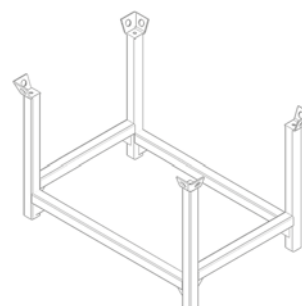
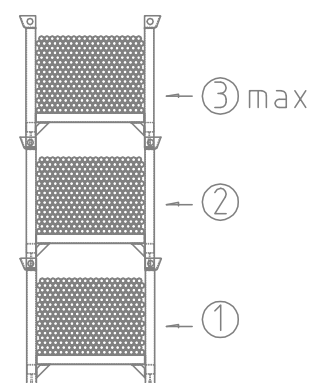
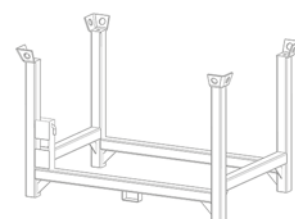
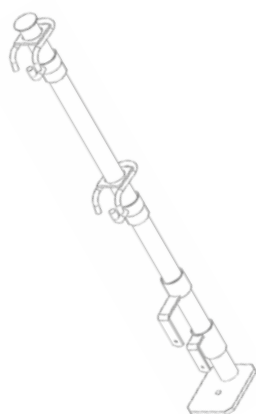


ALTRAD MOSTOSTAL – **STRENGTH, MODERNITY, STABILITY**

INSTRUCTION FOR USE

TEMPORARY BUILDING EDGE PROTECTION SYSTEM



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MOSTOSTAL
SCAFFOLDING
FORMWORK



CERTIFICATE

Management system as per
PN-EN ISO 9001 : 2015

In accordance with TÜV NORD Polska Sp. z o.o. procedures, it is hereby certified that

Altrad-Mostostal Spółka z o.o.
ul. Starzyńskiego 1, PL / 08-110 Siedlce

applies a management system in line with the above standard for the following scope

**Design, production as well as sales and distribution
of scaffoldings, shutterings and building accessories.
Production of steel and aluminium constructions.**

Certificate Registration No. AC090 100/0197/3169/2012
Audit Report No. PL3169/2018

Valid from **27-10-2018**
Valid until **26-10-2021**
Initial certification: 27-10-2006

Manager of Certification Body
TÜV NORD Polska Sp. z o.o.

Katowice, 08-10-2018

This certification was conducted in accordance with the TÜV NORD Polska Sp. z o.o. auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD Polska Sp. z o.o.

ul. Mickiewicza 29

40-085 Katowice

www.tuv-nord.pl



AC 090
OMS

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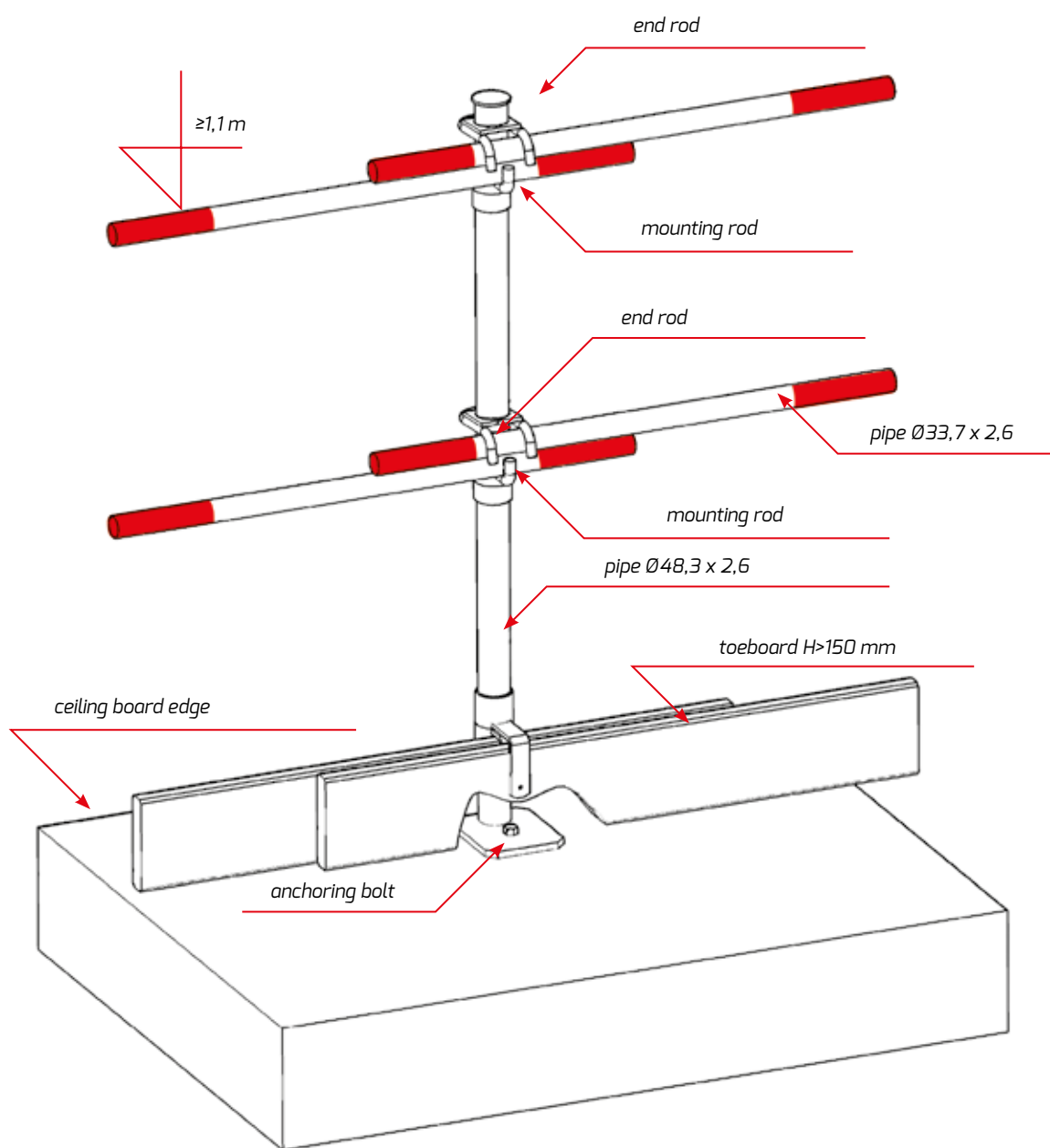
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GENERAL

The presented building edge protection system belongs to the "A" class. An "A" class system transfers static loads only. Should the dynamic loads be presents you cannot use the system shown in these instructions. When the working surface that is protected with the system is inclined by more than 15° the use of the system shown in the instructions is prohibited.

The temporary safety protection system belongs to the general protection systems which are required and used during the construction works.

The system presented meets all legal requirements concerning the equipment, location and strength in force in Poland as well as the requirements specified in PN-EN 13374 in terms of the "A" protection class.



DESCRIPTION OF COMPONENTS

■ Versatile railing post

Index

ZZA023

This component is made of the steel pipe $\varnothing 48,3$ mm with a wall 2,6 mm thick. The pipe tolerance is compliant with PN-EN 10219. The location and mounting parts are provided along the pipe height to install the main and intermediate railing. The post bottom is finished with a plate 10 mm thick with a hole $\varnothing 13$ to mount the anchor. The swivel railing and toeboard fixing parts installed on the post allow for smooth installation of the protective railing around the post vertical axis. Owing to that it is possible to install the railings on the complex ceiling edges.



■ Main and intermediate railing

Index

ZZA024

Made of the steel pipe $\varnothing 33,7 \times 2,6$, 3,0 m long. The pipe tolerance is compliant with PN-EN10219. The railing pipes are galvanized and finished with red shrink jackets over 200 mm. They indicate the railing zone that should protrude beyond the posts.

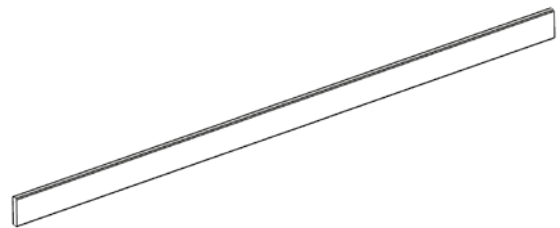


■ Toeboard

Index

-

As regards this system it is a wooden plank 150 mm high and min. 25 mm thick, and 3,0 m long. The toeboards should be made of the S10 class coniferous timber according to DIN 4074-1 (C25 according to EN338). The toeboard must always be 200 + 200 mm longer than the railing spacing. The toeboard may be painted providing that the paint does not make the visual control of the timber condition difficult. It is acceptable to use the sawn timber that meets these requirements.

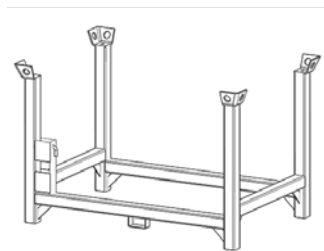


■ Storage palette

Index

ZZA022

Used to transport and store the railings. The palette can also be used to store the toeboards 3,0 m long. It is made of the steel sections 60 x 60 x 3 and galvanized. The palette is equipped with the transportation belt. Overall dimensions: 1200 x 800 x 825.



■ Modular palette

Index

E823800

Used to transport and store the posts. The palette can also be used to store the toeboards. It is made of the steel sections 60 x 60 x 3 and galvanized. Overall dimensions: 1200 x 800 x 825.

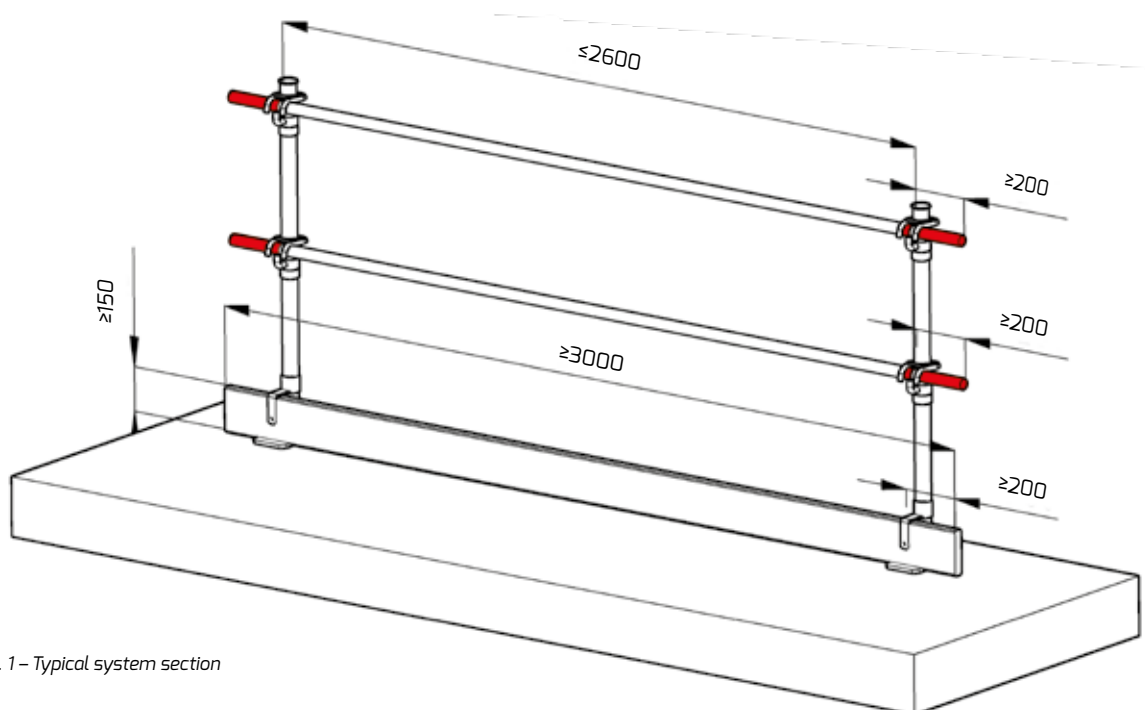
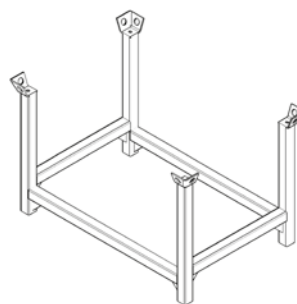


fig. 1 – Typical system section

3

QUICK ASSEMBLY GUIDE

Before the assembly you should check the technical condition of the components collected. You should check whether the welds are not cracked or no moveable pieces are missing that are the integral part of the railings, or the pipe sections are not bent and make the components malfunction. The pipes $\varnothing 33,7 \times 2,6$ which are used as the main and intermediate railing should be straight, with no bends over the entire length.

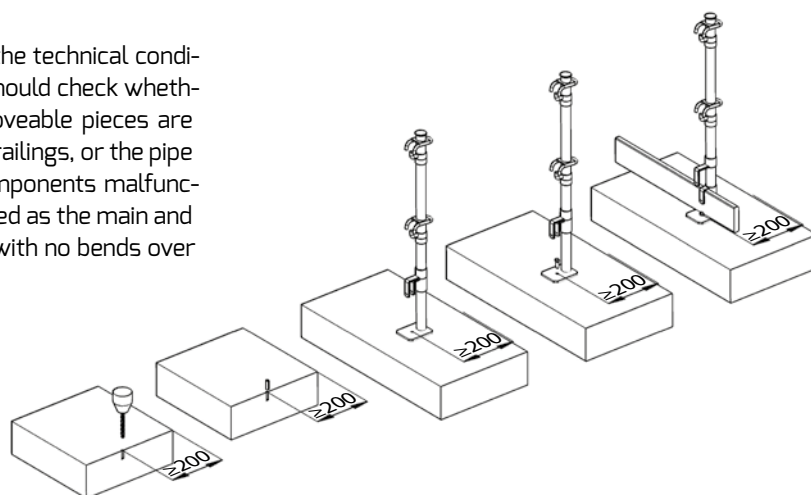


fig. 2 – Sequence of the railing assembly

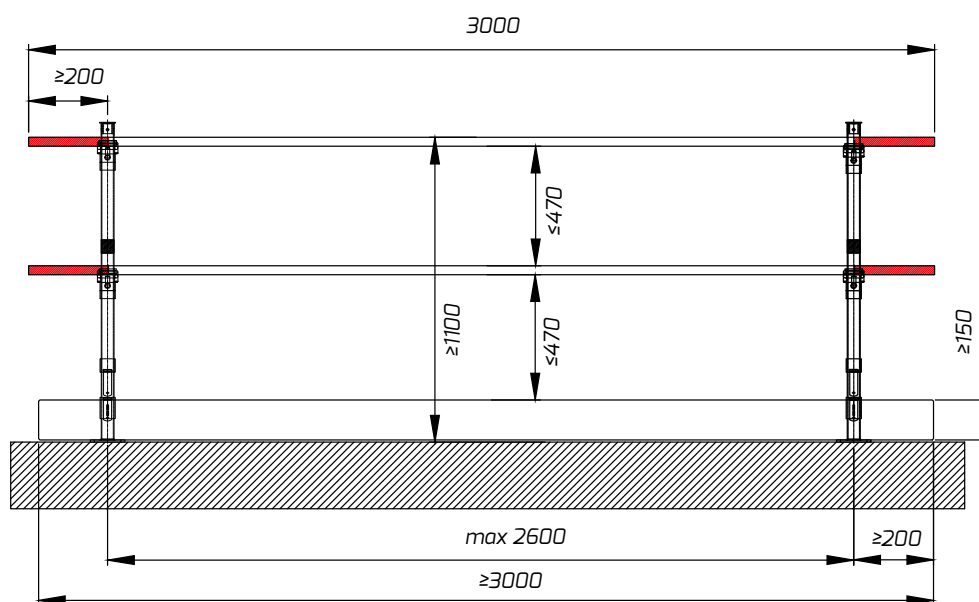


fig. 3 – Toeboards lengths

- Start the assembly by determining a line located at least **200 mm** from the ceiling edge. This is the minimum distance of the anchoring points. The railing will be installed along this line (fig. 4).
- Drill the anchor holes along the determined line. The maximum post axial spacing is 2,6 m. As regards B20 and higher class concrete you should use the anchor with the axial (extracting) force not less than 8,5 kN or another anchor with similar parameters. As regards fastening to the surfaces with low bearing capacity use an anchor of the type appropriate for the surface that will transfer the axial (extracting) force according to the above-mentioned specifications. The anchors should be installed according to the documents and recommendations of the anchor manufacturer. The minimum concrete slab thickness: 18 cm.
- After inserting the anchor sleeve into the hole position the post and screw it to the surface with a torque of **50 Nm**. The arrow on the label on the post foot indicates the proper post position in relation to the ceiling edge (fig. 2).
- Install the planks **150 mm** high that form the toeboards by raising and lowering the bottom toeboard mountings. The toeboards must always be located on the inside of the building. Drive the nails into the toeboard clamping ring holes to stabilize the toeboards (fig. 2 and 6).
- When installing the railings between the walls the first post and the first railing from the wall should be installed so that the distance from the wall to the beginning of the railing does not exceed **120 mm**. As regards the **toeboard** this distance cannot exceed **20 mm**.

All spaces between the edge protection system and other building structure components should be as small as possible and cannot exceed **120 mm** as regards the railings. The distance between the **toeboard** and other structure components cannot exceed **20 mm** (fig. 5).

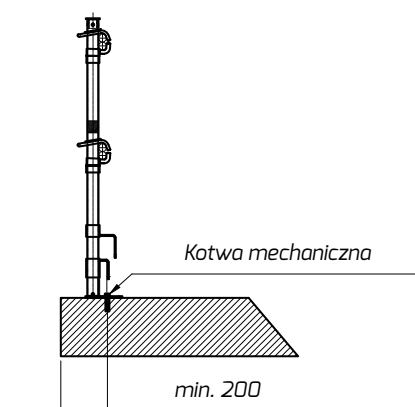


fig. 4

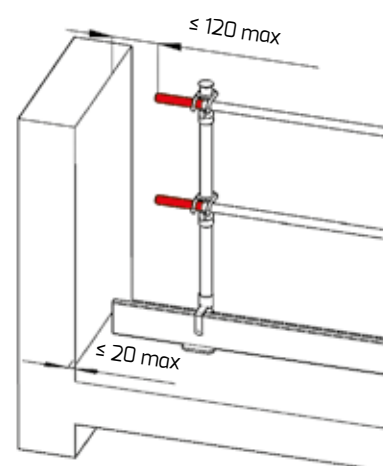


fig. 5

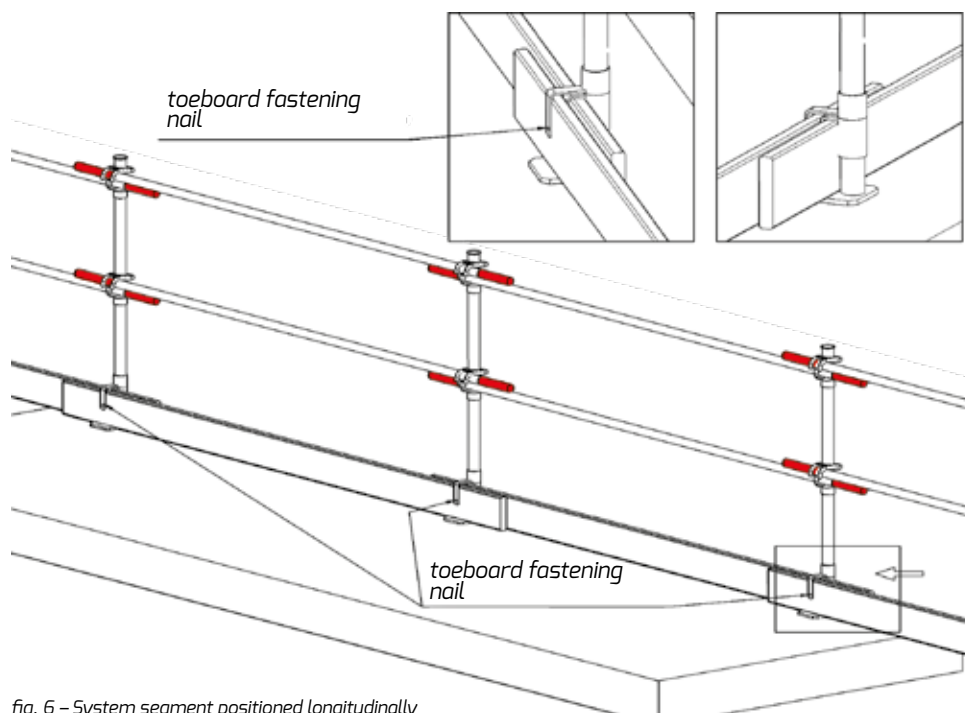


fig. 6 – System segment positioned longitudinally

- The main railings are installed by positioning the pipes **Ø33,7 x 2,6** on the upper mounting rods and locking them by hitting the end rod with the 600 g hammer from above
- The intermediate railings are installed by positioning the pipes **Ø33,7 x 2,6** on the bottom mounting rods and locking them by hitting the end rod with the 600 g hammer from above. The railing pipes must always be located on the inside of the building.
- The railing pipes should protrude beyond the supporting points (posts) by at least **200 mm**. Typical railing pipes are marked red over **200 mm** at both ends. This is the marking of the zone that protrudes beyond the posts (fig. 7 and 8).

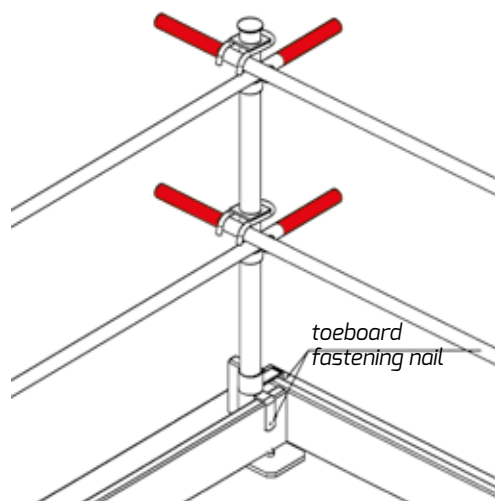


fig. 7 – Installation of the toeboard and railing in the corners

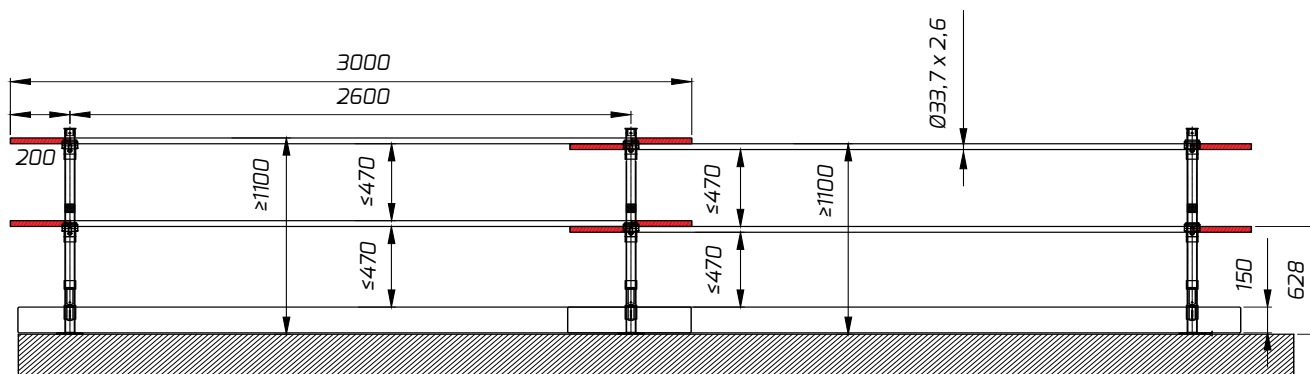


fig. 8 – General diagram

To **disassemble the posts** you should start from disassembling the intermediate railing by bouncing the end rods with the hammer. Then you should disassemble the toeboards. The main railing should be disassembled last before the posts are disassembled. To disassemble the posts remove the M12 screws. In general, the disassembly is opposite to the assembly.



Should people or objects be caught (fall) in emergency a competent person should check (inspect) the components and the protection system.

SYSTEM USAGE

4

- The system transfers static loads only, do not use it when the dynamical loads are present.
- The system may be used when the wind speed does not exceed 30 m/s.
- When the building edge is covered with ice and the working surface is slippery remove the ice and the reason why the surface is slippery before the protection system is installed.
- When the building edge is covered with snow remove it before the system is installed.

HANDLING OF DAMAGED COMPONENTS

5

Should people or objects be caught (fall) in emergency you should inspect the components.

Railings:

- railings with the bent or torn section should be scraped,
- railings bent by no more than 10 cm from the straight line can be repaired by straightening,
- railings with the damaged red shrink jackets should be repaired by installing new jackets.

Posts:

- posts with the bent section should be scraped,
- posts with the torn section should be scraped,
- posts with the pipe section permanently bent by more than 5 cm from the straight line should be scraped,
- posts with the broken mounting rods should be repaired by re-welding and re-painting,
- posts with the broken end rods should be scraped,
- posts with the bent fastening rods should be straightened,
- posts with the bent foot plates should be repaired by straightening,
- posts with the cracked welds should be repaired,
- posts with the bent, twisted toeboard handles should be straightened.

Toeboards:

- toeboards with the crosswise cracks should be scraped,
- toeboards with the longitudinal cracks exceeding 200 mm should be scraped,
- toeboards with the falling knots should be scraped.

COMPONENT STORAGE AND PACKING

a) Example showing packing and storing of the posts in the modular palettes.

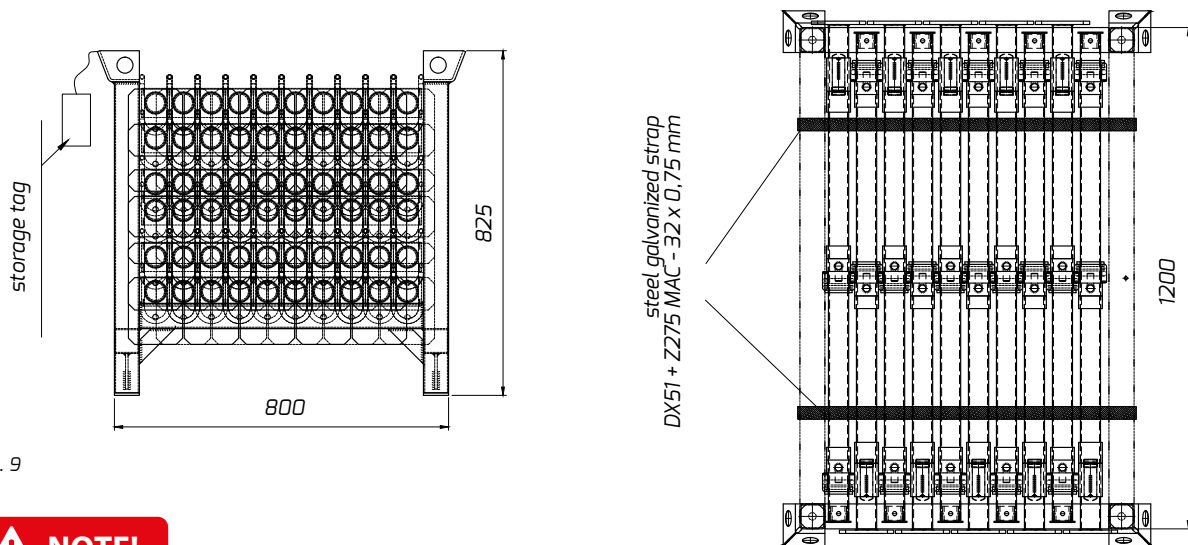
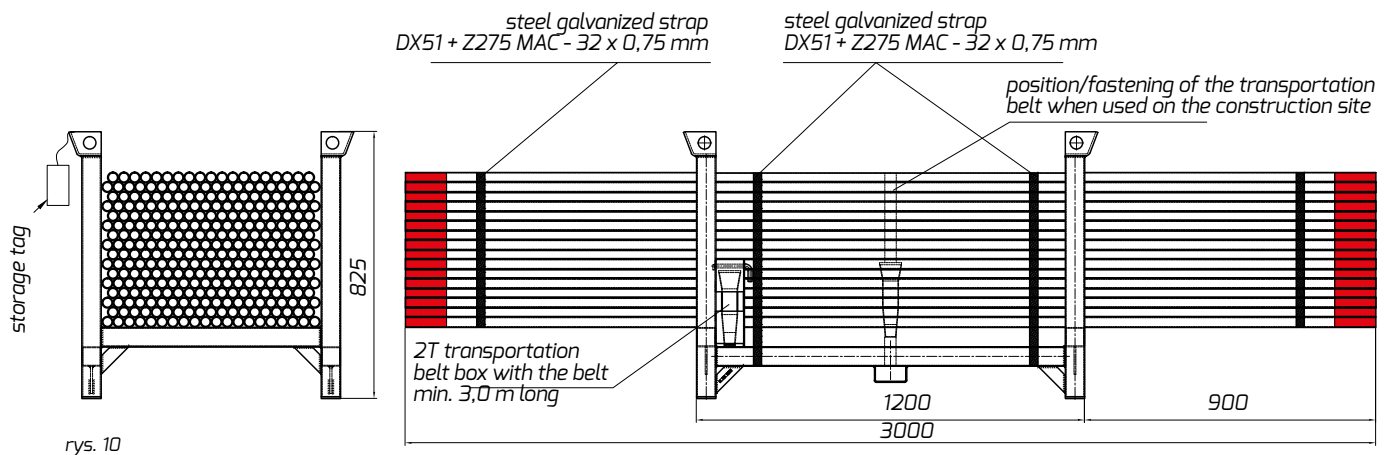


fig. 9

NOTE!

Posts should be put alternately on the module palette in 6 layers each consisting of 10 items. Each palette contains 60 items. When 3 layers are ready tie the posts with the webbing tape. When all items are put on the palette tie the posts and the palette with the steel strips acc. to the scheme. Permissible vertical storage: three palettes. Total weight: 501,6 kg

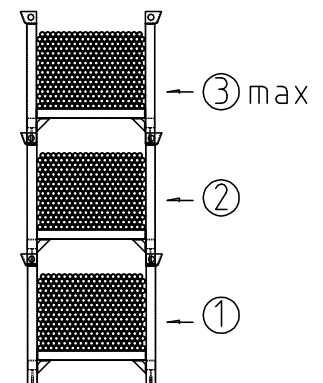
b) Example showing packing and storing of the railings in the modular palettes.



rys. 10



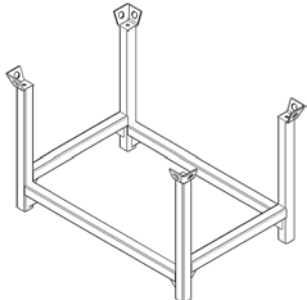
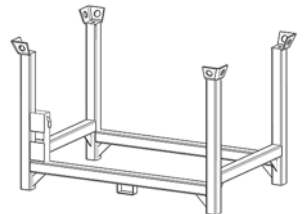

NOTE!

Max. bearing capacity 20 kN
Max. bearing capacity of 3 levels - 60 kN
Total weight - 1946 kg
Packing 312 pcs.
The railings should be positioned alternately on the levels with 20 pcs. and 19 pcs.:
 $(8 \times 20) + (8 \times 19) = 312$ pcs.
All packing should be clamped with the strips according to the scheme.
The whole transportation belt 3,0 m long should be in the box.
When the full railing pack is unpacked the rest of the railings should be clamped with the belt as per the drawing (not applicable to the packs used on the construction site and in the customer warehouse)



c) The anchors and bolts required for the system assembly should be stored in the packing supplied by the anchor and bolt manufacturer.

LIST OF COMPONENTS

Component name	Contr. no.	Weight [kg]	Picture
Versatile post	ZZA023	7,69	
Post railing	ZZA024	6,1	
Modular palette	E823800	40,2	
Storage palette	ZZA022	42,5	
Toeboard L = 3,0 m; H = 0,15 m; S = 0,025 m	-	8,5	



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