

Barrier: MCG-TE-P4 CLASS P4 ENERGY ABSORBING CRASH BARRIER TERMINAL	Compiled and checked by: Technical Office, Marcegaglia Building S.p.A.
Crash test Nos.: MCG/EXT-003/1122, MCG/EXT-004/1123, MCG/EXT-007/1285, MCG/EXT-006/1154	Homologation certificate: Pending homologation
Drawing: TERMINALE_H2	Reference: EN 1317-1-4
File: InstallazioneMCG-TE-P4	Issued: 01.09.2008

INSTALLATION PROCEDURE – MCG-TE-P4 CLASS P4 ENERGY ABSORBING CRASH BARRIER TERMINAL

The following prescriptions and indications must be observed when installing the terminal.

1 Layout

1.1 The terminal must be installed so that the outermost reverse surface of the beam corrugation is offset horizontally by 158 mm away from the carriageway, in a direction perpendicular to the axis of the carriageway itself, relative to the front surface of the crash barrier on the outer side of the carriageway onto which the terminal is connected.

1.2 The driven poles must be spaced as specified.

2 Installing the pillars

2.1 The 120x80 mm, 6 mm thick "U" pole (drawing No.: TERMINALE_H2_1) must be positioned as follows:

- The top end of the pole is end with the two 18 mm diam. holes for connecting the 100x100 mm, 6 mm thick, L=709 mm detachable tube (drawing No. TERMINALE_H2_2);
- The pole must be positioned with the 120 mm side oriented orthogonally respect to the road, with the open side of the U facing towards traffic;
- The pole must be driven to a depth of 1200 mm.

2.2 The top of the detachable pillars, consisting of a 100x100 mm, 6 mm thick, L=709 mm tube (drawing No. TERMINALE_H2_2) must be connected to the "U" poles using T.T.E.I. M16x50 bolts (drawing No. TERMINALE_H2_8).

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2.3 The 60x18 mm vertical slot at the top of the 100x100 mm tube must be orientated towards the interior of the carriageway, while the 36 mm diam. hole must be oriented towards the exterior.

3 Installing the spacers

3.1 Bring the 60x18 mm horizontal slot in the spacer (drawing No. TERMINALE_H2_4) towards the pole, against the 60x18 mm vertical slot in the 100x100 mm tube and connect the two elements with the T.T.E.I. M16x50 bolt (drawing No. TERMINALE_H2_8).

The spacer must be positioned so that the two rows of 30x18 mm vertical slots are horizontally superimposed.

4 Installing the beam sections

4.1 The terminal element consists of 7 beam sections (drawing No. TERMINALE_H2_5).

4.2 Bring the beam section (drawing No. TERMINALE_H2_5) against the spacers with the 30x18 mm slots (detail C) in the direction towards traffic and fasten with the T.T.D.E. M16x50 bolts (drawing No. TERMINALE_H2_3), fitting the stiffener plate (drawing No. TERMINALE_H2_6) on the road side of the beam section.

4.3 The plate must be fitted with the 31° bevelled edge facing the beam section, bringing the 25x18 mm horizontal slots against the 30x18 mm vertical slots and fastening them together with the same T.T.D.E. M16x50 bolt (drawing No. TERMINALE_H2_3) used in step 4.2;

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4.4 The overlap must be made so that the end of the beam section facing away from traffic (with the slots shown in details A and B), overlaps the head of the next beam section, with the 30x18 mm slots. As a result, install the beam section connecting to the barrier first and then proceed towards the direction of traffic.

5 Installing the terminal element

5.1 Bring the terminal element towards the spacer, with the bent edge at the bottom, and connect to the spacer (drawing No. TERMINALE_H2_4) using T.T.D.E. M16x50 bolts (drawing No. TERMINALE_H2_3).

6 Installing the connector beam section

6.1 The beam section connecting the terminal to the crash barrier consists of a standard crash barrier beam section connected to the terminal.

6.2 To connect, bring the slots of the connector beam section against the 30x18 mm slots (detail C) (drawing No. TERMINALE_H2_5) of the last beam section of the terminal.

6.3 Fasten with T.T.D.E. M16x50 bolts (drawing No. TERMINALE_H2_3), fitting the stiffener plate (drawing No. TERMINALE_H2_6) on the road side of the beam section.

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7 Alignment and tightening

7.1 Align all the horizontal elements so that there is a constant distance between the beams and the road surface;

7.2 Tighten all the bolts with suitable tools (driver tool or tightening wrench) and check the tightening torque applied with a calibrated torque wrench. Bolts must be tightened in compliance with regulation CNR 10011/97, to within a tolerance of +/- 10 %.

7.3 Tightening torque must be tested on at least one T.T.E.I. M16x50 bolt (drawing No. TERMINALE_H2_8) per pole, and on at least four T.T.D.E. M16x50 bolts (drawing No. TERMINALE_H2_3).

8 Recommended additional measures

8.1 Apply a retroreflective film to the plate at the head of the terminal.

9 Identification marks

9.1 For installations in Italy, homologated terminals must be identified with the name of the manufacturer and the homologation code (type and serial number). For this purpose, the terminal is supplied with an identification plaque to be affixed by the installer in a protected location on the device itself. The plaque consists of an adhesive plate bearing the name of the manufacturer, the homologation serial number, the terminal class, the terminal type and its intended use (as defined by applicable legislation).

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