INSTRUCTION of ASSEMBLY

DUBLEZ

ROSSS
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made to resist,
made in italy.

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Dublez

GENERAL INDEX

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ROSSS PRESENTATION

ROSSS S.p.A., according to a worldwide experience in racking and shelving system sector, is able to offer to the merket every kind of stocking solution. Our modular structures are able to support very high loads being contemporary esy to be assembled.ROSSS S.p.A. is the first italian company to certificate its own Quality System getting the certifications listed below.

- Certification of quality system N. 087-A, issued the 12/04/1996 by CERMET according to the UNI EN ISO 9001
- Certification of the Environmental system N. 087-E, issued the 28/06/2002 by CERMET according to UNI EN ISO 14001-96;

- Certification of EMAS Registration N° I-000258 issued the 10/11/2004;

- Certification for the system of Social Responsabilità Management SA8000:2001 number BE04/3368SA issued the 30/12/2004.

The certifications above have been issued for the following activities:

Research, Designing, Manufacturing and installation of metallic structures in order to manage industrial and commercial spaces: light shelving systems (painted and galvanized),Pallet racks, Drive-in, Gravity systems, mobile bases for archiving, mezzanine floors, automatic warehouses and checkouts.

From several years we take part of “A.C.A.I.” (Associazione Costruttori Acciaio Italiani) Racking and Shelving system Section which produces a series of rules for a safe designing.

ROSSS S.p.A. is one of the companies whose passed the examination to get “CISI Qualità Sicurezza” (Costruttori Italiani Scaffalature Industriali) brand.
For the designing and manufacturing of our products we follow technical specifications produced by ”A.C.A.I." sezione “Scaffalature Industriali”. The technical specifications above are reffered to the norms listed below.

·D.M. 9 gennaio 1996 "Norme tecniche per il calcolo, l'esecuzione ed il collado delle strutture in cemento armato, normale e precompresso e per le strutture metalliche"

·CNR 10011/97. Costruzioni di acciaio. Istruzioni per il calcolo, l'esecuzione, il collaudo e la manutenzione.

·CNR 10022/84. Profilati formati a freddo. Istruzione per l'impiego nelle costruzioni.

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·UNI EN 10204/92. Prodotti metallici. Tipi di documenti di controllo.

·D. Lgs. 19 settembre 1994, n. 626, relativo al miglioramento della sicurezza e della salute dei lavoratori sul luogo di lavoro.
·D. Lgs. 21 maggio 2004, n. 172, relativo alla "Attuazione della direttiva 2001/95/CE sicurezza generale dei prodotti".
·D.P.R. 27 aprile 1955 n. 547

F.E.M. 10.2.02 "The design of static steel pallet racking"

Moreover we refer also to F.E.M. codes (Federation Europeenne de la Manutention-Section X) :
UNI ENV 1993 1-1 (EUROCODICE3) “Progettazione di strutture in acciaio”
F.E.M. 10.2.03 "Guidelines for the safe provision of static steel racking and shelving"

The raw materials used for the Dublez System are:

Frames :
Up-rights Type M 60/120 : S250GD
Up-rights Type N 60/150 : S350GD
Traverses and Diagonals : S250GD
Footplates : S250GD
Bolts : class 8.8

Beams :
S250GD

Galvanized shelves :
DX51D

All the elemets are designed according to 1,5 safety factor respect to the yeld load.

INSTALLATION N°_____ OF _____

Our production is under guarantee by
ASSICURAZIONI GENERALI
with Insurance policy n. 989455770
“Risk products policy” e “Civil liability”
with coverage up to € 1.549.370.

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National and International Rules

CNR UNI 10011/97 " Costruzioni di acciaio - Istruzioni per il calcolo, l'esecuzione, il collaudo e la manutenzione";

CNR 10022/84 " Profilati formati a freddo – Istruzioni per l'impiego nelle costruzioni";

UNI ENV 10204/91 "Prodotti metallici. Tipi di documenti di controllo";

D.P.R. 27 aprile 1955 n. 547; (in generale: anche per segnaletica e cartellonistica)

D. Lgs. 19 settembre 1994 n. 626; (in generale: sicurezza nei luoghi di lavoro)

D. Lgs. 17 marzo 1995 n. 115; (sicurezza generale dei prodotti)

La normativa europea per quanto riguarda la progettazione e l'uso del prodotto:

UNI ENV 1993 1-3 (EUROCODICE 3) "Design of steel structures" –
Part 1-3 "General rules – Supplementary rules for cold formed thin gauge members and sheeting";

FEM 10.2.02 "The design of steel static pallet raking and shelving";

FEM 10.2.03 "Recomendation for the safe provision of static steel raking and shelving – Specifier's code"

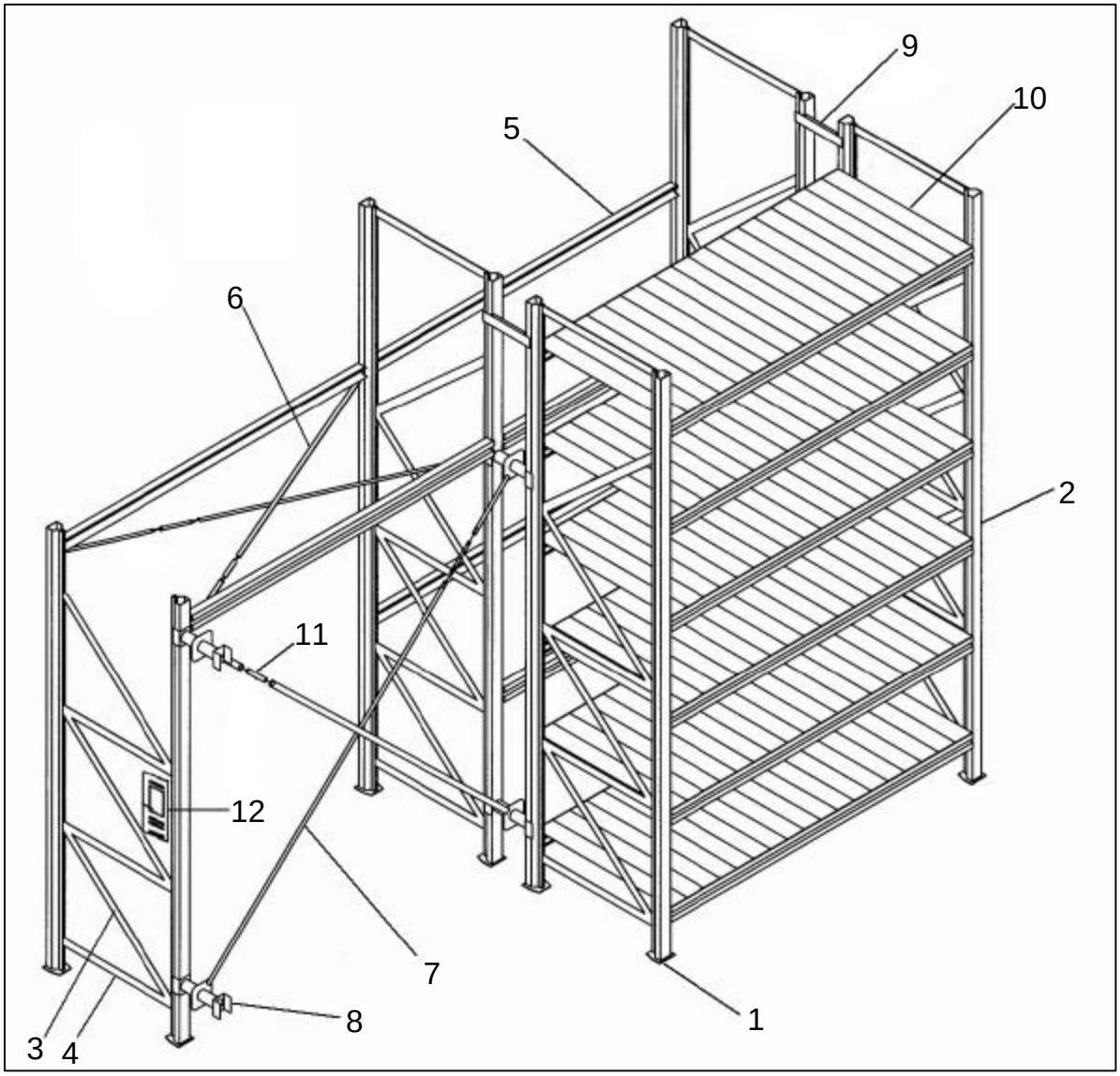
FEM 10.3.01 " Adjustable beam pallet raking (APR) – Tollerances, deformations, e clearances"

RAL/RG 6145 Deutch

ZH/428 Deutch

Dublez

OVERVIEW



1. Footplate
2. Upright
3. Diagonal
4. Cross bar
5. Beam
6. Orizzontal cross bracing
7. Vertical cross bracing
8. Single\Double front diagonal joint stop
9. Spacers
10. Shelves
11. Tie rod
12. Capacity chart

UTILIZZATION LIMIT OF THE RACKING

It is not allowed to position on the racking neither horizontal loads nor dynamic loads both vertical and/or horizontal.

It is not allowed to bump against or to lean to the racking with fork lift trucks or whatever equipment.

It is not allowed to use the racking in a different way from the one described in this manual.

The racking is designed for a specific use. Possible changes of the geometry may be produced only under authorization of our Technical Department.

WARNING

The instructions contained in this manual are significant for some details.

Such instructions are exhaustive for the aims of the present manual: correct assembly, use and maintenance.

The exact dimensional features can be deduced from the delivery note.

The drawings listed in this manual are produced for a commercial didactic purpose.

In case of customer takes care of assembling, ROSSS declines any responsability for damages to things and person caused by this activity.

PREPARATIONS FOR THE ASSEMBLY

1) Verify the capacity of the supporting floor and the capacity to endure concentrated loads

2) Check the levelling of the floor

3) Verify possible interferences of the racking with existing systems

4) Verify the adequacy of the available spaces as to carry out the assembly in a safe manner

5) The flooring and lighting of the premises should be studied in order to allow the staff to work in optimum conditions.

ASSEMBLY TOOLS

Set of spanners
Screwdriver
Gum-hammer
Pliers
Power drill

Level
Jemmy
Plumb line
Optical level
Safety belts

WARNING

The assembly team must be provided with all the equipments required to prevent job accidents, according to the specific assembly operations
(helmet, gloves, accident prevention shoes, safety belts, etc.)

In case of customer provides the assembling operations, Rosss S.p.a. refuses all responsabilities for damages to things and/or persons due to this activity.

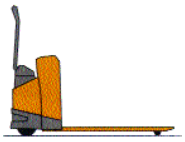
HANDLING

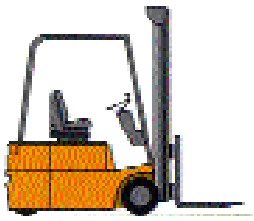
For the handling of frames, during the assembly, we suggest to use suitable mechanical equipments, such as small cranes, winches and so on.

For short frames, the handling may be done manually by a suitable number of workers.

For the shifting of materials of any height, it is necessary to use a fork lift truck of suitable capacity and lifting height, while for the assembly a platform with appropriate capacity and lifting height is required.

However it is possible to use, only for heights up to 6.000 mm, transpallets of appropriate capacity for the shifting of materials and a scaffold over wheels of appropriate capacity and stability for the racking assembly.





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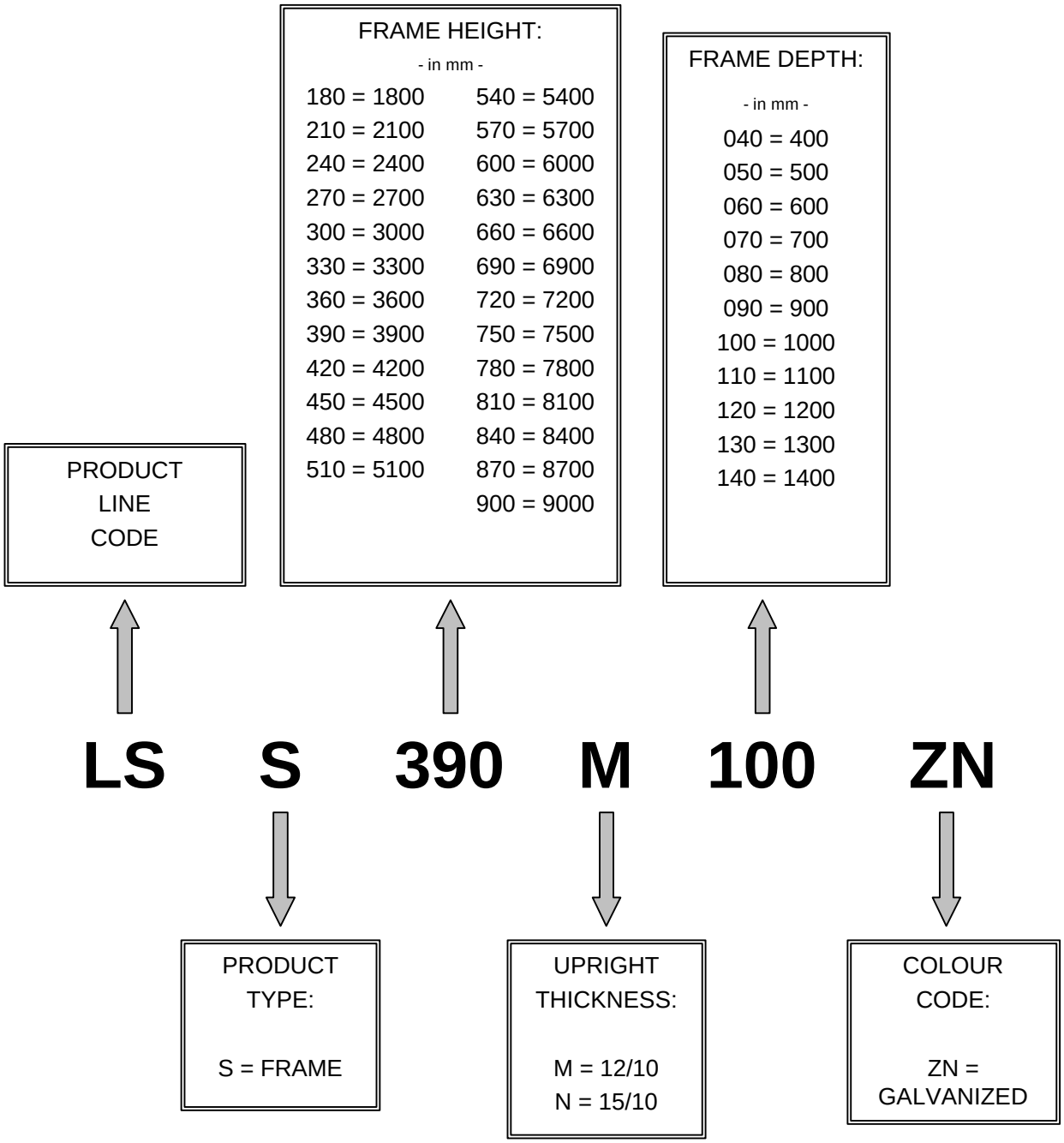
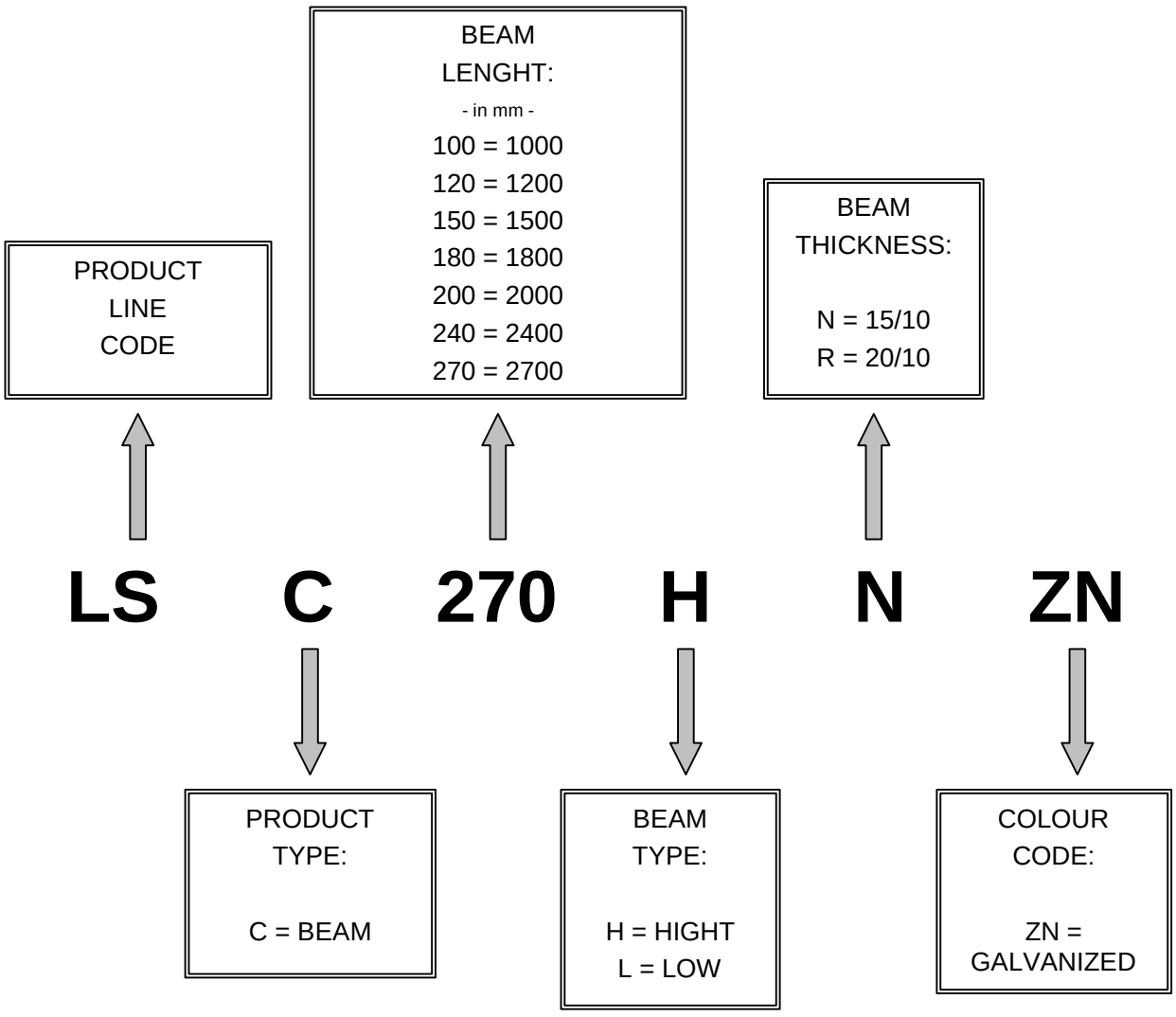
DUBLEZ FRAME CODIFICATION



DUBLEZ BEAM CODIFICATION



DUBLEZ ROSSS® SHELVING

ASSEMBLY SEQUENCE

WE SUGGEST TO READ ALL THIS BOOK BEFORE START TO ASSEMBLE THE SHELVING

1) Assembly of frames (uprights, diagonals, cross-bars and foot plates)

2) The assembling operations start lifting the head frame in its own final position;montaggio della struttura inizia alzando verticalmente la spalla di testa della scaffalatura nella sua posizione definitiva.
Then the second frame with beams and so on up to the end of the row.
Particular attention has to be paid to the perpendicularity of the structure with the floor.

3) Assembly of possible accessories

4) Fixing the shelving to the ground with dowels.

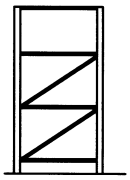
5) Assembly of capacity chart.

Only now it's possible to use the Dublez System

Dublez

FRAMES CONFIGURATION

The first cross bar is always positioned at the third hole from the floor.
The distance middle hole - middle hole of the pitches is always 600 mm.



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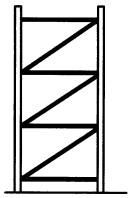

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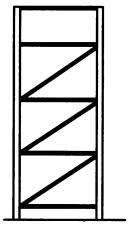

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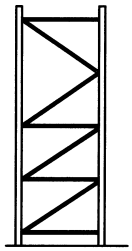

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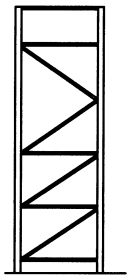

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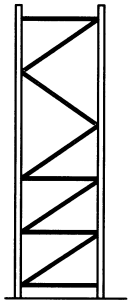

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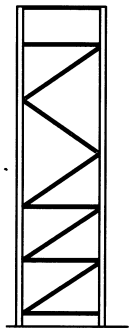

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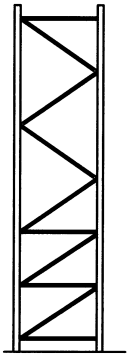

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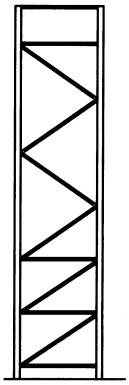

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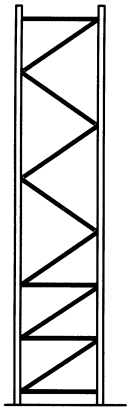

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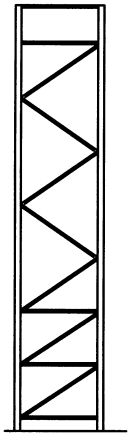

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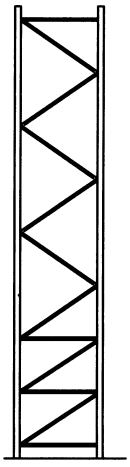

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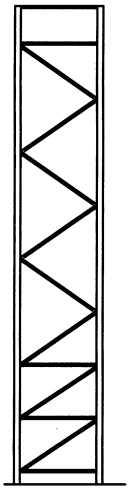

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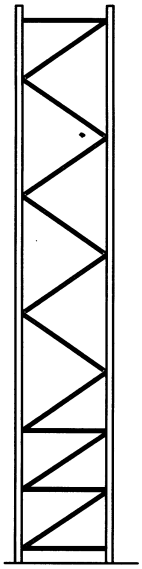
FRAMES CONFIGURATION



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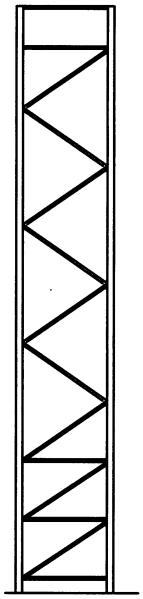

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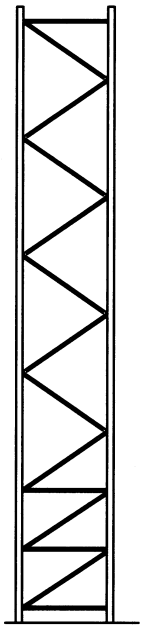

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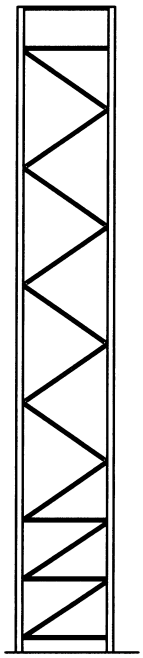

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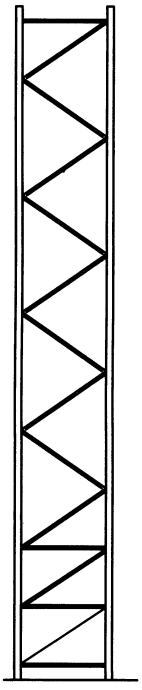

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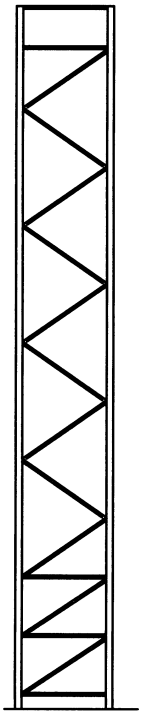

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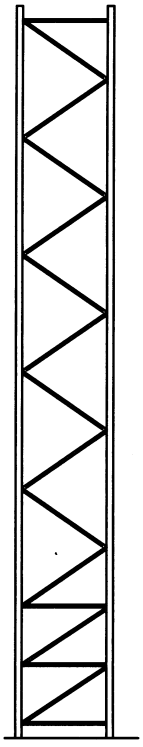

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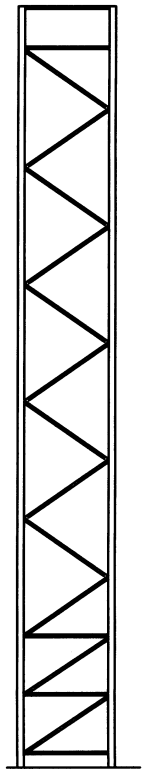

H= 7800
Cr.Bar.= 4
Diag.= 12

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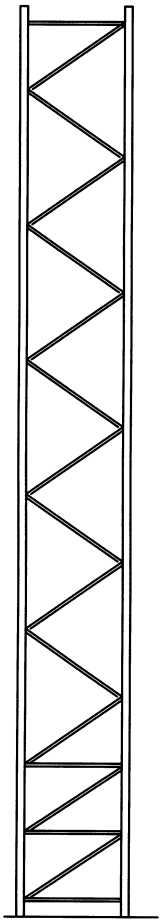
FRAMES CONFIGURATION



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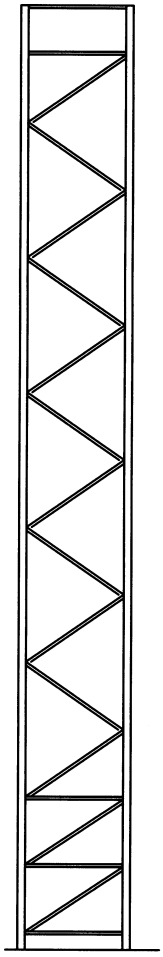

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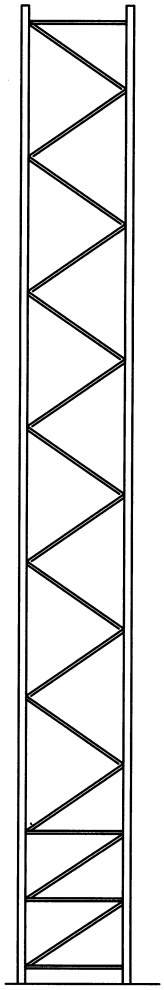

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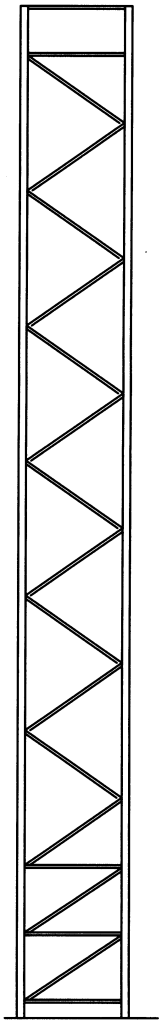

H= 9000
Cr.Bar.= 5
Diag.= 14

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COMPONENT QUANTITY FOR FRAME ASSEMBLING

Height	n° uprights	n° cross-bar	n° diagonal	bolt for diagonal / cross-bar with nut and washer	bolt for foot plate with nut and washer	foot plates
1800	2	4	2	8	4	2
2100	2	4	3	8	4	2
2400	2	5	3	10	4	2
2700	2	4	4	9	4	2
3000	2	5	4	11	4	2
3300	2	4	5	10	4	2
3600	2	5	5	12	4	2
3900	2	4	6	11	4	2
4200	2	5	6	13	4	2
4500	2	4	7	12	4	2
4800	2	5	7	14	4	2
5100	2	4	8	13	4	2
5400	2	5	8	15	4	2
5700	2	4	9	14	4	2
6000	2	5	9	16	4	2
6300	2	4	10	15	4	2
6600	2	5	10	17	4	2
6900	2	4	11	16	4	2
7200	2	5	11	18	4	2
7500	2	4	12	17	4	2
7800	2	5	12	19	4	2
8100	2	4	13	18	4	2
8400	2	5	13	20	4	2
8700	2	4	14	19	4	2
9000	2	5	14	21	4	2

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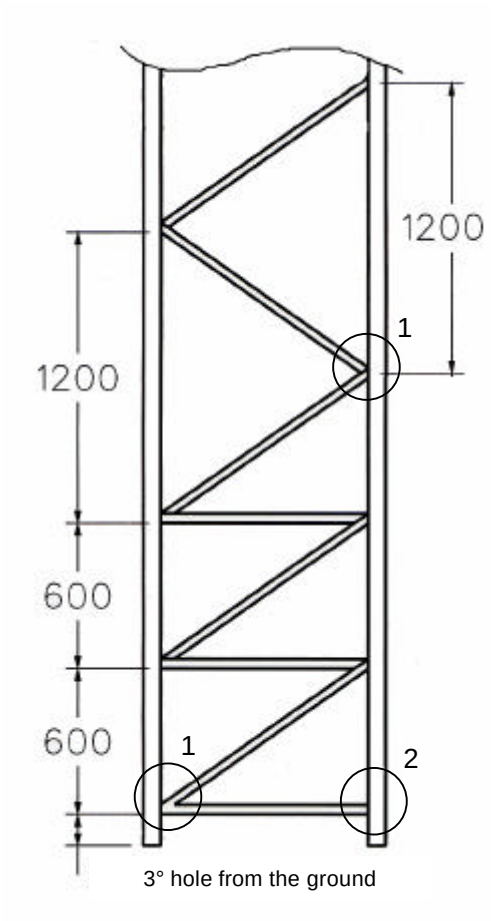
FRAME ASSEMBLING

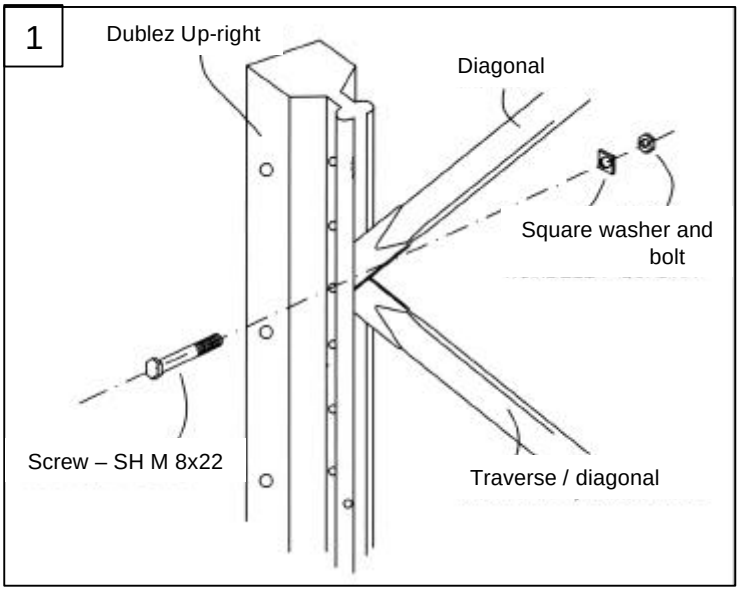
After finding out the right configuration of the frame as shown at pag. 10-13, procede to the assembling operations as below.

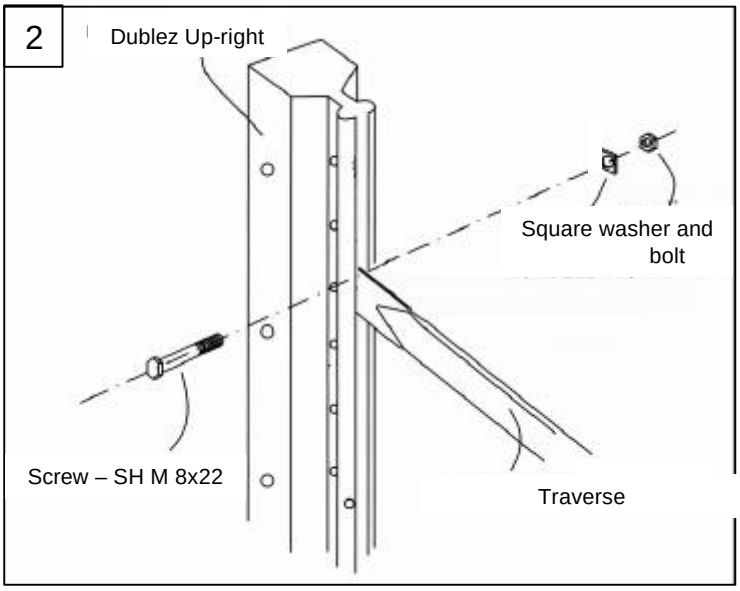


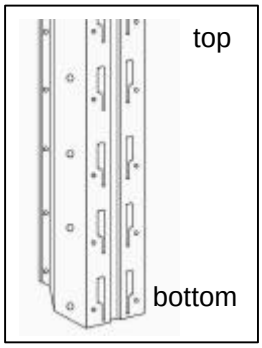
1) Place the 2 upright on a right structure which permits to assemble traverses and diagonals;

2) Start assembing operations of traverses and diagonals from the bottom (from the groung always 3 free holes as shown upon).

3) The frames with even heights end with a single traverse, matching with the last useful hole on the upright.



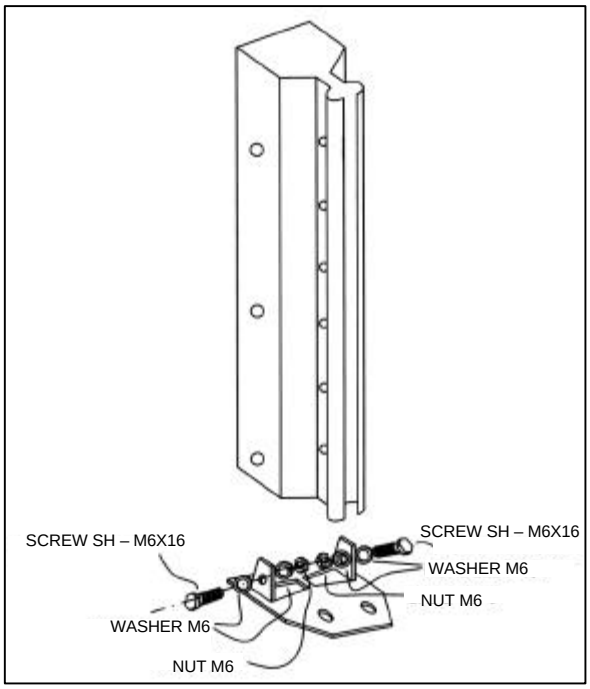




Slots on the upright

FOOTPLATE

To finish the installation of the frame apply the footplates fixing them with screws (m6x16), washers and bolts.

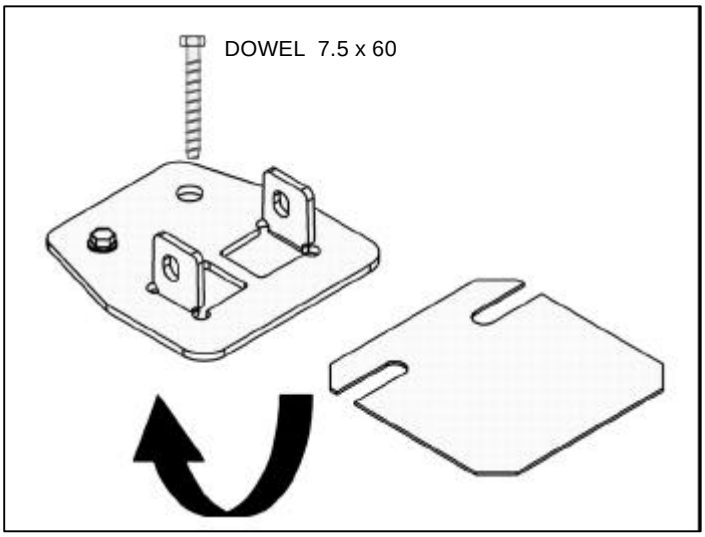


It's suggestable to use a proper drill to anchor the dowel to the floor. The hole for the dowel has to be done matching the hole of the footplate, removing dust and screwing it down up to the locking point

N.B.Use 2 dowel for the front upright and one for the rear one.

Before lockng the dowels to the floor check the structure once again.

WARNING: for a proper floor fixing the hole for the dowel has to be 6mm in diameter.



SHIMMING OF FOOTPLATE

1) Lift the frame and insert the shimming plates;

2) Anchor the frame t the floor with dowel.

WARNING: before putting the second dowel make sure to be already insertt the shimming plates.

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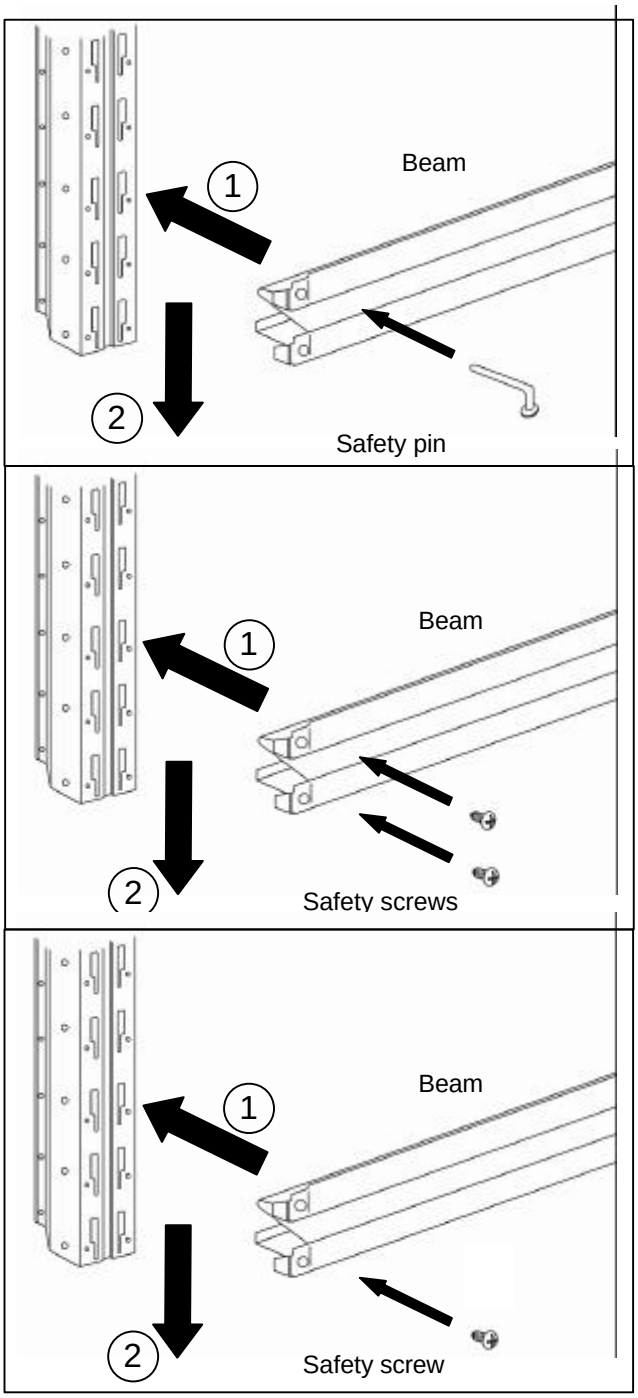
ASSEMBLING OPERATIONS FOR LOW BEAM



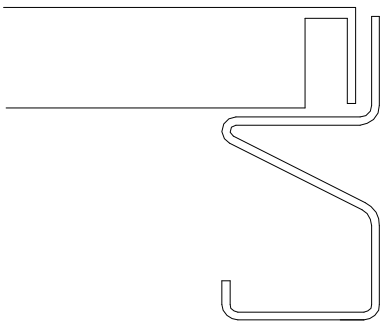
1) **Assembling operations for beams**
The beam has to be inserted in the front slots of the upright making it slide in order to hang its hooks in the narrow part of the slots.

a) **Fixing by safety pins**
Insert the safety pins in the upper hole of the beam. At least 2 pins are necessary.

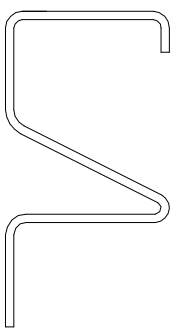
b) **Fixing by safety screws**
The beam can be fixed by 2 or 4 screws according to the load capacity required. If we use only 2 screws, theese will be aplied in the bottom holes.

N.B. It's important to consider in which way assemble the beam, because in a way it's used for "light" palletrack; in the other way for picking ("L" shaped part).

"L" shaped part of the beam



Part for pallet



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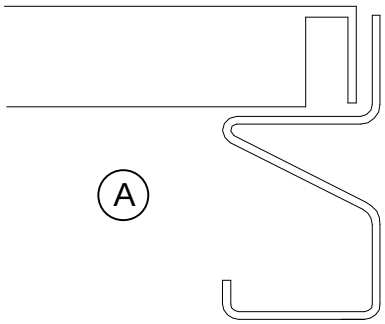
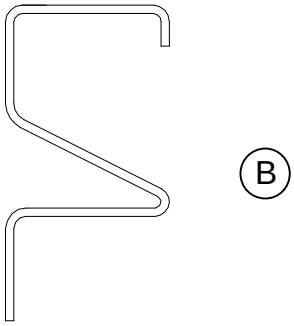
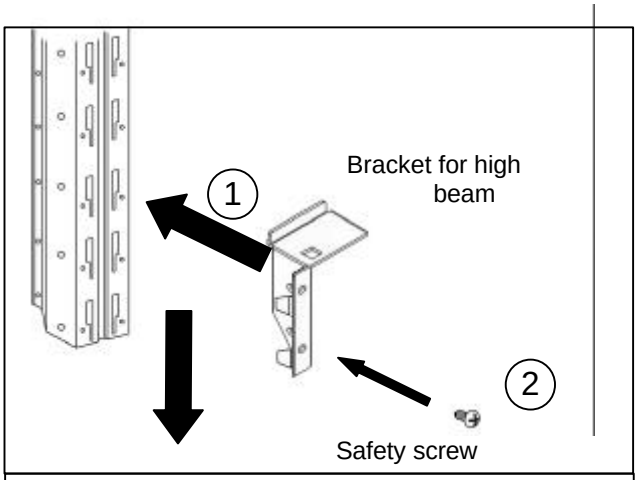
ASSEMBLING OPERATIONS FOR HIGH BEAM

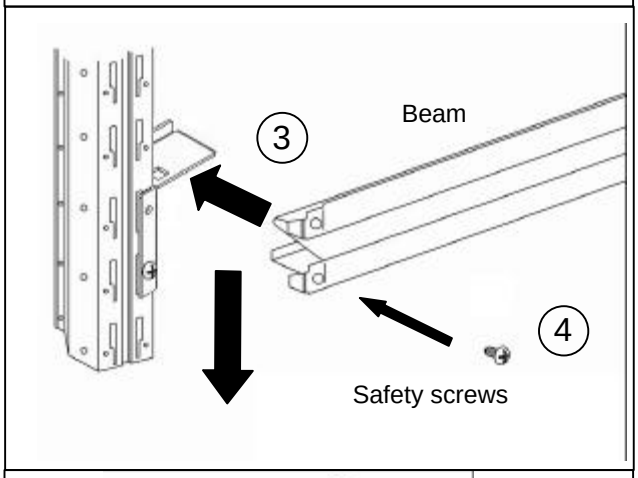
"L" shaped part of the beam

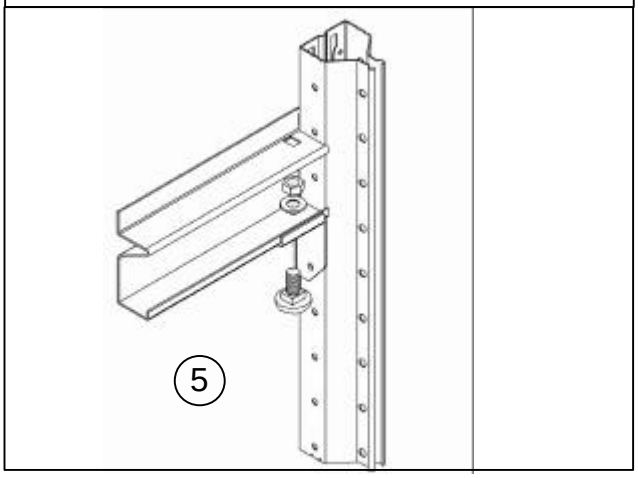


Part for pallet









A) Beam for shelves

1) The bracket has to be assembled in the front slots, making it slide down in order to put hooks in the narrow bottom part of the slot.

2) Fix the bracket with a safety screw, in the bottom hole.

3) Assemble the beam in the front slots of the uprights, making it slide down in order to put hooks in the narrow bottom part of the slot.

4) Fix the beam with a safety screw, in the bottom hole

5) Fix the beam to the bracket by bolt type TTQST M10x20

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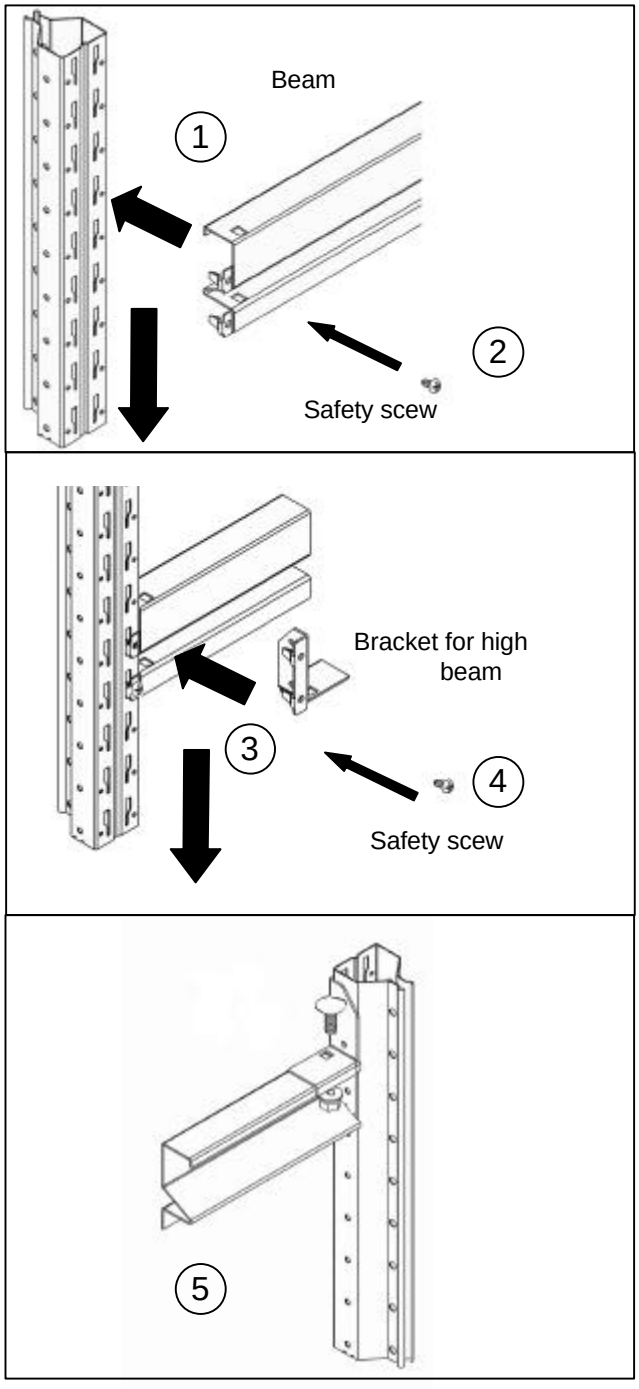
ASSEMBLING FOR HIGH BEAM



B) Beam for pallets

1) The beam has to be assembled in the front slots, making it slide down in order to put hooks in the narrow bottom part of the slot.

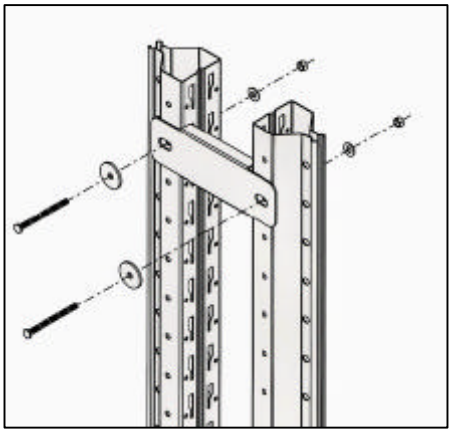
2) Fix the beam with a safety screw, in the bottom hole.

3) Insert the bracket in the front slots making it slide down in order to fix the hooks in the bottom part of the slot.

4) Fix the bracket with a safety screw in the bottom hole.

5) Fix the beam to the bracket with bolt TTQST M10x20

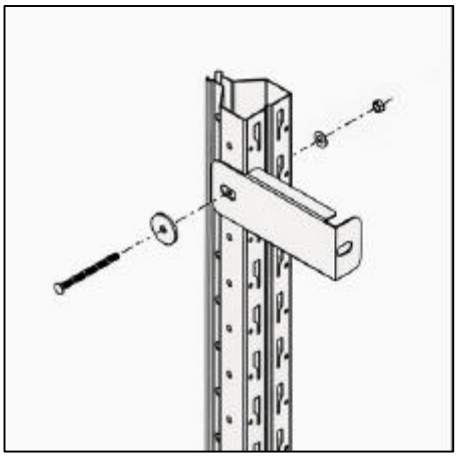
ASSEMBLING FOR BACK TO BACK TIES AND WALL TIES



Back to back tie

Assemble bak to back ties 1800mm in pitch starting from the ground and with a minimum of 2 ones.

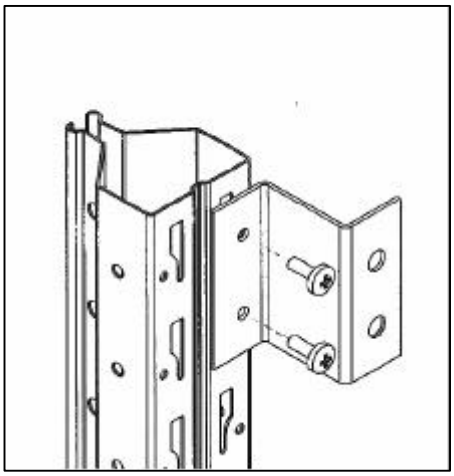
Assemble back to back tie on each upright with screws (M 6x70), nuts and washers.



Wall tie

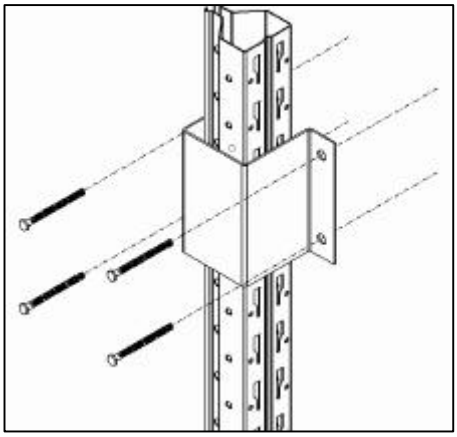
Assemble wall ties 1800mm in pitch starting from the ground and with a minimum of 2 ones

Assemble back to back tie to the upright with screw (M 6x70), nut and washer.



“Z” shepe wall tie

The bracket has to be fixed to the upright trough 2 screws (5,5mm) and to the wall trough 2 dowels(12 mm)



Side wall fixing

The wall fixing has to be done at 3000mm from the ground (by 4 expansion dowels) and each frames needs 2 bracket.

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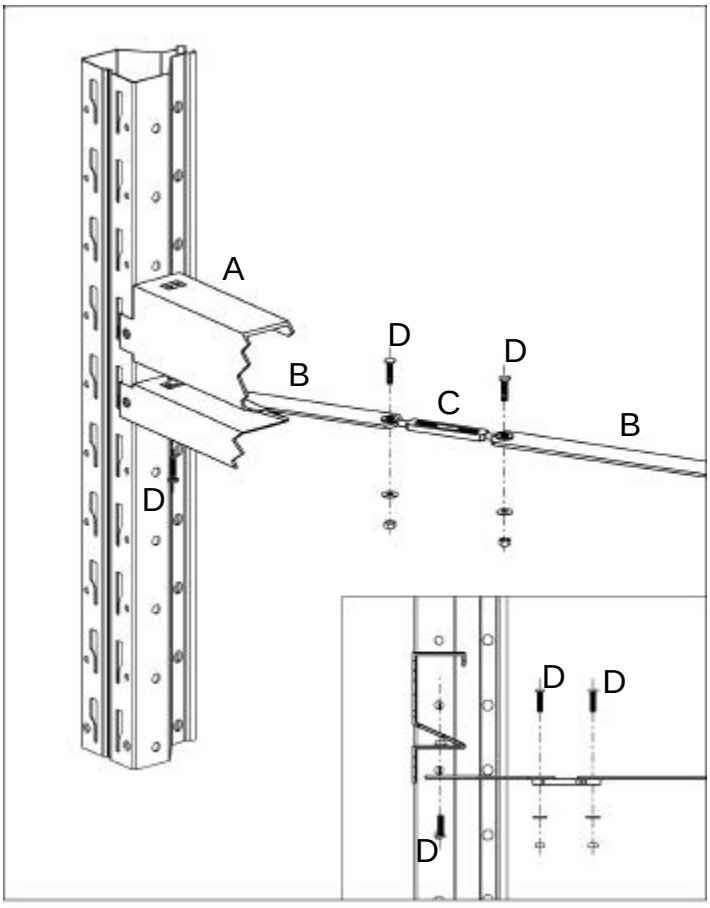
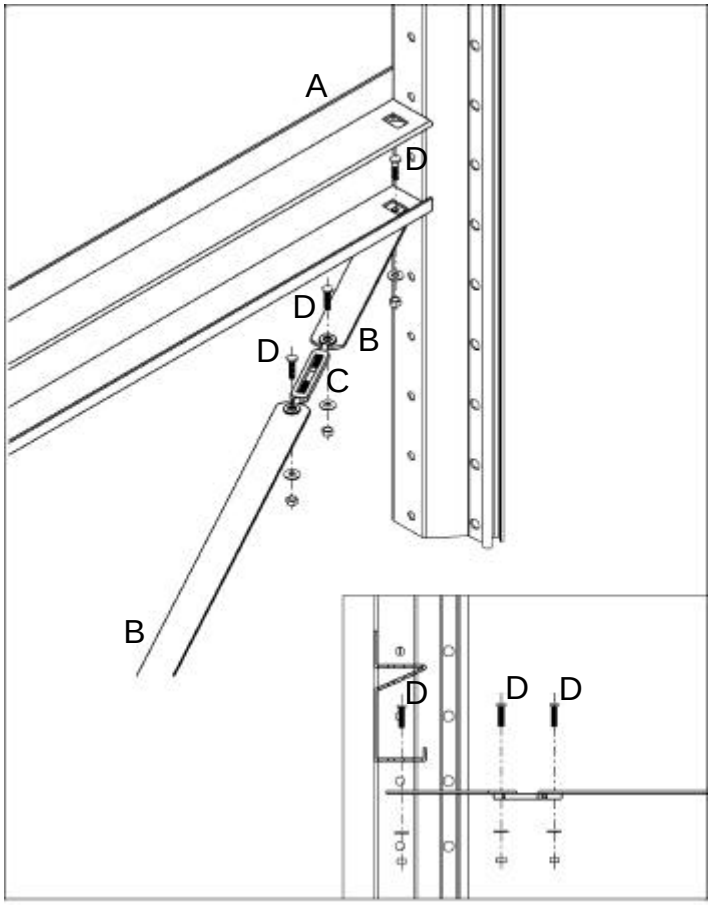
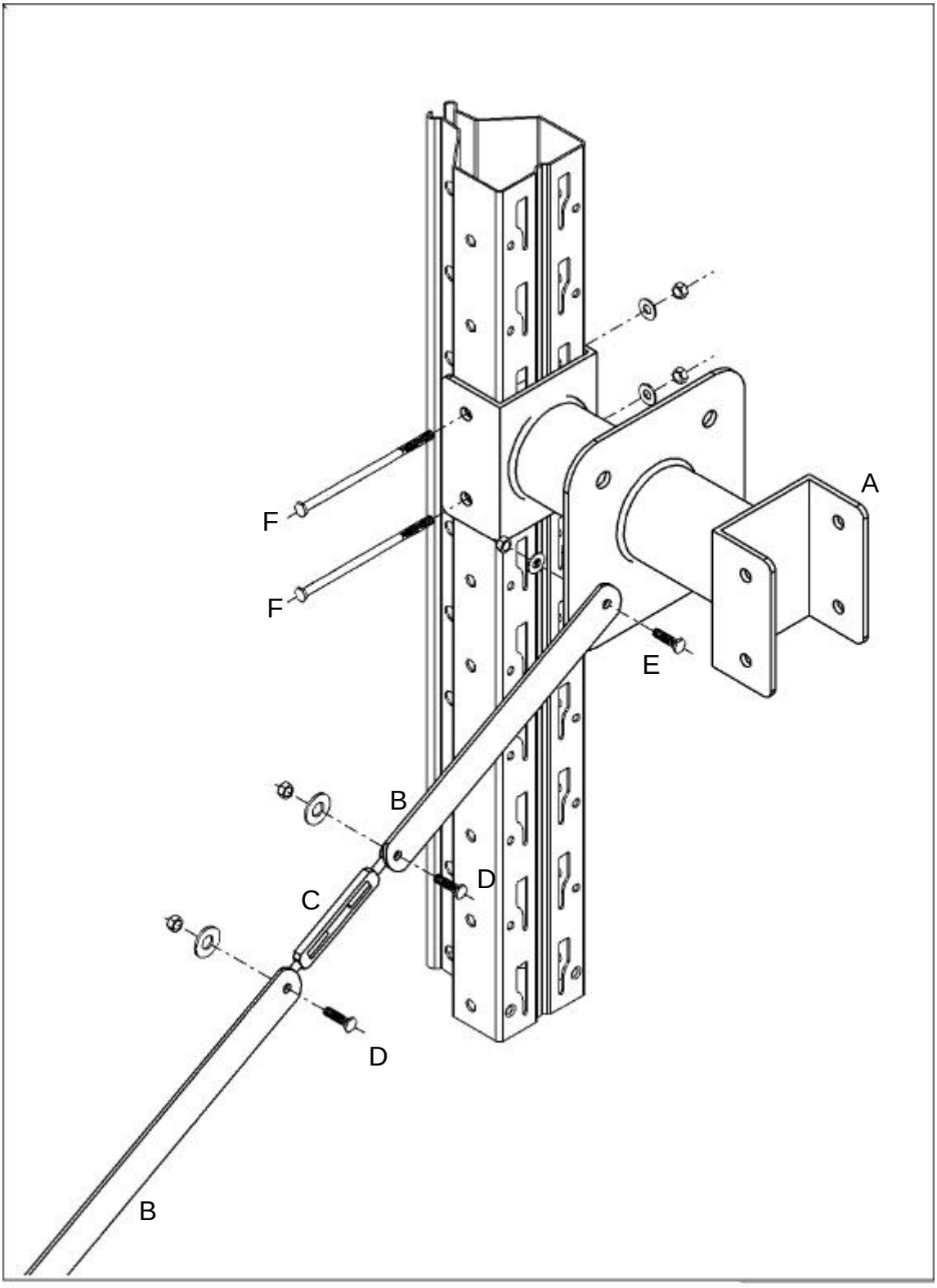
ASSEMBLING OF ORIZONTAL CROSS BRACINGS



A Diagonal joint stop
B Orizontal cross bracing
C M8 tie rod
D Bolt M 6x16 + nut + washer



ASSEMBLY OF VERTICAL CROSS BRACING



A Diagonal joint stop
B Vertical cross bracing
C M8 tie rod
D Bolt M 6x16 + nut + mag. washer
E Bolt M 6x16 + nut + washer
F Bolt M 6x75 + nut + washer

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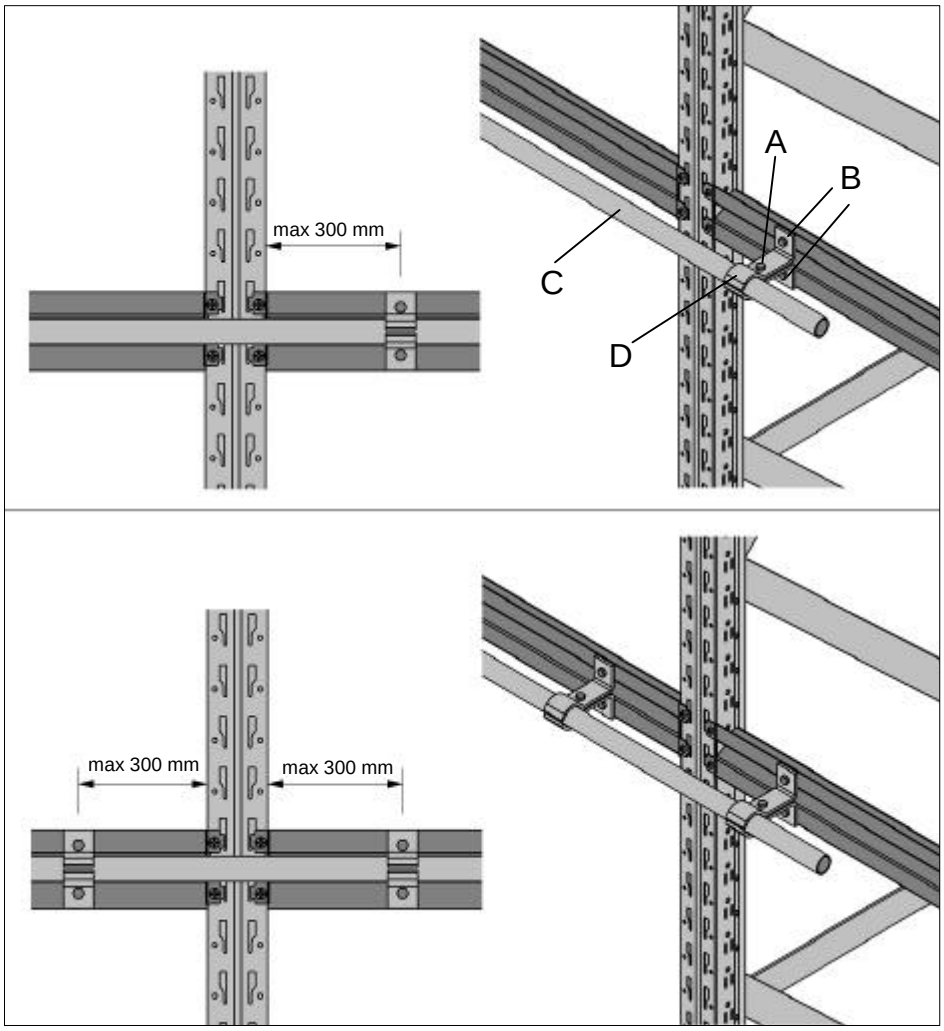
ASSEMBLING OF HOOK STAIRCASE

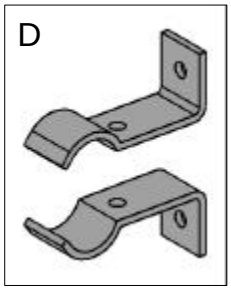


A Screw M 6x16 + nut

B Screw M 6x25 + nut + washer

C Aluminium tube Ø 25 mm

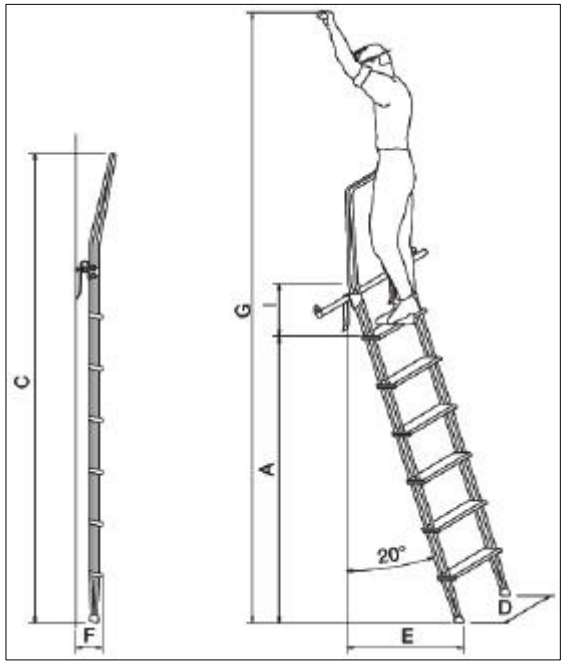
D Staircase connector



Detail of hook staircase

Staircase connectors for aluminium tube must be positioned close to the upright, at a maximum distance of 300 mm.
For beam with lenght until 1500 mm, put one staircase connector for each beam.
For beam with lenght of 1800 or 2000 mm, put two staircase connectors for each beam.
For beam with lenght more than 2000 mm, it is not possible to set the aluminium tube.

Remark. The beam must be perforated with a Ø 7 mm drill.



HOOK STAIRCASE – Technical specification

Steps	A	C	D	E	F	G	I	Kg
6	1420	2250	470	680	170	3270	1480-1730	7,4
7	1650	2500	490	760	170	3500	1710-1980	8,4
8	1880	2750	510	850	170	3730	1940-2190	9,4
9	2120	3000	530	930	170	3970	2180-2430	10
10	2350	3250	550	1010	170	4200	2410-2660	11
11	2570	3500	570	1090	170	4420	2630-2880	12
12	2800	3500	590	1180	170	4650	2860-3110	13

Measures in mm.

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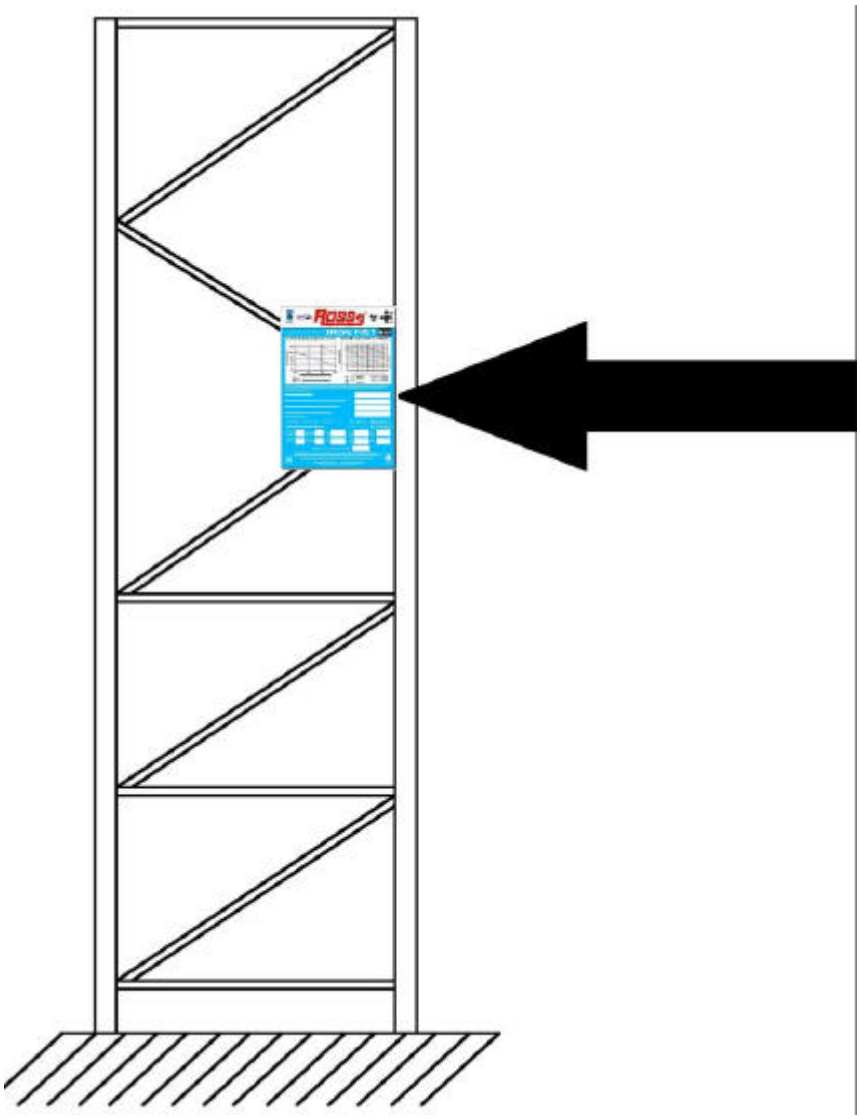

Assembly of capacity chart

Position the frame capacity chart on the head of the row at a suitable height in order it could be well visible.
Capacity chart shows the characteristics of the shelving.

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RAPPORTO DI FINE MONTAGGIO

COPIA PER LA ROSSS®

Data di fine Montaggio _____

Ragione Sociale Cliente _____

Indirizzo _____

Località _____

In riferimento ai Documenti di Trasporto n° _____ del _____

DICHIARIAMO

- che i materiali da Voi consegnati sono rispondenti alle nostre richieste;
- che l'intero impianto è completamente funzionale;
- che il lavoro è stato eseguito a perfetta regola d'arte ed a nostra completa soddisfazione, nel rispetto dei requisiti contrattuali stabiliti.

Stato del montaggio: ☐ COMPLETO ☐ PARZIALE (indicare le parti non installate) _____

_____

_____

Attività d'addestramento effettuata al personale del cliente: _____

_____

Riserve: _____

Note: _____

_____

La mancata compilazione e firma da parte del cliente del presente rapporto di fine montaggio, in assenza di contestazioni, esclude dai diritti di garanzia.

Montaggio effettuato dalla Ditta:	***Cliente:***
Timbro	Timbro

Responsabile Sig. _____ ***Sig.*** _____

Mansione _____

Firma _____ ***Firma*** _____

ROSSS® S.P.A. - Viale Kennedy, 97/174 - 50038 SCARPERIA (FI) - Tel. **055 84001** - Fax **055 8400300**
Internet: **www.rosss.it** / E-mail: **rosss@rosss.it**

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CHECK AND MAINTENANCE FORM

Technician	Name/Surname		Controls form N° of	Departmen Racking
Type of chek	Regular	Not regular	Notes about (on) suggested intervention	

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RECORD OF MAINTENANCE INTERVENTIONS

N°	Date	Internal intervention	Intervention description	Data of intervention documents

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