

Multi-storey car parks





Realisation of multi-storey car parks increasingly forms part of an integrated traffic policy, which includes the inter-relationship of aspects such as location, capacity, rates and average parking duration. Haitsma Beton is able to realise optimum parking concepts owing to its detailed process of inventorying all variables which could have an effect on the design in question. Our approach to the design places safe and efficient handling of traffic at the centre of attention.

Comprehensive approach

Today, multi-storey carpark construction is characterised by an increasing requirement for expertise, and for close cooperation amongst the members of the construction team. With its specialised know-how and integrated approach to project management Haitsma Beton ensures, throughout the construction trajectory from preliminary discussions all the way to completion, that this requirement is met. As a building partner, we begin consultations with the client in the initial phase. We also provide advice relating to routing and safety, with efficient traffic management and good ventilation as top priorities. We employ intelligent solutions to deal with any problems that may arise. In addition, we are flexible when it comes to assembly and transport, so that the entire construction process can proceed unhindered. Further, our periodic reports provide insight into the progress, quality and costs of your project.

Made-to-order – and affordable

Using TT-slabs enables Haitsma Beton to guarantee an excellent price/quality ratio for your carpark. With these elements, we are able to realise sturdy but light constructions in a flexible manner, regardless of design. Further, the rapid assembly of these standard slabs ensures that the construction process will be short in duration. The result: functional buildings with aesthetic added value.

Regardless how complex your parking problem is, we always relish the challenge!

Design: flexible solutions

Parking problems can be solved by a variety of methods. The design of a multi-storey carpark is to a great extent determined by the surface area and shape of the location in question, the traffic situation, how the carpark is to be used as well as client requirements.

Haitsma Beton offers flexible solutions by using standard components in such a manner that the space available is put to the best possible use.

We offer you a wide range of possibilities for your carpark as regards type, layout and constructional approach. This includes the option to fit the undersides of TT-slabs with a ceiling, available in a sound-absorbing version.

The parking systems which Haitsma Beton can realise for you, include (but are not limited to) the following standard systems:





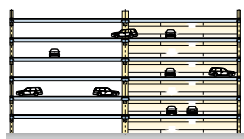
Ramp carpark

With a ramp carpark, a storey is spanned by either a single or a double ramp (incline: 6% max.) where the ramp itself can be used for parking of cars.

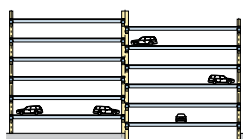
Advantages of a ramp carpark:

- no loss of parking spots due to the spanning of a storey;
- low costs per parking spot;
- compact construction;
- good in combination with other buildings.

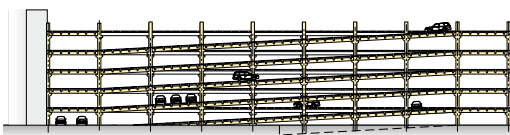
Ramp carpark



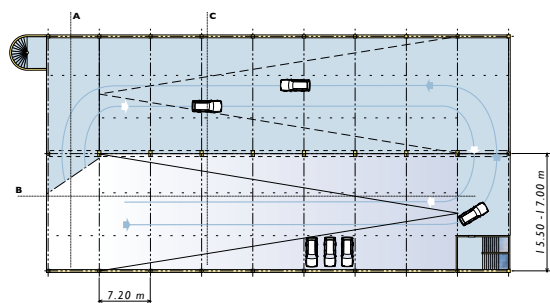
Transverse section A,
single ramp



Transverse section C,
single ramp



Longitudinal section B



Plan single ramp

Split-level

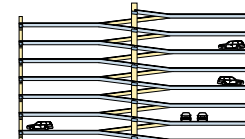
With split-level carparks, the parking levels are staggered over a half-storey. By means of short ramps, the storeys are spanned with bent TT-slabs, without substantially reducing the number of parking spots. This makes split-level carparks particularly suitable for city-centre areas with a limited surface area for building. Some split-level carparks feature two opposing traffic flows on a single ramp.

With the double split-level variant, cars drive both in an upward and a downward spiral in the same direction.

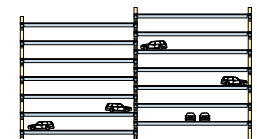
The advantages of split-level carparks:

- compact construction;
- efficient traffic management.

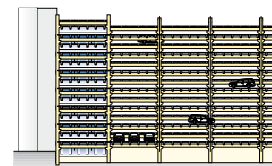
Split-level



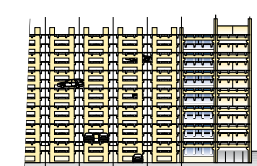
Transverse section A



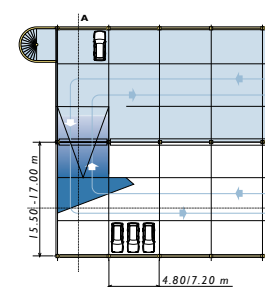
Transverse section C



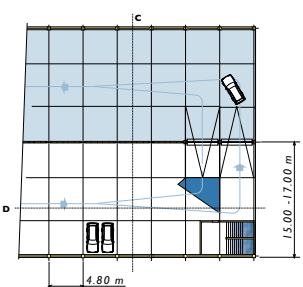
Longitudinal section B



Longitudinal section D



Plan single split-level



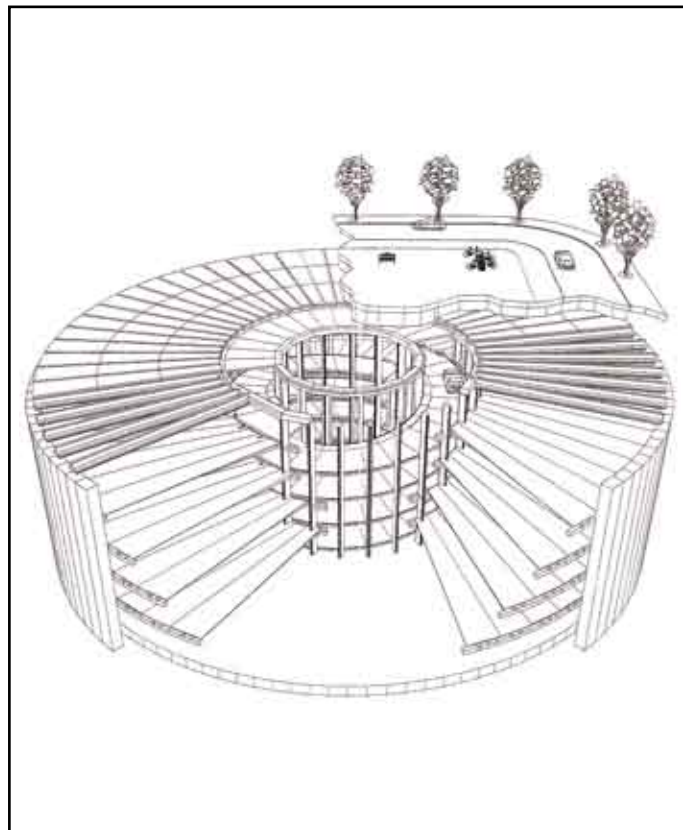
Plan double split-level



Round

A round carpark can be realised both above and below ground. Driving in and out can take place via the parking levels (under a ramp) or via a spiral-shaped access located in the middle which leads to the different parking levels (one-way traffic possible by means of two opposing spirals). Round car parks are most suitable in highly built-up areas.

Round



Parking deck

Parking on one or two levels, with external access and exit. Horizontal floors with one or more layers, that are accessible via ramps. Such ramps can be located outside or inside the garage. In the case of exterior location, the garage's interior can be organised in a clearer, more open manner. The horizontal floors are accessible by means of an elevator, which can comfortably accommodate shopping carts, wheel-chairs and strollers for example.

Underground

Parking deck





Underground car parks are suitable for use as parking basements under buildings or as public parking facilities under public squares for example. This variant is also available with several parking levels, in a rectangular or round shape. Once the building excavation has been completed, the supporting structure can be installed as part of an uninterrupted assembly phase. Driving in and out takes place via ramps or via the central spiral-shaped access (in round car parks).

Planning-grid sizes

As a rule, Haitsma Beton employs a span width of 16 m, but the ultimate span width will depend on the location and application of the carpark in question. In an optimum construction, the span dimension used will be the result of a 6.0 m track with a 5.0 m long parking space on either side. Naturally, deviations are possible.

Column-free spans

To ensure effective use of the space in a carpark, Haitsma Beton employs large, column-free spans. This is done by means of TT-slabs which do not require a constructional compression layer. This ensures that the layout of the carpark is clear and logical, with benefits for parking, routing and safety.

The relatively light floor construction, and the minimal dimensions of the beams and columns used, permit the use of a lighter foundation.

Low-maintenance

The use of a unique tension rod construction (for stability) and high-quality concrete, as well as the absence of steel components which are subject to weather effects, make Haitsma Beton's multi-storey car parks low in maintenance.

Smart routing

Traffic management in a carpark must be well thought-out and satisfy all requirements for speed, clarity and safety. In this connection, signposts, routing, sufficiently wide tracks and sufficient space for parking and driving out are all of crucial importance. Traffic must also run smoothly outside the carpark.

Haitsma Beton's expertise in the field of multi-storey car parks is so extensive that we are able to take account of these aspects in the design phase itself. We value the opportunity to meet at an early stage in the construction process with the client and the other project partners, in order to enable every party to benefit optimally from this knowledge and experience.

High degree of safety

The safety of a multi-storey carpark is not only an aspect of traffic management. How safe both those parking and working there find it is at least as important. Sufficient daylight and fresh air both play important roles in this connection. It is for this reason that Haitsma Beton makes its concrete elements as slender as possible. Thick walls, niches or dark corners are avoided to the extent possible through the use of column-free spans. In contrast to other systems, the fire resistance of our multi-storey car parks is a minimum of 60 minutes. If so desired, this can be increased.



Haitsma Beton - the pioneer in precast



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