

Image 1: In apartment blocks, construction components are used in a wide variety of areas – on the outside, on the façade and inside the building.

Comfortable, safe and future-proof

Construction components for residential and commercial construction

Numerous different construction components are used in residential and commercial construction projects, on the outside, on the building façade and inside the building. But what specific requirements need to be taken into account for doors, for example? And what other criteria are important when selecting a product?

Modern mixed-use buildings increasingly in vogue

In addition to rising construction costs and legal requirements – for example with regard to sustainability – planners and project developers are increasingly facing challenges due to the scarcity of space and high property prices in urban areas. Creative mixed-use buildings are therefore becoming more and more popular in new-build projects alongside “classic” apartment blocks. In this set-up, there are quieter commercial units in the building below the residential units and, on the ground floor, food markets or smaller shops, such as bakeries. This flexible mix of uses is often complemented by an underground car park in the basement levels. As a result, the use of space and therefore costs can be optimised, while at the same time creating a high quality of accommodation, work and life in urban districts.

Requirements on the construction components used

The construction components used play an important role in the planning and construction of these future-orientated residential and commercial forms. They must fulfil the requirements of various standards and regulations, such as DIN standards, building regulations of the German federal states and the German Buildings Energy Act (Gebäudeenergiegesetz, GEG). In addition, products must meet general criteria such as high durability, a long service life and a good price-performance ratio. Last but not least, in terms of efficient and economical project planning and implementation, it makes sense to obtain all the necessary construction components from a single source – for example, from the manufacturer Hörmann. The following overview shows the main construction components with the required properties.

A design that matches the interior architecture plays an important role for **residential internal doors**. Classic white doors with contrasting coloured door frames are frequently used. But versions with authentic timber surfaces, real lacquer coatings or real wood veneers are also possible. In addition, the doors should be impact-resistant and have effective edge guards for heavy daily use. Steel frames such as the VarioFix from Hörmann can ensure additional robustness. For greater convenience and accessibility, residential internal doors can be fitted with special door operators.

**Apartment entrance doors** can be designed to match residential internal doors.Good acoustic insulation plays a particularly important role here. The use of a steel frame such as VarioFix increases stability and ensures a longer service life.

The current trend is towards residential buildings with small residential units. These often have access balconies and therefore require special **balcony doors**. Here, good thermal insulation, needs-based security features and a high level of acoustic insulation are required. A good example of an access balcony door is the Thermo65 acoustic-rated door from Hörmann. The door consists of a special metal construction for heavy-duty use.

The main entrance to a building – usually secured by an **entrance door** – is the calling card of any home. These doors usually consist of a steel, aluminium and glass construction. In addition to an attractive look, created by glazing or applications in the door leaf, burglar resistance and thermal insulation are very important. Hörmann entrance doors come with very high RC security features as standard.

Robust and hard-wearing **steel or hollow profiled section doors** with specific functions are used in basements, corridors, outbuildings or garages, for example. Various criteria such as fire protection properties (up to T90) or break-in-resistant security features must be taken into account here.

**Collective and underground garage doors** are precisely tailored to the requirements of residential and commercial buildings and should enable precise and safe opening and closing even at high frequencies thanks to their robust design. Innovative details, such as an integrated counterbalance system, protect the operator mechanism and reduce maintenance costs. While offering smooth, quiet door travel, the door design must also suit the available space: For example, if parking is allowed directly in front of the door, it must not swing out. And for convenient use, there is the option of operating the door by radio or via smartphone.

**Barrier systems** ensure secure access control to underground garages and parking spaces. The option of integrating digital entry and exit management, via number plate recognition, a transponder, a smartphone or a hand transmitter, for example, is an important feature here.

Many buildings are constructed without basements to save on costs. Nevertheless, residents often have items that they want to keep safe and dry outside their home. Tool sheds are a practical solution for additional storage space outdoors. They are ideal for storing rubbish bins or containers, or as a secure bicycle garage for the increasingly popular e-bikes.

Service and maintenance

Of course, regular maintenance of all construction components used must also be taken into account right from the start. Regular care, inspection and maintenance are essential to maintain usage safety and serviceability. According to legislation, power-driven doors and fire protection systems in the commercial sector must be inspected by a specialist at least once a year. For efficient facility management and optimum process organisation, the conclusion of maintenance contracts with qualified providers is recommended at an early stage. Decentrally organised companies such as Hörmann have a dense network of regional sales offices throughout Germany and can carry out all the necessary work competently, on time and in compliance with the law using their own highly qualified service technicians – all from a single source.

Sustainability and CO2 reduction

Last but not least, against the backdrop of the Green Deal, EU taxonomy, ESG principles and increasing legal requirements (German Buildings Energy Act), numerous sustainability requirements must be taken into account. This also applies to the construction components used. Products from manufacturers that have a proven track record of reducing or completely avoiding CO2 emissions as part of their sustainability strategy are a good choice. Hörmann, for example, covers 100% of its electrical power needs at all European production locations with genuine green electricity and offers all standard products for residential construction, such as garage doors, operators, entrance and residential internal doors, steel doors, steel frames and storage space systems as CO2 neutral products. On request, all industrial doors, operators, loading technology, construction project doors and perimeter protection system are also available as CO2-neutral options for a surcharge. Further information on the sustainability strategy can be found at [www.hoermann.com/en/sustainability/](https://www.hoermann.com/en/sustainability/).

Conclusion: The selection of suitable construction components makes a decisive contribution to the cost-effectiveness, value retention, durability and sustainability of future-orientated residential and commercial buildings.

(7586 characters incl. spaces)

**About the author:** Marcus Weinbauer is Key Account Manager at the Hörmann regional sales office in Munich.

**About Hörmann:**

The Hörmann Group is Europe’s market leader for doors. Over 6000 employees work in over 40 highly specialised factories in Europe, North America and Asia to develop and produce high-quality doors, frames and operators, as well as perimeter protection and storage space systems, for use in properties. The headquarters of the globally active Hörmann Group is the East-Westphalian municipality of Steinhagen, Germany. The company, which is still family-run, combines German quality with innovative strength and the best service. Hörmann is present with 14 regional sales offices in Germany and over 100 individual sales locations in more than 40 countries, and is represented by partner companies in over 50 other countries.

**Images and captions:**



**Image 2:** Aesthetic and durable: A residential internal door with a high-quality surface and robust VarioFix steel frame withstands everyday wear and tear.



**Image 3:** A tool shed provides storage space outdoors and is ideal for storing rubbish containers or as a garage for e-bikes.



**Image 4:** Entrance doors for access balconies in residential and apartment complexes should offer special protection against street noise and good thermal insulation.



**Image 5:** In addition to an attractive appearance, burglar resistance and good thermal insulation are also important for entrance doors.



**Image 6:** Collective and underground garage doors should have a robust design and enable precise and safe opening and closing even at high frequencies.



**Image 7:** Barrier systems ensure reliable access control to underground garages and parking spaces.



**Image 8:** Practical, reliable and safe: Bollards regulate entry and exit to car parks in front of residential buildings.



**Image 9:** Marcus Weinbauer is Key Account Manager at the Hörmann regional sales office in Munich.

Photos: Hörmann