

Single Sided Road Barrier H2

INSTALLATION MANUAL

Name of the system: H2BL-W4-NORWAY



1

Installation Manual - October 2020

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1. General information

The present document is the assembly manual of the 2-waves steel road barrier named: H2BL-W4-NORWAY

In details, the system (see drawing MB-4645) is composed by:

- 2-waves beam 2,85 mm thickness dwg 0311/46
- C post 120x55x30 4 mm thickness dwg MB-2138

All the operations here described and the times were studied for the correct assembly and functioning of the barrier; any change must be agreed upon and authorized by Marcegaglia Buildtech Srl.

In particular, the sequences of complete tightening of the screws, necessary in order to prevent assembly problems in the next steps, should be carefully complied with.

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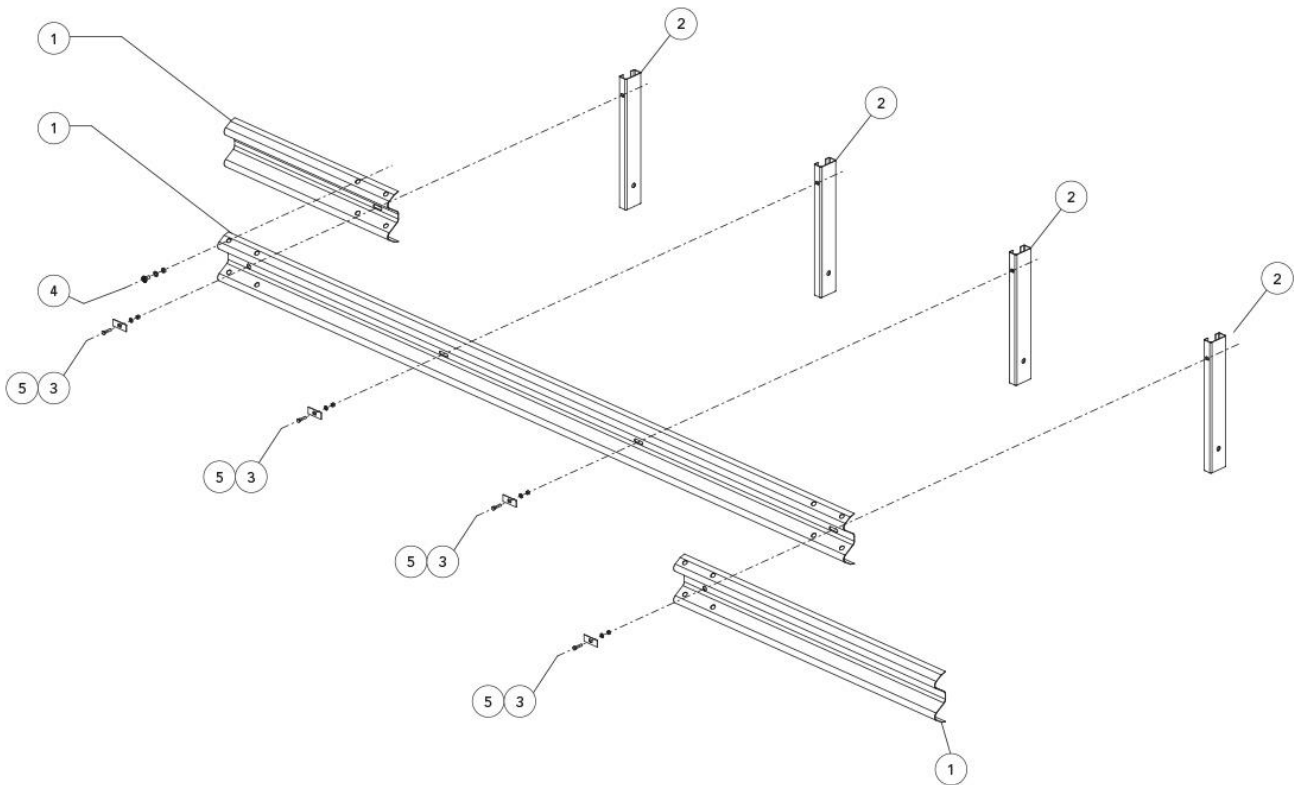
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Componenti Components, Bauteile, Composants, Elementos

	Descrizione Description		Materiale Material	Codice Code
5	Bullone completo + rondella Bolt with nut and washer + washer, Schraube komplett + unterlegscheibe, Boulon complet + rondelle, Tornillo completo con tuerca y arandela + arandela	M12x50 mm	Classe 8.8	63800857
4	Bullone completo Bolt with nut and washer, Schraube komplett, Boulon complet, Tornillo completo con tuerca y arandela	M16x30 mm	Classe 8.8	63800012
3	Piastrina copriasola Slot covering plate, Lochabdeckplatte, Plaque de couverture fente, Placa cubre-ranura	100x40x4 mm	S 235 JR	59600127
2	Palo "C" C-post, C-Steher, Poteau en C, Poste "C"	120x55x30 Th=4 H=1700 mm	S 275 JR	59400949
1	Fascia 2 onde 2-waves beam, 2-wellige Leitschiene, Glissière 2 crosses, Banda doble onda	L=4816 Th=2.85 mm	S 355 JR	59300504

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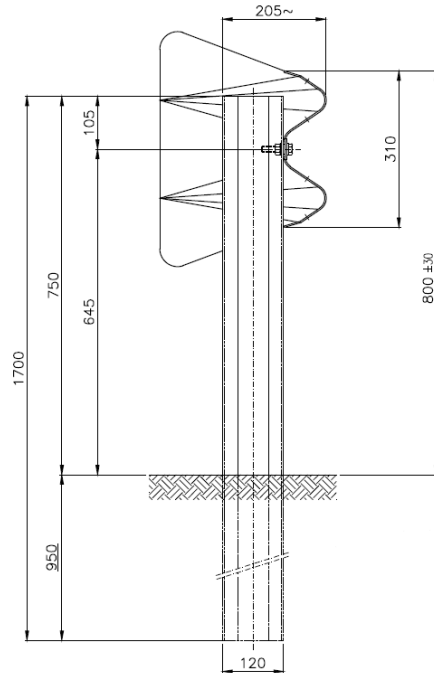
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2. Assembly conditions

The barrier H2BL-W4-NORWAY was expressly studied to be used as lateral side system for installation in the ground. The height of the centre of the beam is 645 mm < 650 mm.



The accessibility to the installation area has to be verified by means of a pile-driver, as well as the absence of obstacles above and underneath the surface (trees, walls or pipes, channels, etc.).

3. Preliminary operations

For an efficient installation, it is recommended to start by placing the necessary material on the ground along the barrier installation line.

In particular, after having defined the section to install, it is recommended to place horizontally on the ground the 2-waves beams (*part. 1*) with the edges along the positioning line of the posts.

The positioning has to be very precise, especially in correspondence with the overlapping of the beams.

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At this stage, the first post of the section (*part. 2*) may be driven with the aid of a pile-driver and subsequently a reference wire is tightened assuring the correct alignment of the next posts.

While driving the first post, its height should be also controlled, in order to obtain the correct height of the finished system.

Normally, once reached the required height, the position of the pile-driver is marked, in order to have a precise reference for the driving of all the next posts.

4. Installation of the posts

Having observed the above mentioned prescriptions, the positioning of the posts becomes fast and precise, since:

- The longitudinal pitch is given by the positions of the holes on the beams placed onto the ground.
- The alignment is assured by the reference wire.
- The driving height is assured by the reference on the pile-driver.

The height of the post could be wrong for a value equal to +/- 1 cm, as there are suitable slots to install correctly the 2-waves beams.

It should be taken care of the verticality of the post in the two directions and this verticality is obtained by appropriate shifts of the pile-driving machine.

5. Installation of the barrier

The 2-waves beam is raised (making sure to start from the bottom of the section, in order to obtain the correct overlapping of the beams) and it is fixed only to the first and the intermediate post.

The bolt necessary for fixing the beam to the third post is placed only when the next rail is overlapped. These fixings consist of bolt M12x50 complete of nut, washer (*part. 5*) and rectangular slot covering plate (*part. 3*) to be placed in front of the 2-waves beam.

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At this stage, it is possible to place the bolts connecting the rails, 8 bolts M16x30 complete with nut and washer (*part. 4*).

Once the assembly of the section is completed, it is necessary to vertically align the beams, so that the whole barrier system is at the same height or at the same distance from the road surface.

Normally, this operation is carried out by sighting the first beam and progressively correcting the next beams.

6. Tightening of the bolts

The bolts connecting the beam to the post have to be tightened with a torque greater than or equal to 10 Nm.

Subsequently, it is possible to tighten the bolts connecting the 2-waves rails with a torque greater than or equal to 40 Nm.

7. Installation on curves

This barrier can be also installed on curved sections having a minimum radius of 50 m; in fact, there are appropriate slots which allow the installation using the standard components.

With radius lower than 50 m, it is necessary to bend the beams and therefore it is necessary to take sizes on site and to provide a specific drawing.

8. Inspections and maintenance

In normal conditions of use, the concerned barrier does not require any maintenance.

It is recommended to check every two years the tightening of the bolts, because in case of vibrations due to traffic some loosening may occur.

In this last case, a further tightening is required, in order to reach the above mentioned torque values.

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9. Device restore

In case of accident, the damaged guardrail system has to be restored.

In relation to the severity of the impact, the damaged elements might be replaced, starting from the 2-waves rails up to the posts.

As a general rule, it is recommended to replace the entire damaged barrier, starting from a span before the first deformed element (4,5 m) and up to a span after the last damaged element.

It is also recommended to compact the soil where to posts to replace are extracted.

10. Durability

All the components are treated with a hot deep galvanizing process according to EN 1461 and covered with a minimum thickness according to the different steel thickness of each element.

11. Technical Standards

UNI EN 1317-5 /2007 (road safety barriers)

UNI EN 22768: 1996 (tolerances)

12. Attachments and annexes

Assembly drawing MB-4645



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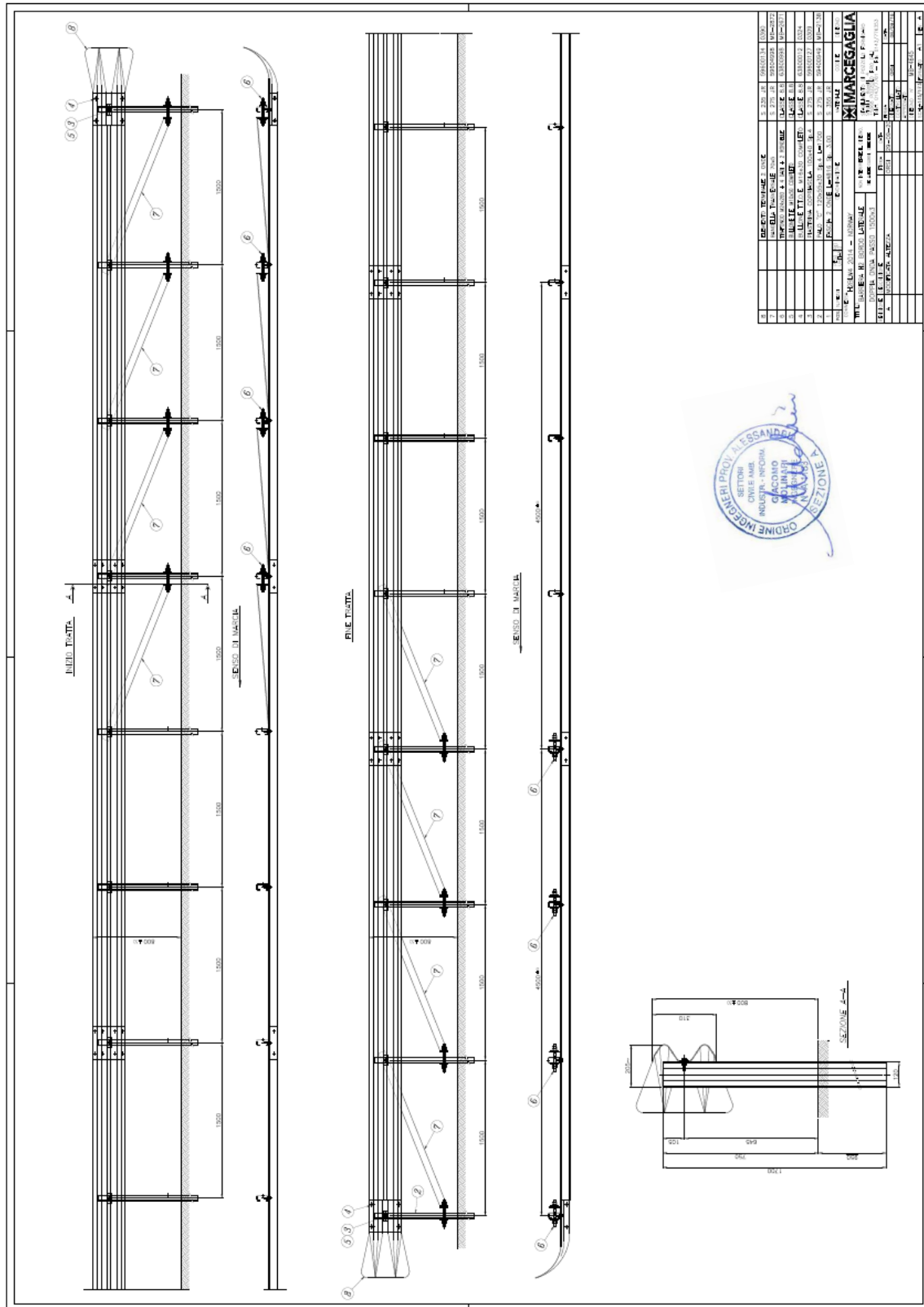
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