

## INSTALLATION INSTRUCTIONS

### REBLOC<sup>®</sup> PRECAST CONCRETE BARRIER

for:

REBLOC RB80L\_4\_N2/W4

REBLOC RB80L\_8\_H1/W5

REBLOC RB80\_8\_N2/W3

REBLOC RB80\_8\_H1/W4

REBLOC RB80H\_8\_H2/W5

REBLOC RB100\_8\_H2/W5

REBLOC RB100\_2\_H2/W5

REBLOC RB100\_8\_H4b/W6

REBLOC RB100H\_2\_H3/W6

REBLOC RB110L\_8\_H2/W5

REBLOC RB110\_8\_H4b/W6



## 1. Important remarks

The following installation instructions serve as a support for the self-erection of the REBLOC<sup>®</sup> restraint systems by the customer. Before commencing any erection work it is essential to familiarize oneself thoroughly with the compliance of all relevant specific regulations and standards (construction, installation, safety, etc.), to inspect all lifting equipment, and review all lifting and safety requirements. When the elements cannot be placed for intermediate storage on a level or paved carriageway / surface for short or long time periods (e.g. for intermediate storage during system installation), appropriate measures must be taken in order to prevent toppling / overturn of the elements (e.g. use levelling shims / wedges to ensure a level foundation). Ensure that this installation instruction is the current valid edition (version number / date).

## 2. General

The connecting coupling of the REBLOC<sup>®</sup> Safety Barrier Systems is fully-integrated in the safety barrier. No auxiliary or additional parts are required. It must be ensured that only matching elements are connected with each other to secure a complete system efficiency in accordance with EN 1317. The combinable and matching elements are presented in the info sheets "Product Overview" and the respective data sheets. There are no special erection/installation tools required. The system is fully functional when all elements are interconnected as described in this manual, and the end-units are correctly anchored. In the case of exceptional local conditions it is important to refer to the national regulations and / or to consult the project contractor or the safety barrier manufacturer.

## 3. Choice of appropriate system

The selection of the appropriate REBLOC<sup>®</sup> system is undertaken by the contractor or road designer according to the national requirements, the local conditions and the tender requirements on the basis of the EN 1317. The principal criteria are the containment level, the working width and the impact severity level.

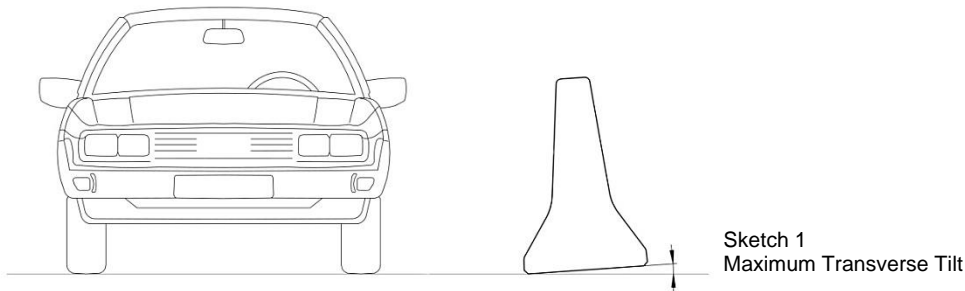
## 4. Minimum installation length

The minimum installation length is required to secure the efficiency of each single REBLOC<sup>®</sup> system according to EN 1317. The minimum installation length depends on the safety barrier system and the containment level, and is indicated in the data sheets.

## 5. Foundation and underlay

The system should be erected on a continuously level and structurally stable surface (asphalt or concrete):

- The levelness of the underlay shall not exceed  $\pm 1,5$  cm per 8m measuring length (longitudinal)
- Maximum transverse tilt relative to the carriageway: 6 % (see Sketch 1 Maximum Transverse Tilt)
- Load carrying capacity: minimum 200kN/m<sup>2</sup>
- The underlay should be level and frost resistant according to national regulations and standards.
- It should be ensured that there is no foreign particle under/close to the barriers which may cause uneven coupling meshing or unnecessary twisting of the barrier.
- The continuity of height and alignment of the barrier system is to be assured.



## 6. Assembly and Anchorage

The REBLOC<sup>®</sup> Systems consist of free-standing elements standing on the road surface and are not connected to the subsoil. The leading and trailing terminals are anchored. The restraining function is achieved through the strong connection of each element within the continuous chain of the tension bar.

The terminal elements of the barrier system are anchored in a local concrete foundation or in the roadway (asphalt or concrete). The method for each system is illustrated in the appropriate data sheets of the respective system.

The safety barriers should be positioned, adjusted and aligned, along the marked / desired contour. The safety barrier system should achieve a steady and attractive appearance.

## 7. Applicable documentation

Data sheet REBLOC RB80L\_4\_N2/W4  
Data sheet REBLOC RB80L\_8\_H1/W5  
Data sheet REBLOC RB80\_8\_N2/W3  
Data sheet REBLOC RB80\_8\_H1/W4  
Data sheet REBLOC RB80\_4T  
Data sheet REBLOC RB80H\_8\_H2/W5  
Data sheet REBLOC RB80H\_4T  
Data sheet REBLOC RB100\_8\_H2/W5

Data sheet REBLOC RB100\_2\_H2/W5  
Data sheet REBLOC RB100\_8\_H4b/W6  
Data sheet REBLOC RB100H\_2\_H3/W6  
Data sheet REBLOC RB100\_4T  
Data sheet REBLOC RB110L\_8\_H2/W5  
Data sheet REBLOC RB110\_8\_H4b/W6  
Data sheet REBLOC RB110\_4.5T

## 8. Installation process

### 8.1. Delivery of the elements

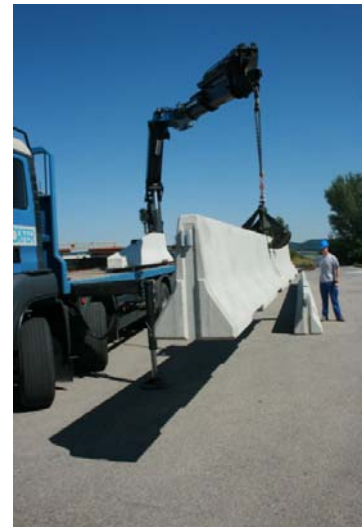
The elements are delivered to the construction site on suitable vehicles (articulated trucks preferred), whereby all associated road safety requirements must be fulfilled. Site-access roads should be checked / inspected. Construction sites on busy motorways must conform to the minimum mandatory road security and load carrying / transport securing system requirements must be ensured. Installation work should be carried-out in the direction of the traffic flow.





## 8.2. Unloading and Positioning of the Elements

After the removal of the transport securing belts / devices, the elements are taken from the truck with suitable lifting gears with sufficient lifting capacity (gripping tongs, belts or alternatively approved lifting anchors) by an appropriate crane (loading crane, mobile crane). The elements are positioned and adjusted along the previously marked road surface. Construction sites on busy roads must ensure adequate safety for the erection team and the motorway / road users – no erection vehicle / crane / or part of the safety barrier is allowed to protrude into the flow of traffic / active traffic lanes. Overhead electric cables adjacent to the erection site must be inspected and all work planned to avoid any contact with these cables.



## 8.3. Integration of the Elements

The element, which is to be integrated in the continuous chain of the barrier system, is positioned so that the lower edge of the coupling is directly above the upper edge of the coupling of the pre-positioned element. Regarding the RB80H and RB110L this procedure relates also to the tongue and groove arrangement on the concrete lower side face.



Now, the end-face of the element to be installed is manipulated to the edge-face of the already in-position element, to bring an overlapping of both couplings. It is important to avoid collision of neighbouring elements during installation and manipulation, to reduce concrete damage and break-away.



In a further step the element is lowered and the adjoining couplings are slowly and evenly interconnected, the installation of the RB80H and RB110L requires also the slow and even interconnection of the tongue - groove arrangement. The integrated guidance channel simplifies the final positioning. The element to be installed should be manipulated horizontally and vertically, while avoiding any swinging of the element.

When the elements are set down the compliance to the predefined alignment of the system must be assured, in order to achieve a continuous and attractive appearance.

## 9. Further information

- 9.1. Before lifting it is essential to check the safety element barriers lifting anchors and all lifting equipment for wear or reduced lifting capacity.
- 9.2. Only experienced and suitably trained operators should carry-out this installation work.
- 9.3. A minimum working area width of 7 m for cranes and installation work is recommended, not including the minimum safety distance according to the national requirements and regulations for construction work on highways and expressways. In minimum 5 m on the crane side/installation side of the safety barriers and in minimum 2 m clearing on the far side of the safety barrier.
- 9.4. The location and the lengthwise alignment for the placing of the safety barriers should be identified by the roads/highways construction company.
- 9.5. The underlay must be level and free from foreign particle, ice and snow.
- 9.6. Barriers should be placed level with the traffic lane and there should be no obstacle within the working width.
- 9.7. Lift and manipulate only one barrier at a time, in no circumstance should two or more barriers be simultaneously manipulated.
- 9.8. Barriers should remain horizontal when lifted, and it must be ensured that no part of the barrier or the lifting system/crane projects into the traffic-flow.
- 9.9. Barriers should be lifted and positioned avoiding any barrier damage.
- 9.10. Barriers should be installed according to the system plan (when provided).
- 9.11. Work from the traffic-free side of the barrier and at a safe distance from the traffic flow.
- 9.12. Technical drawings (including tolerances) for the installation of elements are available upon customer request.