N2 Side barrier in soil

INSTALLATION MANUAL

System code: N2W3-CC4



Installation Manual Rev.000 - November 2024

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1. 1. General information

This document represents the assembly manual of the metal barrier with 2-waves beams named N2W3-CC4

In detail, the system (see MB-8244 assembly) consists of:

- 2 waves beam 2,5 mm thick	Dis. 0311/53
- C shaped post 120x55x30 - 4 mm thick	Dis. MB-7830
- U shaped post reinforcement 100x40 - 5 mm thick	Dis. MB-7307

CE No. 0402-CPR- C500505 with valid inspection issued by RISE

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All the operations described in this document and the operational phases have been studied for the correct assembly and functioning of the barrier, any modification must be agreed upon and authorized by Marcegaglia Buildtech srl

Careful attention must be paid to the operations and sequences of complete tightening of the screws in order to avoid assembly problems in subsequent stages.

2Installation conditions

The N2W3 - CC4 barrier has been specifically designed for use as a lateral edge installed on the ground .

The accessibility to the installation area with the pile driver machine and the absence of obstacles both above and below the surface (trees, walls or pipes, underground utilities, etc) needs to be verified.

3. Preliminary operations

For an efficient installation we recommend starting by placing the necessary material on the ground along the barrier installation line.

In particular, once the section to be installed has been defined, it is recommended to position it on the ground and horizontally the two-wave bands (detail 1) with the edge along the positioning line of the posts.

Positioning must be carried out precisely, especially at the overlap of the beams.

At this point you can proceed to drive the first post (part. 2) of the section with the pile driver machine and then a line is stretched which ensures the correct alignment of the subsequent posts. During the driving of the first post the height must be verified accurately in order to obtain the correct height of the finished barrier.

Normally, once the required quota is reached, the position reached by the post-driving tool is highlighted in order to have a precise reference for driving all the other posts.

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For each post, the reinforcement piece (detail 6) must be inserted and positioned with the help of a mallet so that they are 150 mm embedded in the ground.

4. Installation of the posts

By following the above instructions, the positioning of the posts becomes quick and precise because:

- The longitudinal spacing is determined by the position of the holes on the strips laid on the ground
- The alignment is ensured by the line
- The driving depth is ensured by the reference on the pile driver.

The vertical height of the post head can be incorrect by a measure of +/- 1 cm, as there are appropriate slots to correctly install the double wave beam. The verticality of the post in both directions must be carefully maintained and is achieved through appropriate adjustments of the pile driver machine."

5. Installation of the system

The double wave beam is lifted (taking care to start from the end of the section to achieve the correct overlap of the rails) and is fixed to the posts

At each post the beam is overlapped, ensuring that the next beam in the direction of traffic is positioned under the previous one. This prevents having protruding edges that can be hazardous in case of vehicle derailment. The connections between beams and posts are made with M14x50 bolts complete with nuts, washers (part 5), and rectangular slot protection plates (part 3) to be positioned in front of the double wave beam.

Then, it is also possible to install the connecting bolts of the rails: 8 M16x30 bolts complete with nuts and washers (part 4).

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After completing the assembly of the section, it is necessary to vertically align the rails to ensure the entire barrier is at the same height or at the same distance from the road surface.
This operation is normally carried out by sighting the first rail and gradually adjusting the subsequent ones.

6. Tightening the bolts

The M14 x 50 bolts (part. 5) that connect the tape (part. 1) to the pole (part. 2) must be tightened with a torque greater than or equal to 30 Nm.

Then it is possible to tighten the M16 x 30 bolts (part. 4) connecting the 2-wave bands to a torque greater than or equal to 50 Nm.

7. Installation on curved roads

The barrier N2W3-CC4 can also be mounted on curved sections with a minimum curvature radius of 50 m, there are appropriate slots that allow installation using standard parts.

Below the indicated measurement it is necessary to calender the bands and therefore an on-site survey and a specific drawing are necessary.

8. Inspection - Maintenance

This barrier does not require maintenance under normal conditions of use. It is recommended to check the tightening of the bolts every two years in the event of vibrations due to traffic, loosening may occur.

In this case, a subsequent tightening is required to bring the torque back to the above-mentioned requirement.

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9. System restoration

In the event of an accident, it is necessary to restore the damaged device.
Depending on the severity of the impact, it is possible to replace the damaged elements, starting from the 2-wave bands up to replacing the posts.
Generally, it is recommended to replace the entire damaged barrier starting from one span before the first deformed element (4 m) and up to one span after the last damaged element.
It is also recommended to compact the ground where the posts to be replaced are extracted.

10. Durability

All elements are treated with a hot-dip galvanizing process according to UNI 1461, with minimum thicknesses and coating depending on the thicknesses of the various elements.

11. Riferimenti Normativi e Tecnici

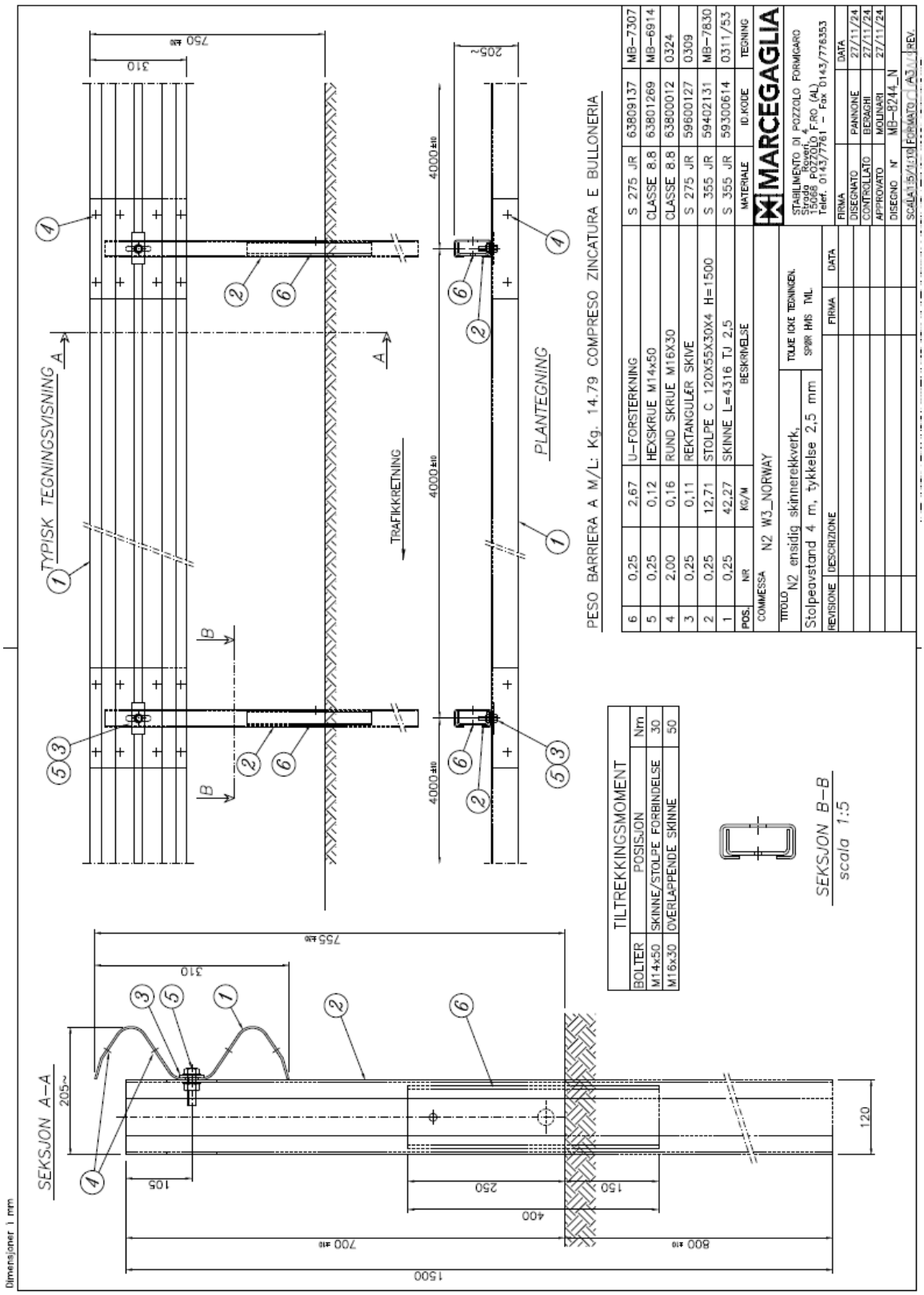
EN 1317-5:2007+A2:2012,
EN 1317-5:2007+A2:2012/AC:2012
EN 22768: 1996

12. Allegati ed annessi

Assembly drawing MB-8244

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POS.	NR	KG/M	BESKRIVELSE	MATERIALE	ID.KODE	TEGNING
6	0,25	2,67	U-FORSTERKNING	S 275 JR	63809137	MB-7307
5	0,25	0,12	HEXSKRUE M14x50	CLASSE 8.8	63801269	MB-6914
4	2,00	0,16	RUND SKRUE M16X30	CLASSE 8.8	63800012	0324
3	0,25	0,11	REKTANGULÆR SKIVE	S 275 JR	59600127	0309
2	0,25	12,71	STOLPE C 120X55X30X4 H=1500	S 355 JR	59402131	MB-7830
1	0,25	42,27	SKINNE L=4316 TJ 2,5	S 355 JR	59300614	0311/53

COMMESSA N2 W3_NORWAY
TITOLO N2 ensidig skinnerekkverk, Stolpeavstand 4 m, tykkelse 2,5 mm
TOLVE IDKE TEGNINGEN. SPIR HMS TML
REVISIONE | DESCRIZIONE | FIRMA | DATA

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	FIRMA	DATA
DISEGNATO	PANNONE	27/11/24
CONTROLLATO	BERGAGHI	27/11/24
APPROVATO	MOLINARI	27/11/24
DISEGNO Nr	MB-8244_N	
SCALA 1:5/1:10	FORMATO A3	REV

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