

# Stadiums





**Stadiums need to be comfortable and safe. With this as its starting point, Haitsma Beton is able to provide added value to commissioning authorities as well as other construction partners. Our methods guarantee that both the costs and the quality of stadiums are precisely monitored. From preliminary discussions up to and including delivery, we give highest priority to the wishes of the client. Haitsma's practise is to deliver a solution customised to the needs of the individual client, whether it is for a full new construction or just for a refurbishment. The result: multifunctional public facilities with their own characteristic atmosphere and statement.**



Supported by a broad base of high-quality partners, Haitsma Beton's stadiums form a strong foundation. We are at home in the field of sport, and score high with our 3-step and 1-step concepts.

#### **Unique 3-step concept**

Our unique, patented production method for step elements is illustrative of our efficient and cost-saving work methods. Also unique is the fact that we produce and install three steps simultaneously. This concept can be used for any stadium and offers a number of advantages, including rapid installation and an absolute minimum of disturbance to sporting activities during renovation. In addition, the application of our 3-step concept will make your stadium safer and more resistant to vandalism.

#### **Optimum design**

Haitsma Beton designs and builds stadiums both at home and abroad. Stadium designs can be based upon our popular "Citius, Altius, Fortius" concept. Alternatively, in consultation with the client, architect and structural engineer (with or without the use of a construction-team approach) we can also implement entirely new design approaches, e.g. stadiums with a greater truss and column distance and deviating step dimensions. Regardless of the situation, the dedication and know-how of Haitsma Beton guarantees an optimum stadium each and every time.

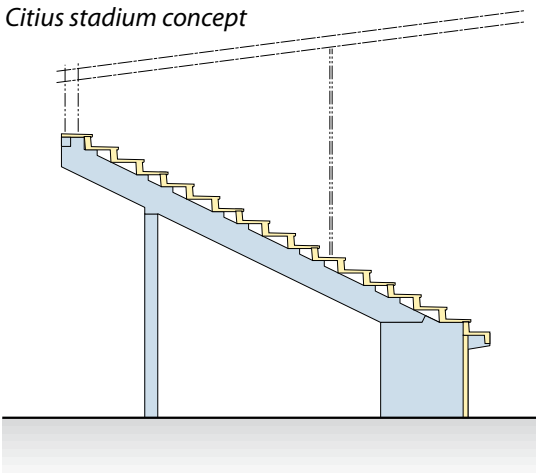


### Citius stadium concept

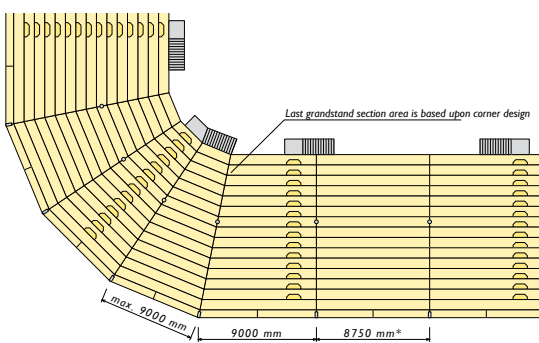
The Citius concept features placement of a steel column in the grandstand to support the roof, with a precast concrete column placed further back under the grandstand, allowing the grandstand beam to be relatively light in weight. The 3-step elements can be executed with either a 400 mm or 540 mm step elevation.

The entrance to the grandstand is normally located in front, but can also be located in the rear (for the purpose of business spaces). The grandstand can be placed at pitch level, or higher, by means of a wall integrated into the grandstand beam. Because the entrance is located in front, there is no need for a gallery under the grandstand. Depending upon the height of

Citius stadium concept



Section grandstand



Plan grandstand corner

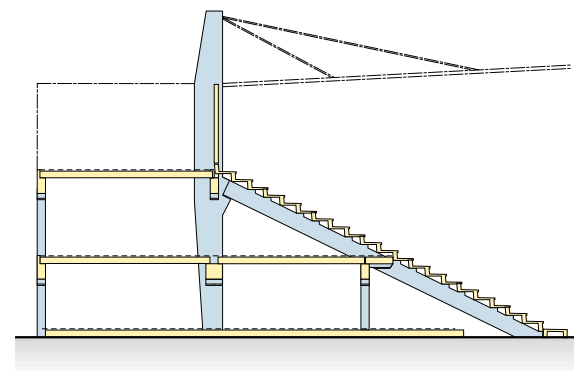
\* For a rise of 540 mm this measure will become 10800 mm

the first row, toilets and sales points can be placed under the grandstand. The Citius concept is easy to expand with corner grandstands and, where desired, a second ring, and is extremely well-suited to grandstands with fewer than about 15 rows.

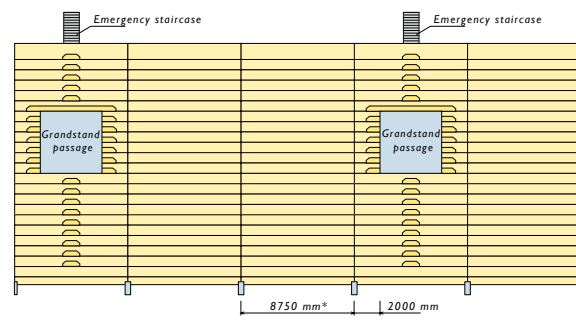
### Altius stadium concept

In the Altius concept the high rear column functions as a load-bearing frame for the roof, so that no column is needed in the grandstand. The precast rear column facilitates greater architectural freedom and flexibility in designing stadiums. For example, one can choose where to place the access to the grandstands: frontally, or from below (grandstand passages accessible via stairs and/or a gallery). Sales points and toilets can be placed

Altius stadium concept



Section grandstand



Plan grandstand

\* For a rise of 540 mm this measure will become 10800 mm



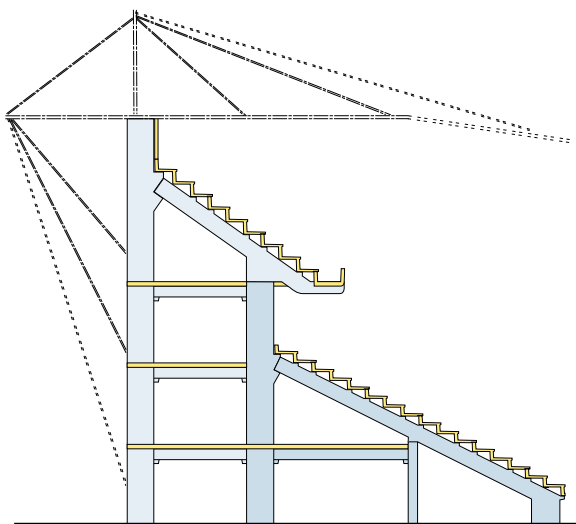


in the gallery. The Altius concept is executed with 3-step elements (800 mm x 400 mm or 800 mm x 540 mm) and the preferred planning grid of 10.80 m. The seats are mounted on top of or on the side of the step element (400 and 540 mm, respectively). This concept is suitable for a larger number of rows.

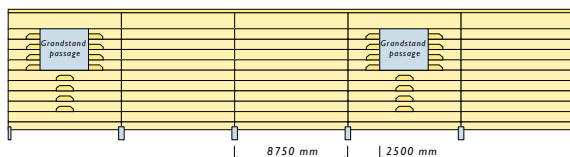
#### Fortius stadium concept

The Fortius concept features a second grandstand ring. The first consists of 3-step elements with a step elevation of 400 mm, while the second has a step height of 540 mm in order to ensure optimum visibility lines. The first ring's rear column forms the support for the second ring.

#### Fortius stadium concept



Section grandstand



Plan second ring

The advantage of this ingenious design is that the second ring can also be realised at a later stage; the roof from the initial phase can then even be reused above the second ring. Access to the second ring is always via the grandstand. With the 540 mm step elements, (foldable) chairs are placed against the step.





## Reference projects

-  Abe Lenstra stadium Heerenveen, Heerenveen
-  ADO Den Haag stadium, ADO
-  Arena Amsterdam, Ajax
-  Cambuur stadium Leeuwarden, Cambuur
-  Euroborg Groningen, FC Groningen
-  FC Zwolle stadium, FC Zwolle
-  Gelredome Arnhem, Vitesse
-  Het Kasteel / Sparta stadium Rotterdam, Sparta
-  Koning Willem II stadium Tilburg, Willem II
-  Mariflex stadium Roosendaal, RBC
-  Parkstad Limburg stadium Kerkrade, Roda JC
-  Rat Verlegh stadium Breda, NAC
-  Signal Iduna Park Dortmund, Borussia Dortmund
-  TT Assen, Assen

For current project information, please log on to [www.haitsma.nl](http://www.haitsma.nl).

**Haitsma Beton - the pioneer in precast**





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