

Barrier L1 Side Edge

INSTALLATION MANUAL

Device code: L1W3 MAR CC4



Installation Manual Rev.001 - December 2023

Written by Giacomo Molinari

Checked by : Fabio Beraghi



MARCEGAGLIA BUILDTECH S.r.l. - con socio unico

Administration offices: c/o MARFIN S.r.l. - via Bresciani, 16 • 46040 Gazoldo degli Ippoliti, Mantova - Italy
ph. +39 . 0376 685 1 • fax +39 . 0376 685 664

a.buildtech@marcegaglia.com • marcegagliabuildtechsr1@pec.marcegaglia.com • www.marcegaglia.com

Sales offices:

via Giovanni della Casa, 12 • 20151 Milano - Italy

ph. +39 . 02 30 704.1 • fax +39 . 02 33 402 706 • buildtech@marcegaglia.com

strada Roveri, 4 • 15068 Pozzolo Formigaro, Alessandria - Italy

ph. +39 . 0143 77 61 • fax +39 . 0143 77 63 53 • buildtech@marcegaglia.com

Registered seat:

via Giovanni della Casa, 12 • 20151 Milano, Italy

P. IVA 01929950200 • Cod. IVA UE IT01929950200

Capitale sociale Euro 11.000.000,00 i.v.

Codice Fiscale e Reg. Imprese di MI n°03779410376

Summary

1. General information
2. Installation conditions
3. Preliminary operations
4. Installation of the Poles
5. Installation of the Barrier
6. Tightening bolts
7. Curved mounting
8. Inspections-Maintenance
9. Reset device
10. Durability
11. Regulatory and Technical References
12. Attachments and Annexes

1. General information

This document represents the assembly manual of the metal barrier with tape
2 waves named L1W3 MAR CC4

In detail, the device (see MB-7304 assembly) consists of:

- | | |
|---|--------------|
| - Fascia 2 where sp. 2.85mm | Dis. 0311/56 |
| - Palo a C 120x55x30 sp.4 mm | Dis. MB-7830 |
| - U-shaped post reinforcement piece 100x40 th. 5 mm | Dis. MB-7307 |

CE No. 1404-CPR-3682 with valid inspection issued by ZAG

Registered seat:

via Giovanni della Casa, 12 • 20151 Milano, Italy
P. IVA 01929950200 • Cod. IVA UE IT01929950200
Capitale sociale Euro 11.000.000,00 i.v.
Codice Fiscale e Reg. Imprese di MI n°03779410376

MARCEGAGLIA BUILDTECH S.r.l. - con socio unico

Administration offices: c/o MARFIN S.r.l. - via Bresciani, 16 • 46040 Gazoldo degli Ippoliti, Mantova - Italy
ph. +39 . 0376 685 1 • fax +39 . 0376 685 664
a.buildtech@marcegaglia.com • marcegagliabuildtechsrl@pec.marcegaglia.com • www.marcegaglia.com

Sales offices:

via Giovanni della Casa, 12 • 20151 Milano - Italy
ph. +39 . 02 30 704.1 • fax +39 . 02 33 402 706 • buildtech@marcegaglia.com
strada Roveri, 4 • 15068 Pozzolo Formigaro, Alessandria - Italy
ph. +39 . 0143 77 61 • fax +39 . 0143 77 63 53 • buildtech@marcegaglia.com

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.

2. Installation conditions

The L1W3 MAR CC4 barrier has been specifically designed for use as a lateral edge install on the ground.

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

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 wire along the positioning line of the poles.

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

At this point you can proceed to drive the first pole (*part. 2*) of the section with the vehicle pile driver and then a line is stretched which ensures the correct alignment of the subsequent poles.

During the driving of the first pile the height must also be taken care of in order to obtain the correct height of the finished barrier.

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

For each pole, 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.

Registered seat:

via Giovanni della Casa, 12 • 20151 Milano, Italy
P. IVA 01929950200 • Cod. IVA UE IT01929950200
Capitale sociale Euro 11.000.000,00 i.v.
Codice Fiscale e Reg. Imprese di MI n°03779410376

MARCEGAGLIA BUILDTECH S.r.l. - con socio unico

Administration offices: c/o MARFIN S.r.l. - via Bresciani, 16 • 46040 Gazoldo degli Ippoliti, Mantova - Italy
ph. +39 . 0376 685 1 • fax +39 . 0376 685 664
a.buildtech@marcegaglia.com • marcegagliabuildtechsrl@pec.marcegaglia.com • www.marcegaglia.com

Sales offices:

via Giovanni della Casa, 12 • 20151 Milano - Italy
ph. +39 . 02 30 704.1 • fax +39 . 02 33 402 706 • buildtech@marcegaglia.com
strada Roveri, 4 • 15068 Pozzolo Formigaro, Alessandria - Italy
ph. +39 . 0143 77 61 • fax +39 . 0143 77 63 53 • buildtech@marcegaglia.com

4. Installation of poles

Having observed the above requirements, the positioning of the poles becomes quick and precise because:

- the longitudinal pitch is given by the position of the holes on the bands placed on the ground
- alignment is ensured by the line
- the driving height is ensured by the reference on the pile driver.

The vertical height of the pole head can vary with a tolerance of +/- 1 cm and must be checked carefully as it determines the height of the barrier.

The verticality of the pole in the two directions (axial and orthogonal) must be taken care of and is obtained through appropriate movements of the pile driver machine. Deviations of 3° and inclinations are tolerable higher must be evaluated based on the position and distribution of the poles involved.

5. Installation of the barrier

The 2-wave band is raised (taking care to start from the bottom of the section so as to obtain the correct overlap of the bands) and is fixed only to the first pole and to the pole intermediate.

The bolt corresponding to the third post is positioned only when the next band; these connections are made up of M14x50 bolts complete with nut and washers (*detail 5*) and rectangular buttonhole protection plate (*detail 3*) to be positioned in front of band 2 where.

At this point it is also possible to install the connecting bolts of the bands, 8 M16x30 complete with nut and washer (*part. 4*).

Once the assembly of the section has been completed, it is necessary to align the bands vertically so as to obtain the entire barrier at the same height or in any case at the same distance from the road surface.

Normally this operation is carried out by sighting the first band and correcting away the next ones go.

Registered seat:

via Giovanni della Casa, 12 • 20151 Milano, Italy
P. IVA 01929950200 • Cod. IVA UE IT01929950200
Capitale sociale Euro 11.000.000,00 i.v.
Codice Fiscale e Reg. Imprese di MI n°03779410376

MARCEGAGLIA BUILDTECH S.r.l. - con socio unico

Administration offices: c/o MARFIN S.r.l. - via Bresciani, 16 • 46040 Gazoldo degli Ippoliti, Mantova - Italy
ph. +39 . 0376 685 1 • fax +39 . 0376 685 664
a.buildtech@marcegaglia.com • marcegagliabuildtechsrl@pec.marcegaglia.com • www.marcegaglia.com

Sales offices:

via Giovanni della Casa, 12 • 20151 Milano - Italy
ph. +39 . 02 30 704.1 • fax +39 . 02 33 402 706 • buildtech@marcegaglia.com
strada Roveri, 4 • 15068 Pozzolo Formigaro, Alessandria - Italy
ph. +39 . 0143 77 61 • fax +39 . 0143 77 63 53 • buildtech@marcegaglia.com

6. Tightening 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.

Subsequently it is possible to tighten the M16 x 30 bolts (*part. 4*) connecting the 2 bands waves at a torque greater than or equal to 50 Nm.

7. Curved mounting

The barrier in question can also be mounted in curved sections with a minimum radius of curvature equal to 50 m, there are appropriate slots that allow installation using the details standard.

Below the indicated measurement it is necessary to calender the bands and therefore it is an in situ survey and a specific design are necessary.

8. Inspections - Maintenance

The barrier in question does not require maintenance under normal conditions of use. We recommend check the tightening of the bolts every two years in case of vibrations due to traffic, they can slack occur.

In this case, subsequent tightening is required to bring the torque back to what is required above.

9. Reset device

In the event of an accident it is necessary to restore the damaged device.

Depending on the severity of the impact suffered, it is possible to replace the damaged elements, starting from the 2-wave bands until the poles are replaced.

Generally speaking, 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 element damaged.

Registered seat:

via Giovanni della Casa, 12 • 20151 Milano, Italy
P. IVA 01929950200 • Cod. IVA UE IT01929950200
Capitale sociale Euro 11.000.000,00 i.v.
Codice Fiscale e Reg. Imprese di MI n°03779410376

MARCEGAGLIA BUILDTECH S.r.l. - con socio unico

Administration offices: c/o MARFIN S.r.l. - via Bresciani, 16 • 46040 Gazoldo degli Ippoliti, Mantova - Italy
ph. +39 . 0376 685 1 • fax +39 . 0376 685 664
a.buildtech@marcegaglia.com • marcegagliabuildtechsrl@pec.marcegaglia.com • www.marcegaglia.com

Sales offices:

via Giovanni della Casa, 12 • 20151 Milano - Italy
ph. +39 . 02 30 704.1 • fax +39 . 02 33 402 706 • buildtech@marcegaglia.com
strada Roveri, 4 • 15068 Pozzolo Formigaro, Alessandria - Italy
ph. +39 . 0143 77 61 • fax +39 . 0143 77 63 53 • buildtech@marcegaglia.com

It is also advisable to compact the ground where the poles to be replaced are extracted.

10. Durability

All elements are treated with a hot galvanizing process according to UNI 1461, with thicknesses minimums and coverage depending on the thicknesses of the various elements.

11. Regulatory and Technical References

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

UNI EN 22768: 1996 (tolerances)

12. Attachments and annexes

Overall drawing MB-7304

Registered seat:

via Giovanni della Casa, 12 • 20151 Milano, Italy
P. IVA 01929950200 • Cod. IVA UE IT01929950200
Capitale sociale Euro 11.000.000,00 i.v.
Codice Fiscale e Reg. Imprese di MI n°03779410376

MARCEGAGLIA BUILDTECH S.r.l. - con socio unico

Administration offices: c/o MARFIN S.r.l. - via Bresciani, 16 • 46040 Gazoldo degli Ippoliti, Mantova - Italy
ph. +39 . 0376 685 1 • fax +39 . 0376 685 664
a.buildtech@marcegaglia.com • marcegagliabuildtechsrl@pec.marcegaglia.com • www.marcegaglia.com

Sales offices:

via Giovanni della Casa, 12 • 20151 Milano - Italy
ph. +39 . 02 30 704.1 • fax +39 . 02 33 402 706 • buildtech@marcegaglia.com
strada Roveri, 4 • 15068 Pozzolo Formigaro, Alessandria - Italy
ph. +39 . 0143 77 61 • fax +39 . 0143 77 63 53 • buildtech@marcegaglia.com

