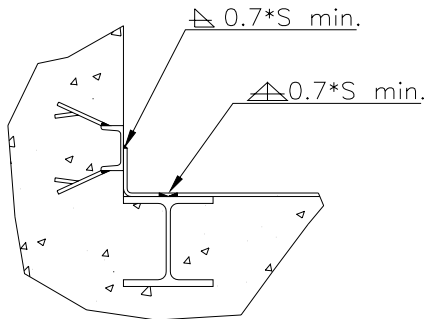
### 3.1.6 PLATE LEVEL POSITIONING

The plate level will be of modules of the dimensions of the web pitch defined by the anchoring beams underneath the level.

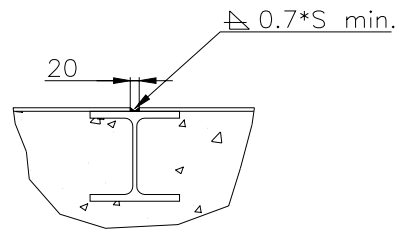
As shown in the figures below, the right space will have to be left between one plate and the other in order to allow the welding. There are holes (welding bottom) on the plates themselves that will allow the anchoring directly to the web.

The welding has to be of  $0.7 \cdot S$  min.

Use thread type ER70S6.

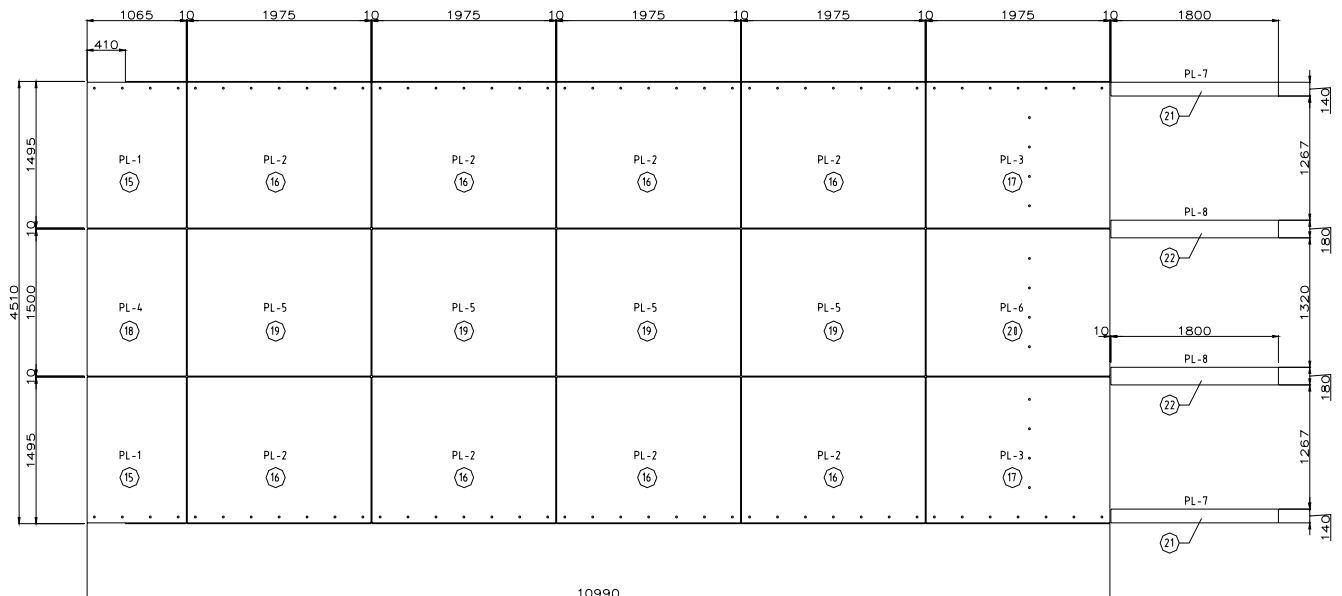


GIUNZIONE LATERALE

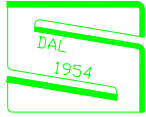


GIUNZIONE CENTRALE

#### GAP BETWEEN PLATES

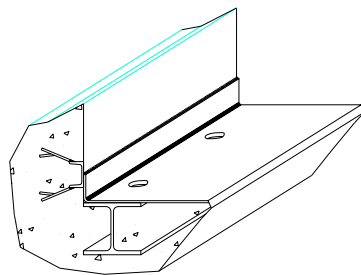




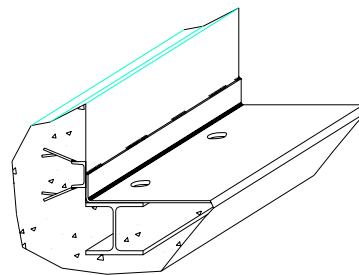


## Attention:

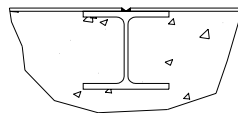
- The eye bolt have to be removed as well as all the welding left by the grinding.
- The bracketing welding must not jut out from the top thread, otherwise they will interfere with the future insertion of mobile screens creating frictions.
- The welding bottoms have to be carried out only after having checked the right plates positions.
- The central and lateral plate welding have to be continuous.
- Spot-welding are not allowed for plate fixing.



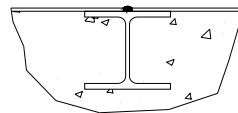
GIUNZIONE CORRETTA



GIUNZIONE DA RIPRENDERE

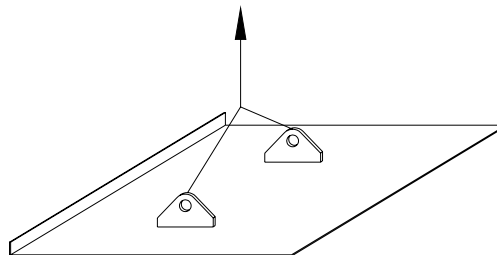


GIUNZIONE CORRETTA

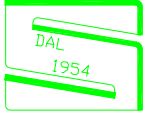


GIUNZIONE DA MOLARE  
A FILO LAMIERA

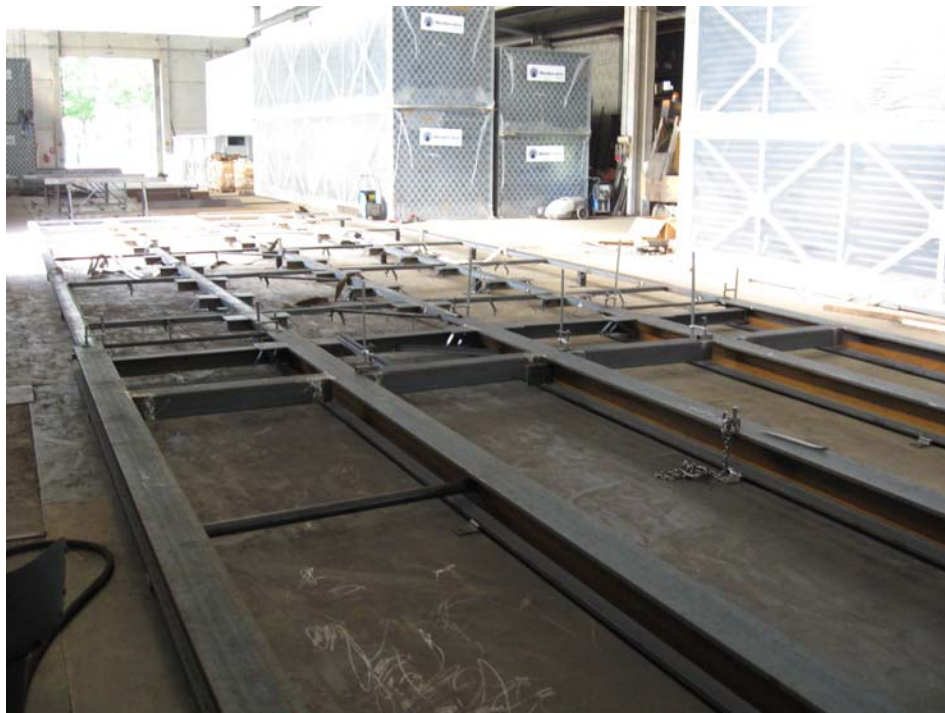
## EXEMPLES OF POSSIBLE WELDINGS

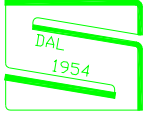


## UPLIFT FOR PLATES MOVEMENT



## 4.1 PICTURES SEQUENCE





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