



# MODERN AND FUNCTIONAL

## Rhein-Neckar-Arena Sinsheim

A football stadium, like any other major building, requires lots of doors: Entrance doors, storeroom doors and even refreshment outlet roller shutters – and this is also the story at the Rhein-Neckar-Arena, home of German Bundesliga outfit 1899 Hoffenheim. The new stadium took less than two years to build in nearby Sinsheim. The club attracts home crowds of up to 30,000, and these fans can now sit close to the pitch, right on top of the action. There are a whole host of doors at the Rhein-Neckar-Arena: 21 roller shutters and 10 sectional doors with dimensions up to 6000 x 4185 mm; a total of 242 doors were required.

## The task

Below the impressive roof and the stands there are 4 storeys containing various functional levels, such as bus entrances, dressing rooms, utility rooms as well as the technical department and catering warehouse. Due to these various functions and the sheer volume of people who use the building, the main priority when planning the corridors and doors was preventative fire and smoke protection and the protection of escape routes. The doors on level 0 must fit in with the “open-plan” architecture of the stadium. The roller shutters of the 21 refreshment outlets required a special design.



## The solution

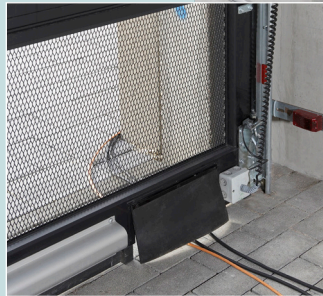
The Teckentrup team developed perfect solutions for all the requirements. The doors range from architecturally high-quality sectional doors with expanded metal mesh located at the building facade, through double-skinned multi-purpose outside doors to multi-functional fire protection doors in the corridors, catering warehouse, refrigeration rooms and electrical rooms. The refreshment outlets were fitted with smoke-proof roller shutters with special dimensions and individual safety aspects. All the doors were primed prior to delivery and then finished on-site according to their location in the new stadium: External doors were painted matt black, internal doors elegant grey. The perfect solution was found for each and every requirement.

Teckentrup installed a total of 21 special roller shutters, 10 industrial sectional doors SL and 242 doors with various functions in the new stadium. According to the structural requirements, single and double-leaf T30 and T90 doors were used, occasionally with additional functions, such as smoke and burglar protection. Furthermore, multi-purpose and security doors were also installed. Teckentrup provided expert support from the project planning stage, through product selection and clarification to the final acceptance.

The two most attractive doors seal off the entrances for the team buses. The sectional doors with expanded metal mesh fit perfectly into the spectacular metal facade of the stadium. The 'airy' filling even has a practical goal: It guarantees a supply of fresh air at ground level – thus preserving the quality of the pitch. The door is positioned completely underneath the ceiling when open, the low headroom fitting guarantees a maximum clearance height.



Outside broadcast vans in front of the stadium still receive live images even when the door is closed and locked. Visible on the right: The safety photocell which immediately stops the door when the light beam is broken.



A large storage area has been reserved close to the pitch for the groundsman's equipment. The sectional door had to be adapted to the specified opening, e.g. the height was limited by the sloping stands.



More than 8.50 m wide, but only 1.60 m high: Roller shutters with exceptional dimensions and requirements (very wide but not very high) were installed at the refreshment outlets. There is an increased fire hazard here due to the catering facilities (more precisely: due to the cooking grills). To ensure top safety, Teckentrup developed a special brush seal in the guide rails. Common seals provide all-round protection at the top and bottom. To guarantee correct closing of the doors in an emergency, the control is powered by a battery buffer system, which still functions even during a power failure.

Emergency stop control of the refreshment outlet shutters. The battery buffer system ensures that the shutters even close correctly during a power failure, the curtain is completely enclosed. The perfect structural engineering solution.



Approximately 250 doors were installed at the Rhein-Neckar-Arena. The doors were primed prior to delivery and then finished on-site, external doors were painted matt black, the same colour as the sectional doors. The planners decided that internal doors should have an elegant grey finish. This grey matches the highly frequented main entrances as well as the emergency exits.

The bar provides space for 400 fans. The width of the doors had to be sufficient to accommodate these numbers. Both leaves of the doors are fitted with an anti-panic function: The doors must open outwardly and close properly at all times. These requirements are fulfilled by the slide-rail door closers with integrated door selector. The application of block frames proved to be particularly installation friendly.



Downstairs in the stadium, in the technical department, reliable door operation was more important than appearance. Fire doors, partly up to T90, were specified for this part of the building.



Doors which lead to the outside from storage areas (again with a matt black finish) were fitted with additional technical features: The doors can be easily actuated via a wall switch, resulting in the electrical revolving door leaf drive opening automatically.

The lightweight roof construction hangs above the stadium like a ring without a pillar in sight, protecting the fans from the elements without blocking their view of the game. The 30,000 capacity stadium is fitted with roughly 20,000 modern fold-down seats, ensuring fans can also follow the action standing up if they desire. The West stand (facing away from the sun in the afternoons) houses the business lounges; club rooms with direct access to the stand. The fan bar, in contrast, provides sufficient space for 400 "die-hard fans". A gallery, leading to the various stands, runs all around the stadium. There are a total of 18 refreshment outlets here where drinks and snacks can be purchased before kick-off, at half time or even after the match.

### Construction Board

Constructor	DH Besitzgesellschaft mbH & Co. KG
Architects	agn Niederberghaus & Partner GmbH
Building time	20 months
Total costs	60 Millionen Euro
Capacity	Stadium for 30.150 people



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