HOESCH ADDITIVE FLOOR®

THE UNIQUE FLOORING SYSTEM FROM HOESCH
Coloured floors with ease
Hoesch Additive Floor® is the solution whenever short construction times are essential – ideal for parking decks and multi-storey car parks.

With Hoesch Additive Floor® you can create visual guidance systems in car park buildings. Different colour coatings of the soffit of each level serve for easier and better orientation. Rely on the blend of design, functionality and economic efficiency – rely on Hoesch Additive Floor®.

Benefits for you at a glance

» Officially approved (approval No. Z-26.1-44 / ETA 10/0113)
» Reliable for more than 20 years and very economical
» Lightweight construction
» Clear beam distances of up to 5.60 m
» Patented supporting technique
» Rapid and convenient installation of decking profiles without a crane
» The various phases of construction can be carried out independently providing easy logistical planning
» Decking profiles, supplied with a factory applied colour coating, perfectly finished exposed ceilings
» F90 possible with additional reinforcement
» Durability concepts according to EN 1992-1-1
» Live loads up to 5.0 kN/m²
» No supports required in any construction phase
Hoesch Additive Floor® combines the advantages of traditional building methods of steel and concrete construction. Today, structural designers increasingly decide in favour of industrially prefabricated trapezoidal profiles for use as floor elements, which allow rapid installation of the supporting structure without the need for additional props in the concrete pouring stage. This results in large spans and hence economic efficiency of the complete supporting structure as well as pleasing aesthetics.

The patented floor system

The connection between Hoesch Additive Floor® and composite steel beams is achieved by applying a patented method of support. The Hoesch Additive Floor® panels are laid on solid steel cleats which are welded to the upper flanges perpendicular to the direction of the composite girders, through which transverse forces are transmitted in the concrete pouring phase and in service live (cold stage). By the indirect hanging support of the slab, the advanced composite steel technology can be used even when deep deck profiles have been chosen. The profile panels are lowered between the beams, so there are no hollow cells crossing the beam and the bearing capacity of the shear studs is not reduced.

The upper flanges of the steel girders are not covered by the profiled panels, which allows the shear studs to be arranged without any problems. The ribbed webs in the cross section of the floor are placed between the beams which results in a low overall height. By skew welding of the steel cleats, floor geometries without a right angle between the direction of floor span and beam axis are possible.

The space between the longitudinal ribs can be used for the installation of power and computer cables or ventilation ducts. Hoesch Additive Floor® achieves fire resistance of 90 minutes with additional reinforcement. The individual trades (structural steel assembly, profile panel mounting, reinforcement installation and concrete pouring) can be executed almost independently. Mutual interference and associated delays of the construction process are a thing of the past!
Leadership by thinking ahead
Versatile applications

Hoesch Additive Floor® is in use all over Europe, for applications ranging from parkdeck to a multi-storey car parks. We assist you in implementing your ideas with our experience and our knowledge. Please feel free to contact us.

In the initial phase of a building project many details have to be resolved. The fundamental question of the type of car park is often decisive for its physical and economic acceptability. Another important issue is the mode of use.

Distinction is made, amongst other things, between distributed traffic volume (constant flow of vehicles entering and existing) and peak loads (concentrated traffic in or out at rush hours).

**Typical car park structures**

- **Parkdecks:**
  A single parking deck above street level
- **Ramped car park:**
  The storeys are reached by an inclined arrangement of the parking levels
- **Multi-storey car park:**
  Staggered parking levels with separate ramps outside or inside the building
- **Split level car park:**
  Split-level arrangement of parking decks with short ramps between them

Figure above: BMW Car park, Munich

Figure on the left: 1. Parkdeck 2. Ramped car park 3. Multi-storey car park 4. Split level car park

Figure below: Multi-storey car park Mondsee, Austria
Use of colour as a guidance system
Simple, varied and economic

The profiled panels come with a colour coating offering a wealth of design options. A concept of matching colours can be applied to specific areas or to a complete floor. They ensure good recognition and thus easy orientation inside the building, even if a person is not familiar with it.

Light colours should be preferred. When combined with large spans, you create rooms with friendly atmosphere, that allow a clear view and provide a feeling of safety, even in diffuse light. The days of of intimidating dark and cramped car caves are over.

Hoesch Additive Floor® is an innovative concept with high potential for economically and architecturally smart solutions. This means added value for you. Many car park operators have appreciated this over years.
Individual use

Rapid and convenient with multiple variations

Applications
Whether in constrained spaces or with the demand of wide free spans, Hoesch Additive Floor® can be used for a wide range of applications.

Hoesch Additive Floor® is installed manually, so it can be used in areas which cannot be reached by cranes, e.g., for intermediate floors in existing buildings, under bridges and power cables or in back yards.

With large free spans and low dead weight, Hoesch Additive Floor® is even ideal for adding another floor onto non-load-bearing floors, for ceilings at great heights or multi-storey buildings.

Fast-paced construction work thanks to fast assembly of the prefab steel structure, as well as the high installation speed achieved by certified installers permit easy handling of even time-critical projects.
Our contribution to sustainability
Efficient, environmentally and user-friendly

Economic aspects
Hoesch Additive Floor® is very economical. Thanks to the economical efficient use of material the dead weight of the construction and therefore their ground work expenses can be reduced effectively. The high degree of prefabrication of the composite steel construction allows for a very short construction period, thus reducing the erection costs while improving design quality.

Bright reflecting soffits saving lighting costs in operation and the project-related durability concept optimizes maintenance expenses over the lifespan.

Ecological aspects
We care for the environment and we are committed to saving resources. Steel composite constructions mean optimal use of steel and concrete. Using Hoesch Additive Floors, shipping costs can be substantially lower than those for prefabricated reinforced concrete components. Just one truck can transport 1200 m² of profiled panels. In-situ concrete can be produced in local concrete factories and transported the short distance to the site.

Light-reflecting ceilings reduce the electrical energy consumption. The outstanding durability and flexibility of the structure allow for extensions and for adding another floor and enable a long service life. Yet Hoesch Additive Floors offer benefits even when a building has to be deconstructed. Structural and reinforcement steel can be recycled by almost 100%. The amount of concrete that can only be downgraded to filling or aggregate material is reduced significantly.

Social and cultural aspects
Large column-free areas with bright ceilings provide flexibility and great comfort in use. Clear views and friendly colours allow for easy orientation and safety. Car parks with Hoesch Additive Floors are widely accepted by the public through their aesthetic appearance and their high ease of use. Another important point is its capacity for flexible adaptation to various layouts and the possibility of easy extension or addition of storeys in order to achieve further use of existing buildings.

Figure above:
Three-level car park
Daimler AG, Mercedes
Benz, Stuttgart
Perfection in detail
Useful accessories

Fully perforated trapezoidal profiles make superb façade elements for open car parks. Depending on the lighting conditions, they create a transparent or opaque building envelope.

Furthermore we offer roof profiles that protect the upper parking level and the cars parked there from weathering. They help avoid mechanical loads due to snow ploughing in winter and high thermal loads due to direct sunlight in the summer, making these parking decks ideal all year round.

Figure above:
Car park Mondsee, Austria

Figures below:
1. Construction of the car park in Kufstein
2. Car park Kufstein
Excerpt from our reference list
More than 4,200,000 m² built

**Airport car parks**
- 50,000 m² Hannover Airport
- 18,000 m² Saarbrücken Airport
- 30,000 m² Münster-Osnabrück Airport
- 257,000 m² Cologne-Bonn Airport
- 32,000 m² Dresden Airport
- 61,000 m² Bremen Airport
- 180,000 m² Düsseldorf Airport
- 9,000 m² Stuttgart Airport
- 24,000 m² Frankfurt Airport

**Car parks for automobile companies**
- 33,000 m² BMW
- 93,000 m² Daimler/Mercedes Benz
- 42,000 m² Audi
- 119,000 m² Volkswagen
- 20,000 m² Opel
- 25,600 m² Ford

**Car parks for 13 IKEA stores**
- 190,000 m² Total area

**Car parks for 13 university hospitals**
- 127,000 m² Total area

**Outstanding national Projects**
- 11,720 m² Car park T-Mobile Campus, Bonn
- 8,400 m² Car park University hospital, Bonn
- 105,000 m² Car park Neue Messe Stuttgart
- 33,000 m² Car park Vodafone Campus, Düsseldorf

**Outstanding international Projects**
- 10,500 m² Tiroltherme Lengenfeld (AT)
- 50,000 m² Car park Ochakovo, Moscow (RUS)
- 60,000 m² Multi-storey building Duda, Sosnowiec (PL)
- 45,000 m² Car park Bouillon, Luxemburg (L)
- 13,500 m² Commercial Centre Kirchberg, Luxemburg (L)
- 10,000 m² Car park Rijnstate hospital, Arnhem (NL)
- 11,000 m² Office building, Istanbul (TK)
- 10,000 m² Car park Hoofddorp (NL)

**Overall total area**
- More than 500 projects with a total area of more than 4,200,000 m².
Excerpt from our reference list

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- with a total area of more than 4,200,000 m².

Overall total area
The information provided in this leaflet is subject to technical modifications. Details of features can be guaranteed only as far as they are explicitly confirmed in writing on a case by case basis.