

Road restraint systems for maximum safety



Concrete barriers



As the intensity of traffic on the public roads increases, so does the density of our road network.

To promote traffic safety, building contractors, governments and road administrators are increasingly choosing concrete safety barriers over traditional (steel) guard rails. Haitsma Beton's ingenious solutions in the area of safety barriers offer substantial advantages for both temporary and permanent applications.

What makes your precast barrier reliable? Aside from the product characteristics themselves, the entire process, from design all the way to mounting, influence an element's functionality on the road. For this reason, it is Haitsma Beton's policy to handle all aspects of production in-house – we are the only Dutch manufacturer in our field to do so –, and this gives us complete control over the quality of all our elements. In contrast to systems that are poured in situ, our precast barriers offer a constant level of quality..

Design principles

The design principles employed in creating Haitsma Beton concrete barriers can be summarised as follows:

- as required by the Dutch Directorate-General for Public Works and Water Management for barriers used in permanent situations, Haitsma barriers feature a Step-shape (cross-section);
- our barriers are designed to satisfy requirements for both temporary and permanent deployment;

- our concrete barriers are suitable for use without anchorage;
- our standard barriers can be mounted in a radius of curvature of at least ca. 250 m'. For situations with a smaller radius of curvature, shorter elements, e.g., the BA-R, can be used;
- the substrate (preferably: asphalt) must be completely flat and smooth prior to mounting;
- the bottom of each barrier is fitted with two fork-lift-lorry recesses (70 x 300 mm'), rendering both mounting and water discharge less problematic.

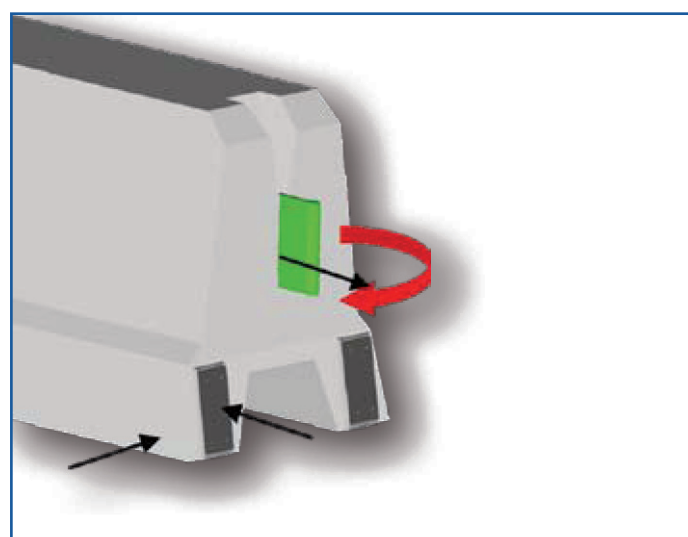
In conformity with NEN-EN 1317

It is the role of government to watch over the safety of those using the public roads. For this safety to be guaranteed, the relevant road restraint systems must satisfy European norm NEN-EN 1317. The Dutch government has established a minimum performance class for guide constructions used on the Dutch road network. It requires an increased retaining

Barrier type	BA-01	BB-01	BS-01	BZ-01	BX-01
Length (mm)	6.000	4.000	6.000	6.000	1.000
Cross-section (mm)	542 x 900	750 x 900	390 x 900	281 x 900/975	450 x 900
Weight (kg/m ¹)	650	1.020	625	445	625



capacity (Class 2) for all permanent situations (those with a duration exceeding one year). Haitsma Beton's standard barriers fulfil this requirement.



Unique transition construction

Combining prefab barriers with situ barriers typically results in weak spots in the guide construction. For this reason, Haitsma Beton has developed its own special transition, which connects a slip-form barrier with a Step-barrier in a safe manner. This VTTS barrier has been subjected to full-scale testing (BAST) and satisfies the requirements of NEN-EN 1317. Haitsma Beton is the only Dutch manufacturer that is able to supply such a tested and approved barrier transition.

For every situation

Haitsma Beton offers a suitable prefab barrier for every situation (see table). We also supply special items, e.g., our unique bend elements (BA-R), integrated lighting-mast solutions and sound-absorbing barrier (Sound Safe System). Feel free to request information on other.

Patented coupling system

Haitsma Beton's concrete barriers are connected using an ingenious patented coupling system. Mounting is by means of metal plates, which link the precast elements. An additional device ensures that the barriers will always function, as it were, like a taught chain, enabling the system to provide an optimum vehicle retaining effect in every traffic situation.

The pioneer in prefab

Haitsma Beton specialises in the production of top-quality prefab concrete elements, barriers and driven piles. However, in addition to manufacturing these products, we also supply all requisite engineering, and are compliant with all engineering criteria in force (Criteria 73). We also act as (construction) advisers and supply all requisite transport and mounting services. We never stop developing new and better products and processes, applying them to changing market needs, legislation, regulations and technological insights. We supply made-to-measure products for bridges, viaducts, stadiums, car-parks, buildings and roads. No challenge is too great for Haitsma Beton.

Important advantages

Haitsma Beton's Step-barrier differs in several respects from the standard steel guard rail.

- H** high degree of safety and retaining capacity (Class H2);
- H** slim design, resulting in a minimum of spatial use;
- H** very attractive price/quality ratio;
- H** suitable for both temporary and permanent use;
- H** rapid mounting/removal (less nuisance, increased safety for road users and road workers);
- H** anchorage not required;
- H** no shifting or damage from minimal contact (99% of all collisions);
- H** a minimum of maintenance for permanent barriers;
- H** environmentally friendly (no ground contamination through soil leaching) ;
- H** durable (extremely long product life);
- H** short delivery times.



The alternative to the traditional guard rail

the pioneer in prefab



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