



# INSTALLATION MANUAL

Euro GS<sup>®</sup> N2 W2

Euro GS<sup>®</sup> N2 W3

Euro GS<sup>®</sup> N2 W3 P

Euro GS<sup>®</sup> N2 W4-4

Euro GS<sup>®</sup> N2 W4-6

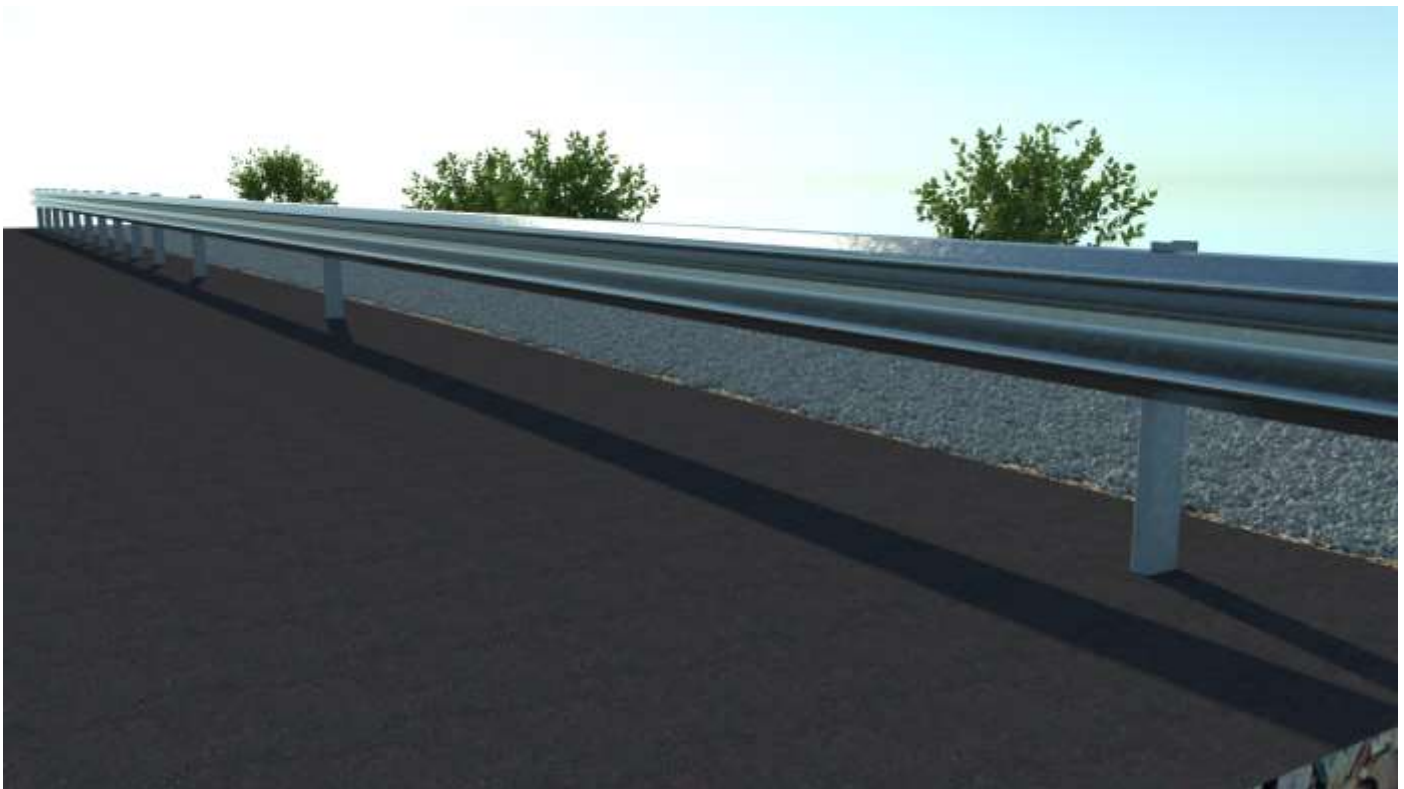
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This installation manual is intended exclusively for the use of Euro GS® N2 W2 type marked retainers (bracket spacing 1.33 m), Euro GS® N2 W3 (bracket spacing of 2 m), Euro GS® N2 W4-4 (center distance of 4 m) and Euro GS® N2 W4-6 (center distance of 6 m) manufactured by LPC.

It is established from the technical elements collected during the design and validation tests carried out during the development of these road safety systems and function of the state of the art, standardization and regulation. force on the date of issue.

Any other use is subject to the prior agreement of the company Les Profilés du Center, ZI Panay Bridge, 03500, Saint-Pourçain-sur-Sioule, France.



The Euro GS® N2 W2, Euro GS® N2 W3, Euro GS® N2 W4-4 and Euro GS® N2 W4-6 systems belong to the same family of side road restraints approved for CE marking on 24/10/2014 under number 1826-CPR-08-02-03-DR10.11.12.13.

The features of this family are characterized by the use of common elements:

Sliding element of profile A, made of steel S235 JR, TRCO 16x30 bolting interlines, supports C100 type steel S235JR and bolts TH 10x40 and plate and washer fixing the rails on the supports.

The retaining devices differ from each other by the installation distance of the C100 supports:

- ◆ Euro GS N2 W2 - Center distance = 1333 mm
- ◆ Euro GS N2 W3 - Center distance = 2000 mm
- ◆ Euro GS N2 W4-4 - Center distance = 4000 mm
- ◆ Euro GS N2 W4-6 - Center distance = 6000 mm

The Euro GS® N2 system is manufactured in France from primary use steel and strictly controlled materials.

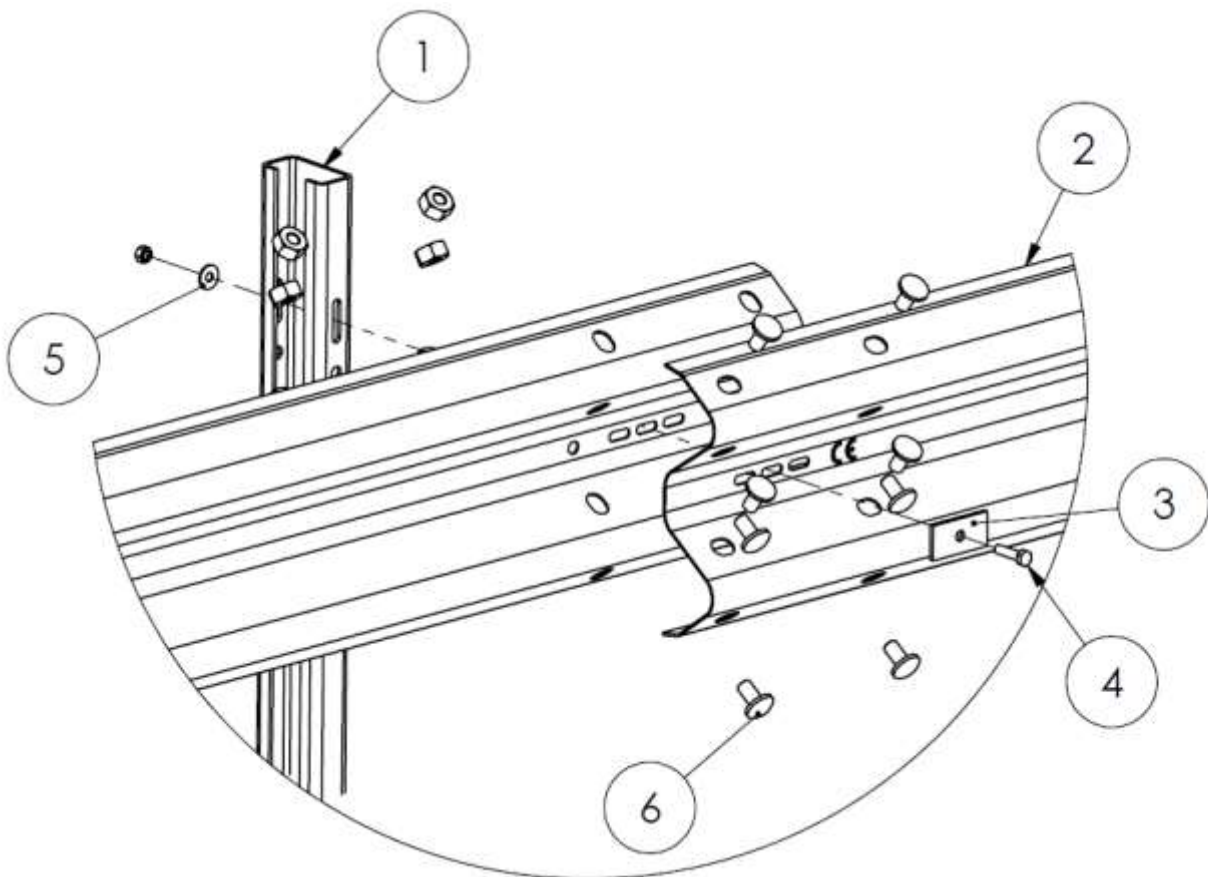


The Euro GS N2 restraint systems W2, W3, W4-4 and W4-6 are verge barriers (lateral protection) made entirely of steel elements.

They are composed of:

- ◆ Supports (mark 1) C100 profile, 5 mm thick made of steel S235 JR length 1500 mm or 2000 mm, they are beaten in the ground with a distance that depends on the desired operating width.
- ◆ Sliding elements (Item 2) of length 4315 mm, also made of S235 JR steel, fixed to the C100 supports by means of a TH M10x40-class 8.8 screw (mark 4), an M10 nut, a washer L10 (mark 5) placed under the nut M10 and a rectangular plate (mark 3) of thickness 5 mm positioned between the screw head TH M10x40 and the smooth.

The connection between the sliding elements is ensured by 8 screws TRCO M16x30 (mark 6) class 5,6 and 8 nuts H M16-32 on flat



## Euro GS® N2 W2

Désignation du Composant	Poids Kg/pièce	Quantité / ml	Poids kg/ml
ELEMENT DE GLISSEMENT PROFIL A EURO GS-R	47,1	0,25	11,78
SUPPORT C100 EURO GS-R	13,11	0,75	9,83
BOULON TH 10X40	0,04	0,75	0,03
ACCESSOIRE GSA PLAQUETTE EURO GS-R	0,2	0,75	0,15
RONDELLE L10	0,05	0,75	0,04
BOULON TRCO 16X30 NON NF CLASSE 5,8	0,2	2	0,4
		<b>Total</b>	<b>22,22</b>

## Euro GS® N2 W3

Désignation du Composant	Poids Kg/pièce	Quantité / ml	Poids kg/ml
ELEMENT DE GLISSEMENT PROFIL A EURO GS-R	47,1	0,25	11,78
SUPPORT C100 EURO GS-R	13,11	0,5	6,55
BOULON TH 10X40	0,04	0,5	0,02
ACCESSOIRE GSA PLAQUETTE EURO GS-R	0,2	0,5	0,1
RONDELLE L10	0,05	0,5	0,03
BOULON TRCO 16X30 NON NF CLASSE 5,8	0,2	2	0,4
		<b>Total</b>	<b>18,87</b>

## Euro GS® N2 W4-4

Désignation du Composant	Poids Kg/pièce	Quantité / ml	Poids kg/ml
ELEMENT DE GLISSEMENT PROFIL A EURO GS-R	47,1	0,25	11,78
SUPPORT C100 EURO GS-R	13,11	0,25	3,28
BOULON TH 10X40	0,04	0,25	0,01
ACCESSOIRE GSA PLAQUETTE EURO GS-R	0,2	0,25	0,05
RONDELLE L10	0,05	0,25	0,01
BOULON TRCO 16X30 NON NF CLASSE 5,8	0,2	2	0,4
		<b>Total</b>	<b>15,52</b>

## Euro GS® N2 W4-6

Désignation du Composant	Poids Kg/pièce	Quantité / ml	Poids kg/ml
ELEMENT DE GLISSEMENT PROFIL A EURO GS-R	47,1	0,25	11,78
SUPPORT C100 EURO GS-R	13,11	0,17	2,19
BOULON TH 10X40	0,04	0,17	0,01
ACCESSOIRE GSA PLAQUETTE EURO GS-R	0,2	0,17	0,03
RONDELLE L10	0,05	0,17	0,01
BOULON TRCO 16X30 NON NF CLASSE 5,8	0,2	2	0,4
		<b>Total</b>	<b>14,41</b>

The installation and maintenance of the Euro GS N2 systems W2, W3, W4-4 and W4-6 require little standard tooling and no specific tools.

The installer will ensure that the control, measuring and clamping means have been calibrated beforehand and that the calibration certificates are actually up-to-date and auditable. They will be attached to the evaluation file of each installation.



Euro GS N2 systems have been designed and tested in accordance with harmonized European standards EN 1317.

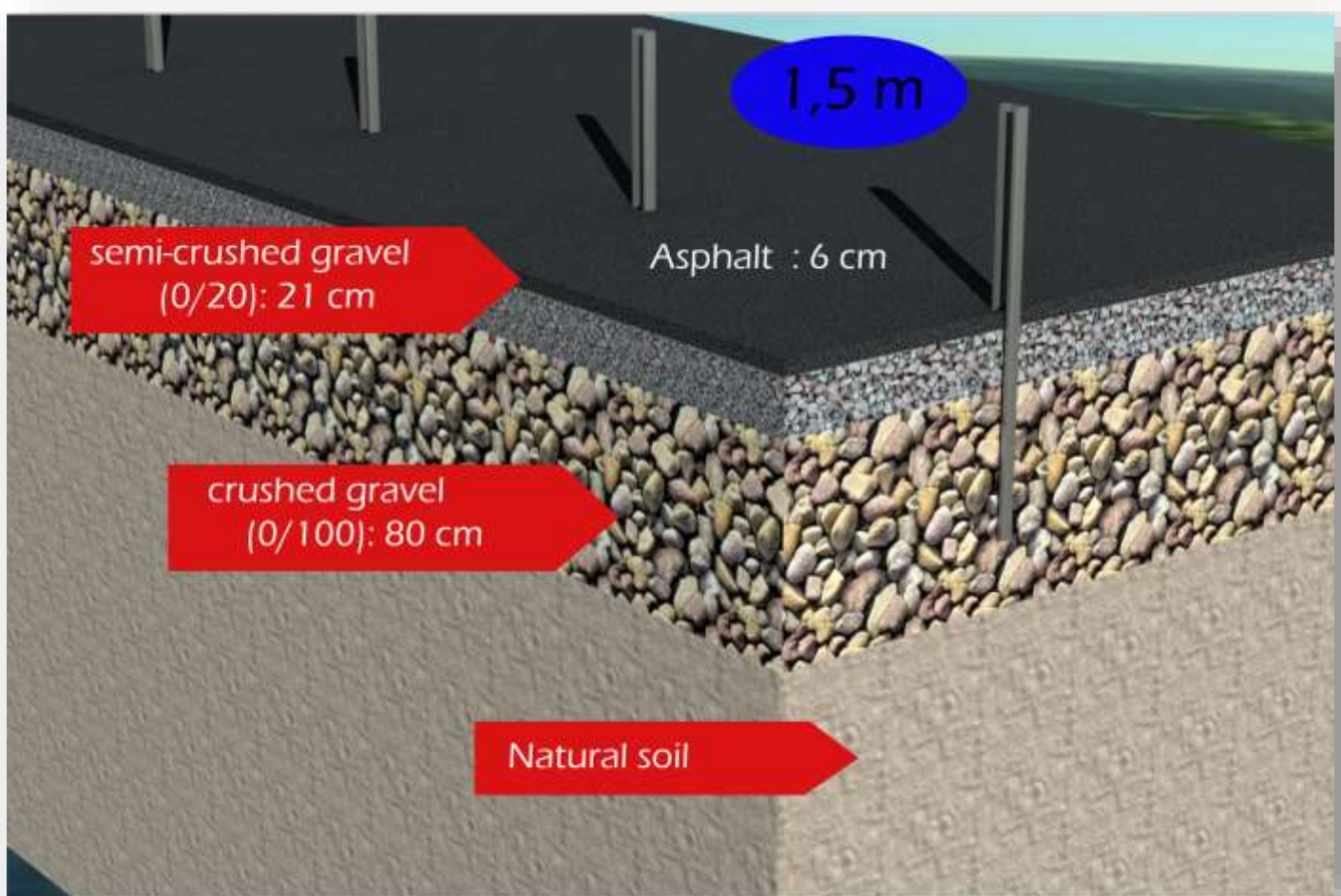
The impact tests were carried out in July 2014 at the TRANSPOLIS laboratory on asphalt:

- A layer of 6 cm of bitumen
- A layer of 21 cm of semi-crushed gravel (0/20)
- A layer of 80 cm of gravel (0/100)
- Natural terrain

In order to guarantee the maintenance of safety in case of implantation on unpaved ground, these systems have been subjected to simulations on stabilized ground. The corresponding numerical calculations were carried out by the simulation department of the TRANSPOLIS laboratory.

The results of these tests demonstrated that vehicle behavior, crash severity (ASI) and operating width (W) were not affected by the installation on stabilized ground.

These values are recorded in the TRANSPOLIS simulation reports reference LPC-EGSR-370 to 373



Type C100 supports must be beaten in the ground by mechanical or hydraulic threshing means, the choice of which is left to the installer.

The minimum installation length is 52 meters off-ends for Euro GS N2-W2, Euro GS N2-W3, Euro GS N2-W4-4 and 72 meters out-of-end devices for the corresponding Euro GS N2 W4-6 device. to the length of the tested linear, which had at each end sliding elements lowered over 12 meters.

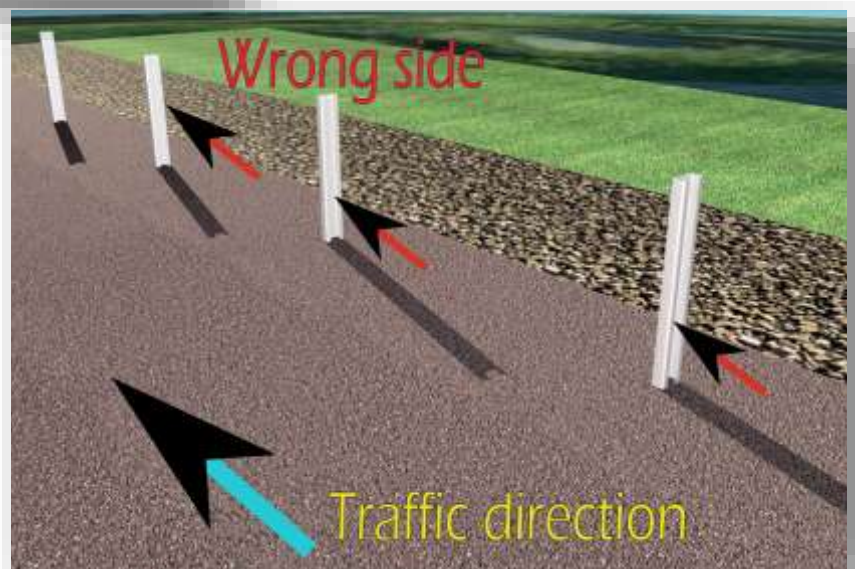
The "full" side of the C-profile must be positioned facing the direction of the road to be secured.

The fixing holes are located in the upper part of the support and must therefore be positioned as such during threshing.

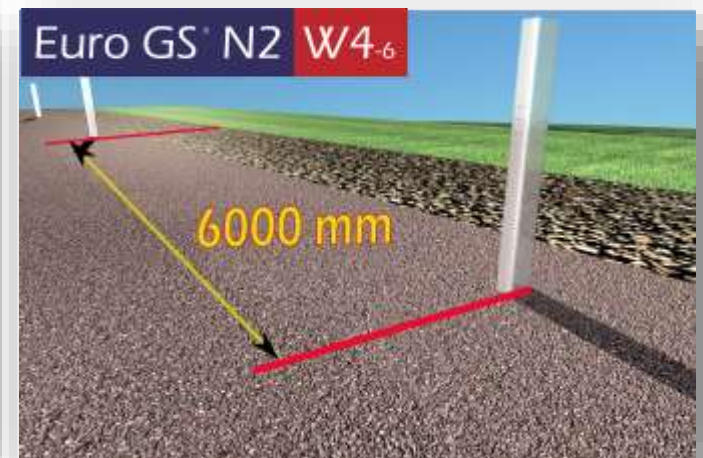
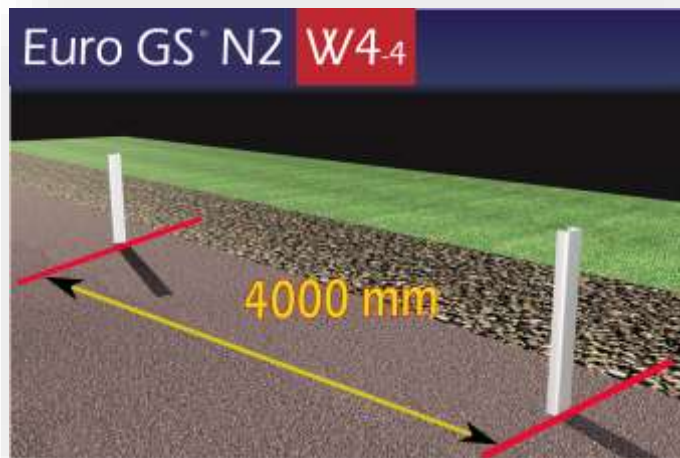
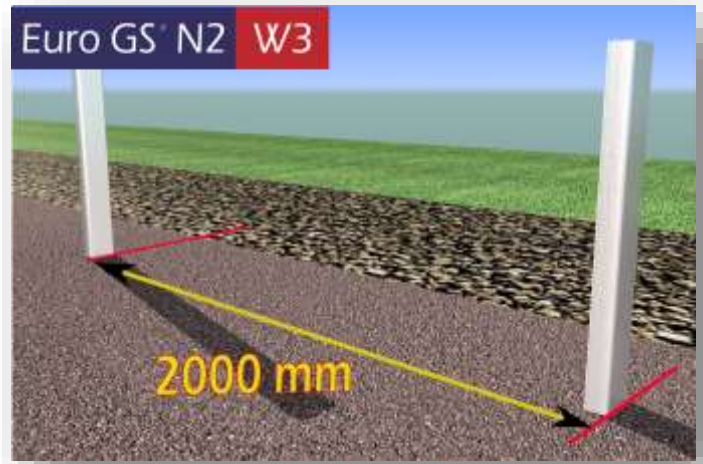
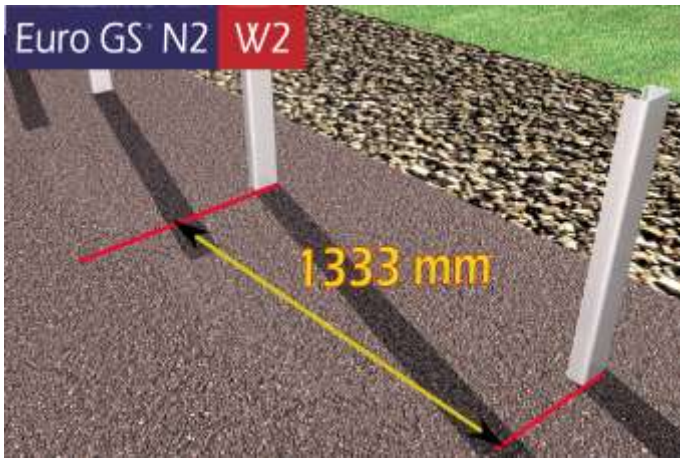
In current section, the total height above ground, after coating of the rolling part, must be 705 mm. To ensure fast and easy assembly and optimum performance of the Euro GS® N2 system. It is important that the supports have a good positioning after threshing.

For the Euro GS N2 W2 the center distance is 1.33 meters. For the Euro GS N2 W3 system the center distance is 2 meters, for the Euro GS N2 system W4-4 the distance between the brackets is 4 meters and for the Euro GS N2 system W4-6 the distance between the brackets is 6 meters.

These values of center distance are measured, in all cases, between the full face of 2 successive supports.



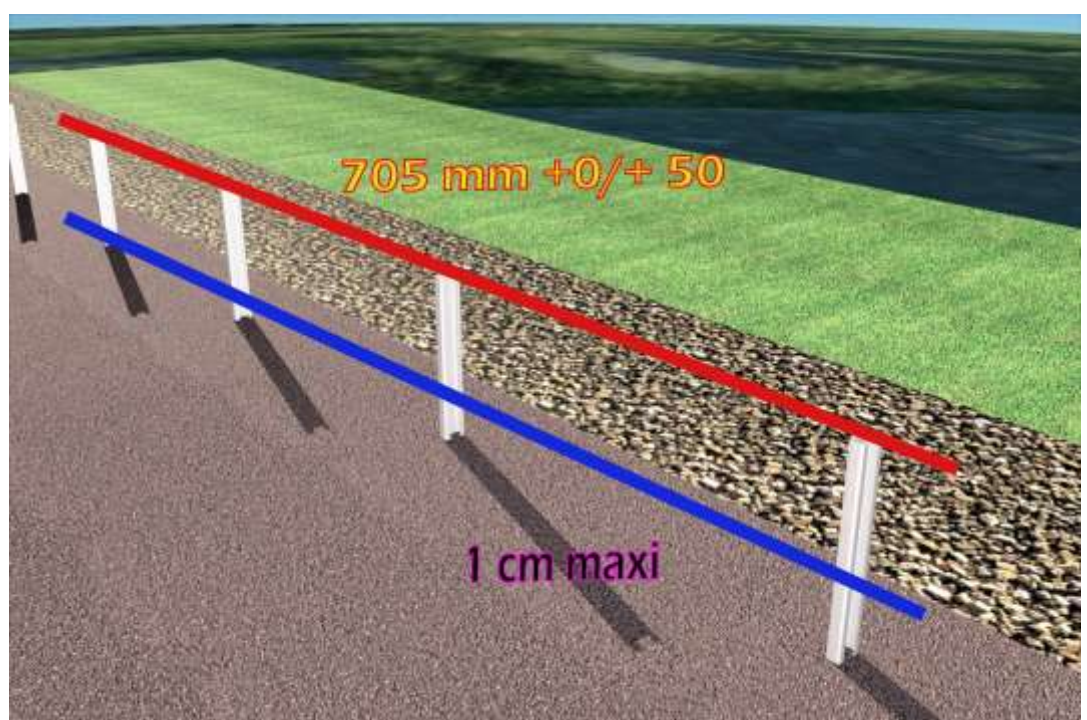
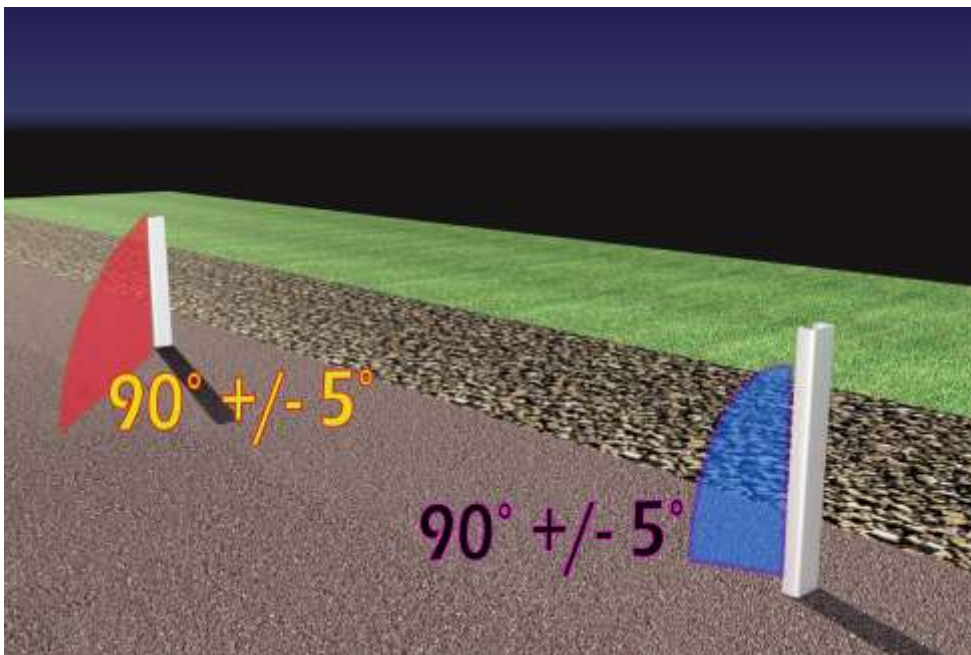




**CAUTION:** The manufacturer guarantees the performance of the system only if it is installed according to the recommendations of this manual.

If it is normal for the beaten face, ie the upper end of the support, to bear the traces of the method of insertion into the ground, the support must not show any cracking or any sagging affecting the face of the substrate. support that will receive the smooth.

If the support is twisted over one-quarter of its height above ground, it must be removed and secured by drilling. 3 supports.  
it is important to check that the front faces of the supports are in the same plane.



## Euro GS<sup>®</sup> N2 W3 P

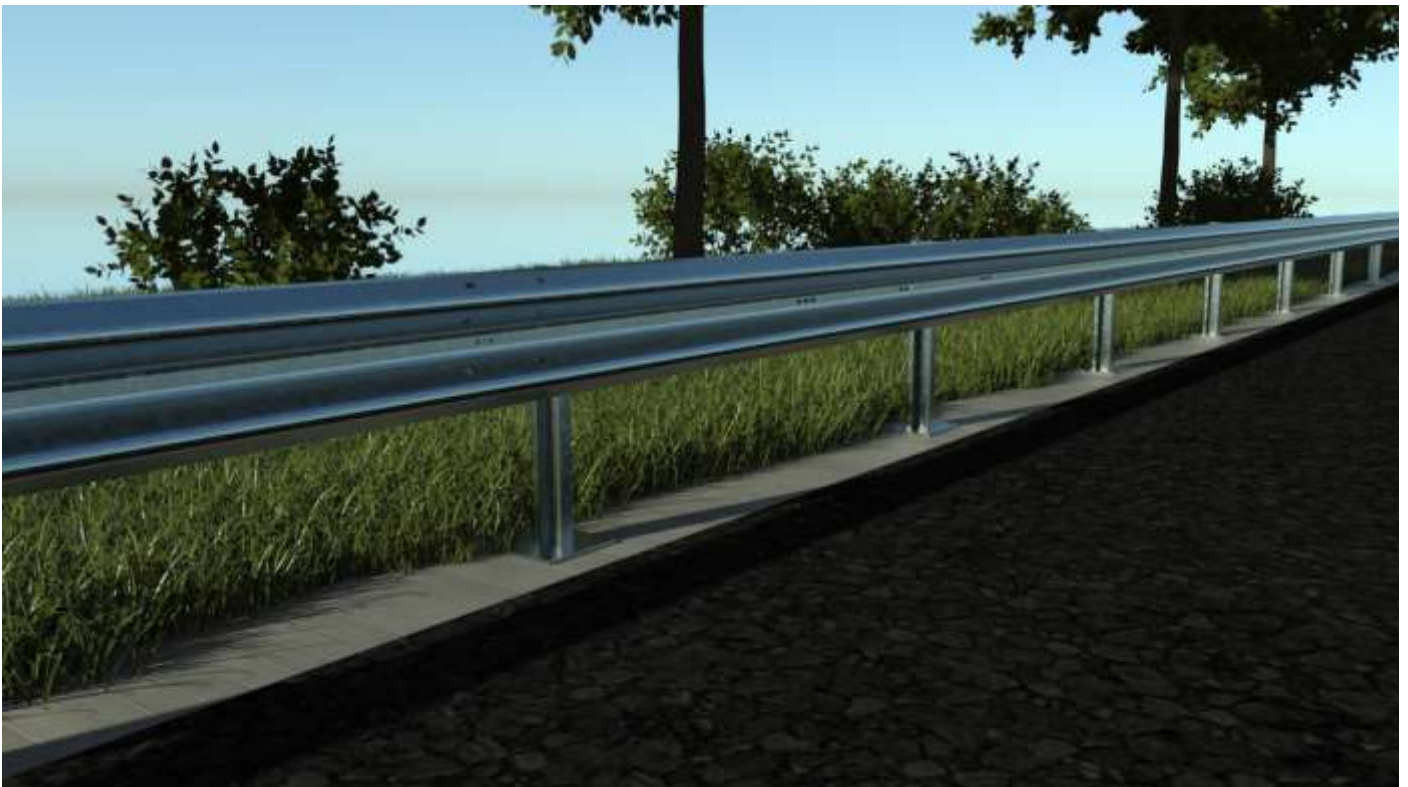
### SILL

The sill to be used in order to dispose the Euro GS N2 W3 system on the plate must correspond to the following data:

- Concrete: C30 / C37
- Width: 400 mm
- Height: 300 mm
- Reinforcement type SETRA

The surface of the sill should be smooth and flat.

Its level must correspond to the running surface of the roadway.



### Posts Installation

The supports are arranged on the sill with a distance of 2 m.

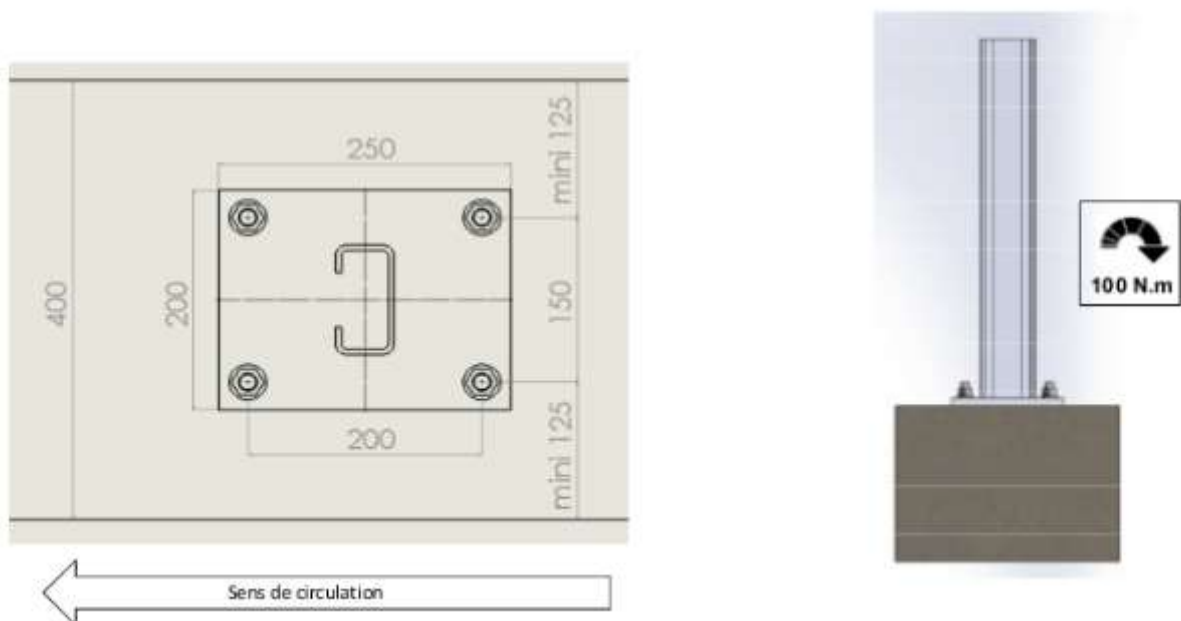
The big side of the stage must be parallel to the road.

the axis of the holes in the plate must be at least 125 mm from the edge of the sill.

#### Fixing on the sill:

- ◆ set up the support
- ◆ locate the location of the holes
- ◆ remove the support
- ◆ perform 4 holes Ø16 mm depth 135 mm
- ◆ the holes must be made perpendicular to the surface of the sill
- ◆ blow in order to evacuate the residues
- ◆ put back the support
- ◆ push the pins through the support with a hammer without having removed the nut and the washer
- ◆ the dowel must be inserted at least 86 mm
- ◆ tighten to a torque of 100 N.m

*Note: It is possible to use the plate as a drilling template*



## Assembly of sliding elements

**Euro GS<sup>®</sup> N2 W3 P**

The mounting of the sliding elements is strictly identical to that of the linear with supports beaten in the ground

## Note

Anchors are not provided.

The reference to use is **SPIT FIX M16X150 / 55-33 hot dip galvanized**.

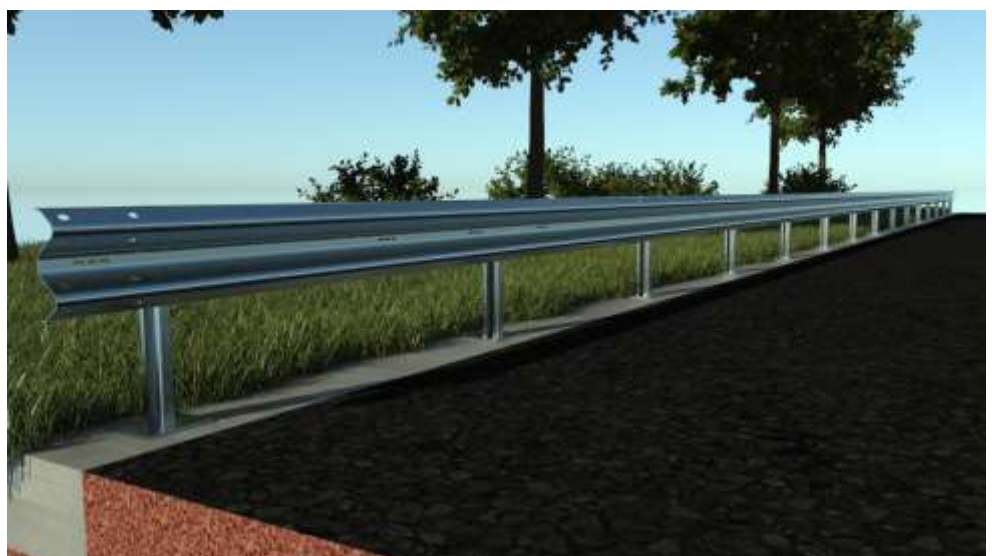
There are 4 pegs per bracket

## Lengths of file

Numerical simulations have shown that the minimum line length of the Euro GS N2 W3P is reduced to 16 m when installed in a Euro GS N2 W2, W3, W4-4 file. The references are:

- LPC-EGSN2-005 16ml Euro GS N2 W3 on plate in linear 52 m Euro GS N2 W2
- LPC-EGSN2-001 16ml Euro GS N2 W3 on plate in linear 52m Euro GS N2 W3
- LPC-EGSN2-004 16ml Euro GS N2 W3 on plate in linear 52m Euro GS N2 W4-4

These numerical simulations were carried out by the TRANSPOLIS laboratory. These simulation results are the responsibility of the laboratory.

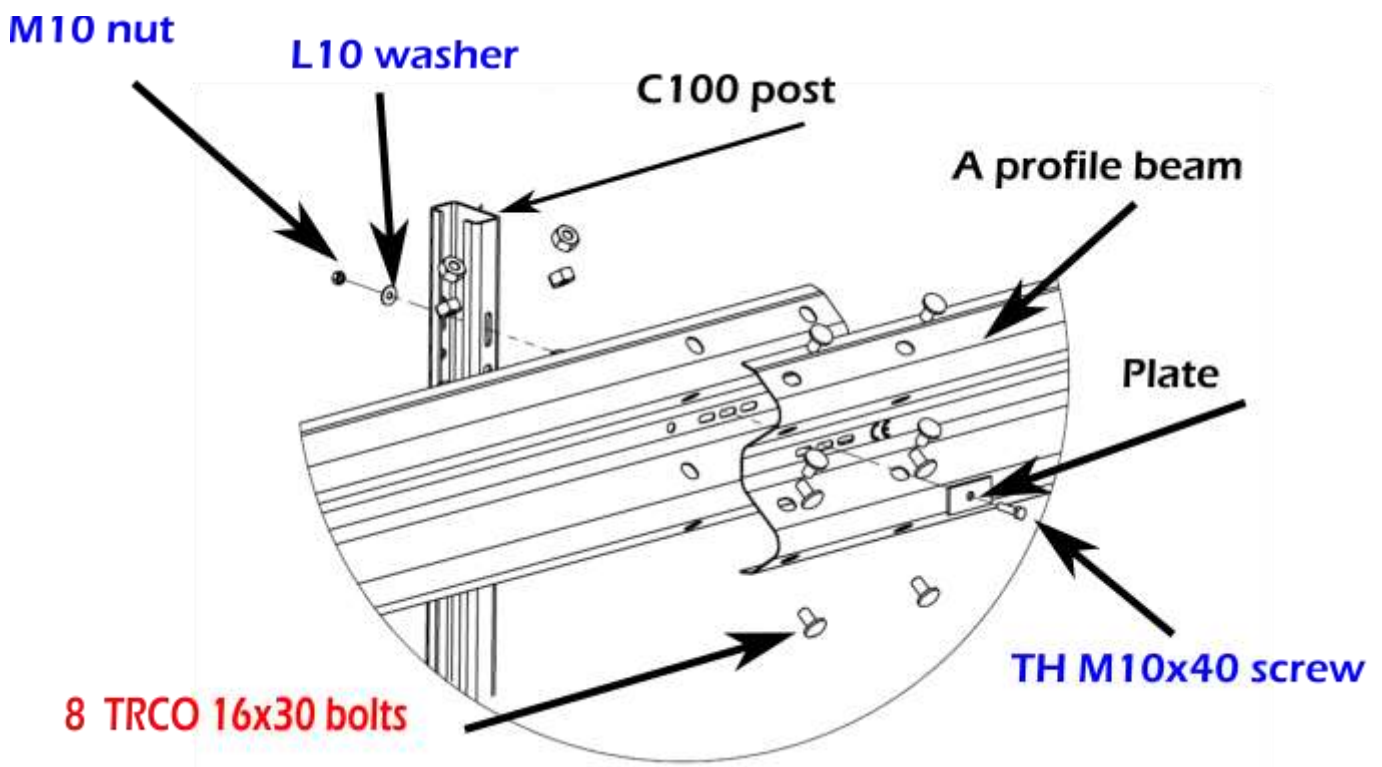


The second step in the installation of the Euro GS N2 restraint is to link the A-profile rails together and, if necessary, to fix them on the supports previously beaten in the ground.

For the Euro GS N2 W2, Euro GS N2 W3 and Euro GS N2 W4-4 systems the connection between the rails is to be carried out on the right side of each support. The rails are connected to each other by means of 8 bolts TRCO 16x30 class 5.8. The tightening torque of each bolt being 150 Nm.

The sliding elements must overlap in the direction of the traffic. The end covered is that with the octagonal punch.

The assembly thus connected will be fixed on the support C100 by means of a rectangular plate disposed between the head of the screw TH M10 and the outer face (circulation side) of the smooth profile A. A washer L10 and a nut M10 are placed inside the C-shaped profile of the support passing through the hole made for this purpose on the side of the support side road. The tightening torque of this bolt thus formed is 75 Nm



For the Euro GS N2 W4-6 system with a support center distance of 6 meters, it will be necessary to connect the profile A rails without this connection being fixed to a C100 support.

The rails are connected to each other by means of 8 bolts TRCO 16x30 class 5.8. The tightening torque of each bolt being 150 Nm.

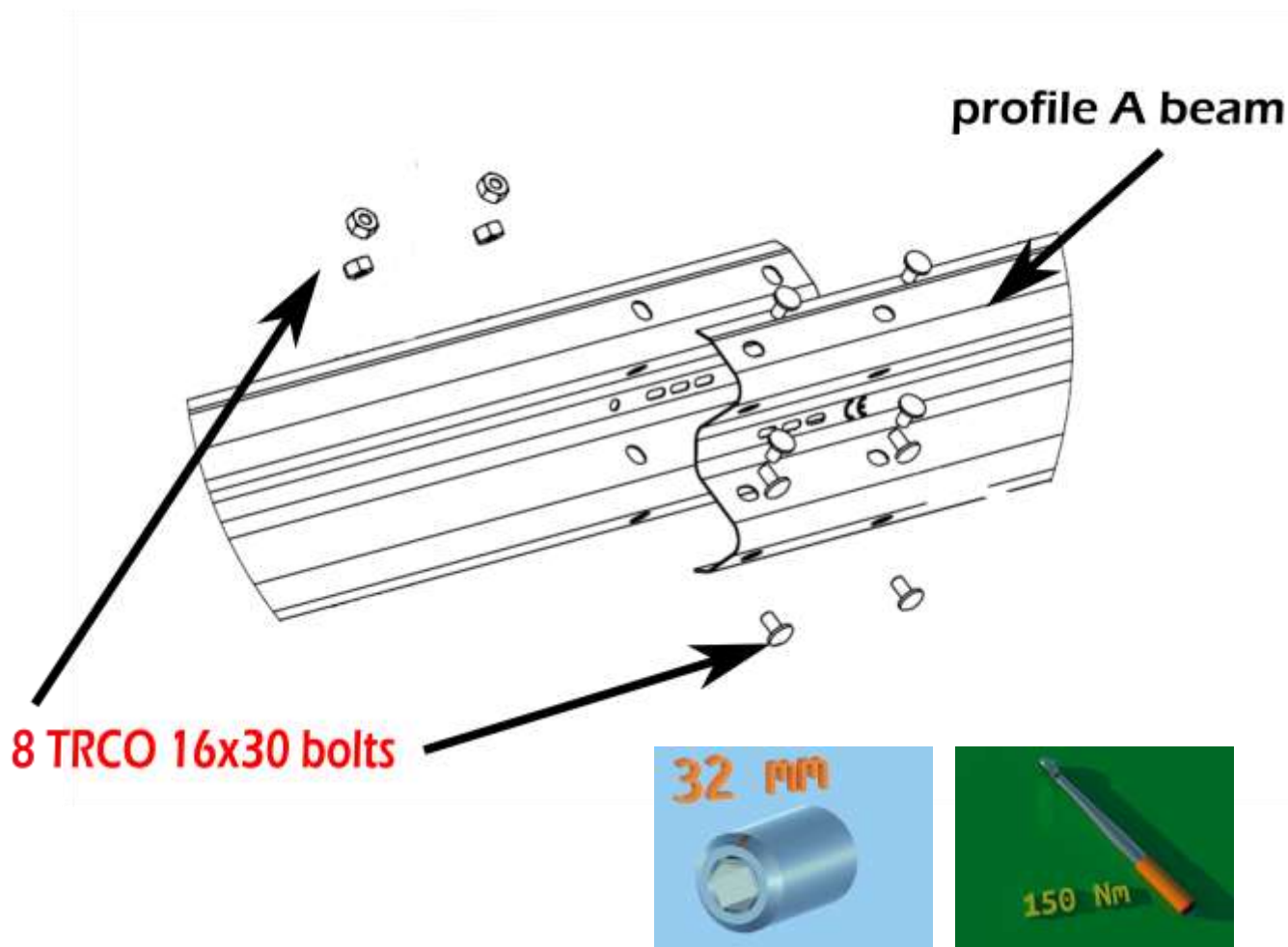
The sliding elements must overlap in the direction of the traffic. The end covered is that with the octagonal punch.

The installation height tolerances of the top of the sliding element vary according to the systems as follows: \*

- Euro GS N2 W2: 650 - 725 mm
- Euro GS N2 W3: 675 - 750 mm
- Euro GS N2 W4-4: 650 - 750 mm
- Euro GS N2 W4-6: 700 mm

The high and low height values result from the numerical simulations LPC-EGSR-373, 379, 380, 381, 382 and 384 references.

These numerical simulations were carried out by the TRANSPOLIS laboratory. These simulation results are the responsibility of the laboratory.



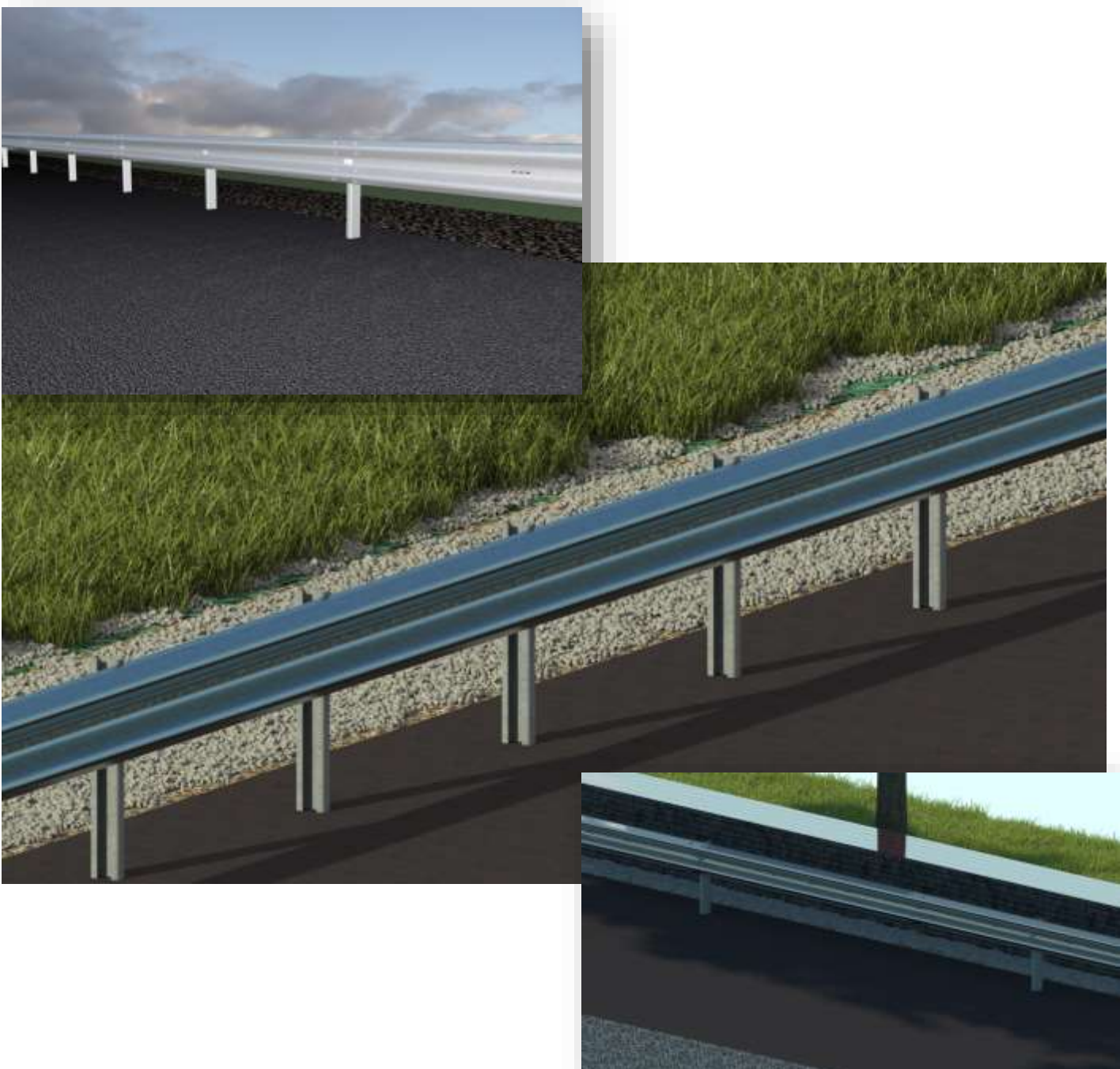
After this assembly phase, it is necessary to visually check if all the bolts are in place.

The correct tightening of the fastening bolts between the rails (8 bolts TRCO 16x30) and the bolts of the supports on the supports (1 bolt TH 10x40) is carried out by checking the tension induced in the screw by the tightening torque applied by the bolt installer.

The minimum value of this voltage is 50,000 N for each TRCO 16x30 bolt and 25,000 N for the TH M10 bolt.

LPC does not recommend checking the value of the tightening torque by measuring the torque required for loosening. This method is very imprecise and subject to interpretation.

As a first approximation and for a quick check, it may be tolerated that the tightening torque applied is controlled by tightening with a torque wrench.





Euro GS N2 systems W2, W3, W4-4 and W4-6 are static systems that retain their geometric and structural integrity over time. No special inspection is expected to maintain its initial performance.

However, it may be necessary to carry out inspections in two cases:

- ⇒ Shock on or near the device
- ⇒ In the event of an impact on the device, the instructions in the paragraph "Maintenance of the device" should be applied.

In the event of an impact in the vicinity of the device, the following should be checked:

- ◆ The brackets have not been permanently deformed and are in their original configuration
- ◆ Sliding elements are not marked or deformed
- ◆ The components of the Euro GS® device are correctly fixed together, without play or deformation
- ◆ The height of the device is in accordance with the values in the table of the paragraph
- ◆ The width of the device is in accordance with the origin, ie: 180 mm

**ATTENTION:** in case of loosening, it is necessary to check the integrity of the bolts concerned before tightening. It is advisable to change the bolt or bolts concerned by new bolts, original manufacturer LPC.

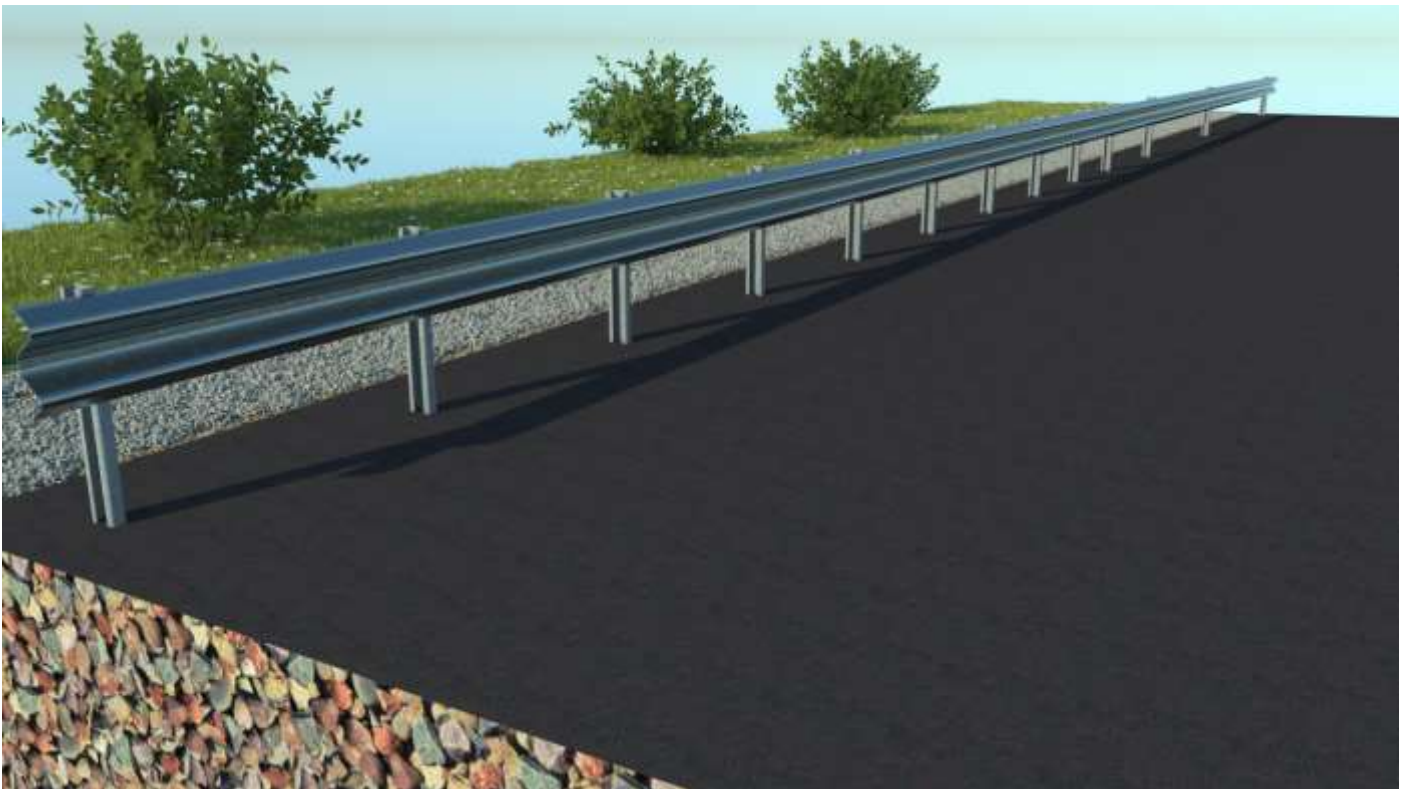
**Modification of the environment of the device:** Any modification of the environment of the device must be the subject of a prior analysis, in particular according to the declared performance of the device.

Particular attention must be paid, in particular, to the installation of fixed obstacles, to the digging of ditches or ditches in the zone of influence of the device.



Since restraint systems are designed to restrain vehicles coming off the road, repairs following a crash are a logical consequence of their use and the Euro GS N2 systems W2, W3, W4-4 and W4-6 have been studied to, inter alia, facilitate this kind of intervention. This generally consists of a standard exchange of damaged elements and their replacement with new elements.

The worker will be vigilant about the deformations, by traction, of the fixing holes of the s who must lead to their change. It is not possible to retouch or reshape them.



The table below shows the connections available for the Euro GS N2 family.

All these connections are certified NF-058 "road equipment".

	Euro GS N2 W2	Euro GS N2 W3	Euro GS N2 W3 P	Euro GS N2 W4-4	Euro GS N2 W4-6	Euro GS N2 W5	Euro GS N2 W6	GS2	GS4	GCU	GBA
Euro GS N2 W2		<a href="#">Certificat NF Raccord RACC-05-01</a>	<a href="#">Certificat NF Raccord RACC-05-30</a>	<a href="#">Certificat NF Raccord RACC-05-02</a>	<a href="#">Certificat NF Raccord RACC-05-03</a>			<a href="#">Certificat NF Raccord RACC-05-12</a>		<a href="#">Certificat NF Raccord RACC-05-24</a>	<a href="#">Certificat NF Raccord RACC-05-27</a>
Euro GS N2 W3	<a href="#">Certificat NF Raccord RACC-05-01</a>		<a href="#">Certificat NF Raccord RACC-05-31</a>	<a href="#">Certificat NF Raccord RACC-05-04</a>	<a href="#">Certificat NF Raccord RACC-05-05</a>	<a href="#">Certificat NF Raccord RACC-05-07</a>		<a href="#">Certificat NF Raccord RACC-05-13</a>			<a href="#">Certificat NF Raccord RACC-05-26</a>
Euro GS N2 W3 P	<a href="#">Certificat NF Raccord RACC-05-30</a>	<a href="#">Certificat NF Raccord RACC-05-31</a>		<a href="#">Certificat NF Raccord RACC-05-32</a>	<a href="#">Certificat NF Raccord RACC-05-33</a>						
Euro GS N2 W4-4	<a href="#">Certificat NF Raccord RACC-05-02</a>	<a href="#">Certificat NF Raccord RACC-05-04</a>	<a href="#">Certificat NF Raccord RACC-05-32</a>		<a href="#">Certificat NF Raccord RACC-05-06</a>	<a href="#">Certificat NF Raccord RACC-05-08</a>	<a href="#">Certificat NF Raccord RACC-05-10</a>	<a href="#">Certificat NF Raccord RACC-05-14</a>	<a href="#">Certificat NF Raccord RACC-05-16</a>		<a href="#">Certificat NF Raccord RACC-05-27</a>
Euro GS N2 W4-6	<a href="#">Certificat NF Raccord RACC-05-03</a>	<a href="#">Certificat NF Raccord RACC-05-05</a>	<a href="#">Certificat NF Raccord RACC-05-33</a>	<a href="#">Certificat NF Raccord RACC-05-06</a>		<a href="#">Certificat NF Raccord RACC-05-09</a>	<a href="#">Certificat NF Raccord RACC-05-11</a>	<a href="#">Certificat NF Raccord RACC-05-15</a>	<a href="#">Certificat NF Raccord RACC-05-17</a>	<a href="#">Certificat NF Raccord RACC-05-25</a>	
Euro GS N2 W5		<a href="#">Certificat NF Raccord RACC-05-07</a>		<a href="#">Certificat NF Raccord RACC-05-08</a>	<a href="#">Certificat NF Raccord RACC-05-09</a>		<a href="#">Certificat NF Raccord RACC-05-18</a>	<a href="#">Certificat NF Raccord RACC-05-19</a>	<a href="#">Certificat NF Raccord RACC-05-20</a>		
Euro GS N2 W6				<a href="#">Certificat NF Raccord RACC-05-10</a>	<a href="#">Certificat NF Raccord RACC-05-11</a>	<a href="#">Certificat NF Raccord RACC-05-18</a>		<a href="#">Certificat NF Raccord RACC-05-21</a>	<a href="#">Certificat NF Raccord RACC-05-22</a>		
GS2	<a href="#">Certificat NF Raccord RACC-05-12</a>	<a href="#">Certificat NF Raccord RACC-05-13</a>		<a href="#">Certificat NF Raccord RACC-05-14</a>	<a href="#">Certificat NF Raccord RACC-05-15</a>	<a href="#">Certificat NF Raccord RACC-05-19</a>	<a href="#">Certificat NF Raccord RACC-05-21</a>				
GS4				<a href="#">Certificat NF Raccord RACC-05-16</a>	<a href="#">Certificat NF Raccord RACC-05-17</a>	<a href="#">Certificat NF Raccord RACC-05-20</a>	<a href="#">Certificat NF Raccord RACC-05-22</a>				
GCU	<a href="#">Certificat NF Raccord RACC-05-24</a>				<a href="#">Certificat NF Raccord RACC-05-25</a>						
GBA	<a href="#">Certificat NF Raccord RACC-05-27</a>	<a href="#">Certificat NF Raccord RACC-05-26</a>		<a href="#">Certificat NF Raccord RACC-05-27</a>							

The GBA / DBA separator must comply with the applicable documents.

- The connection between Euro GS-N2-W2 and GBA-DBA is certified 058-NF under the number RACC-05-29
- The connection between Euro GS-N2-W3 and GBA-DBA is certified 058-NF under the number RACC-05-26
- The connection between Euro GS-N2-W4-4 and GBA-DBA is certified 058-NF under the number RACC-05-27

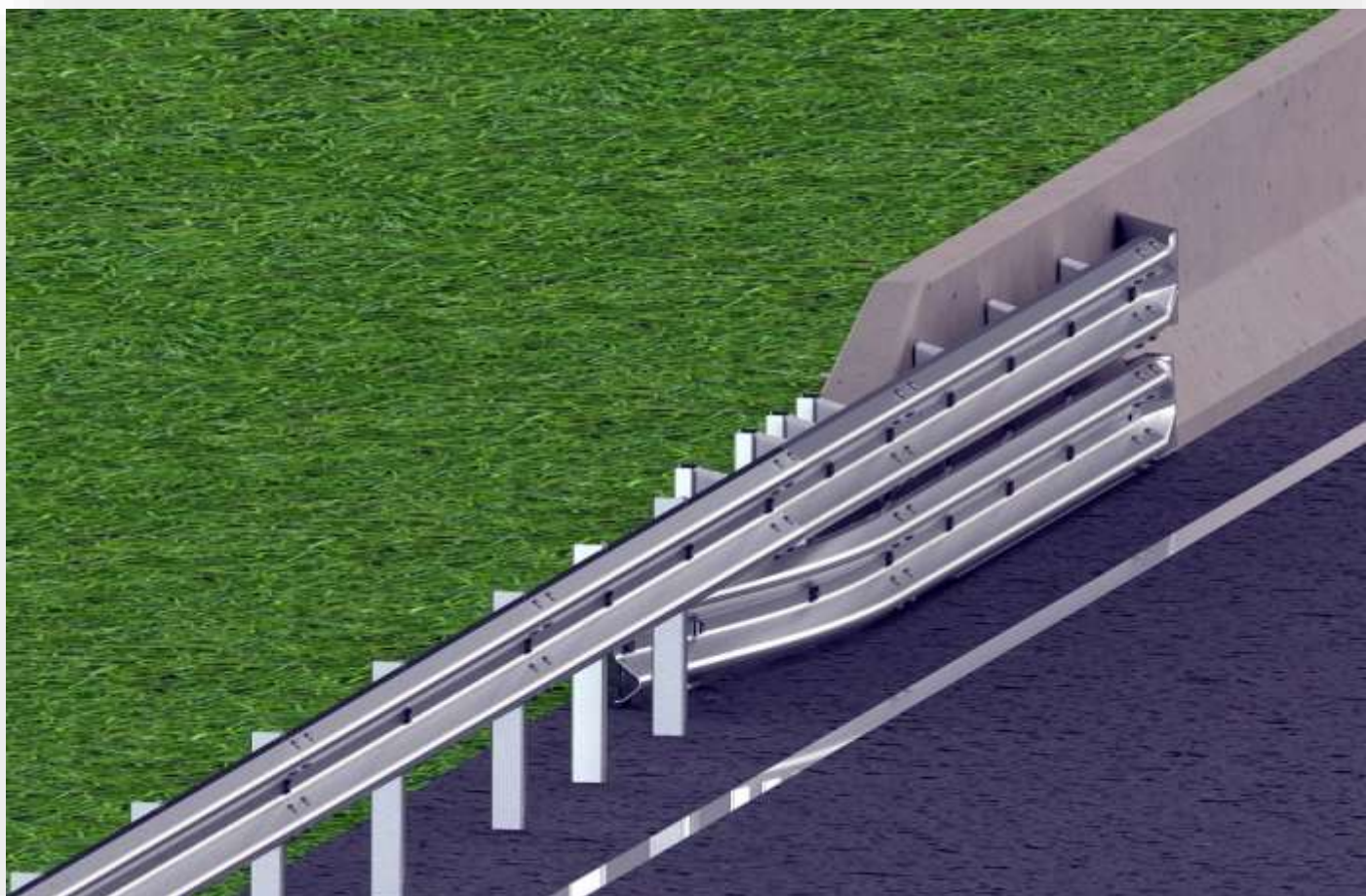
The mounting of the connection is identical regardless of the distance between the Euro GS N2 metal retainer to which it is attached

The separator and the Euro GS N2 linear must be parallel. The alignment and the distance between the 2 devices must respect the dimensions presented in the pages below:

Euro GSN2-W2, Euro GSN2-W3 and Euro GS N2-W4-4 are connectable to a GBA-DBA. In both cases, it is necessary to install 16 ml of Euro GSN2-W2 or Euro GSN2-W3 or Euro GS N2-W4-4 upstream of the connection.

**It is important to note that fittings have a meaning:**

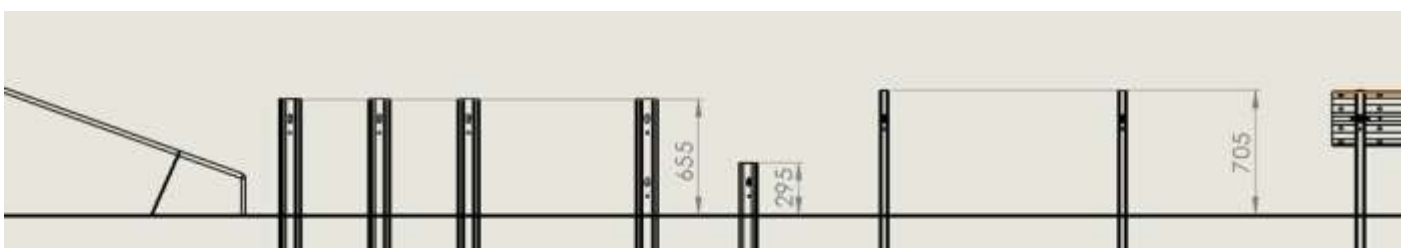
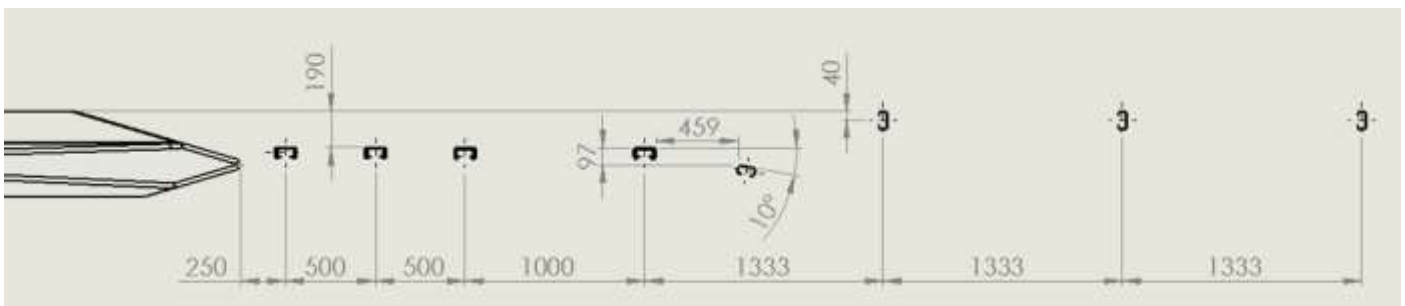
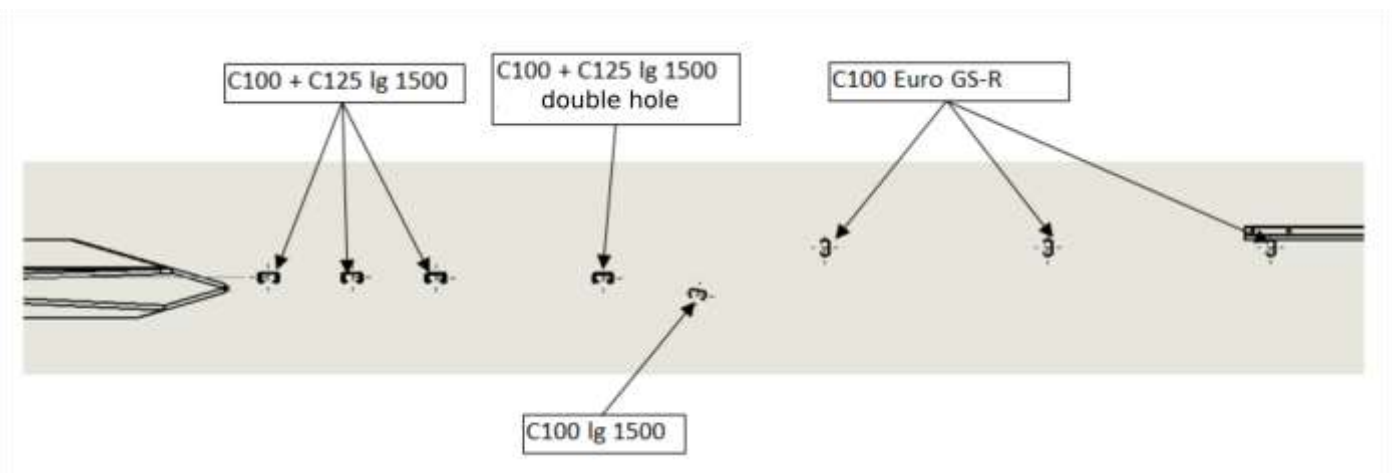
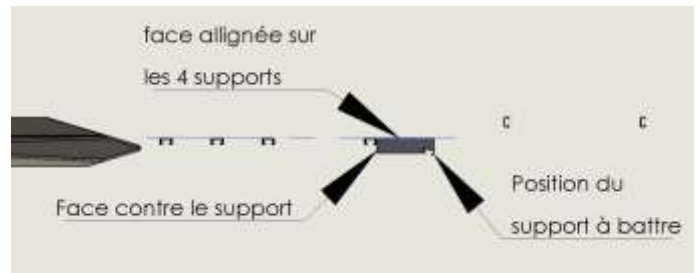
- ⇒ RACCORD RIGHT: the GBA is on the right when we are facing the Euro GS N2.
- ⇒ RACCORD LEFT: the GBA is on the left when we are facing the Euro GS N2.





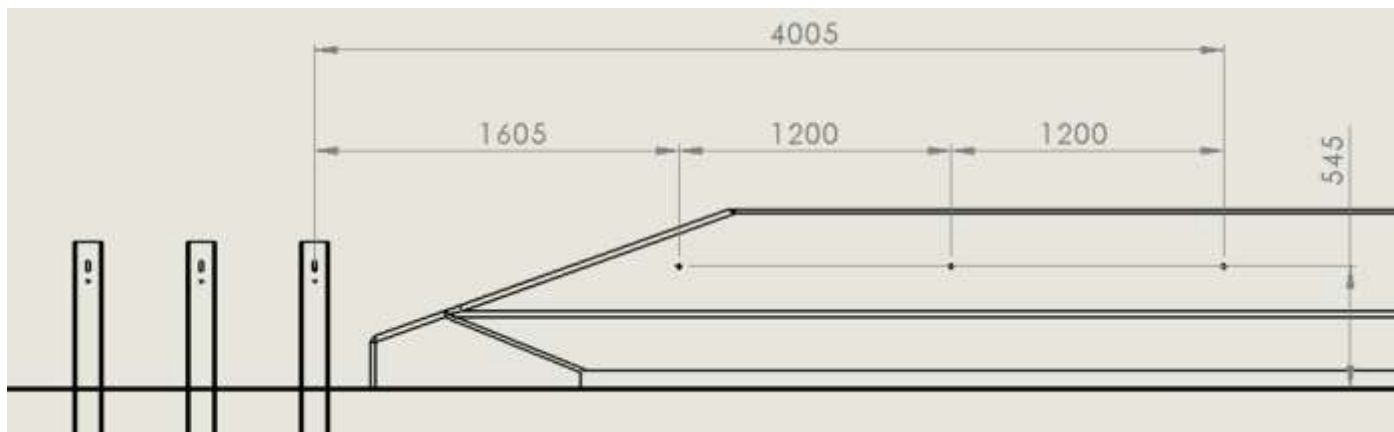
## BATTAGE OF POSTS

The position of the C100 lg 1500 at the rear of the fitting can be defined by measurement according to the plan below or with the use of the supplied template



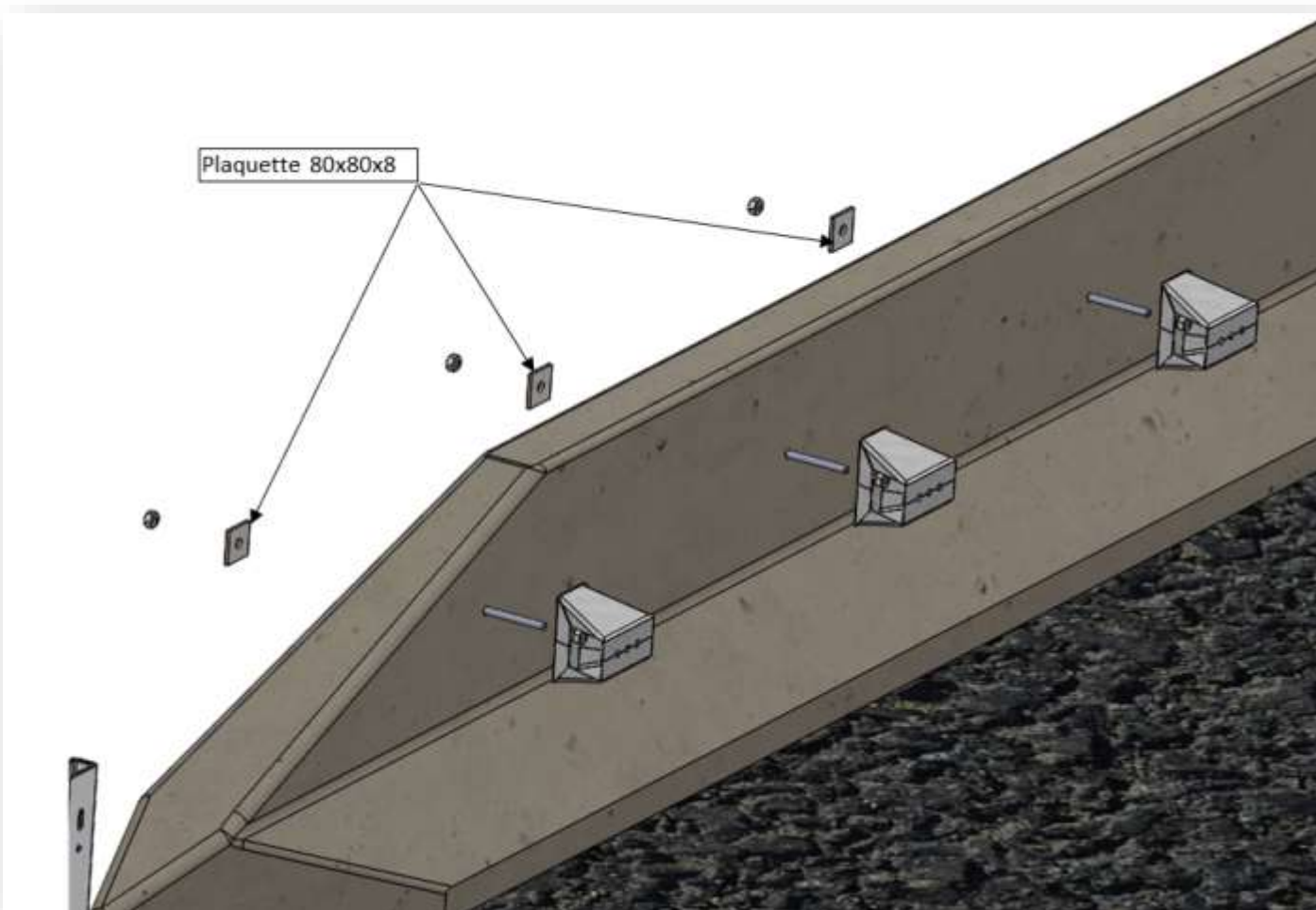
## DRILLING OF THE GBA-DBA

Drilling  $\varnothing 20$  mm of the separator in 3 points. The axis of the holes must be parallel to the ground

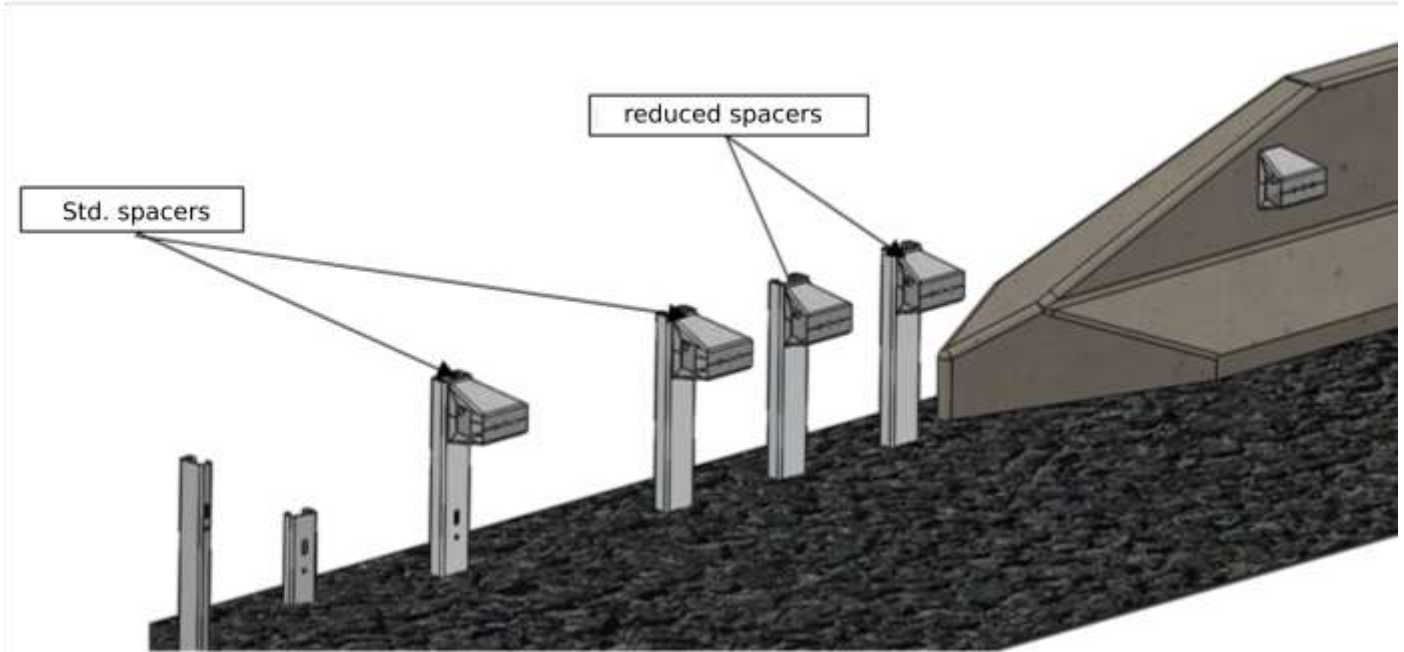


## MOUNTING OF THE SPACERS

Assembly of 3 150 mm reduced spacers with M16 lg 330 class 8.8 stems, M16 / 32 nuts and 80x80x8 inserts

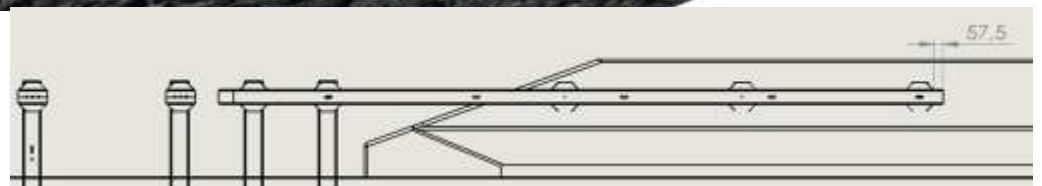
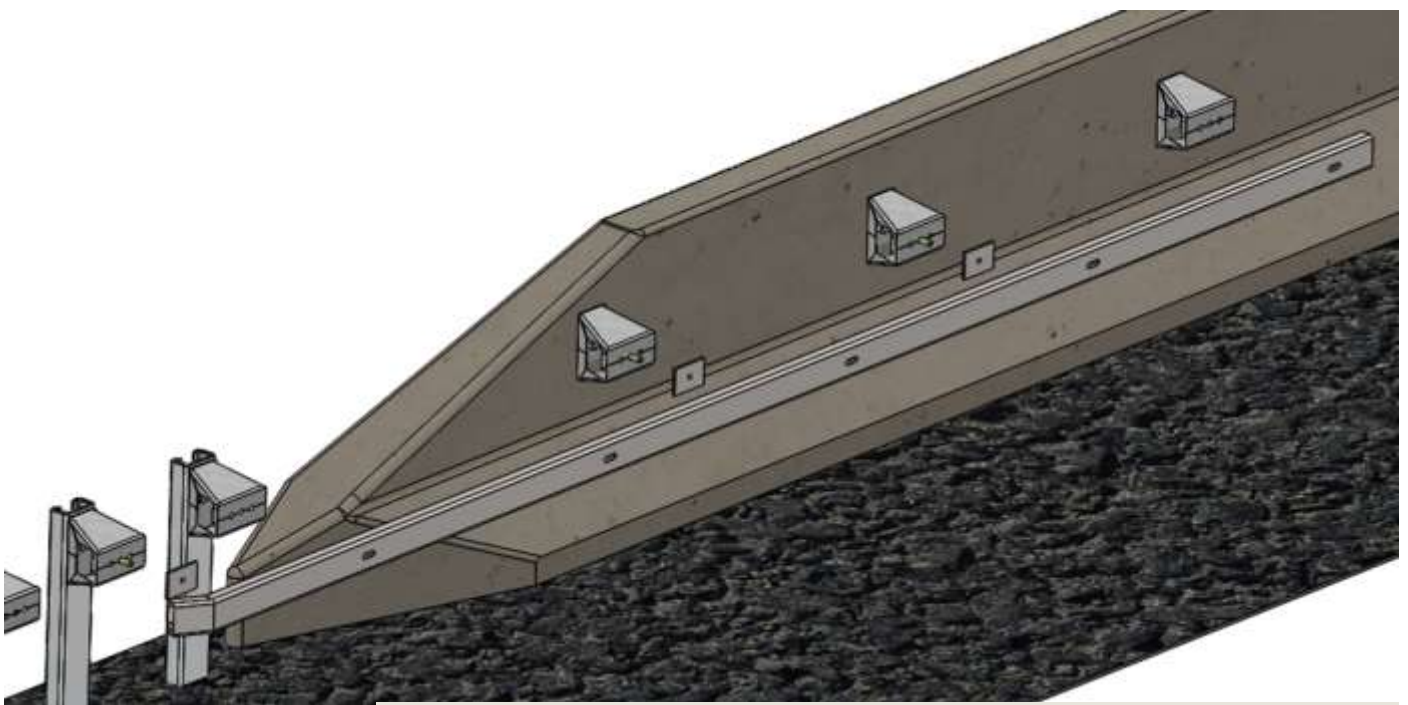


Assembly of 2 150 mm reduced spacers and 2 standard spacers using TH 16x40 class 5.8 bolts + M16 / 32 nuts



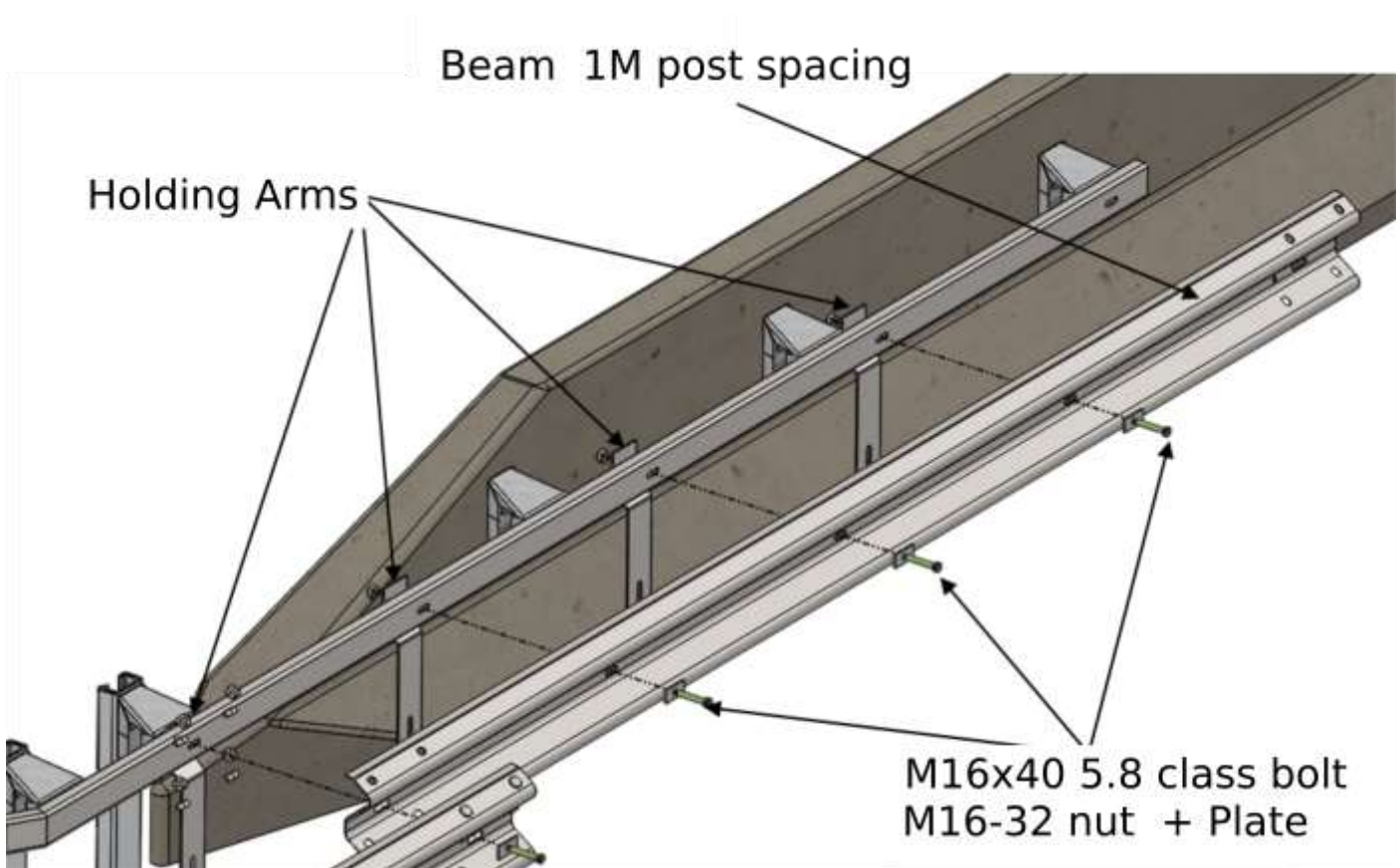
## INSTALLATION OF BEAM REINFORCEMENT

Placement of the smooth C100 reinforcement with 3 screws TH 16x40 class 8.8 and 3 fixing plates



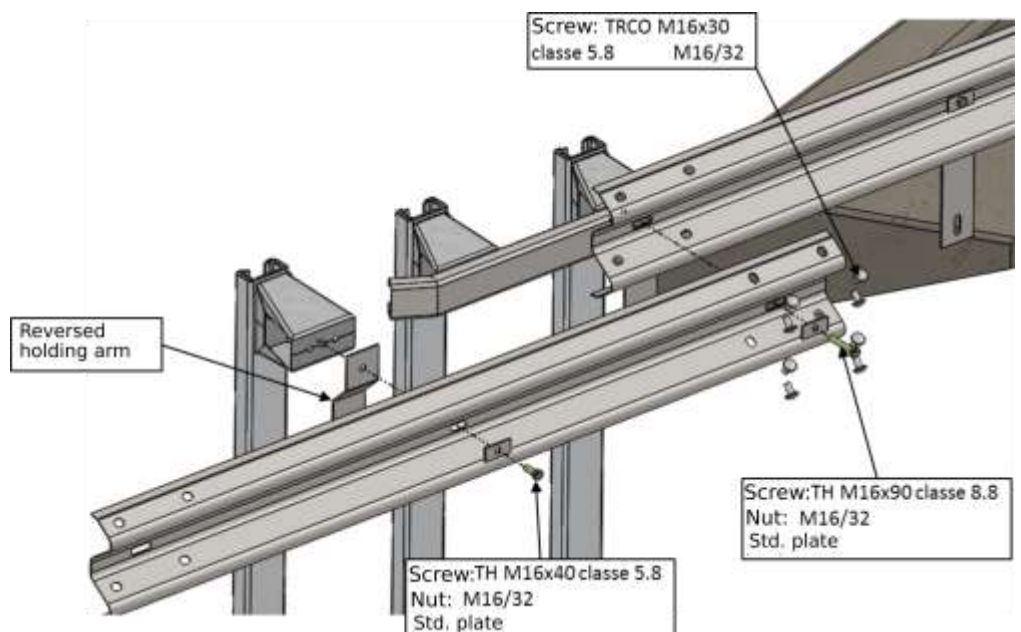
## UPPER PROFIL A BEAMS AND FIXING ARMS

Fixing the sliding element length 4315 mm pierced every meter and 4 fixing arms through 3 bolts TH M16x90 class 8.8, nut M16 / 32 and standard inserts



Attachment of the sliding element length 2315 mm and a retaining arm returned by means of:

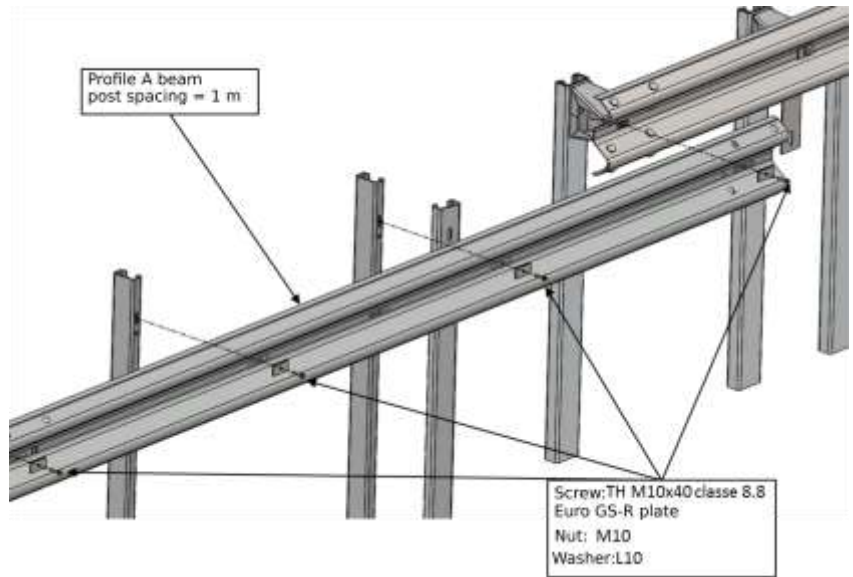
- ◆ 1 bolt TH M16x90 class 8.8 with nut M16 / 32 and standard plate
- ◆ 1 bolt TH M16x40 class 5.8 with nut M16 / 32 and standard plate
- ◆ 8 bolts TRCO M16x30 class 5.8, nuts M16 / 32





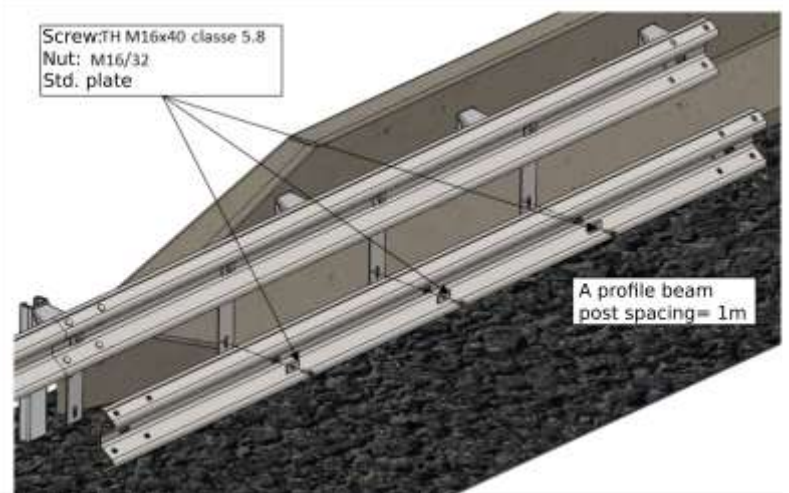
Fixing of the Euro GS-R sliding element length 4315 mm by means of:

- ◆ 4 bolts TH M 10x40 class 8.8
- ◆ 4 Euro GS-R pads
- ◆ 4 washers L10



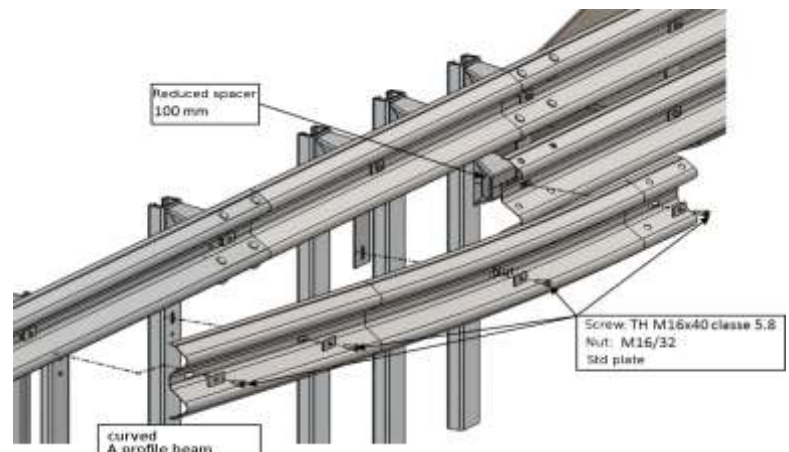
## LOWER A PROFILE BEAMS

Fixing the sliding element length 4315 mm pierced every meter by means of 3 bolts TH M16x40 class 5.8 with nuts M16 / 32 and 3 standard pads

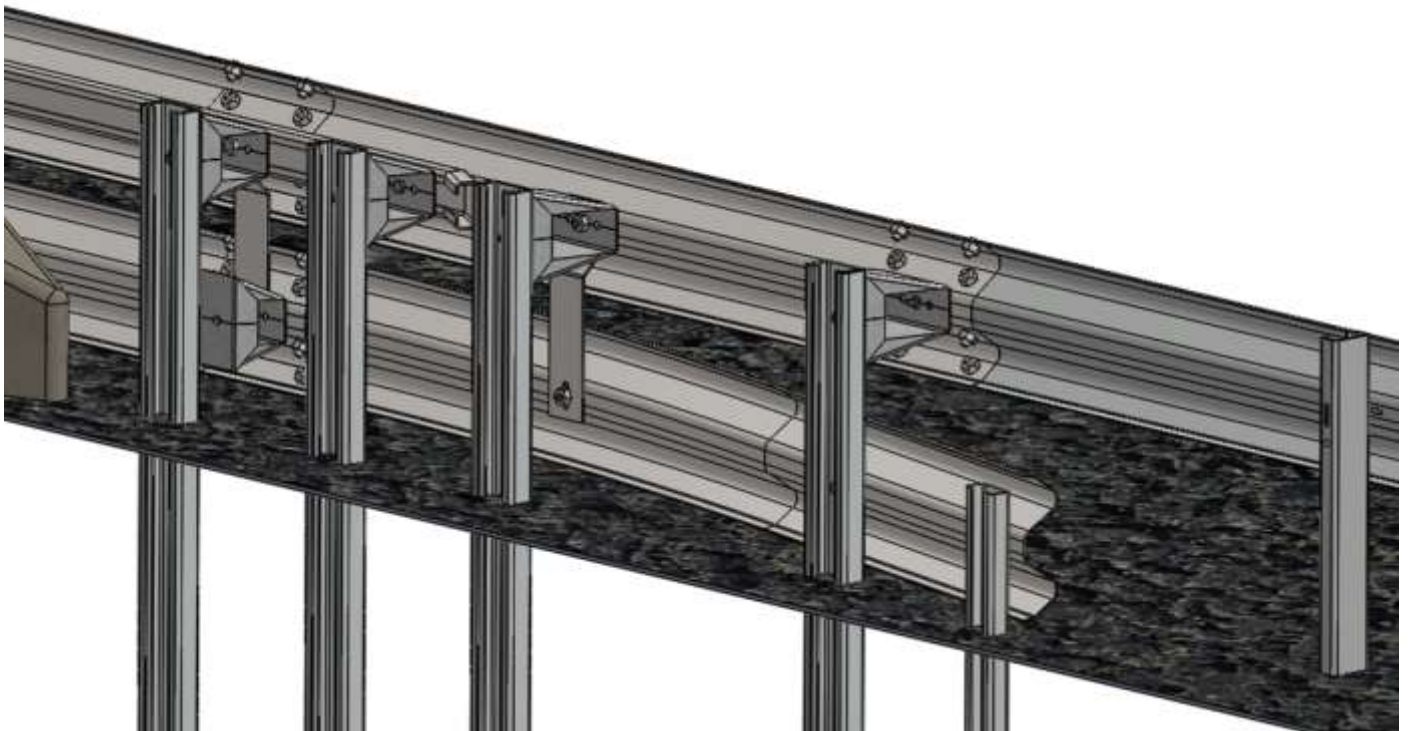


Fixing of the curved sliding element and the reduced retractor 100 mm by means of:

- ◆ 4 bolts TH M16x40 class 5.8, nuts M16 / 32
- ◆ 4 standard pads
- ◆ 8 bolts TRCO class 5.8



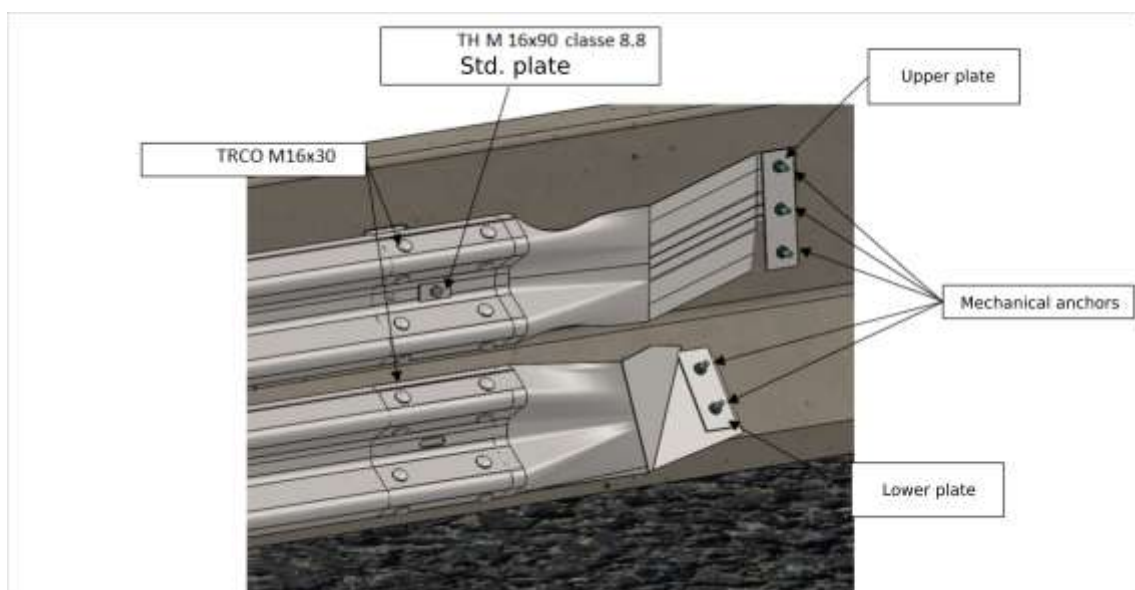
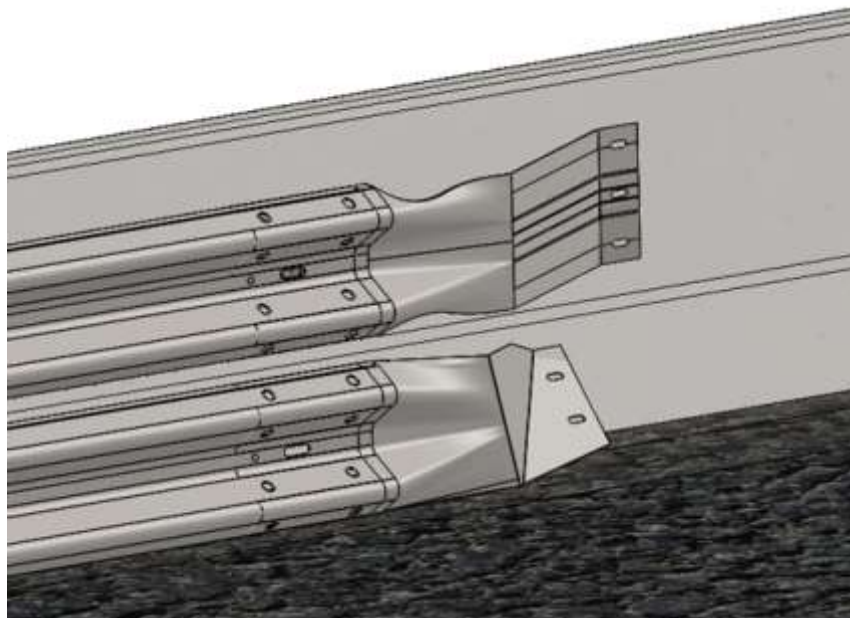
The curved sliding element is NOT symmetrical and therefore differs in the case of a right or left connection.



## FITTING AND FIXING ENDS

- ◆ Presentation of both ends
- ◆ Tracing the position of the holes to be made on the concrete \*
- ◆ Drilling  $\varnothing 12$  mm depth 80 mm
- ◆ To facilitate tightening, the ends can be fixed on the rails before mounting

The bottom end is NOT symmetrical and therefore differs in the case of a right or left



## Attaching the upper end

- ◆ 8 bolts TRCO M16x30 class 5.8
- ◆ 1 bolt TH M16x90 class 8.8 with nut M16 / 32 and standard plate
- ◆ 1 upper end fixing plate
- ◆ 3 galvanized mechanical anchors type Hilti HSA-F M12x115

## Fixing the lower end

- ◆ 8 bolts TRCO M16x30 class 5.8
- ◆ 1 lower end fixing plate
- ◆ 2 galvanized mechanical dowels type Hilti HSA-F M12x115

## ALTITUDE ADJUSTMENT

- ◆ Smooth upper than 700 mm + 50 -0 soil
- ◆ Smooth lower than 340 mm + 50 - 0 from the ground



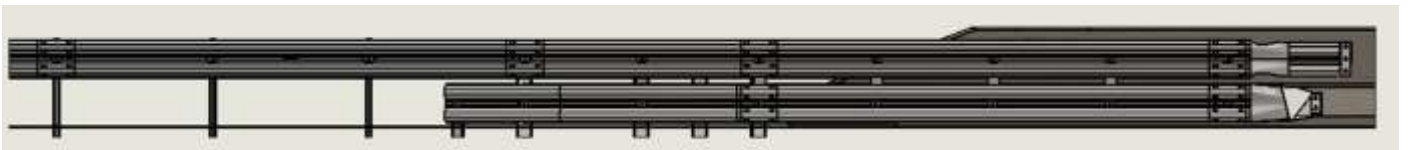
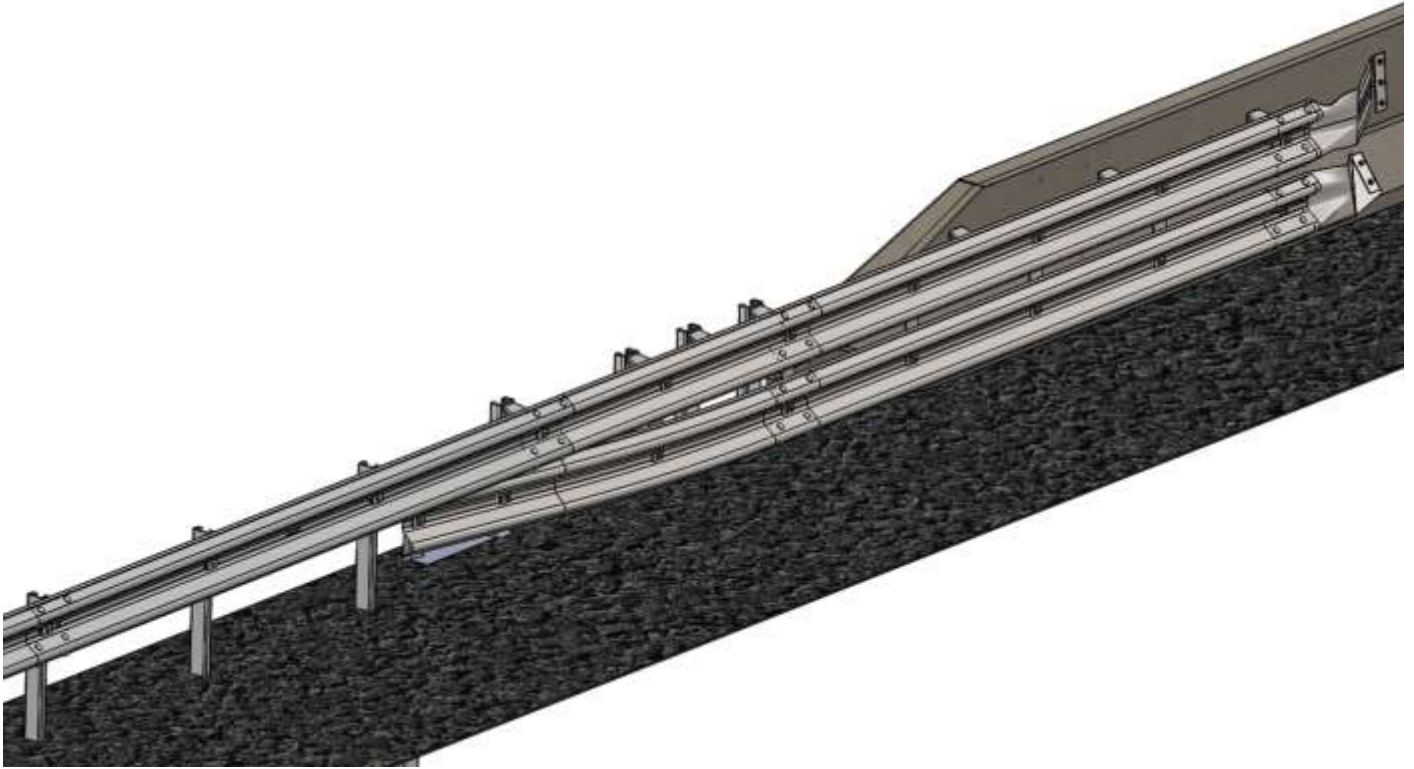
## BOLTS TIGHTENING CONDITIONS

- ⇒ Bolts TH M16 clamping at 15 mdaN
- ⇒ TRCO M16 bolts tightening to 15 mdaN
- ⇒ Threaded rods M16 clamping at 15 mdaN
- ⇒ M10 bolts tightening to 7.5 mdaN
- ⇒ Mechanical anchors M12 clamping at 5 mdaN

NOTE: Installation pegs

Installation dowels are not provided.

It is advisable to use dowels reference: HILTI HSA-F M12x115. 5 dowels are required for each connection

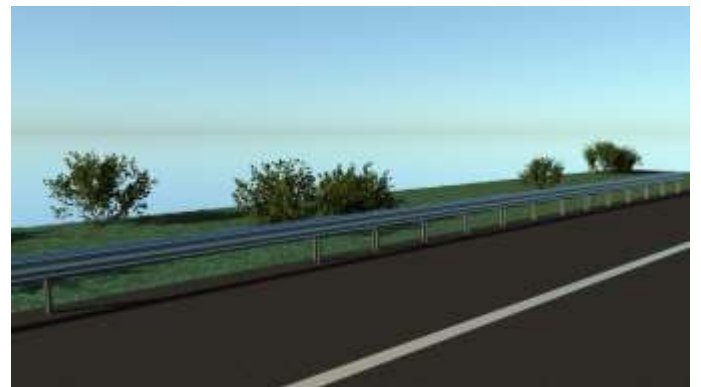
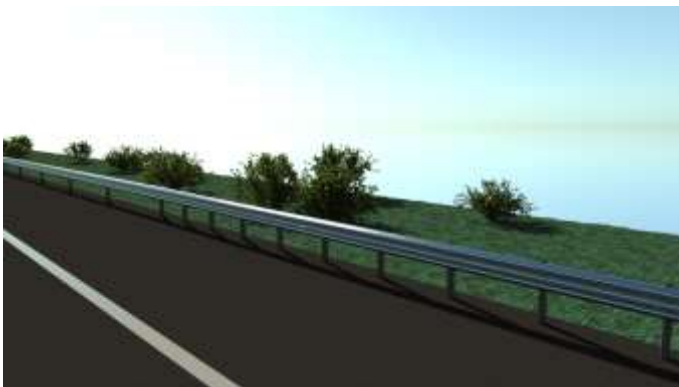
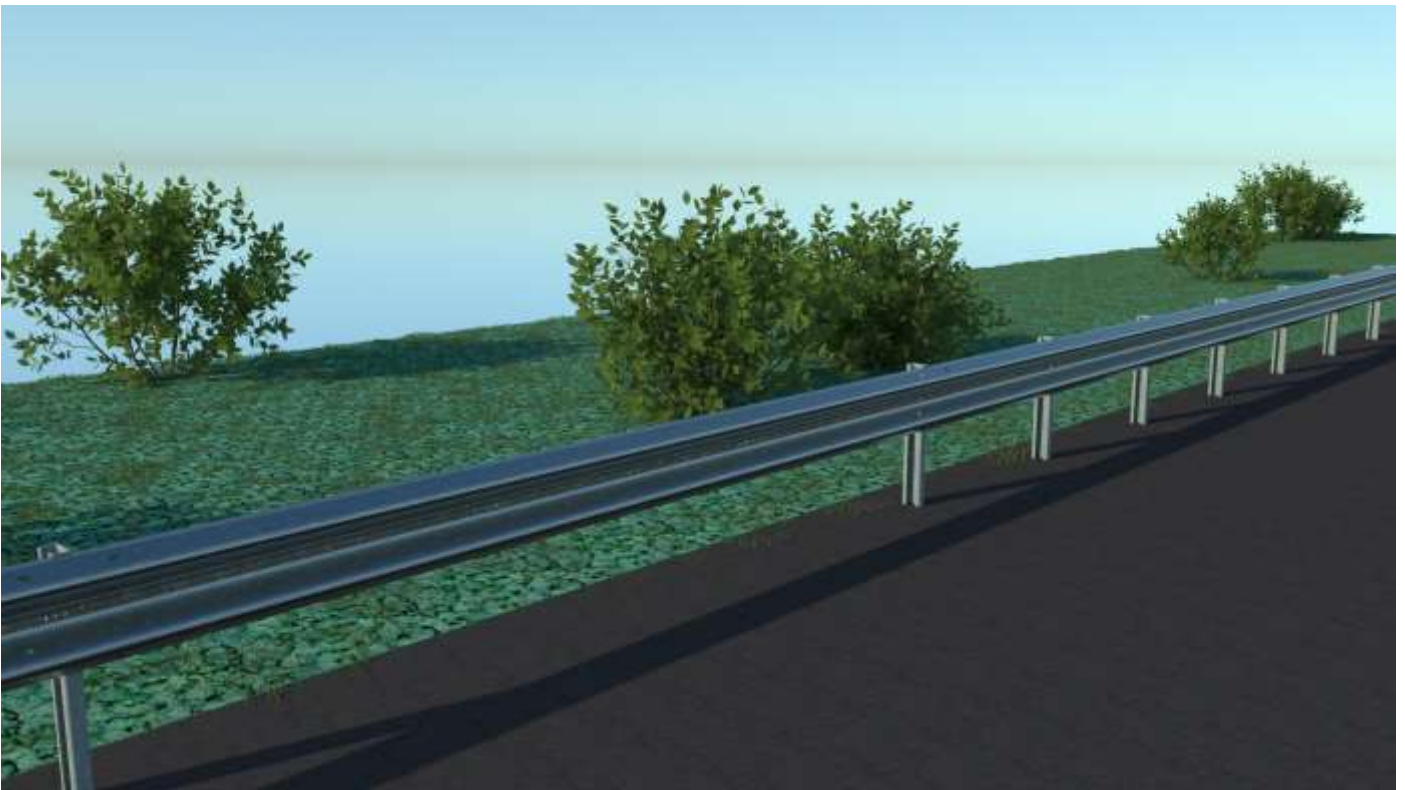


In order to deal with the ends of the Euro GS N2 system in accordance with the regulations in force and to ensure the expected performance of the customers, it is possible to install a constant height end.

This arrangement being a constructive arrangement, it can not be certified, in the current state of regulation and standardization.

However, this arrangement has been tested and validated by the TRANSPOLIS laboratory in the case of the Euro GS N2 W4-4.

A line of 16 meters of Euro GS N2 W2 (1.33 m spacing) must be installed at the end of a line of Euro GS N2 W4-4. The mounting conditions of this end are identical to the assembly of a line of Euro GS N2 W2.



As a company in the road equipment division of the GALVAUNION Group, the company. LPC, manufacturer of the Euro GS®N2 system, has been strongly committed for several years to a sustainable development approach. She had her organization certified according to ISO 9001, ISO 14001 and OHSAS 18001.

The environmental aspects (environmental footprint, landscape integration and dismantling at the end of life of the soil fasteners) of the products are taken into account by LPC at the design and development stages.

For a long time, LPC has been implementing and requiring from its suppliers a policy of substitution and elimination of substances that may have an impact on health and the environment: \*

The steel products are treated by hot-dip galvanizing. Naturally present in the air, water and soil, zinc plays a vital role in the health of the human being. It is recyclable and can be reused indefinitely, while retaining its properties.

The painted products are treated without chrome VI and powder coated exclusively with powders free of Cov, Tgic, Lead.

Our processes

LPC has achieved its Bilan Carbone®. This method makes it possible to evaluate the volume of greenhouse gas generated by all of the company's activities. By knowing precisely the volume of CO<sup>2</sup> generated during each phase of the life cycle of its products (design, manufacturing, galvanizing, powder coating and transport) LPC acts to reduce its environmental footprint



## Identification de l'entreprise installatrice

Entreprise

Agence

Responsable chantier

Téléphone

Mail

## Identification du chantier d'installation

Maître d'ouvrage

Représentant du Maître d'ouvrage

Maître d'œuvre

Représentant du Maître d'œuvre

Désignation du chantier

Linéaire installé (m) **Référence, date et indice du manuel d'installation**

Date de début de chantier

Date de fin de chantier



## Identification de l'entreprise installatrice

- L'équipe d'installation est en possession d'un exemplaire du manuel d'installation du DRR concerné
- Tous les composants nécessaires au montage du DRR sont disponibles conformément à la nomenclature du manuel d'installation

## Installation du dispositif de retenue (DRR)

- Le battage des supports dans le sol est conforme aux dispositions du manuel d'installation du DRR
- Les éléments de glissement se recouvrent dans le sens de la circulation
- Les entraxes des supports sont dans les tolérances du manuel d'installation
- L'étanchéité supports / asphalte a été réalisée
- Des supports ont été raccourcis
- Les supports sont orientés correctement selon le sens de la circulation
- Les boulons sont serrés conformément aux spécifications du manuel d'installation
- Les plaquettes et rondelles prévues au manuel d'installation sont présentes
- Les éléments du DRR sont alignés dans le sens longitudinal et dans le sens de la hauteur
- Des éléments du DRR ont dû être adaptés par utilisation d'un chalumeau, d'une perceuse ou d'une dis-queuse
- Hauteurs de pose Mini et Maxi
- Le chantier d'installation du DRR a été nettoyé conformément aux exigences du maître d'ouvrage

## Documentation photographique

- Photographies du chantier avant pose des DRR. Si ancien DRR, joindre des vues avant et après dépose
- Photographies du chantier après pose des DRR. Joindre toutes les photos jugées utiles pour se rendre compte de la conformité de l'installation aux spécifications du manuel d'installation

## Validation de l'installation

Rédacteur

Qualité

Date

Signature

## Réception LPC

Rédacteur

Qualité

Date

Signature



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Site internet: [www.roadis.fr](http://www.roadis.fr)

