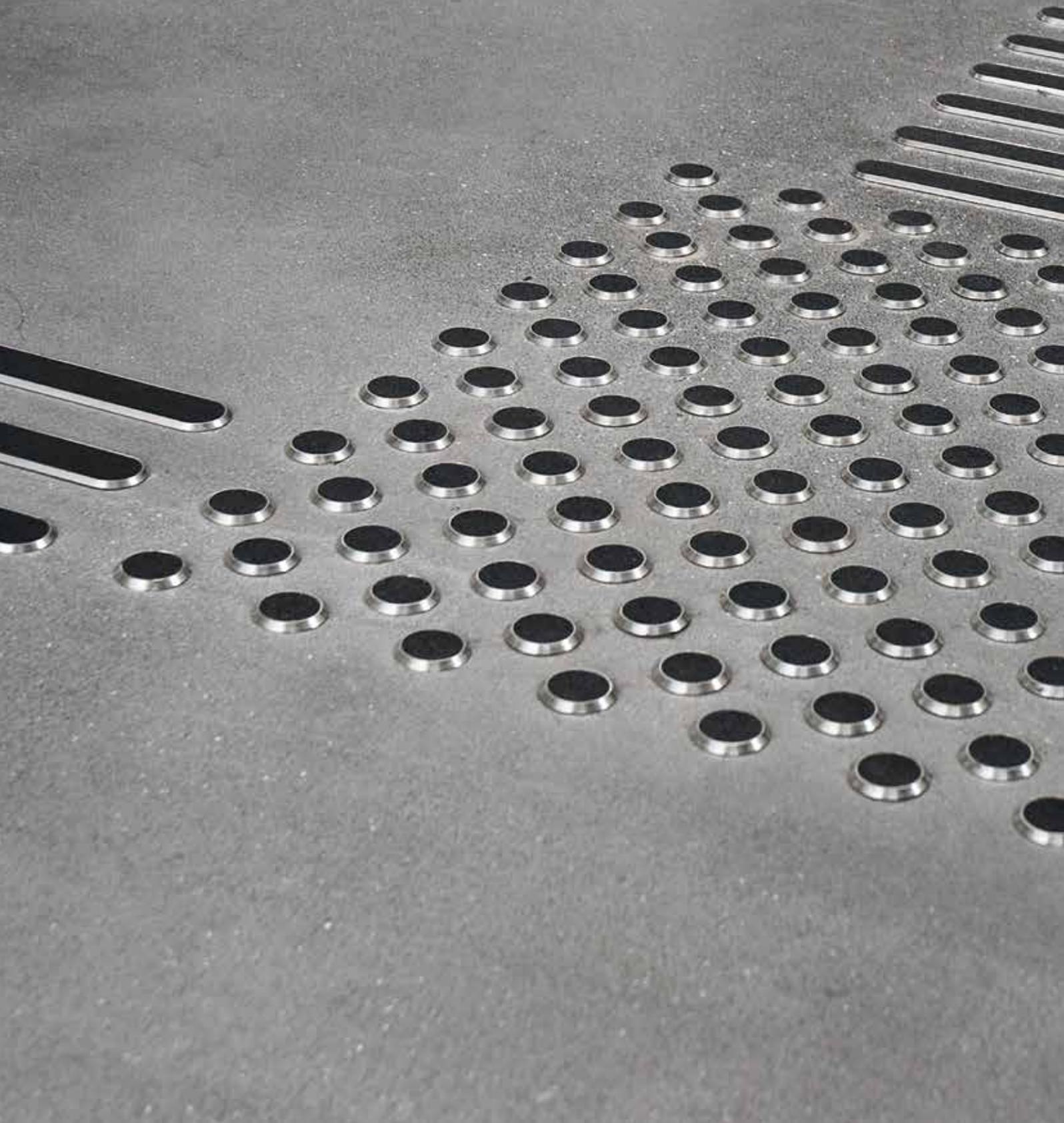


**HÖRMANN SCHÖRGHUBER**

# **PORTAL 35**

**ACCESSIBILITY**

**INFORMATION FOR ARCHITECTS FROM HÖRMANN AND SCHÖRGHUBER**  
CODE UNIQUE, DOHLE+LOHSE, STAAB ARCHITEKTEN





**LESSINGGYMNASIUM I  
N BRAUNSCHWEIG, GERMANY**

“The spatial arrangement also has an effect on the facade: the rooms are slightly offset. As a result, corners and edges, niches and oriels create or interrupt the visual connections. The architects counter this visual ‘unrest’ with reserved, modest materials.”



**LWL MUSEUM OF ART AND CULTURE  
IN MÜNSTER, GERMANY**

“The exhibit rooms themselves primarily feature strictly orthogonal planning. Their content is linked to a chronology that includes existing structures. Their different proportions result in a varied spatial sequence when walking through the exhibit.”



**CITYCUBE IN BERLIN, GERMANY**

“The bottom section of the building itself is glazed. The massive structure appears to float above it. It is virtually lifted out of its environment, projecting from the base and thereby creating a distance to the bustling activities around the building.”



**CITYCUBE IN BERLIN, GERMANY**

“Inside, the building is organised in two main levels, each with an area of around 6,000 square metres: the lower level can be divided into up to 8 conference rooms for 400 – 3000 people. The top level is a room without pillars, which can be used as an assembly room or for exhibits, events and catering.”

04	<b>ABOUT THE TOPIC</b> Ursula Fuss: Rethinking space
10	<b>CITYCUBE IN BERLIN, GERMANY</b> CODE UNIQUE Architekten, Dresden, Germany
18	<b>LWL MUSEUM OF ART AND CULTURE IN MÜNSTER, GERMANY</b> Staab Architekten, Berlin, Germany
24	<b>LESSINGGYMNASIUM IN BRAUNSCHWEIG, GERMANY</b> Dohle+Lohse Architekten, Braunschweig, Germany
30	<b>EXPERTISE: ACCESSIBILITY</b> Michael Müller, Darmstadt, Germany
32	<b>CORPORATE NEWS</b>
36	<b>IN DETAIL</b> Hörmann Schörghuber
38	<b>RECENTLY IN ... BILBAO</b> Bernd Nitsch Guiding Architects, Bilbao, ES
40	<b>ARCHITECTURE AND ART</b> Theun Govers, Den Haag, NL
42	<b>PREVIEW</b> Rescue
43	<b>IMPRINT</b> <b>HÖRMANN AND SCHÖRGHUBER IN DIALOGUE</b>

Title photo: Tactile control system in the CityCube Berlin, DE  
Photographer: Michael Müller, Darmstadt, Germany



## Dear Readers,

We consider many things to be self-evident. For example, our excellent condition – meaning we can walk, see and hear. Unfortunately, some of our fellow humans cannot. Their way of moving is different. But sometimes, architecture thwarts their plans. For a long time, they were barely given a moment's time, while today, accessibility plays a major role in architecture. In this edition of PORTAL, we will learn how architect Ursula Fuss perceives the environment built around her. Since an accident, she has used a wheelchair and has made the topic of accessibility her hobbyhorse. We will then present three projects, starting with the CityCube Berlin, the successor of the International Congress Centre ICC. Unlike its predecessor, the building designed by Code Unique Architekten relies on a flexible use of space. In Münster, Germany, Staab Architekten erected the LWL Museum of Art and Culture. Last but not least, we present the new auditorium at the Lessinggymnasium in Braunschweig, Germany. All three projects were also approved by Michael Müller, expert on accessibility. You will find details on his expertise directly following the project profiles. In addition, we pay Bilbao a visit and ask Bernd Nitsch whether accessibility in his city has stood up to rapid architectonic development. Young Dutchman Theun Govers finally links art and architecture. His painting plays with perspective and space. You are sure to find something quite surprising in this issue.

Christoph Hörmann

Thomas J. Hörmann

Martin J. Hörmann

Personally liable general partners



## RETHINKING SPACE

**Accessibility – they say – is regulated by DIN down to the last detail. Legally, these are recommendations that can be incorporated into national building regulations. But is that enough? Standards alone do not suffice. Architect Ursula Fuss explains what really makes a building accessible – ever since an accident, she uses a wheelchair.**



## RETHINKING SPACE

Wheelchair users at the German Museum of Architecture in Frankfurt may reach the stair landing via a ramp, but non-automated swinging doors present an obstacle to them anyway. (previous page)  
Ramps should not only be a convenient way for wheelchair users to conquer floor level differences. In the Frankfurt Museum for Applied Art, however, they are a bit too steep. (right)

“Rethinking space – making it individual, universal, suitable for everyday use, accessible” or “the short path to happiness,” as I frequently call it in my talks. The reaction among my audience to this title is the same no matter where I go: what does accessibility have to do with happiness? My question to them: what shouldn't accessibility have to do with happiness? It's a matter of how we perceive our environment – and how we move in it. If that's fun, accessibility is all about happiness!

### **Accessibility for everyone**

We humans identify ourselves based on both our self-perception and external perception. This means: we experience ourselves as others experience us. This gives rise to our individual self-confidence. The environment built around us – and therefore architecture – makes a great contribution to this. It has since then been recognised that not only people with disabilities enjoy a barrier-free environment, but also, for example, parents with prams. Nevertheless, accessibility is usually associated with age, disability and, ultimately, a need for assistance. This is due to ignorance of the wide range of abilities that people can develop individually. I like to call it the “parcel of abilities” that every person receives when born. How these individual abilities develop depends on many circumstances or the respective demand, but also on the culture and social environment. Some become musicians, others mathematicians and others service providers. Today, if a person does not develop the ability to see, they are considered blind. But they aren't – they have received many other abilities in their parcel to develop: acoustics, haptics and temperature sensation. These abilities allow them to orient themselves in the environment we have built around them. We sighted people cannot make use of these abilities because our eyes prevent us from doing so. For that reason, this type of “disability” is an enrichment of the abilities and makes our society diverse and exciting. We should do everything to perceive this variety of capabilities to learn from them. Constant developments in medical engineering,

for example, enable people a self-determined life to the greatest possible extent in many situations. Premature infants can survive, accident victims are treated quickly enough to be kept alive. Generally, we live much longer now than we did 100 years ago thanks to medical treatment. Why is that? Over time we have questioned and re-evaluated our circumstances. This is the only way to develop. Here lies the potential for architecture, as well: questioning standardised processes and everyday situations and changing them as needed. As architects, we should consider how a space affects its users. For personal self-confidence, however, it is just as important how others perceive us in the architectonic space. Design plays a major role. An example: using a lifting platform is inconvenient for all those involved. For users, since they are lifted as if they are on a tray and involuntarily put on show. For patrons, too, as they perceive the users as in need of help and feel affected.

### **Emotional solutions**

From a technical point of view, the problem of switching from one level to another is solved, but the users' self-confidence is lowered and social participation inhibited as a result. A lifting platform is always a poor solution, and never an architectonic one! A ramp that is too steep always signals exertion, and the response is: “Oh, my, poor thing! That has to be hard!” But if the incline is easy to use, it is perceived positively. The word “barrier-free” is well-meant. I still don't especially like it. It would be much better to design “suitable” constructions. That is, buildings that can be used by everyone, equally. No matter how large or small, mobile or immobile they are. No matter what senses they use to orient themselves within the space. Most solutions that are currently still being conceived make me (and everyone else who doesn't conform to the average) an exception. A small trip through my home city of Frankfurt quickly reveals the difference between fair construction and buildings that at best meet regulatory expectations. You can clearly see how some excellent architecture is fair for all, while other excellent architecture simply is not. From



## RETHINKING SPACE

For many people, a small step doesn't stand out in day-to-day life. For those who depend on a wheelchair, it can present an insurmountable obstacle.

Photos: Christina Dragoi, Stuttgart, DE



**Author: Dipl.-Ing. Ursula Fuss**

Born in Frankfurt am Main, Germany, in 1959. From 1981 to 1985 she studied architecture at the University of Applied Sciences Wiesbaden. Directly after receiving her diploma, she switched to the Städelschule, the contemporary fine arts academy in Frankfurt, to complete an additional architecture degree. An accident in 1993 left her paraplegic. From then on, accessible planning has played a decisive role in her life – both in her positions as a teacher and her office she founded in 1996, c.f. ARCHITEKTEN. In addition to working on her own projects, Ursula Fuss advises architects and building owners in their planning processes.

[www.con-fuss.de](http://www.con-fuss.de)



Photo: con-fuss, Frankfurt, Germany / "Aktion Mensch" - humans campaign

the outside, Richard Meier's Museum is not only an icon of the neo-modern age, it also looks like it can be used by all equally. But the disparities begin right at the entrance. Why a revolving door? For me, it's insurmountable. The alternative door leaves available, which open outwards, are not optimal either. They also prevent me from entering the building like everyone else. They unnecessarily make me an exception. Now, one could say that this building was built at a time when the awareness for essential accessibility was not yet a subject of discussion. However, this type of solution is still standard today.

**DIN STANDARD**

Time and time again, I see that accessibility requirements are considered "satisfied" simply by an entrance without threshold, a lift and handicapped lavatories. In many architectural contests I consulted for, only these types of concept suggestions were offered. The ramps are characteristic of Meier's design – and give rise to hope that every visitor can enter the museum in the same way, unburdened. But: the incline of the ramps is too steep. Even for active wheelchair users, the strain is too high. That leaves the lift. It ultimately makes the building accessible, but at the same time, it singles me out as a wheelchair user, as I am forced into an access system that no one except for me uses. "Pedestrians to the left please, disabled people to the right please" – the selection here is still extremely discrete. Now, I can't say that Germans are not ready to help, particularly the employees at the Museum for Applied Art. Just lingering in front of a door, an implied hesitation before a step and people appear from all over ready to help just like that, looking worried, and making me something special. Here, the perception is once again negative – mine and that of other visitors.

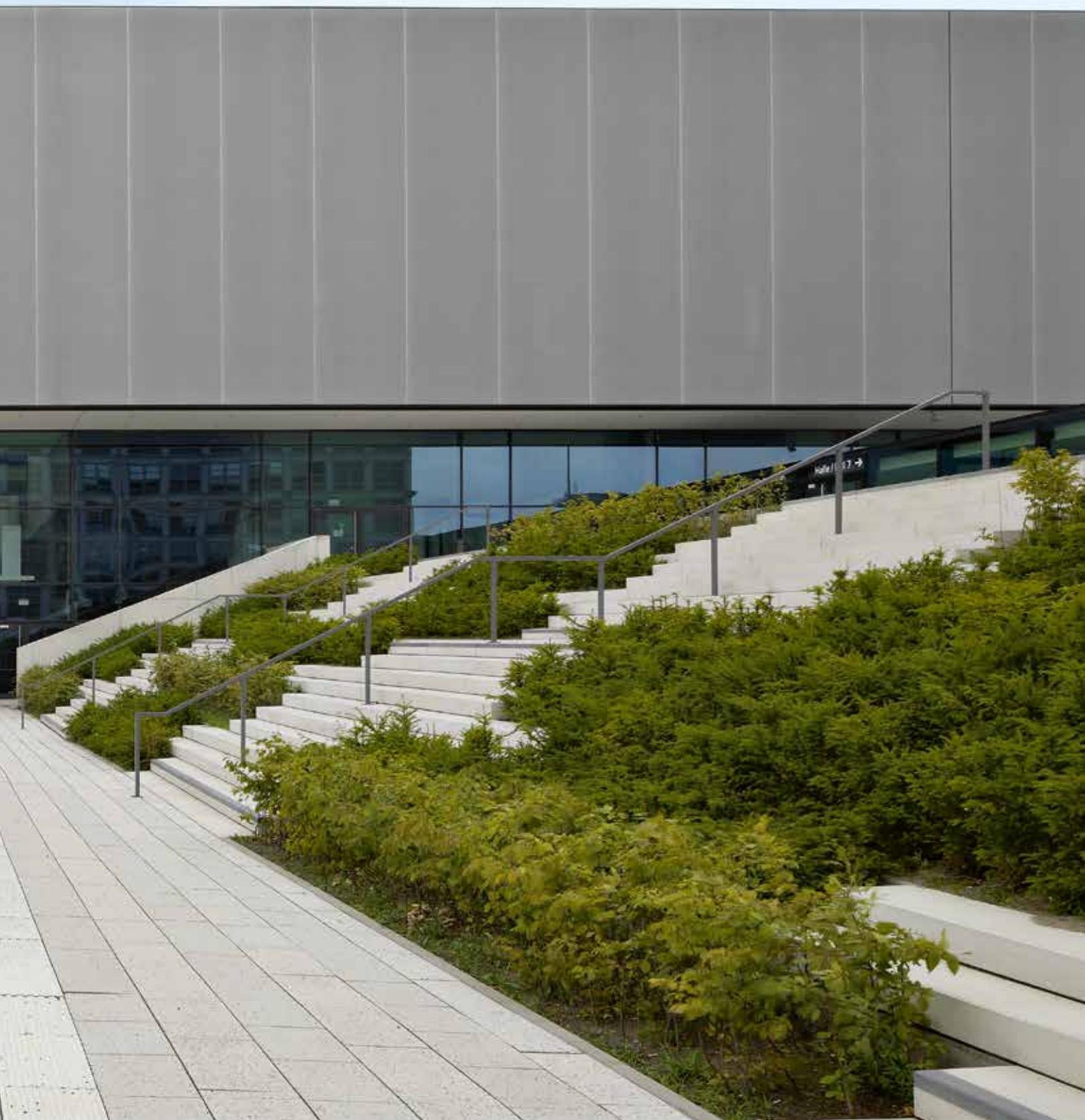
**Casual**

Another example is the Frankfurt Zeilgalerie by Prof. Rüdiger Kramm. The idea of continuing the market street in the eight-storey building resulted in an unusual connection of all the levels with a ramp. The upper floors can be reached via a lift or the ramp. Everyone uses the lift to go up and the ramp to go down. Wheelchair users have a clear advantage here: for them, the Zeilgalerie is the same as a halfpipe for skaters. From the very top to the very bottom, those with wheels will always win – and not the pedestrians. The Zeilgalerie can be used by all visitors in a completely casual and natural way. Its architectonic quality did not result due to its accessibility, but rather it was an architectonic access concept. It is simply integrative. It proves that fair construction and excellent architecture are possible. As architects, we are required to really face the changing mobility of users. We have to develop access concepts that make space tangible and leave everyone with an exciting, motivating experience. Communication must be facilitated and promoted. The various directives and standards can only give minor input. Implementation must be sought in the architectonic design. This is a lot of work. But it's worth it if "new" architecture elements such as ramps or sloped surfaces interrupt the boring monotony of the architecture and enable all users to meet on common ground.



## **CITYCUBE IN BERLIN, GERMANY**

**People say that citizens of Berlin were never really able to warm up to the International Congress Centre ICC. Its nicknames, “Kongressdampfer” – the conference steamboat – or “Panzerkreuzer Protzki” – Protzki’s armoured cruiser – are not positive to say the least. In the meantime, it has been closed. In future, conferences will be held in the CityCube Berlin, designed by Dresden architectural firm Code Unique, just a few metres away from the now useless ICC.**



## CITYCUBE IN BERLIN

A wide outdoor staircase provides access between the different levels of the exhibition grounds. Rich greenery provides accents. (previous page)  
The handicapped parking spaces are located directly by the main entrance. (right)  
The top storey of the CityCube projects from its base significantly. It rests on a basement presented as a glass post-and-beam construction, which is surrounded by a building structure clad in prefabricated ashlar components that establishes the link to the different levels of the grounds. (below)

The International Congress Centre ICC is one of the most controversial buildings in Berlin. Erected in 1979 by Berlin architects Ralf Schüller and Urusulina Schüller-Witte, it is considered an icon of technicism. Critics find fault in the layout; in their opinion only approximately 10 per cent of the area could be used for events – the rest is considered a circulation or industrial area and therefore not profitable. In addition, they claim the building required a calculated 240 million euros in renovation. These costs scared the operating company, Messe Berlin. This is why the operating company decided to demolish the Deutschlandhalle arena across the exhibition grounds which was erected in 1936 and was under monumental protection, and to replace it with a new congress building – the CityCube Berlin. The building was designed by the Dresden architectural firm Code Unique. Conceptually, the building was supposed to serve not only for conferences, but also as an expansion of the exhibition space. As for urban planning, the building structure is positioned in a way that results in spacious plazas as entrances to both the city centre and the main entrance of the exhibition. The architects placed a special focus on linking the existing levels of the adjacent buildings



and squares. Between the CityCube and the existing exhibition halls, a new level was created. It encompasses the new building in parts. Outdoor staircases lead from here to the lower ground where the main entrance to the congress centre can be reached. The bottom section of the building itself is glazed. The massive structure appears to float above it. It is virtually lifted out of its environment, projecting from the base and thereby creating a distance to the bustling activities around the building. Its facade consists of a fabric layer that appears closed behind which the second, functional building shell with all the required openings is located. Inside, the building is organised in two main levels, each with an area of around 6000 square metres: the lower level can be divided into up to 8 conference rooms for 400 – 3000 people. The top level is a room without pillars, which can be used as an assembly room or for exhibits, events and catering. In addition, there are 8 further conference spaces with flexible partitions for 50 – 300 people as well as 30 offices and meeting rooms that can be reached via high-acoustic-rating Schörghuber doors which are inconspicuously integrated into the design.



In the entrance area, floor-bound tactile markings lead the visually impaired to the tills and information. (top left)  
With their tone, Schörghuber HPL-coated acoustic-rated doors stand out from the otherwise light colours. (top right)  
The space in the bottom storey does not have any pillars, but can be divided into up to eight conference rooms with flexible partitions. (below)



## CITYCUBE IN BERLIN

Schörghuber acoustic-rated doors blend into the wall seamlessly. (left)  
Grey unplastered concrete, white plaster and anthracite doors from Schörghuber – the spectrum of colours is straightforward. Some of the chairs feature colourful backs, setting accents in the foyer. (right)





## CITYCUBE IN BERLIN

Anthracite signs attached to the unplastered concrete serve as a guidance system. The doors are fire-rated and smoke-tight doors. (top left)

The colour concept extends into the wet rooms: the anthracite washstands match the room-high tiles. Schörghuber T30/wet room doors complete the room. The cast PU edge is particularly robust and protects the door leaf from the effects of water, solvents and chemicals. (top right)

Schörghuber double-leaf, flush-fitting fire-rated doors with anti-panic touchbar lead to the foyer in the bottom storey. (bottom left)

To provide the visually impaired orientation to the sanitary facilities, the floors feature tactile markings. Here, T30/damp room doors with cast PU edge were used. (bottom right)



**Location:** Messedamm 26, 14055 Berlin, Germany

**Building owner:** Messe Berlin GmbH, Berlin, Germany

**Architect:** CODE UNIQUE Architekten, Dresden, Germany

**Gross floor area:** 43,016 m<sup>2</sup>

**Gross volume:** 321,000 m<sup>3</sup>

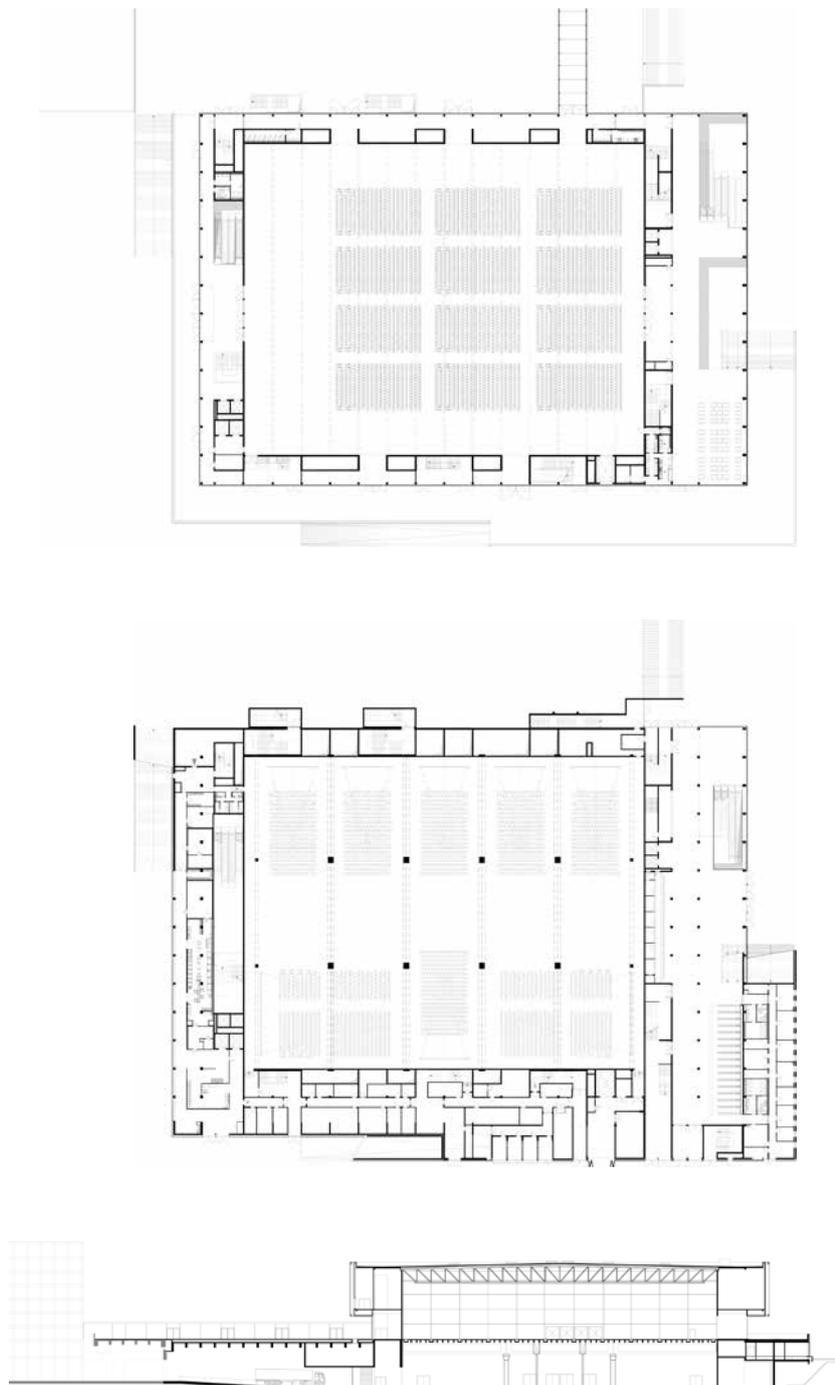
**Costs:** €105 million

**Photos:** Andreas Muhs, Berlin, Germany

**Schörghuber products:** Single and double-leaf fire-rated doors type 3, 16 and 26, fire-rated and acoustic-rated doors  $R_w,P = 42$  dB type 5 and 6, acoustic-rated doors  $R_w,P = 37$  dB type 13 and  $R_w,P = 48$  dB type 50, solid core doors types 3 and 16, version with rebate frame. Solid core and damp room doors type 3, wet room doors and T30/wet room doors with cast PU edge

**Hörmann products:** Steel profile frames, stainless steel frames

Floor plan for level ET02 (top)  
Floor plan for level ZE01 (centre)  
Cross-section (below)





## LWL MUSEUM OF ART AND CULTURE IN MÜNSTER, GERMANY

Over ten years have gone by since planning for the annex building to the former state museum in Münster, Germany, began. The draft is based on plans from Staab Architekten and has been well received by locals. They were asked to express their opinion on the new construction before its opening and assign it marks. The museum reached the top spot among the new buildings in Münster.



## LWL MUSEUM OF ART AND CULTURE IN MÜNSTER, GERMANY

Old and new form both a stylistic and colour contrast. As for its design, the new building takes a step back, but with large window openings and passages it creates visual and physical connections, as shown here in the northern court at the Cathedral Square. (previous page)

The small courtyard at the southern entrance comes to life in the summer with outdoor restaurants. (bottom left)

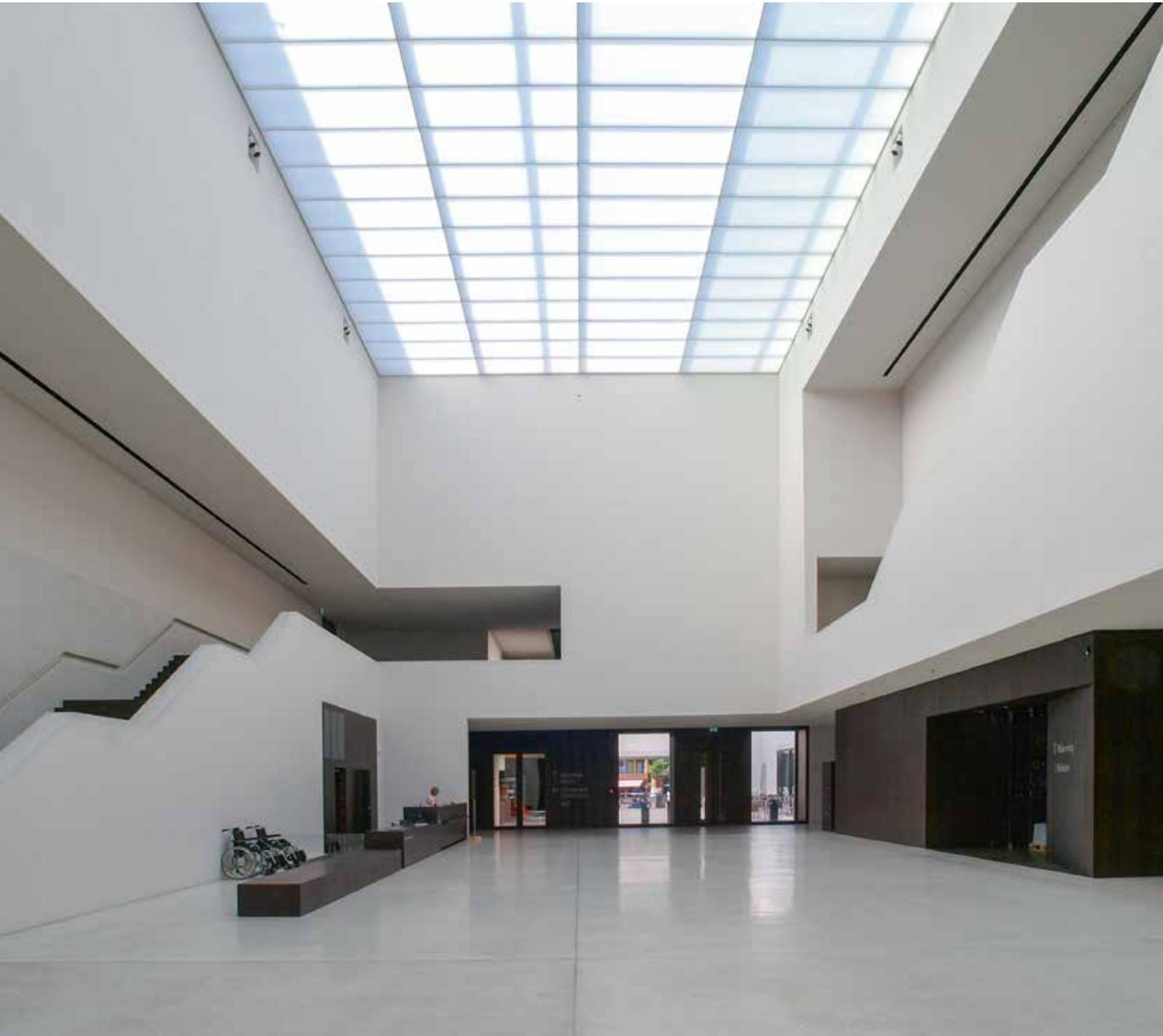
From the courtyard, visitors first reach an elongated patio and then the foyer. (bottom right)

Usually, it's the Cathedral Square surrounded by small, historical houses that earns a town its picturesque reputation. In Münster, it's different: the town does feature historical streets all along the principal market, however, the Cathedral Square lies between more or less impressive post-war constructions. One exception is the State Museum, erected in 1906 in the style of the neo-renaissance. However, this building, too, was expanded in the 1970s. The maintenance costs proved exorbitant, with the area being outdated and no longer usable. In 2005, the Berlin architectural firm Staab Architekten came out on top in a competition with their design that intended for this building section to be demolished. In its place, a new building was constructed that opened up the museum and expanded the exhibition space by roughly 1,800 m<sup>2</sup> to a total of approximately 7,500 m<sup>2</sup>. As for urban planning, the new building fills up the hole resulting from the demolition at the southwest corner of the Cathedral Square. That is, not completely. At the northern entrance to the building, there is an elongated plaza bordering three sides. From there, visitors reach the foyer which leads to the entire building – including the old building. The southern side also features an entrance.

The alignment of the opposing Bible Museum and the Aegidiistraße forms a small courtyard. A patio guides visitors to the foyer. This string of courts features areas accessible to the public such as a café, book store, library and an event area. The exhibit rooms themselves primarily feature strictly orthogonal planning. Their content is linked to a chronology that includes existing structures. Their different proportions result in a varied spatial sequence when walking through the exhibit. Schörghuber doors separate the spaces and offer protection against theft at night as well as fires. During opening hours, the sometimes room-high recessed doors are visually unobtrusive. The museum now features 51 rooms. The exhibition displays artwork ranging from the middle ages to the modern age. The collection includes around 3,000 exhibits. As the museum isn't limited to regional pieces, reconceptualisation saw its name change to "Museum of Art and Culture".

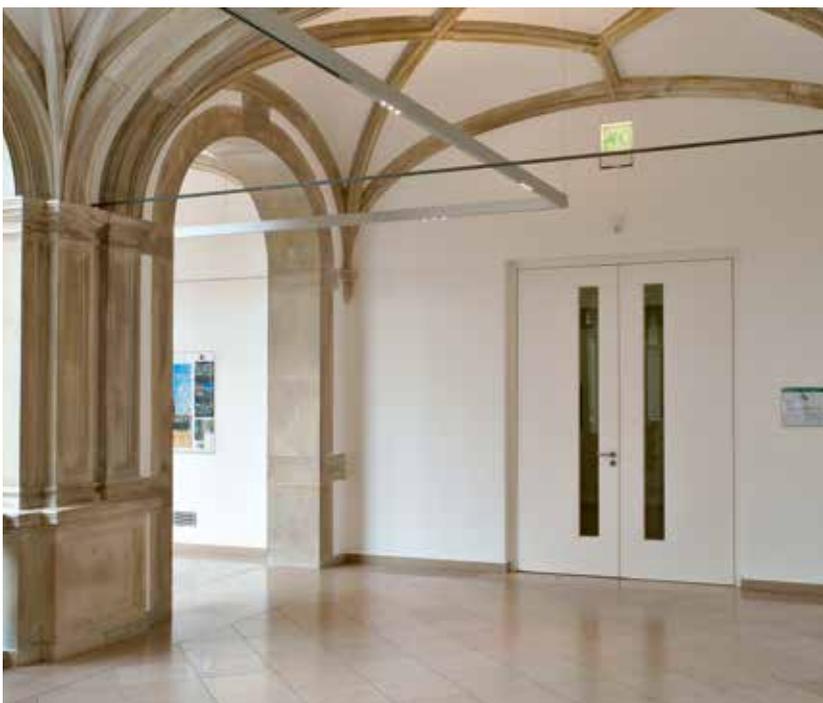


Visitors reach the covered foyer from both the north and south. The space is part of four courts that divide the building. The foyer's galleries offer multifaceted visual connections – both within the building and outside. (below)



## LWL MUSEUM OF ART AND CULTURE IN MÜNSTER, GERMANY

The museum features 51 exhibit rooms with different dimensions and proportions, making for an exciting spatial sequence. The rooms are lit not only by illuminated ceilings. When it fits the topic, spotlights also provide accents. The lighting concept comes from LICHT KUNST LICHT. Artwork: Thomas Ruff – Cassini (2009) © VG Bild-Kunst, Bonn 2015 on the wall and Katinka Bock – Trostpützen (2010) on the floor. (top) Schörghuber break-in-resistant doors secure the archive. (top right) The old building also features Schörghuber doors – here a fire-proof/break-in-resistant door with glazing cut-out. (bottom left) Schörghuber fire-rated doors executed as recessed doors automatically close in the event of a fire. At night, they offer protection against break-ins. (bottom right)



**Location:** Domplatz 10, 48143 Münster, Germany

**Building owner:** Landschaftsverband Westfalen-Lippe (LWL), Münster, Germany

**Architect:** Staab Architekten, Berlin, Germany

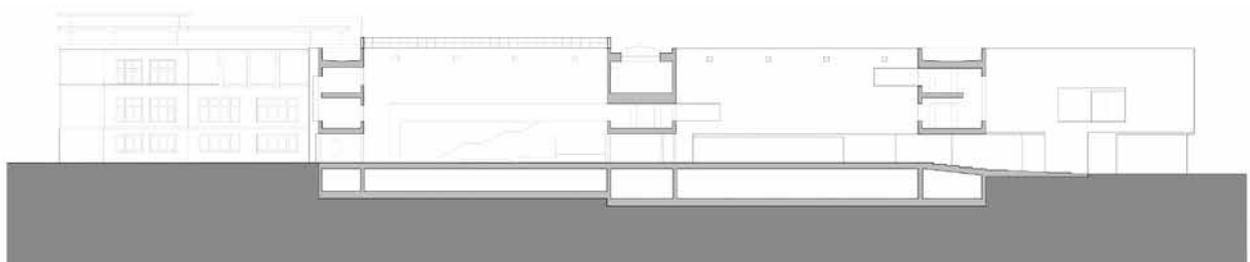
**Photos:** Michael Meschede, Kaufungen, Germany

**Schörghuber products:** Single and double-leaf T30 fire-rated/smoke-tight and break-in-resistant doors RC 2/RC 3 types 16 and 26, sometimes executed as recessed doors. T30 fire-rated/smoke-tight doors type 3,

T90 fire-rated/break-in-resistant doors with glazing cut-out type 24, solid timber rebate frames and rebate frames. Break-in-resistant doors RC 3 type 16 with solid timber rebate frame. Acoustic-rated doors  $R_{w,P} = 32$  dB type 3 and  $R_{w,P} = 37$  dB type 5, solid core doors types 16 and 26, solid core doors type 1

**Hörmann products:** Steel profile frames with edge recess, two-part steel frames for retrofitting

Floor plan of the first floor (top right)  
Floor plan for the ground floor (centre)  
Cross-section (below)





## **LESSINGGYMNASIUM IN BRAUNSCHWEIG, GERMANY**

**When it comes to the educational system in Germany, there is room for improvement. Not only the content, but also the architecture. Many schools have a high renovation backlog. But investments have been made for years. That is, as far as the public purse allows. The Lessinggymnasium in Braunschweig, Germany, which had a seedy reputation due to its dilapidated state, is now seeing the benefits.**



## LESSINGGYMNASIUM IN BRAUNSCHWEIG, GERMANY

The differently sized facade plates make a major contribution to the facade design. (previous page)

The facade is divided by the slightly offset function rooms. They are visible in the facade through oriel windows. In contrast, an external platform emerges from a recess in the cubature. (bottom left)

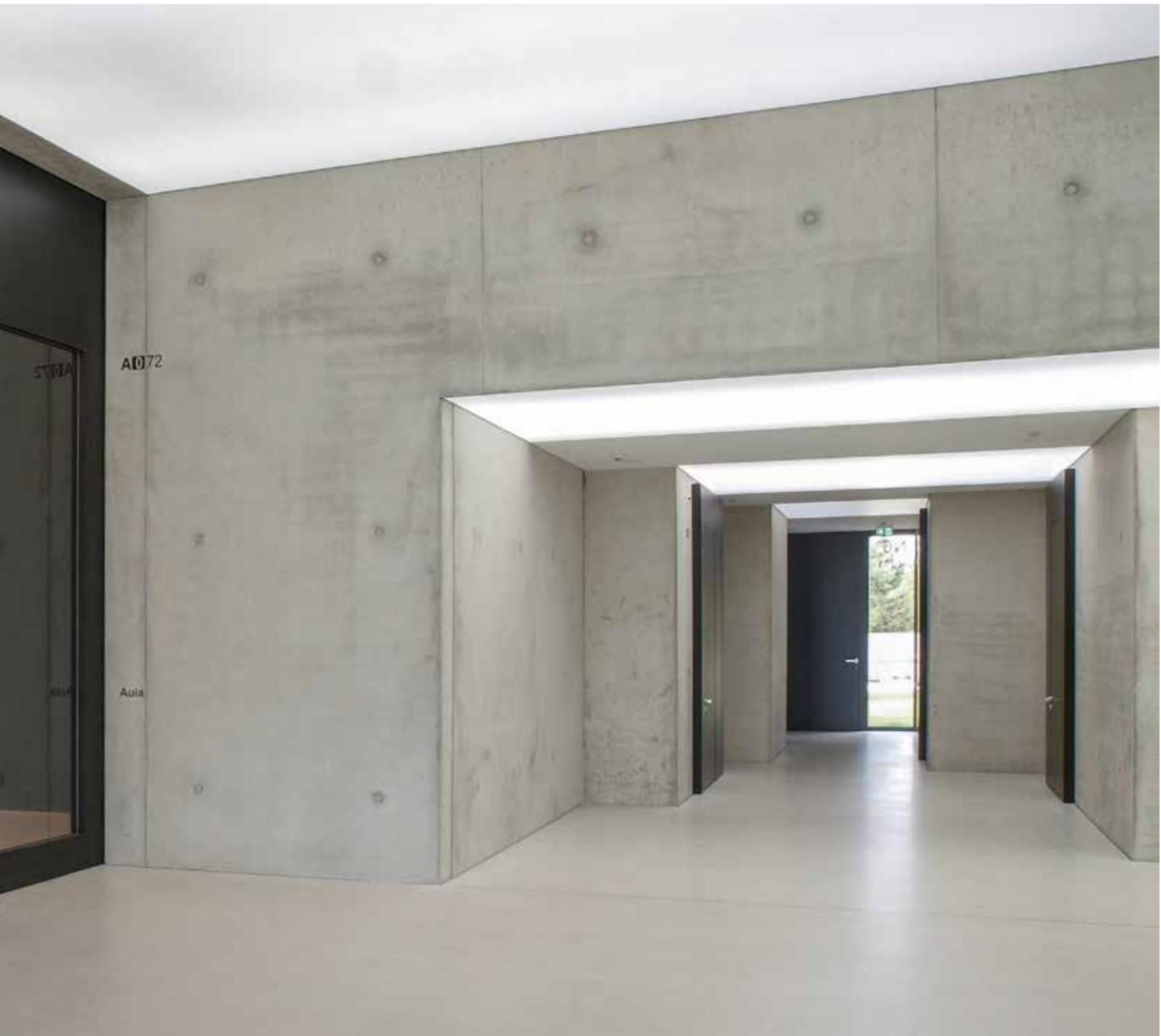
A Schörghuber double-leaf smoke-tight door leads to the auditorium. Combined with a smoke-tight fixed glazing, it provides a first look into the room. (bottom right)

In Germany, reference was made to an “educational catastrophe” as early as in the 1960s. In early 2000, the “PISA shock” reopened old sores. In summary: The discussion isn’t new – the educational system in Germany has its difficulties. The problems are multifaceted. One of them – although not the most important one – is the poor state of the schools. The Lessinggymnasium in Braunschweig was one of them. Water dripped from the ceiling, things were falling apart at every corner, the capacity of the canteen was desperately overloaded. This state attracted the attention of the media and gained the school the reputation as the worst school in Northern Germany. The building from the 1970s has now largely been renovated and expanded at the price of €16.8 million. The showpiece is most definitely the new auditorium, designed by Dohle+Lohse Architekten. Its construction cost a total of €4.7 million. It stands alone next to the existing building, connected via a glass hall. It is clad with grey, polished fibre cement boards of different sizes. The architects capture the concept of the grid facade on the older building, but give the exterior of the auditorium a new dynamic. The spatial arrangement

also has an effect on the facade: the rooms are slightly offset. As a result, corners and edges, niches and oriels create or interrupt the visual connections. The architects counter this visual ‘unrest’ with reserved, modest materials. Extensive light membrane ceilings additionally lend the room a calming touch. Unlike in the conference room. Here, the architects play with lines of light and alternating direct and indirect lighting. Schörghuber doors also play a special role in the design concept: they are sometimes set in front of the actual openings as pure, solid slabs of wood, staging the passage from one room to another. A door can be especially large and heavy, or purposely kept small or hidden as a type of “jib door”. The rooms themselves can serve flexible functions, “allowing many areas of the building to be used as islands for informal exchange, spontaneous action, and personal expression,” the architects explain. After all, the event room itself accommodates around 350 people.



Inside, the slightly offset rooms leave their mark: due to the projections and recesses as well as the lighting, the architects call the hall from the foyer to the lavatories a “canyon of light and space”. Schörghuber doors set accents on the unplastered concrete. (below)



## LESSINGGYMNASIUM IN BRAUNSCHWEIG, GERMANY

The room accommodates around 350 people. Seating, Schörghuber doors and curtains feature matching colours. The room's reserved layout comes to life with a linear ceiling design as well as a mix of direct and indirect lighting. (top)

The colour of the Schörghuber fire-rated and smoke-tight door is reflected in the tiles in the wet area. (bottom left)

Some of the doors stand out from the concrete wall not only in terms of their colour. They are designed as surface-mounted wall panels. (bottom centre)

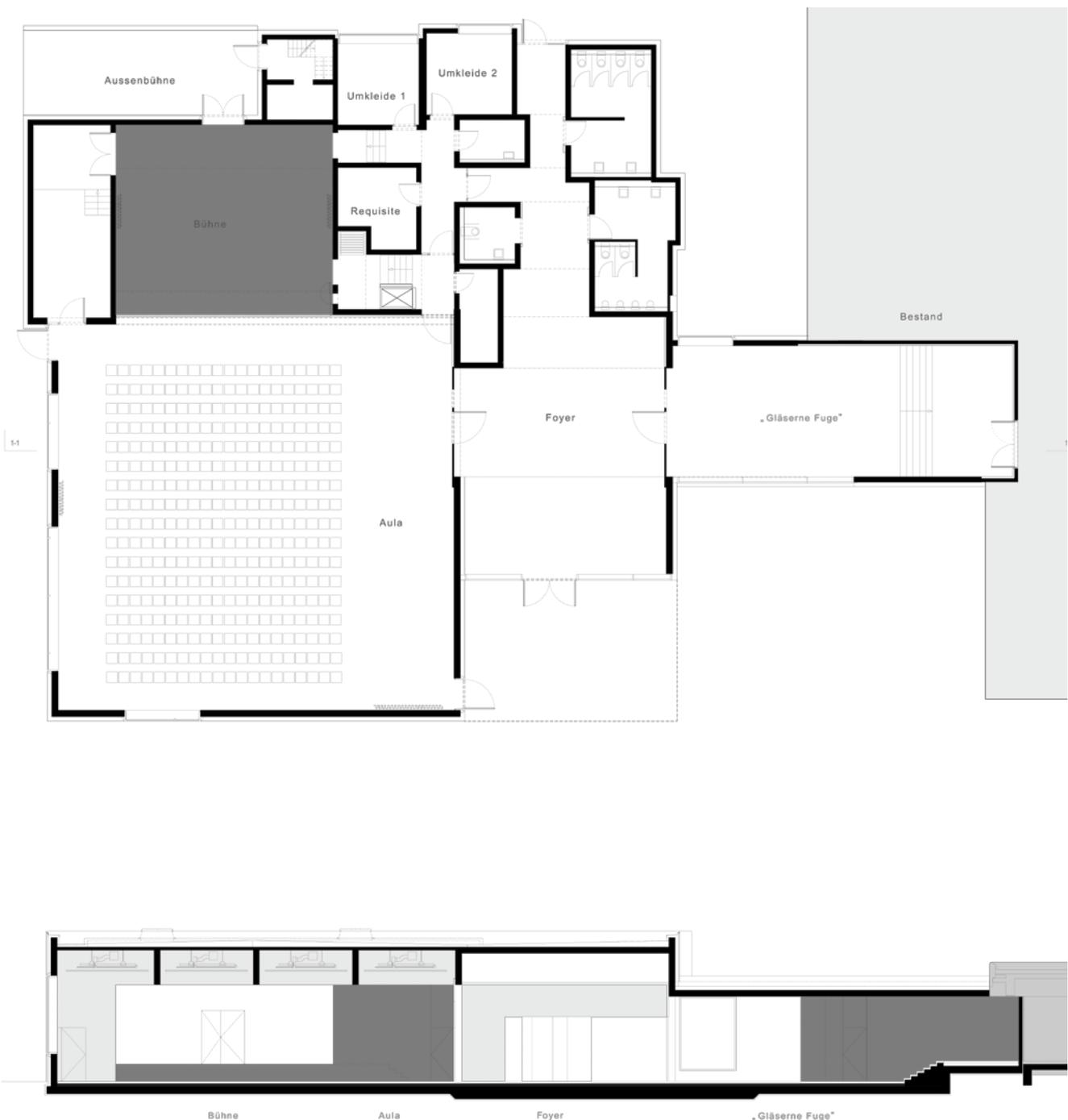
The door to the backstage area is a room-high Schörghuber fire-rated and smoke-tight door. (bottom right)



**Location:** Heideblick 20, 38110 Braunschweig, Germany  
**Building owner:** City of Braunschweig, area of building construction and management, Germany  
**Architect:** Dohle+Lohse Architekten, Braunschweig, Germany  
**Landscape architect:** Andreas Schmolke, Meine, Germany  
**Completion:** 2015  
**Photos:** Michael Meschede, Kaufungen, Germany

**Schörghuber products:** Single-leaf fire-rated and smoke-tight doors type 16, solid core doors type 16, acoustic-rated doors type 5, version with rebate frame, in some cases with extra-wide vertical and horizontal frame parts. Double-leaf smoke-tight doors type 26 with solid timber rebate frame, combined with smoke-tight fixed glazing type 25V, additional panels as top/side element

Floor plan (above)  
Cross-section (below)



## EXPERTISE: ACCESSIBILITY

**Barrier-free planning is one thing. But using architecture from the point of view of a person with a disability is another. Engineer Michael Müller is an expert in barrier-free construction and assistant professor at the Darmstadt University of Applied Sciences. For PORTAL, he visited the three German buildings presented in this issue and analysed them pragmatically from the point of view of people with disabilities.**

**Doors – labels – orientation:** The LESSINGGYMNASIUM features ultra-efficient overhead door closers. They are easier to operate. In the LWL MUSEUM, the toilets don't feature door closers at all. In the CITYCUBE, magnetic door stops are in use. This prevents tripping hazards. DIN 18040-1 requires door handles at a height of 85 centimetres. Most building regulations have overridden this regulation. The CITYCUBE, however, has stuck to it in its disabled toilets – a friendly gesture to users in wheelchairs. Information should also be readily accessible without barriers. The LWL MUSEUM is a shining example. It features large contrasting fonts and arrows. The room numbers are clearly visible on the floor. Object labels are written on the walls at low heights and in letters at least 2 centimetres high. The explanatory texts for the exhibition sections are about twice as high. The CITYCUBE also enables information transfer. Thanks to a guidance system, entrances, information desks, important connecting elements and the toilets are easy to locate. Pictograms, arrows and texts are high-contrast, arranged above the doors and feature steles. An orientation system for blind people provides guidance into the building from outside with concrete guide plates. Inside, there are individually laid stainless steel

indicators with plastic inlay. They provide a good visual contrast to most of the flooring. Moving a white cane over them generates an audible impact noise.

**Toilets:** DIN 18040-1 requires a barrier-free toilet in every sanitary facility – the Technical Building Requirements often only require a barrier-free lavatory. In the LWL MUSEUM, the importance of short paths was clear. Every storey features a handicapped lavatory – and the CITYCUBE even has several. The right toilet seat and grab handle height is crucial to the user-friendliness of an accessible toilet. In line with the standard, hinged grab bars are attached 28 centimetres above the toilet seat, which should be located at a height of 46–48 centimetres. The foyer toilet at the LWL MUSEUM features a height-adjustable toilet – the perfect choice for every user. And, like at the LESSINGGYMNASIUM, urinals in two different heights are available. In the school, the valve on the washbasin also opens automatically based on a timer. This hygienic rinsing guards against the contamination of seldom used fresh water lines. At the same time, it prevents the drainage from drying up and therefore odour nuisance. Emergency call buttons were chosen instead of the standard



In the LWL Museum of Art and Culture in Münster, the toilets are height-adjustable. (previous page, left)

At the LWL Museum of Art and Culture, it is also obvious that the fonts are large enough and at a height appropriate for people in wheelchairs. (previous page, right)

The height difference to the stage in the Braunschweig auditorium is bridged by a lift system. (left)

Floor indicators help guide people with visual impairments – as is the case here at the CityCube in Berlin. (bottom right)

Author: Dipl.-Ing. Michael Müller. (top right)



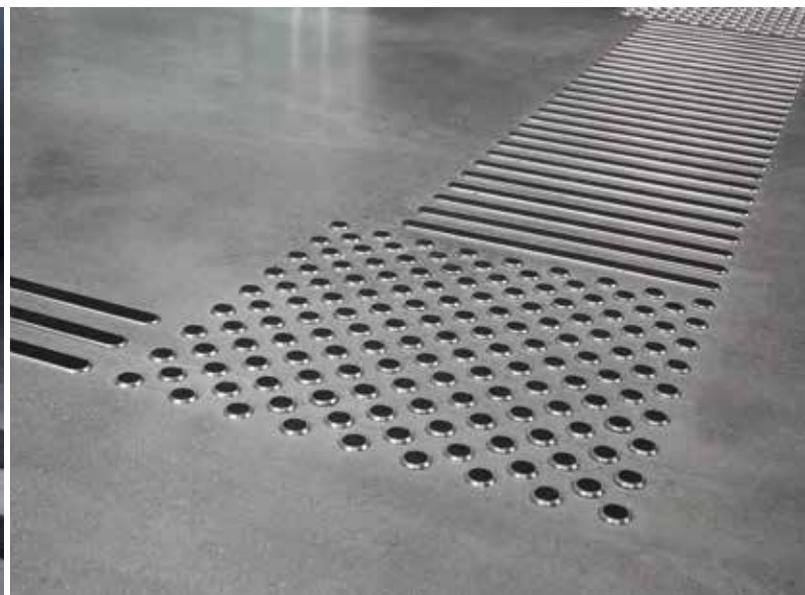
Photo: Barbara Diestelmann

emergency pullstrings. The reason is simple: Pullstrings are an annoyance when cleaning, get tied up and often no longer fulfil their purpose. Good: Both the CITYCUBE and the LWL MUSEUM feature baby change units. Larger changing benches would have been an even better solution. This would allow even adults receiving stoma care or with multiple handicaps to use the toilet. For more information, see [www.toilette-fuer-alle.de](http://www.toilette-fuer-alle.de) (currently only in German).

**Main uses:** In the LESSINGGYMNASIUM, the auditorium is also accessible to wheelchair users. Internal and external platforms are connected via a lift system in accordance with the Machinery Directive. In the audience area, variable seating allows spaces to be created for wheelchair users all over. In a museum, the exhibits must be easy to access. In the LWL MUSEUM in Münster, special attention was given to ensure that objects can either be wheeled under or are at least readily approachable. The exhibits can also be viewed from a lower position. The foyer and lecture hall are equipped with induction systems. This technology

assists hearing aid and cochlear implant users in perceiving acoustic information. In addition, guides are available to people with impaired hearing and vision, mental handicaps and dementia patients.

**In summary:** Accessibility has successfully found its way into building culture. However, measures are often developed selectively and not always as part of utilisation chains. An accessible toilet alone is not enough. It has to be easy to locate and reach. But not only wheelchair users and people with difficulty walking need accessibility. People with sensory disabilities also rely on it – and there is a lot of work to be done here when it comes to contrasting designs, staircase safety or labelling of large glass surfaces. Barrier-free fire protection is also too frequently neglected. The examples from Berlin, Münster and Braunschweig show, however, that accessibility can be a sophisticated part of architecture. This works especially well if self-help representatives are involved in planning early on and on an equal footing.



## Hörmann contributes to new directive for barrier-free doors

When it comes to planning public buildings, avoiding structural barriers and thereby enabling access to the building to different user groups plays a major role. For architects and planners, this means taking a number of requirements into consideration. In the VDI 6008 "Barrier-free buildings" series of directives, the Verein Deutscher Ingenieure (VDI – Association of German Engineers) publishes information on the topic of accessibility and gives detailed planning tips for structural implementation. It is primarily intended for architects and engineers with the aim of supplementing existing standards on barrier-free construction and points out different options for preventing, removing or reducing

barriers. In 2005, the VDI issued its first sheet on the topic of accessibility. After revision, this series of directives will include seven sheets each suggesting requirements and solutions for barrier-free buildings. Sheet 5, "Doors and gates" will cover the general requirements for doors and gates, meaning their construction, geometries, automation and functionality. Concrete recommendations for products depending on different user groups as well as an inspection list for different fitting situations will also be included. The guideline draft for sheet 5 is expected to be published in late 2015. The respective sheets are planned and drafted by a directive committee consisting of voluntary and independent members. The VDI also relies on the expertise of the manufacturers of the respective products. Jörg Egener of Hörmann is involved in the preparation of sheet 5. As the head of Hörmann's Architecture Consultation department, he works closely with architects and planners, providing them with support in planning and realising their construction projects. To take advantage of his practical knowledge in creating the "Doors and gates" sheet, the VDI appointed him to the guideline committee.

## Investment into Hörmann fire-rated doors – one of the most modern production systems in Europe

Virtually every public building in Europe has to meet legally regulated requirements for fire protection. However, in other EU countries deviating national regulations have applied up to now. A guideline uniform across Europe, the harmonised product standard EN 16034 "Pedestrian doorsets, industrial, commercial, garage doors and openable windows – Fire resistance and / or smoke control characteristics", will therefore replace the national regulations in the years to come. From 1 December 2015, the previous national markings can continue to be used for the next three years. After that, the CE mark will be the only recognised marking system. Hörmann has already switched the production of steel fire-rated and smoke-tight doors to the product family of OD doors, which are no longer welded but instead feature a fully bonded door leaf composite construction. This increases both stability and mechanical strength and ensures a long service life. In addition, the bonding keeps the surface flush – which, on request, is available with a high-quality primer coating in virtually all RAL and special colours. The comprehensive portfolio also includes foil-coated doors in different timber designs. Add to that proven



Photo: Hörmann



Photo: Silke Steinrath PHOTOgraphy

### **2014 Architects Partner Award – Hörmann wins gold once again**

As last year, in 2014 door manufacturer Hörmann has once again received the Architects Partner Award in gold in the category “doors / gates”. The winners were chosen from 1251 German architects and interior designers in December 2014 based on a representative market survey by the architecture trade magazines AIT and xia intelligente architektur. The survey was unprompted, meaning the architects did not choose from provided options for answers, but rather were able to name their own favourite brands. Jörg Egner, Head of Architecture Consultation, accepted the award on behalf of Hörmann.

“We are very proud that we have once again been selected as the partner with the best sales expertise. The Architects Partner Award offers us an objective, neutral assessment of our performance, allowing us to see where we stand every year. Nonetheless, we always try to improve our collaboration with architects. The new version of our Architects' Programme is a prime example. After just two months, we already had 2,000 orders and downloads.”

versions as thin or thick rebate doors as well as a new flush closing variant. The product family of OD steel doors also meets high visual standards. The completely new production method for manufacturing the OD steel doors has led to a conversion of the previous production systems at the Freisen factory in Germany. For this reason, construction on an approximately 7,000 square metre annex building was begun in October 2010 to house the production system along with a warehouse and a logistics area. They have now been in operation for one year. The new production hall for OD doors is already among the most modern production systems for steel doors in Europe, which will be expanded once more in the near future. One of the former production lines is expected to be replaced from October 2015 by a second OD production line to be able to meet the growing demand for high-quality steel doors with Europe-wide certification. The factory expects to commission the next OD line from January 2017.



Photo: Hörmann

## Schörghuber develops "SmartDoor"

In Hamburg, Germany, the smartest building in the world is currently being built on the Outer Alster. The founder of online network Xing, Lars Hinrichs, is working with renowned partners from the construction and technology industry to realise the "Apartmentum". For the apartment entrance doors, Schörghuber is collaborating exclusively with young technology company 1aim to design the "SmartDoor". The basic idea of the Apartmentum is a universally "smart home". Not only are individual components linked intelligently, but all mechanical and technological options will also be 'smart'. Intended as temporary housing for top managers and expatriates, the Apartmentum aims to combine the advantages of

hotel, freehold flat, rental flat and boarding house concepts. Where components such as surveillance cameras, nameplates, bells and intercoms used to be installed next to the door, the Schörghuber SmartDoor joins these and many additional intelligent functions in the door leaf: flush-fitting safety glass technology panels line the entire length of the door. They are integrated into the 27 Schörghuber timber entrance doors and wired accordingly within the leaf. To realise this design, the development departments at Schörghuber and 1aim worked in close collaboration over a longer period of time to exclusively implement their first joint project. To open the door, the smartphone and SmartDoor communicate via NFC, RFID, LightAccess or Bluetooth. With the latter, you can open the door

without even having to remove your phone from your pocket. When ringing a doorbell, the visitor is immediately shown on the user's smartphone via video. Speakers and a microphone allow the user to communicate with the visitor. In the event of shaking or other possible indications of a break-in, an alarm is also triggered on the smartphone. Everything taking place in front of the door is thus made clear. What happens behind the door in the apartment, however, remains private. For this purpose, the door and technology panel were tested specifically by the PfB in Rosenheim for acoustic insulation with regard to SD42 requirements. In addition, the Schörghuber SmartDoor ensures safety in the event of a possible fire or uninvited guests: fire-retarding, smoke-tight and break-in-resistant equipment give renters a feeling of security. As standard, the SmartDoor is supplied painted in white on the interior and matt black on the exterior. The door colour and size can be also customised on request. The doors are flush-closing and form a flush-fitting unit with the frame. The concealed hinges are designed especially for the SmartDoor to enable integrated cable routing, even with a desired frame face width of 55 millimetres.

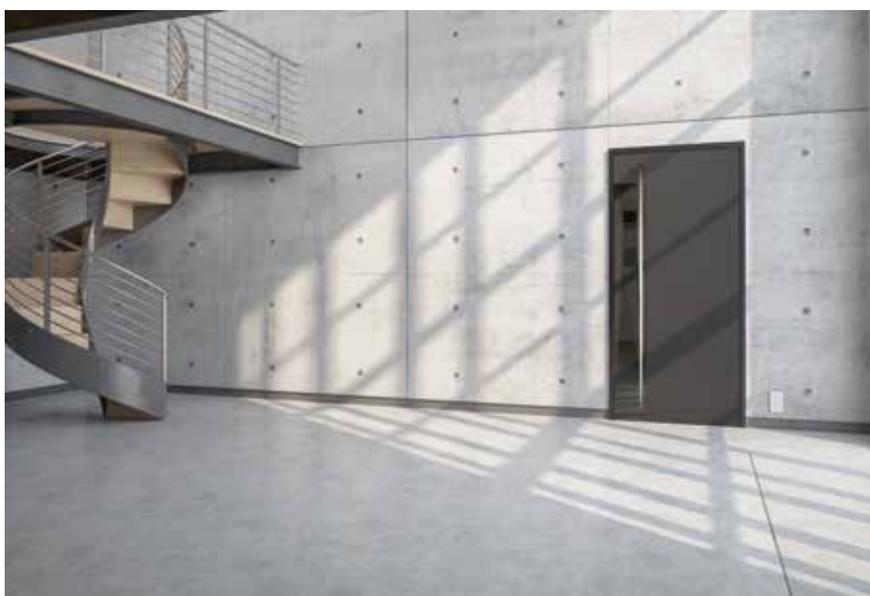


Photo: 1aim



Photo: Silke Steinrath PHOTOgraphy

### **2014 Architects Partner Award – Schörghuber with its best placement to date in silver**

Special door manufacturer Schörghuber was presented with the 2014 Architects Partner Award in silver for top sales expertise in the category of “Doors and gates”, its best placement to date. Architecture trade magazines AIT and xia intelligente architektur chose the winners from 1251 German architects and interior designers in December 2014 based on a representative market survey. The surveyed architects named their favourites without having any options to choose from. Simone Sklaschus, Head of Sales in Germany, accepted the award on behalf of Schörghuber: “In recent years, we

have invested heavily in optimising our consultation for architects even further. Throughout Germany, we have twelve field representatives available to architects on-site, and we have developed a new tender specification software to give architects even easier access to Schörghuber products.”

### **Schörghuber expands production area**

Schörghuber expands its production area at the Ampfing location by 17,000 square metres. The new “Halle 4” is intended to allow the company to reorganise its constantly growing production and optimise its production processes in the future. “Our production has grown historically over the past twenty years. Based on the company’s positive development, we would like to tighten our structure and focus ourselves on the future,” says Managing Director Jürgen Ruppel. This means that production, storage and shipping will be rearranged in four halls, allowing for optimised processes and delivery times. With the new hall, door leaf production will be located in one area, while frame production and logistics will each have their own hall. In addition, investments are being made into new, state-of-the-art machinery to stay future-proof in terms of technology.



Photo: Schörghuber

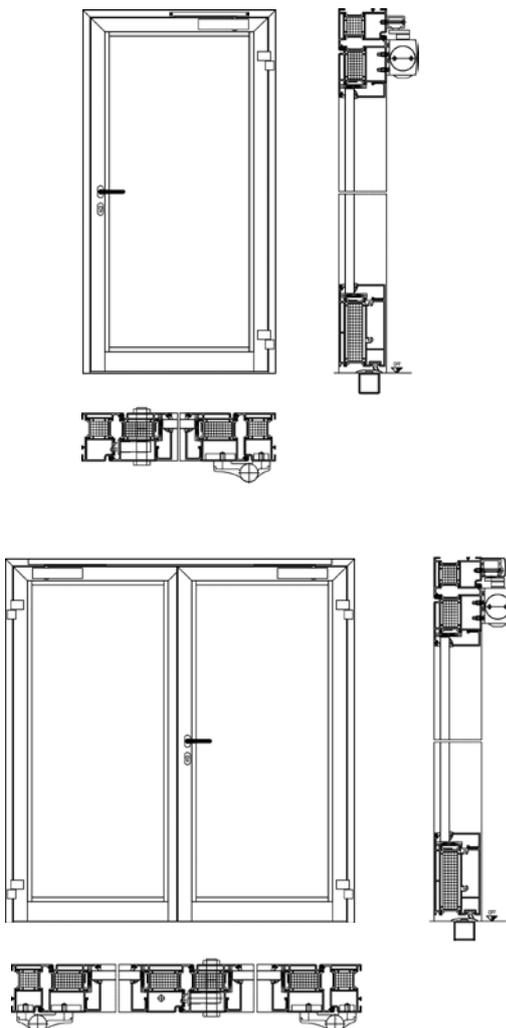
# HÖRMANN IN DETAIL

## T30 ALUMINIUM FIRE-RATED DOOR

### SINGLE AND DOUBLE-LEAF EXTERNAL DOOR

**Model:** T30 aluminium fire-rated door for use in exterior walls with general official approval **Version:** Single-leaf and double-leaf, optionally with side elements and / or transom light **Profile system:** Aluminium **Door leaf thickness:** 80 mm **Depth:** 80 mm **Max. size:** Single-leaf RAM 1300 × 2500 mm, double-leaf RAM 2600 × 2500 mm **Fitting to:** Brickwork, concrete, gas concrete **Fitting:** Screw fixing, plug-and-screw fitting **Use in:** Exterior walls **Requirements:** T30/EI2 30 **Optional additional requirements:** RC 2/3 equipment, escape door, accessibility, acoustic insulation, thermal insulation, airtightness, resistance to wind, water tightness **Additional equipment:** Fire protection panels, rails **Surface finish:** Painted, anodised **Additional models:** T30/F30; T60/F60; T90/F90 aluminium fire-rated and smoke-tight elements for interior use **Operator handling:** Door operators with release device

**Areas of application:** The T30 aluminium fire-rated door is one of just a few doors on the market that have a general official approval for use in exterior walls. The doors tested by the DIBt are available in single-leaf and double-leaf versions with side element and / or transom light. Hörmann aluminium fire protection tubular frame constructions match regardless of whether for interior or exterior use and therefore enable a harmonious look.

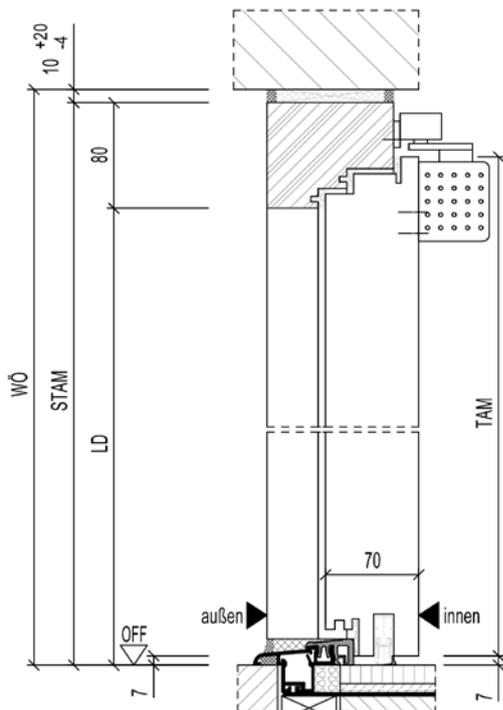


Photos: Hörmann

# SCHÖRGHUBER IN DETAIL T30 TIMBER EXTERNAL DOOR

**Product:** Schörghuber external door type 35N-A **Door thickness:** 70 mm  
**Fitting to:** Brickwork, gas concrete, gas concrete slabs **Frame:** Solid timber block frame **Properties:** Wind load B4, water-tightness under heavy rain 3A, air permeability 3, differential climate behaviour 3 (c)/3 (d)/2 (e), duty category E (4) **Functions:** Fire protection T30 with approval no. Z-6.21-2196, acoustic insulation  $R_{w,P} = 32 \text{ dB}, 37 \text{ dB}, 42 \text{ dB}$ , break-in resistance RC 2, RC 3, VT-Objekt **Nominal size:** Width max. 1500 mm × height max. 2375 mm  
**Versions:** Single-leaf, with double rebate, optionally with glazing cut-out. Accessible depending on equipment. On request, version with top panel, side element, smoke protection

**Areas of application:** Schörghuber external door type 35N-A is suitable for use in covered and uncovered entrances, open vestibules, open shopping arcades or open multi-storey car parks. The external door can be supplied with T30 approval. The version in T30 is required if, for example, a neighbouring building is too close or escape routes are too long and require an exterior wall opening. The external door offers a variety of design possibilities with regard to surface finishes and fitting variants and can also be equipped with a wide range of accessories. In addition to this external door, the Schörghuber programme also features additional external elements such as F30/F90 fixed glazings or hinged door versions.



Photos: Andreas Muhs

## RECENTLY IN ... BILBAO

### **Bilbao is more than just Guggenheim.**

#### **What else can we discover there?**

Bilbao is a former industrial city that has transformed into a successful service metropolis. Today, it is a clean city filled with buildings designed by renowned architects from all over the world. Without knowing what Bilbao looked like 25 years ago, you can't begin to understand what has been achieved here. In addition to the new showpiece Abandoibarra area with the Guggenheim Museum (shown left), it also boasts a new town and a renovated old town.

#### **Would you categorise Bilbao as a barrier-free city?**

Given the topography – Bilbao is located in the Nervion valley with sometimes steep hillsides – as well as the fragmented growth of the city due to its industrial history, at least the centre has seen considerable achievements. Make no mistake, there is still work to be done at the hillsides.

#### **What's your favourite building?**

My favourite building is the metro by Norman Foster (shown right). His design leaves no question unanswered. No other building in Bilbao brings the motto "reduce to the max" to life

quite like this one. This rethinking of an architectural typology – which has now become the model for metro stations across the world – is ground-breaking. Accessibility is achieved with lifts that connect the platforms via an intermediate level. Add to that simple orientation with colour coding and floor textures.

#### **Where do you go when you need to get away from hectic everyday life?**

The metropolitan area of Greater Bilbao is located by the sea. There are promenades in Getxo and Alcorta as well as nearby towns such as Larrabasterra or Plentzia. You can also escape the city to a green hill via funicular. The city itself features the beautiful Parque de Doña Maria Casilda. The exhibits at the Guggenheim also help me unwind.

#### **Where can one find works of young, aspiring artists?**

Bilbao has again and again distinguished itself as a design metropolis, recently as one of the finalists for the "Work Design Capital 2014" award. In the lesser developed "underprivileged neighbourhoods" of San Francisco and Bilbao La Vieja, young artists have a lot of creative freedom.



Photo: GA BILBAO



Photo: Aitor Aguirregabiria, Flickr CC BY-NC-ND 2.0

**Architect: Bernd Gunnar Nitsch**

Born in Erlangen in 1973. He began his degree in architecture at the University of Kaiserslautern, but then switched to the Karlsruhe University of Applied Sciences. While studying, he decided to move to Spain, where he took classes at the Escuela tecnica superior de arquitectura and the Escuela de Bellas Artes in Sevilla. Freelancing for different architectural firms, he later gained a foothold in Bilbao. In addition to his regular services, Bernd Gunnar Nitsch has offered guided architecture tours since 2006. He is a member of the Guiding Architects Network.

[www.ga-bilbao.com](http://www.ga-bilbao.com)

**What is Bilbao's most innovative cultural event?**

Compared to "classically beautiful" cities like San Sebastian and Pamplona, Bilbao's allure lies in its savageness and its special history. A sometimes sympathetic, and sometimes completely excessive pride in the city prevails here, but also yields innovative events. For me, this manifests itself during the Great Week Aste Nagusia festival, for example. Different festival societies (comparsas) build an entire city made up of numerous temporary stands (txosnas), providing a location for agreeably anarchist-like parties. In the classical sense, the Short Film Festival or the Festival of Theatre and Contemporary Dance (BAD) also deserve mention.

**How does the city inspire your work?**

As an architect who dedicates himself to not only his projects but also to conveying architecture in the form of professional tours, the development of the city against the backdrop of its history characterised by industry continually inspires me – creativity, self-assertion and powerful vision have brought an entire region to life in an impressive way. This only works if politicians at different levels work together and use their "manpower" pursuing the same goal. To my



Photo: GA BILBAO

knowledge, the interaction of policy-makers and setting aside of individual interests in the service of a common goal have been more successful than anywhere else in the world. The architecture – with the marketable Guggenheim Museum – is a building block.

**How will Bilbao develop in the future?**

Along the river, Bilbao's city centre will be connected to the sea with approximately 10 kilometres of bicycling paths and green promenades. However, this is going to take a few years – the real estate and financial crisis has unfortunately put the brakes on these plans. The former industrial areas along the river will feature new living quarters and workplaces. I hope that people learn from their mistakes and decide to keep the the historical industrial buildings that have not yet been destroyed and cleared away and to use them intelligently for the new cityscape. For the new buildings emerging, I would like to see a stronger influence of competent architects and less influence of purely profit-oriented interests.



Spreewald Thermenhotel

**Unbelievably versatile:  
Automatic sliding door systems**

- Perfect combination of transparency and function for a bright, open design
- NEW: Combination solutions for escape and rescue routes with fire protection or safety requirements
- Complete programme: Accessibility, T30 fire/smoke protection, escape route, personal safety and thermal insulation



**HÖRMANN**  
Doors for Home and Industry



## ARCHITECTURE AND ART THEUN GOVERS



UNTITLED – 2014 Acrylics and high gloss on multiplex wood 63×53 cm, 63×45 cm, 63×51 cm

Giotto, Hokusai, Gustav Klimt and Rachel Whiteread – the references to other artists in the young Dutch painter Theun Govers' work are a many. His style, though, is clear, individualistic and unconventional. Based on his personal spatial logic, he creates abandoned rooms that often leave behind a gloomy feeling – far from reality. He develops downright forbidding atmospheres that the observer cannot escape. Govers' spaces primarily consist of distinct geometric forms: lines, surfaces, grids and their perspectives, often thrown off balance, create an initially confusing, curiously architectonic pattern the observer is involuntarily sucked into. The rest is mostly empty space – sometimes featuring an everyday object, like a bed for example. Govers achieves his pulling effect

with the material that he chooses as a basis for his art, among other things: he paints exclusively on wood. This gives him the opportunity to give his works a three-dimensional element by grinding or adding and removing layers. In addition, Govers occasionally dismantles his images to then reassemble them, creating a new work based on them. But Govers does not stop there: in many of his images, he makes reference to existing works of art or artists. One image references Gustav Klimt's "The Kiss". Another image shows Van Gogh's abandoned studio – a claustrophobic emptiness created in a minimalist way. Geometry, material, layers, references – and the observers themselves – these are the coordinates Govers' works use to draw excitement.

**Artist: Theun Govers**

Born in Eindhoven, Netherlands, in 1976.

First studied art history at the University of Groningen from 1996 to 1998. But he soon realised he was more allured by experience than theory, so he switched to the fine arts at the Royal Academy of Arts in Den Haag where he studied from 2005 to 2010. Shortly after graduating, he showed his work in his native land of Holland. Ever since then, his works can be seen in Switzerland and Germany, as well. Theun Govers lives and works in Den Haag.

Galerie Jochen Hempel, Lindenstraße 35, 10969 Berlin, DE  
[www.jochenhempel.com](http://www.jochenhempel.com)



UNTITLED – 2015 Acrylics and high gloss on multiplex wood 31 × 18 cm (x2)

## PREVIEW

Topic of the next issue of PORTAL:

### Rescue

Becoming a firefighter – this was certainly the dream of many architects growing up, who later decided to dedicate themselves to designing buildings. Happy is the man who was contracted by the fire station and therefore able to secretly follow his childhood dreams. But rescuing is not the task of the fire brigade alone. Emergency doctors save lives, mountain rescuers save those meeting with accidents from impassable terrains, sea rescuers assist castaways. A major part of their work involves waiting in their buildings for emergencies. In the next issue of PORTAL, read about how architecture effects the profession of rescuers.



Photo: © seen\_by\_streb/iStockphoto

# HÖRMANN AND SCHÖRGHUBER IN DIALOGUE

## Constructing with Hörmann or Schörghuber: Your project in PORTAL

Every four months PORTAL gives updates on current architecture and the conditions in which it is created. If you would like us to present your work, please send us information on a project you have completed that featured Hörmann or Schörghuber products by e-mail in the form of a brief documentation with plans and informative photos at:

Hörmann KG Verkaufsgesellschaft  
Verena Lambers  
v.lambers.vkg@hoermann.de

Schörghuber Spezialtüren KG  
Reinhold Fellner  
Reinhold.Fellner@schoerghuber.de

## IMPRINT

### EDITOR

Hörmann KG Verkaufsgesellschaft  
P.O. Box 1261  
DE-33792 Steinhagen  
Upheider Weg 94-98  
DE-33803 Steinhagen  
Telephone: +49 5204 915-167  
Fax: +49 5204 915-341  
Internet: www.hoermann.com

Schörghuber Spezialtüren KG  
P.O. Box 1323  
DE-84536 Ampfing  
Neuhaus 3  
DE-84539 Ampfing  
Telephone: +49 8636 503-0  
Fax: +49 8636 503-811  
Internet: www.schoerghuber.de

### EDITORS

Lisa Modest, Verena Lambers (Hörmann KG)

Architect's Mind GmbH  
Stuttgart, Deutschland  
www.architectsmind.de

Dr. Dietmar Danner  
Daniel Najock  
Christina Dragoi

### PRINTING

Druck & Medienhaus  
Hans Gieselmann GmbH & Co. KG  
Ackerstraße 54  
DE-33649 Bielefeld

This journal and all the articles and illustrations contained therein are protected by copyright. The publishing house and its editors do not assume any responsibility for unsolicited photographs and manuscripts. Address data processing is handled by Heinze GmbH for Hörmann KG. Printed in Germany – Imprimé en Allemagne



Door operator PortaMatic



Door operator HDO 200

## NEW: Door Operators PortaMatic and HDO 200

- Operator PortaMatic for convenient, barrier-free residences
- Operator HDO 200 for barrier-free, hygienic passages in public buildings
- A wide variety of radio control elements with innovative BiSecur technology (optional for HDO 200)



BiSecur

**HÖRMANN**  
Doors for Home and Industry



- » Smartphone detection
- » Remote opening via smartphone
- » Video monitoring
- » Ultra-secure authentication

A smart future today!



TECHNICAL PARTNERSHIP

# The Schörghuber SmartDoor.

## Innovation meets design

The Schörghuber SmartDoor – the most intelligent door in the world that can be opened and controlled using a smartphone.

- » The door can be opened via Bluetooth LE, NFC, RFID or the new “Lightpass”.
- » Access rights can be sent, blocked or modified online.
- » Integrated camera and concealed microphone enable communication via smartphone.
- » IP technology permits future-proof connection of additional smart home devices.
- » The SmartDoor can be equipped with fire / smoke protection, acoustic insulation and burglar-proof functions.

Contact us – we would be glad to advise you.



**Schörghuber**  
Special doors