

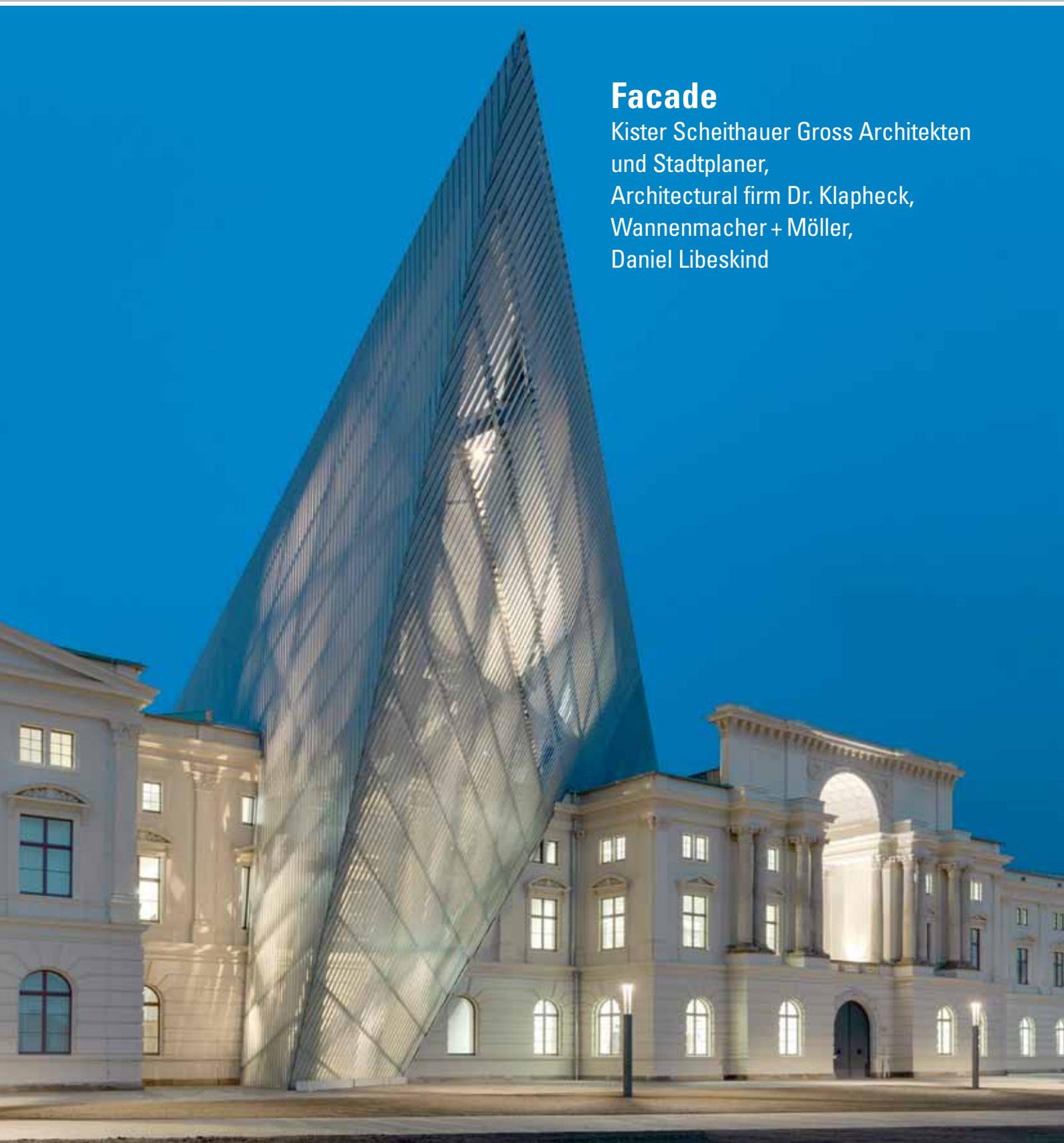
**HÖRMANN**

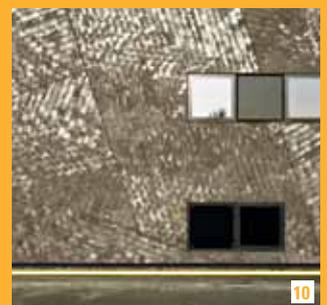
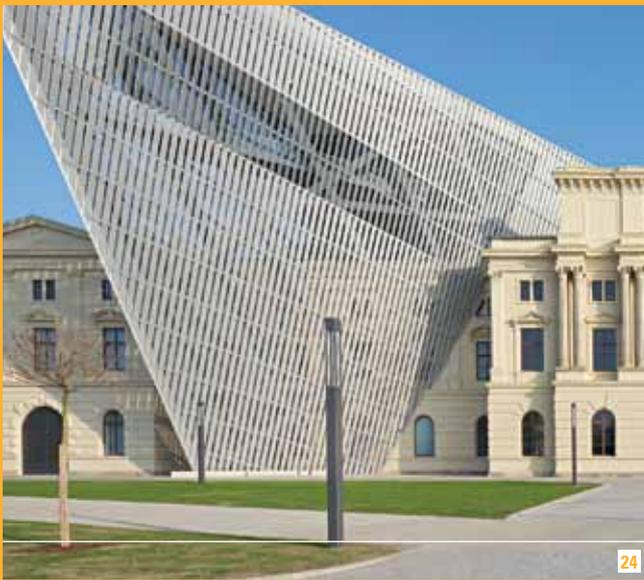
# PORTAL 25

**INFORMATION FOR ARCHITECTS**  
from Hörmann

## **Facade**

Kister Scheithauer Gross Architekten  
und Stadtplaner,  
Architectural firm Dr. Klapheck,  
Wannenmacher + Möller,  
Daniel Libeskind







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## Dear Readers,

As door manufacturers, facades have a special significance to us since they constitute the immediate surroundings for our numerous products. Depending on the construction project, the aim is to blend the wall and the opening in such a way that makes them seem to become a single unit. Two examples in this issue, a small manufacturing building in Werther and a villa in Mülheim, illustrate how creativity can lead to impressive results. Bielefeld architects Wannenmacher + Möller even succeeded in integrating a sectional garage door into a facade in a way that allows it to be perceived as part of the prestigious entrance area. In Mülheim an der Ruhr, architects also focused on disguising the garage entry on the visible side of the white villa. They rendered it almost invisible by cladding it with the facade material. In both cases, Hörmann was able to provide the suitable product. Beyond successfully matched facade and door combinations, however, it is also worthwhile to showcase exceptional facade designs. World-famous architect Daniel Libeskind masterfully implemented the expansion of the Militärhistorisches Museum (military history museum) in Dresden with an unusual mix of styles and materials. The Zentrum für Luft- und Raumfahrt (German Aerospace Centre) in Bremen, designed by Cologne-based architects Kister Scheithauer Gross, is equally remarkable. With its specially fired shiny tiles, the facade of the small research building resembles the thermal protection system of a space shuttle. However, working with facades is not limited to architects. Creative movie and theatre professionals cannot work without a proper set of facades. Berlin-based movie directors Dominik and Benjamin Reding provide our readers with a peek behind the curtains.

Cover photo: Museum of Military History, Dresden, Germany  
Photographer: Bitter Bredt, Berlin, Germany

Christoph Hörmann

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Thomas J. Hörmann

# FILM ARCHITECTURE

## MERE FACADES

**Architects and construction companies are not the only ones to deal with facades. For creative professionals, particularly in the areas of theatre and movies, productions without “facades” are unthinkable. Movie makers Dominik and Benjamin Reding know what they are talking about. They jointly run the movie production company (Eye! Warning) in Berlin. The authors provide PORTAL readers with a glance behind the curtains.**

Facade. The word does not only have pleasant connotations. Ranging from “All show and no substance”, to “Potemkin villages”, from “facade cosmetics” to “facade architecture”, in the public perception facades are not to be trusted. The whole concept brings to mind make-up, Botox and anti-wrinkle cream.

Mere facades, after all. It is assumed that they conceal infirmity, decay and all sorts of decadence. Small wonder then that the most rigorous Bauhaus modernists wanted to eliminate them altogether or, if absolutely necessary, only accepted glass facades that would not conceal any fiddling around or indecencies.

It almost seems a little immoral to think about facades. Is it even permissible to take the attractive exterior seriously, maybe even write something positive about the lie it embodies? I have this permission. Because I know all about deception. Professionally as it were. I make movies. Or, to put it bureaucratically correct, I am professionally active as author, director and producer of motion pictures. Everyone knows that the cinema is all about deception. The interstellar battle star is a plastic sphere, the actor portraying Jesus is a committed atheist and the ancient Roman gladiator school is a Hollywood backyard. But I beg you not to be angry with the cinema as it has no choice but to deceive. In the cinema, everything must remain a facade. It is lacking space, the third dimension. As a viewer, I stare at a two-dimensional screen as the light and my brain make up sizes, volumes, foreground and background. But there is

another secret force that helps me turn the two-dimensional world of cinema into an apparently three-dimensional one – the movie architecture, the set design. The focus with this type of design is not on concealing the thermal insulation or on high-quality materials or the energetic efficiency of a facade, but rather on the creation of an illusion of space and the credibility of these made-up worlds.

The 2007 motion picture “Für den unbekanntem Hund” (“To the unknown dog”), which my brother and I created together, even has space as its central theme, more precisely, it is about overcoming spatial limitations.

It is about a journeyman and his path to self-awareness. Bastian, a 20-year-old concrete construction trainee, kills a homeless man without any apparent motif. The act of manslaughter goes unpunished and the killer shows no remorse. A few weeks later, a group of journeymen gathers in celebration in the small town. When a witness to the manslaughter tries to blackmail Bastian, he takes the opportunity of fleeing by joining the group of journeymen. Living on the street and meeting people with different backgrounds and cultures during his journey make Bastian aware of his guilt. His journey becomes a search for atonement.

The design of the facades of the sets, the colour and the spatial treatment of their shape and surfaces is an important part of movie architecture, but of course not the only one. Film architecture serves a purpose. It wants to inform, impress and represent the thoughts and feelings of the movie



The finished scene of the journeymen pub in the movie (left) and previously on the set during the shooting with the required filming equipment (bottom).



All photos: EVEL Warming Filmproduktion GbR



Set design of the petrol station for the movie "Für den unbekanntten Hund"



The petrol station that was selected for the movie production.

characters. To this end, it skilfully utilises all permissible and impermissible, visible and invisible means. It is all about creating emotions, simulating three-dimensional space, it is about distorted perspectives, geometrical impossibilities and optical illusions, about colours and their psychological effect on the audience. Depending on the theme of the movie, it is also about art and architectural history, the true-to-detail reconstruction or free interpretation of past eras. It is about a sense of aesthetics, good taste and last, but not least, it is about logistics and feasibility, financial aspects and jobs. After all, movie architecture consists of structures that are not only built but need to have functioning static properties, if only for a few days.

The storyline of the movie "Für den unbekanntten Hund" with its theme of a journey through Germany, through various social classes and lifestyles, required a great number of visually extremely different and physically very far-apart sets and shooting locations – a true challenge not only in terms of design but also in terms of shooting logistics. Many problems were resolved with a bit of wall paint and a few visits to hardware stores. However, two of the many shooting locations were especially difficult, demanding all our intellectual energy and all our nerves.

### The petrol station scene

Our movie was to commence spectacularly. With an explosion. To hide the traces of his crime, Bastian sets fire to the crime scene, a petrol station on the outskirts of Wismar. Regardless of whether it existed in real life or was constructed for the movie, the petrol station had to comply with three requirements – since it is the venue of an unimpeded killing, the petrol station had to appear remote and suburban. As it is located in Wismar, it should not have a glitzy modern look overloaded with billboards and neon lights, but rather appear to be a relic of the past and the former GDR. Finally, since it explodes at the end of the scene, it had to be possible to blow it up. The last requirement, in particular, proved to be very difficult. Sure, one can say that nowadays movie makers create everything digitally anyhow. "Then why do they need a real-life petrol station if they generate as big a blast on the computer." Here I ask you to make a small experiment – look at the explosions in movies of the past few years. Don't they look suspiciously alike? Regardless of whether it is a spacecraft, a car or a high rise, everything bursts into a glowing red fire ball. Details? Debris raining down? None. The fire ball is easy to generate digitally, bits of debris less so. This is why we opted for a genuine explosion and a genuine petrol station.



The petrol station that was reconstructed for the production.



Explosion of the petrol station

In our treasure hunt we were lucky to actually discover an abandoned petrol station just outside of Wismar, whose owner not only allowed us to use it as our shooting location, but also to blow it up. The only condition was that at the end of the shooting everything should look exactly as it did at the beginning.

The script required the petrol station to be in three different states for three different movie scenes – as an intact and operational petrol station, dramatically engulfed in a mushroom-like fire during the explosion and as an approximately one-year-old ruin afterwards. Of course, we should have started with the scene of the ruin. Using a ruin as a ruin seems logical. Unfortunately, however, several actors could not attend the scheduled shooting. Now things became complicated. We had to start shooting with the intact petrol station. Using a lorry filled with building materials, the ruin was awoken from its nearly 20 years of slumber. The walls were whitened, the windows newly glazed, the collapsed canopy fixed with translucent corrugated sheets, electricity supplied, petrol pumps screwed in place, the station signboard installed, the saleroom set up, price boards switched on. This revitalization was so successful, that in the evening a row of drivers wanting to fill up gathered in front of our film set. Then we changed

the setting again for the explosion scene. It was to be filmed by three cameras simultaneously. One long shot in medium slow motion, a detail of the burning petrol pump in real time and a knee shot with a bird's eye view in ultra-slow motion. As we wanted the mushroom-shaped fire to practically rise into the camera lens, we suspended the 35-mm camera from a crane boom above the petrol station canopy. The corrugated sheets of the canopy were loosened earlier to allow the explosion to first illuminate and then easily penetrate the translucent roof. The final set required transformation of the petrol station that had been damaged by the explosion into an approximately one-year-old fire ruin. The petrol pumps were removed, the windows of the salesroom bashed, the neon signs unscrewed, the walls painted in a greasy Grey brown and rust stains painted on the steel supports of the station roof. Finally, once this scene was completed, we complied with the request of the owner and returned the ruin to its original state – a weed-covered, East German petrol station that had been abandoned for 20 years outside the Wismar city limits.



The after-work event venue in Hürth (top left), foyer reconstruction in a 1:20 scale (top right), collapse of the conference centre in the movie (bottom).

## PORTRAIT

### Dominik Reding

born 1969 in Dortmund. 1989—93 Studied architecture at the RWT Aachen. Subsequently employed at various architecture firms (incl. BRT), 1993—97 studied film production at the HfBK Hamburg, at the same time active as a screenwriter. 1997 Diploma 1998 Establishment of his own film production company (Eye!Warning) in Berlin together with his twin brother Benjamin Reding.

### Benjamin Reding

born 1969 in Dortmund. 1988—90 Studied archaeology and art history at Ruhruniversität Bochum. 1991 Assistant director at the Schauspielhaus Bochum, 1993 professional training as an actor in Stuttgart, 1995 Diploma. Subsequently a member of the theatre company of the Staatstheater Stuttgart. 1998 Establishment of his own film production company together with his twin brother Dominik Reding (see above).  
[www.eye-warning.de](http://www.eye-warning.de)



## The conference centre scene

Bastian's journey ends with a bitter disappointment for him. At a journeymen meeting, a decision is to be made regarding his admission to the journeymen union. And the group decides – against him. In the script, this fateful meeting takes place at a conference centre of the Deutscher Gewerkschaftsbund (DGB – Federation of German Trade Unions). The DGB premises were chosen not only because journeymen are obligated to become members in the union and their real meetings are also held at DGB conference centres, but mainly because of the building's visual appearance.

Designed to counter the brutal and dehumanising Nazi ideology, these union buildings of the 1950s with their large glazings, polished floors of Solnhof tiles, white painted walls and lofty, expansive rooms offer no room to hide, to be secretive or to tell lies. For us, this represented an analogy to the repentance of Bastian, the young killer. The union also demands honesty and social solidarity of him. In the southern Rhineland region, on the premises of an abandoned chemical factory, an after-work venue, a former event and party room for the factory staff, had remained intact. It had a statically daring shell design whose concrete walls with glazed infills, curved flights of stairs and shiny cast stone floors represented precisely the type of "Here-comes-a-better-person" architecture that was required by the script.

Yet the scene required even more – in the moment of rejection, Bastian's world comes crashing down. We wanted to visually depict this crash, to literally present Bastian's falling into an abyss. The DGB conference centre was to be flooded by a wave of despair and the repentant killer is washed away together with the building. What the audience seems to see in the movie actually originates in their own heads. Whether the conference centre actually collapses in reality or through the use of a model makes no difference, as long as the audience is gripped and moved by the depicted image. Based on the original draft drawings of the year 1958, a Berlin-based model construction company built a 1:20 version of the conference centre entrance hall, including door handles, switch plugs, window frames, light switches and stress marks.

We shot the final sequence with the real actors on the real premises, then the moment of the flooding with the actor playing Bastian only in front of the so-called greenscreen, which is required for subsequent digital processing. A few weeks later, the actual moment of the flooding of the conference centre by the tidal wave was filmed in Berlin using the 1:20 model. Even the water was manipulated, dyed with black ink to render it more visible in front of the light-coloured background of the entrance hall. Finally, the scenes filmed in reality at the conference centre were combined with the greenscreen and model shots of Berlin at a digital studio in Stuttgart, while the colour and brightness were adjusted and matched at the processing laboratory in Hamburg and the entire composition complemented with deafening waterfall thunder during the sound mixing in Potsdam. All this effort was taken to startle the audience when Bastian's materialized wave of despair crushes him and the conference centre. A total of 103 hours of work for a single minute of the movie.

## Für den unbekanntten Hund

The empathetic drama about guilt and atonement is captivating not only through its coherent storyline, but also through the excellent performance of the actors, most of whom acted professionally in a movie for the first time. The film also features a well thought-out colour concept and a realistic depiction of the life of journeymen. Conclusion: A thought-provoking dramatic movie.

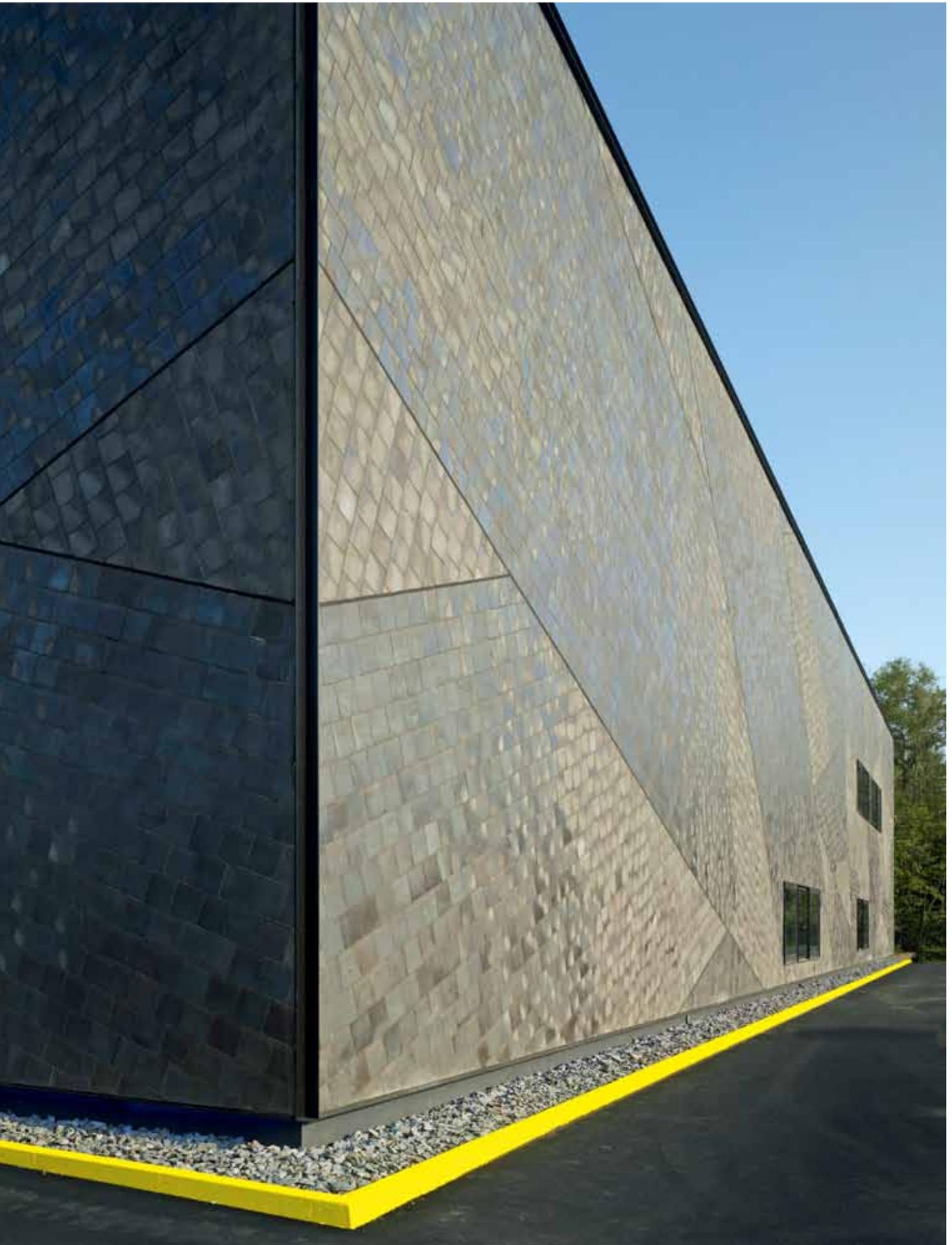


# LABORATORY BUILDING IN BREMEN

**On the edge of the Universität Bremen campus, a research building of the Zentrum für Luft- und Raumfahrt was expanded by a two-storey extension. Cologne-based architects Kister Scheithauer Gross designed an exceptional facade resembling the thermal protection system of a space shuttle for the three highly specialized laboratory sections.**

**Researchers who develop** spacecrafts, space shuttles and compact satellites surely often feel out of this world. This was the line of thought of architects Kister Scheithauer Gross when they designed the laboratory building of the Institut für Raumfahrtssysteme (Institute for Space Systems) in Bremen, turning it into a space station – at least on the outside. The facade of the two-floor extension building resembles the thermal protection system of a space shuttle. To make this impression as realistic as possible, special ceramic tiles were developed that feature heat marks, traces of wear and various numbers. Connected to the old building via a bridge, the compact cubic structure (with a square layout) represents an independent building. The special challenge consisted of merging the different uses in a single building, which was no easy task given the highly specialized laboratories with dust-free cleanroom technology in the first laboratory, high dust loads in the exploratory laboratory and the required explosion protection in the cryo-laboratory. The architects were able to solve this problem by applying the house-in-house principle. This also complied with the requirement of opening the building to groups of visitors. The integration of the public visitors' hallway on the upper floor provides guests with a view inside the two-floor laboratory without jeopardizing security regulations. The informative tour is complemented by a small exhibition about the work of the Deutsches Zentrum für Luft- und Raumfahrt (DLR – German Aerospace Centre). In order to convey the feeling that visitors are entering a “spaceship”

upon arriving, the bottom section of the building was provided with an all-round slightly recessed blue light strip, which creates a floating illusion. The centrifugally arranged ceramic tiles that were glued on the subframe by means of a specially developed installation system, extend like a strip around the entire facade. The anthracite-coloured building skin is only deliberately disrupted by a few necessary window and door openings, the prestigious entrance with the large display window and the integrated sliding doors of the three laboratory units. The architects, in co-operation with the manufacturer, spent nearly two years developing the ceramic tiles sized 20 x 20 cm until they were satisfied with the result. The different surfaces result from mineral clay drilling mud that was sprayed on the untreated tiles. The sintering of this mud during the firing process provides the previously red shards with their matte colouring. Overall, a total of 38,000 tiles in eight hues were produced and attached across their entire surface to an adhesive bed on a thermal insulation compound system, which in turn is attached to the bearing outside wall made of sand-lime brick.



## LABORATORY BUILDING IN BREMEN

Resembling a thermal protection system, the ceramic tile facade stretches across the extension of the research building of the Deutsches Zentrum für Luft- und Raumfahrt in Bremen (previous page).

Only a few, deliberately positioned openings disrupt the shimmering facade of the two-storey laboratory building (above).

A special arrangement pattern of the ceramic tiles creates the multilayered reflections on the facade (bottom).



In parts of the hallways along the individual laboratories, transom lights provide partial daylight illumination.



## LABORATORY BUILDING IN BREMEN

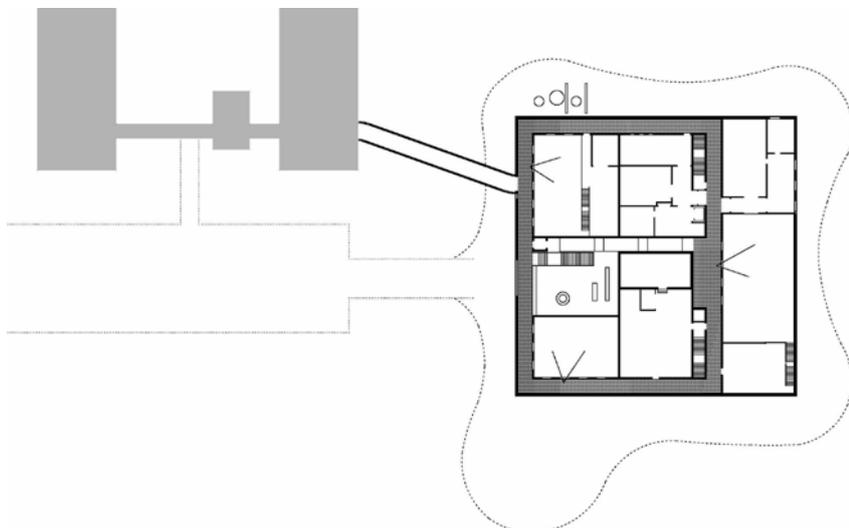
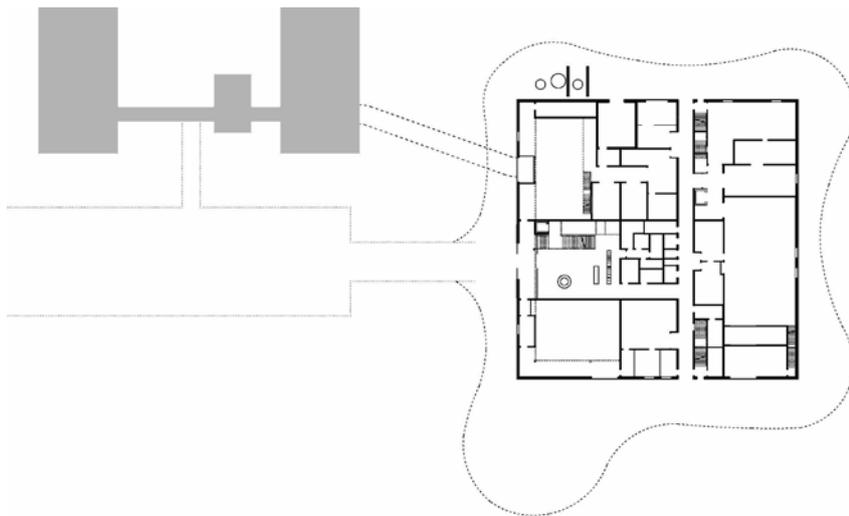
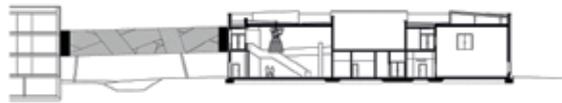
Groups of visitors have the opportunity of gaining insights into the highly specialised laboratory of the aerospace centre (top).

View of the carefully designed stairwell (bottom left)

One of the three laboratory rooms extending across two storeys (bottom right)



Plans: Layout, ground floor, upper floor



## PROJECT DATA

### OWNER

Deutsches Zentrum für Luft- und Raumfahrt e.V. in der Helmholtz-Gemeinschaft, Cologne, Germany

### DESIGN

Kister Scheithauer Gross Architekten und Stadtplaner, Cologne / Leipzig, in co-operation with architects BDA Feldschnieders + Kister, Bremen, Germany

### SUPPORT STRUCTURE PLANNING

pb+, Prof. Bellmer Ingenieurgruppe, Bremen, Germany

### LOCATION

Robert-Hooke-Strasse 7B, Bremen, Germany

### PHOTOS

Christian Richters, Münster, Germany

### HÖRMANN PRODUCTS

Industrial folding doors FPU

# VILLA IN MÜLHEIM AN DER RUHR

**White, cubic, modern – these are the characteristics of a villa located near the nature protection area near the Ruhr in the Mülheim suburb of Menden. The Recklinghausen-based team of architects of Dr Ing Hermann Klapheck planned a light-flooded residence with an impressive and clearly structured design, precise lines and a well thought-out room distribution.**

**Many people decide** to build a home in the second half of their lives. Some sell their first home because the children have moved out, while others, such as the owners of a villa in the suburb of Menden just outside Mülheim an der Ruhr, decide after many years of paying rent to finally move into a house of their own. Regardless of the reasons, however, the demands on such homes are different from those of younger owners.

One example is the approx. 220 square metre villa designed by the architecture and urban planning firm of Dr. Ing. Hermann Klapheck in 2011 on a plot of land in Menden which was previously occupied by smaller bungalows. The architects were particularly sensitive to the wishes of the owners and focused their design on simplicity, understated elegance and clever details – differently sized stacked cubes dominate the clear structure of the two-storey building, creating fascinating spatial relationships.

The facade is painted in white, giving the single family house a low-key appearance, with only the grey Eternit cladding of the double garage acting as an eye-catching element. Slim rows of windows with anthracite-coloured metal frames in the facade alternate with partially room-high glazing, especially towards the garden.

Entering the ground floor, which has large-scale floor tiles, one passes through a small vestibule with a timber sliding door to the generously-proportioned living and dining area with an open fire place. The all-round room-high glazing

seems to stretch the light-flooded living area into the terrace, making it appear even larger. A freely suspended flight of stairs leads to the upper floor, which contains two bedrooms, a bathroom and an office with adjacent archives. All rooms on this floor, except for the bathroom, feature light-coloured parquet flooring.

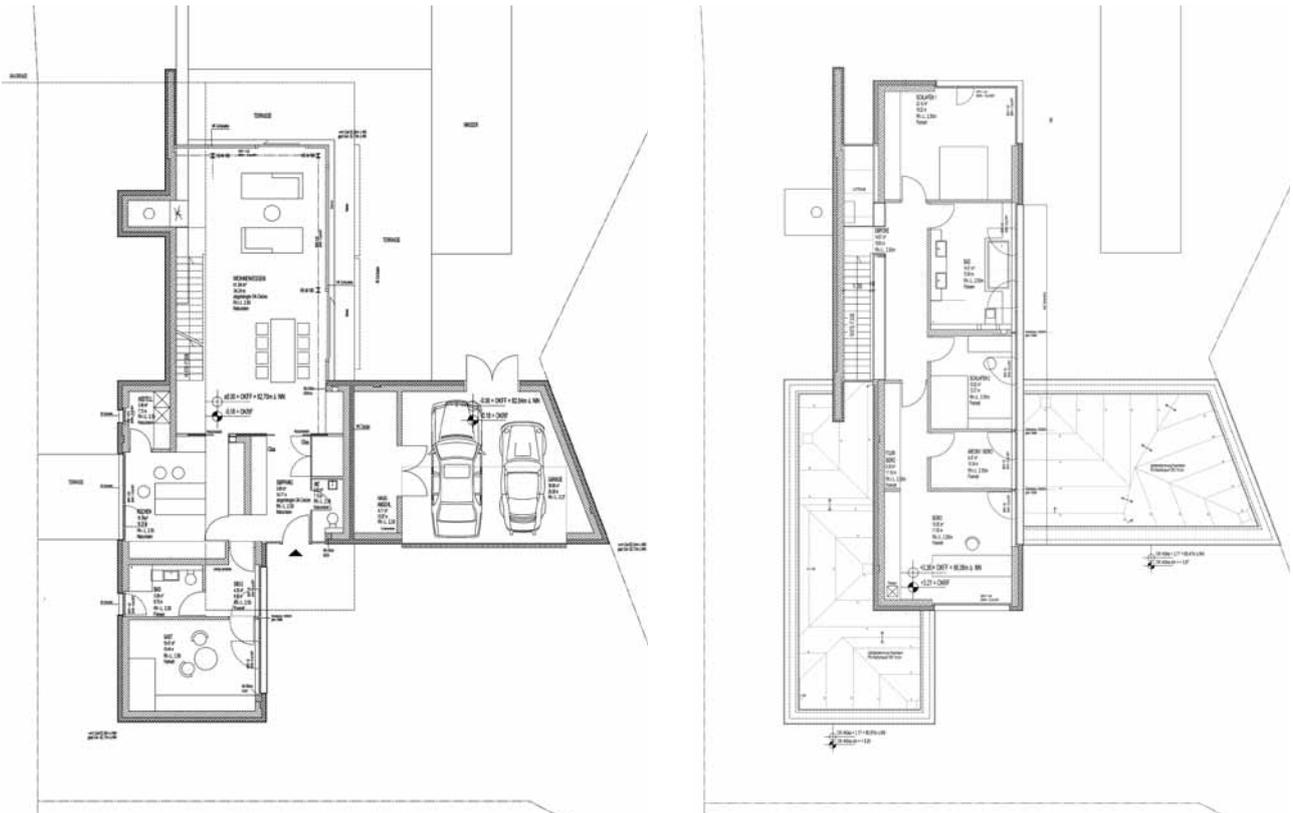
A small open space visually links the upper floor with the living area. A vertical row of windows on the rear side of the house creates a pleasantly illuminated atmosphere on the ground floor as well as the upper floor. It is details such as these in combination with the interplay between the interior and the exterior and the open and closed sections which make the cubic villa especially charming.

The separate guest area left to the entrance serves a more practical function. Passing through a small hallway, the guest enters a spacious bedroom as well as a bathroom with a shower and WC. Today this area is used for overnight guests, but it can also accommodate nursing staff that may be required by the owners in the future.



## VILLA IN MÜLHEIM AN DER RUHR

Floor plan of the ground floor and upper floor (top)  
The all-over glazing expands the living room area to the outside (bottom left).  
A vertical row of windows creates special light effects inside (bottom right).



Large window sections open the villa up towards the garden (top).  
Next to the white villa, the incorporated anthracite-coloured sectional door of the garage is a special eye-catcher.



## PROJECT DATA

**OWNER**  
(private use)

**DESIGN**  
Büro für Architektur und Stadtplanung  
Dr. Hermann Klapheck, Recklinghausen,  
Germany

**LOCATION**  
Mülheim an der Ruhr, Germany

**PHOTOS**  
Office of Dr Hermann Klapheck,  
Recklinghausen, Germany  
Hartmuth Klemme, Herford, Germany  
(P. 17, p. 19 bottom)

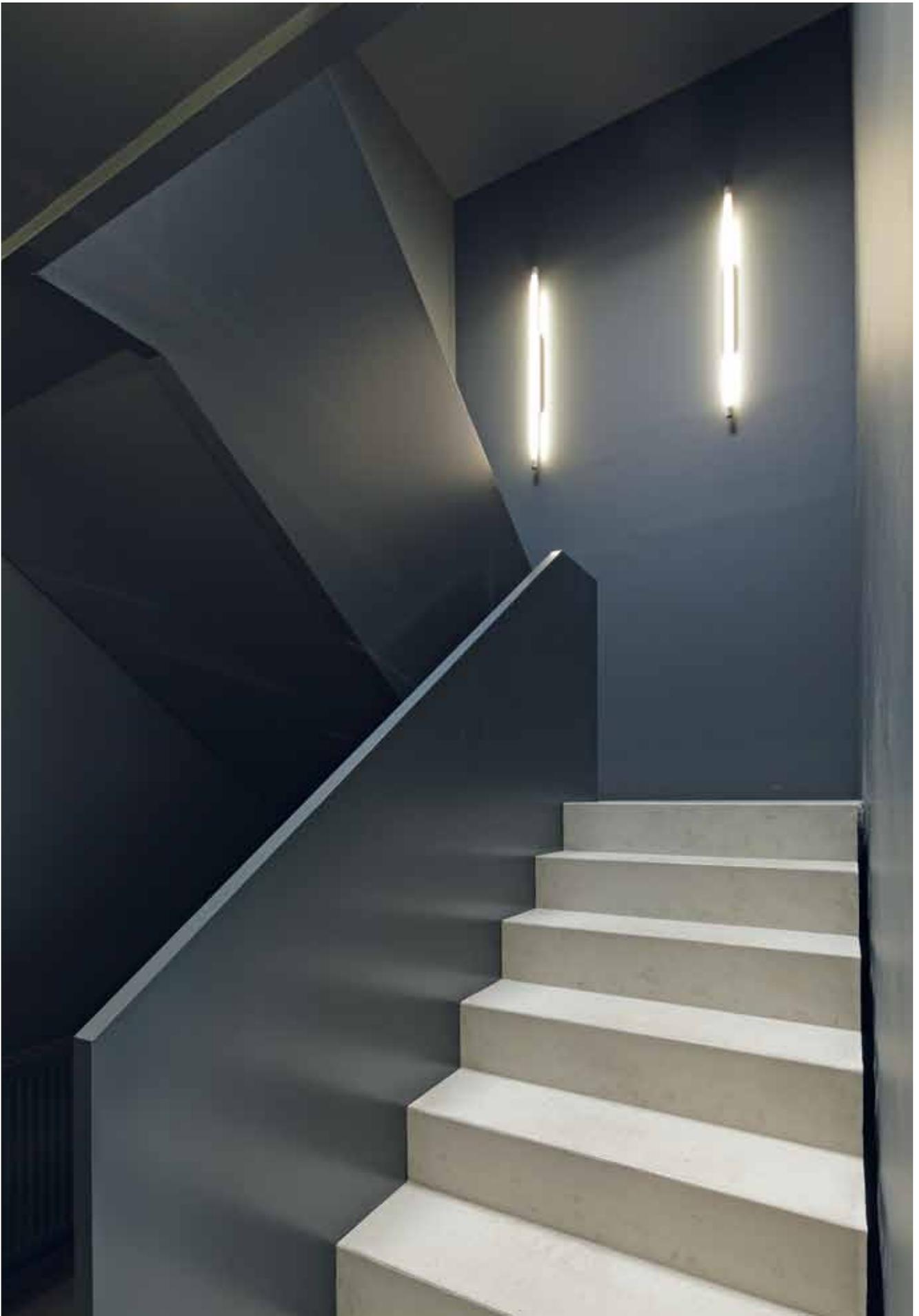
**HÖRMANN PRODUCTS**  
Industrial sectional door ALR  
with on-site infill

# PRODUCTION BUILDING IN WERTHER

**Sophisticated architecture is rather hard to find in rural areas. On the outskirts of the small town of Werther, Germany, an entrepreneur showed much courage with his new production building that is distinguished less by a spectacular design but rather by high quality and understatement. Bielefeld architects Wannemacher + Möller designed the "eye catcher" near the country road to the town of Häger.**

**When young entrepreneur** Stephan Husemann established his small firm producing burglar alarm technology and burglar-proofing equipment in Bielefeld in 1992, he did not imagine that after merely two years his business would be this successful. With the expansion of the company's service range to include fire detection and video monitoring, the company management decided to add a new building in 2010. On a fallow plot of land in an existing industrial zone in Werther, to the north-west of Bielefeld, the local architecture firm of Wannemacher+Möller designed a two-storey production building with an almost square floor plan. The spatial planning called for a small hall with a connected workshop for loading the company's own vehicles and for storing the technical products as well as adequate office and leisure rooms. Apart from the operational spaces, a meeting room for customers was created on the top floor. Despite the tight budget, the architects succeeded in "ennobling" the simple flat cube by using black as the predominant colour on the inside and outside. Horizontally attached metal sections in dark anthracite dominate the all-round facade that is only visually disrupted by a few, yet deliberately positioned openings. The large, silver-coloured metal frames of these openings highlight the functional areas located behind them, such as the meeting room and the entrance area whose design incorporates the door of the goods receiving department. The white sectional garage door has been incorporated in such a skilful way that it can be perceived as an addition to the plastic-film covered glass

section with its transparent entrance area. This project shows that industrial and commercial construction projects do not have to be run-of-the-mill, even with tight budgets. However, such solutions require owners that are passionate about architecture, such as the owner co-operating with the architects in this case. Interior illumination is provided by an all-round row of windows that can be concealed behind external blinds, depending on the position of the sun. The interior design is limited to a few, simple materials in light and dark colours. The staircase offers a surprising combination of dark walls and the matte black painted railing. The light-coloured concrete flight of stairs appears to be suspended. Two vertically positioned neon tubes on the facing wall provide the required orientation. Even the shower and toilet submit to this understated design concept with their large-scale black tiles and white ceramic elements. To keep the office zone on the upper floor as light and bright as possible, the walls were painted white. The ceilings, carpeting and door reveals, however, mirror the dominant colour black. The position of the building on the plot of land was determined with a subsequent expansion in mind and complied with the desire of the owner for it to be visible from the nearby country road. This new building with its upscale design and quality will certainly provide the owner with the undivided attention of all passers-by.



## PRODUCTION BUILDING IN WERTHER

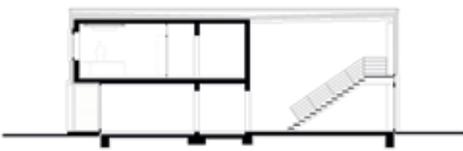
The staircase is designed entirely in black, except for the light-coloured concrete steps (previous page).  
Horizontal metal sections dominate the facade of the production building (top).  
A light-coloured metal frame combines the entrance area and the door of the goods receiving department into a single design unit (bottom).



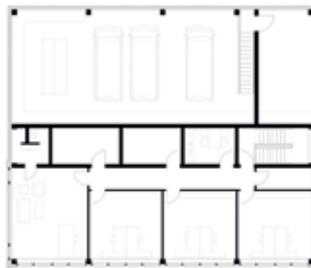
The warehouse on the north-east side is closed by the industrial sectional door ALR Vitraplan (top right).

Plans: Layout (top left), floor plan of the ground floor (centre left), floor plan of the upper floor (centre right)

The metal frame continues on the south-east side to highlight a room-high opening in the staff lounge area (bottom).



ERDGESCHOSS



OBERGESCHOSS



## PROJECT DATA

### OWNER

Dipl.-Ing. Husemann & Partner GmbH,  
Werther (Westfalen), Germany

### DESIGN

Wannenmacher + Möller GmbH,  
Bielefeld, Germany

### SUPPORT STRUCTURE PLANNING

Ingenieurbüro Grage, Herford, Germany

### LOCATION

Dammstraße 18A, Werther (Westfalen),  
Germany

### PHOTOS

Csaba Mester, Bielefeld, Germany

### HÖRMANN PRODUCTS

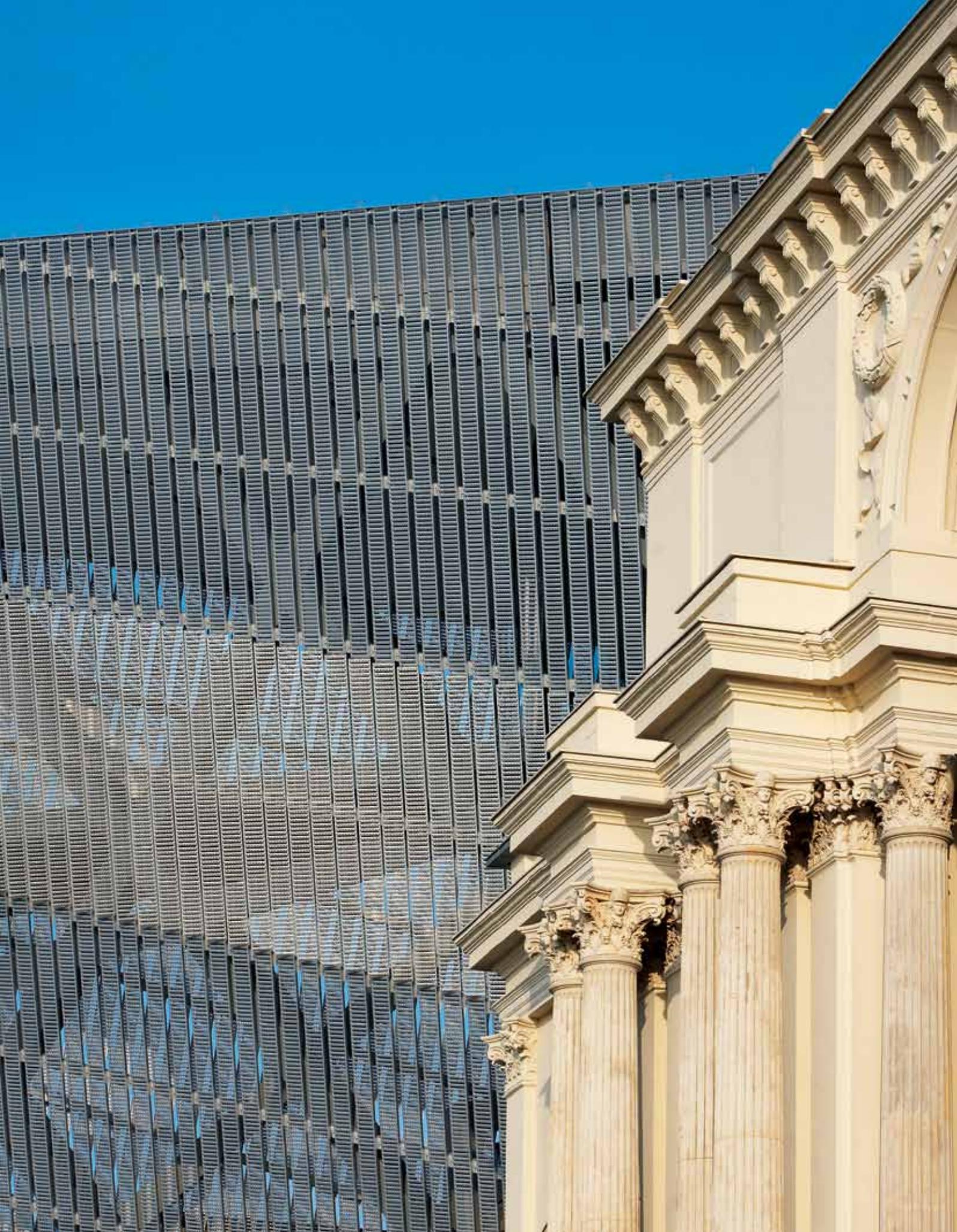
Sectional garage door LPU  
Industrial sectional doors ALR  
Single-leaf T 30 steel fire protection doors

# EXPANSION OF THE MILITÄRHISTORISCHES MUSEUM IN DRESDEN

**The arsenal headquarters in Dresden built in 1877 were already used as an army museum only 20 years after completion. After the reunification, the German army decided on a new exhibition concept that resulted in the expansion of the building. Architect Daniel Libeskind won the contest in 2002 and planned a spectacular new building.**

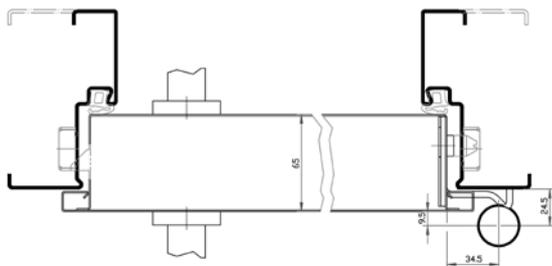
With its dynamic design style, the new building of the museum stands out from the clearly-structured facade of the existing structure. Even from a distance, an entirely new effect becomes apparent – to the left of the symmetrical entrance area of the neo-classical old building, a 30-metre high transparent metal wedge rises up to the sky in the well-known complicated architectural style of Libeskind. With his new building, Libeskind symbolizes the violence that shook Dresden in the Second World War – in February 1945, four air strikes of the allied forces destroyed approximately 60 percent of the urban area. The shape of the building is based on the flying wedge formation which was used by the British Royal Air Force during the first of these strikes. The tip of the wedge also points directly to the point where the aircraft dropped the target marks for the bombers. Deliberately asymmetric, the structure resembles a spike – a foreign body – whose tip towers over the old building by about ten metres. The annex was implemented in steel lattice formwork and covered with simple aluminium bars that are normally used to cover gutters. This permeable design reveals the structural framework upon closer inspection and offers a glimpse of the listed facade located behind it. The result is a layering of historical and modern building structures that is also repeated inside the museum. The rooms on the ground and upper floors of the old building were returned to their original state at the beginning of the 19th century. A clear pattern of columns on the ground floor as well as cast iron supports on the upper floor dominate

the hall-like rooms. The wedge disrupts this pattern. Slanted unplastered concrete walls and free-standing surfaces continuously create new spatial impressions. The tapered angles of the new areas create cul-de-sacs that are used as display cases. The multi-storey open spaces offer room for large exhibits that can be seen at different angles from the galleries and staircases. The permanent exhibition, which was conceived by the two architecture companies HG Merz and Holzer Kobler Architekturen, opposes the striking architecture with a calm design. The concept is based on the military history from 1300 to 1914, with only the newly created areas presenting military history themes that are not related to specific times as well as civil themes. The museum showcases around 10,000 exhibits on a total area of 13,000 square meters. These include uniforms and weapons as well as the first German submarine built in 1850, a space capsule and various media from the different eras. The exhibition culminates in the “Dresden Blick” (“Dresden View”) on the top floor. Exiting the old building, visitors step on a bridge at the outermost tip of the new building. The permeable metal sections of the facade allow an expansive view of the old town that connects to the impressions of old Dresden presented in the museum.



## EXPANSION OF THE MILITÄRHISTORISCHES MUSEUM IN DRESDEN

Architect Daniel Libeskind courageously implemented a stark contrast in the expansion of the museum (previous page)  
The new building gives the old building with its neo-classical facade a deliberately irritating effect (top).  
The transition from the old to the new building is clearly discernible in the architecture (bottom right).  
Cross-section of a steel fire-rated door H3 D, WK4 version with profile frame that is frequently used in the museum (bottom left)

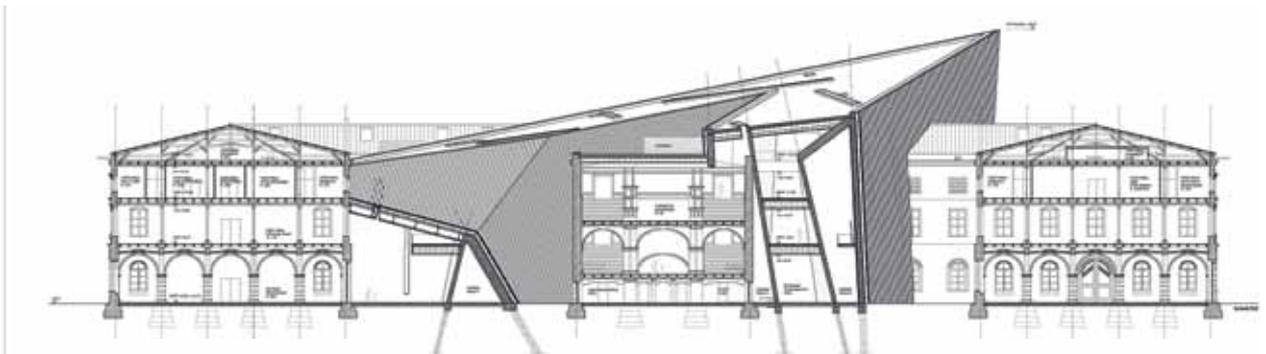


Large-scale exhibits are suspended on the slanted walls of the inserted wedge (top).  
At the tip of the wedge, the "Dresden View" offers a view of today's cityscape through the external metal cover (bottom)

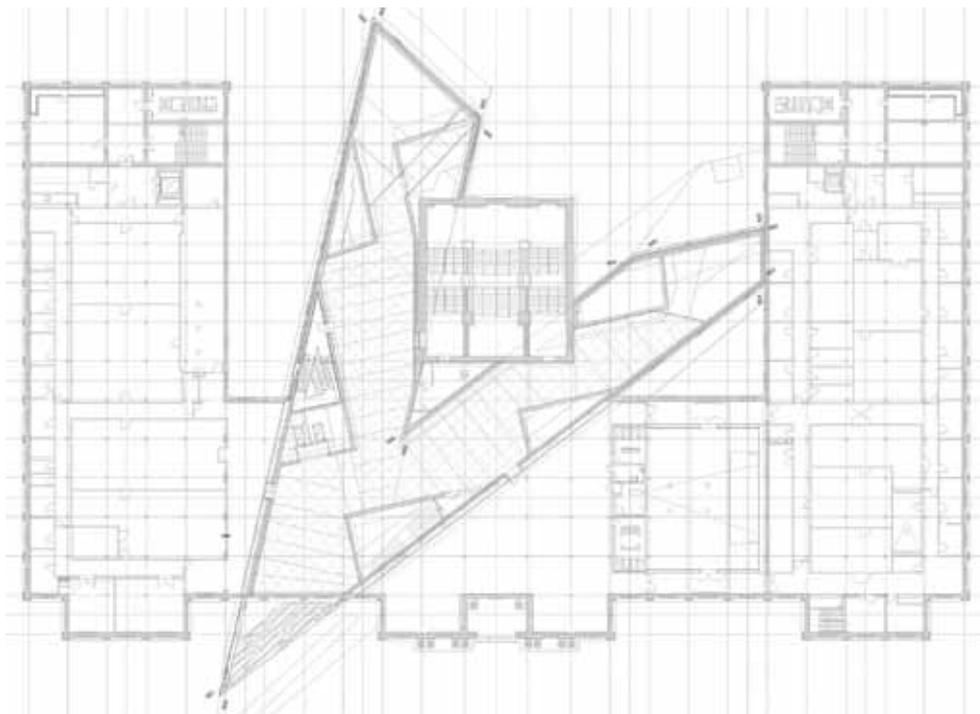
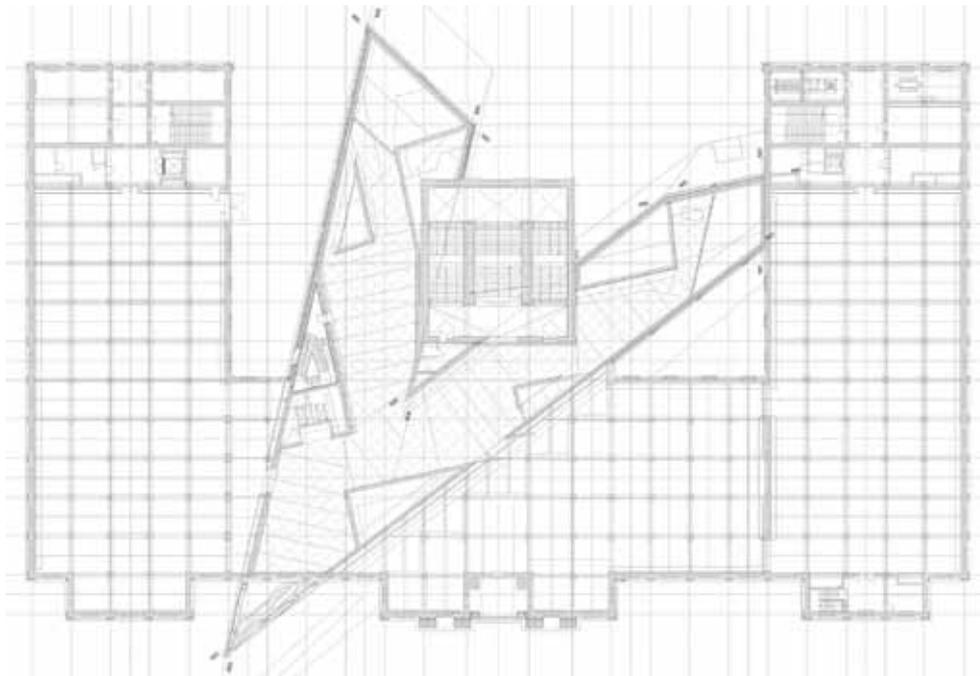


## EXPANSION OF THE MILITÄRHISTORISCHES MUSEUM IN DRESDEN

In the evening especially, the permeable metal structure of the wedge reveals the listed facade located behind it (top).  
Cross-section of the wedge (centre)  
Cross-section of the old and new building (bottom)



Layouts: ground floor (top), first floor (bottom)



## PROJECT DATA

### OWNER

Federal Republic of Germany, Federal Ministry of Defense

### DESIGN

Daniel Libeskind AG, Zurich, Switzerland

### SUPPORT STRUCTURE PLANNING

GSE Ingenieur-Gesellschaft mbH  
Saar, Enseleit und Partner, Berlin,  
Germany

### LOCATION

Olbrichtplatz 2, Dresden, Germany

### PHOTOS

Hufton + Crow Photography, London, UK  
Photographer: Bitter Bredt, Berlin,  
Germany (page 26, bottom right)

### HÖRMANN PRODUCTS

Single and double-leaf T 30 steel fire-rated  
doors H3/ H3D

Single and double-leaf T30 steel security  
fire-rated doors H3 WK 3 and WK 4

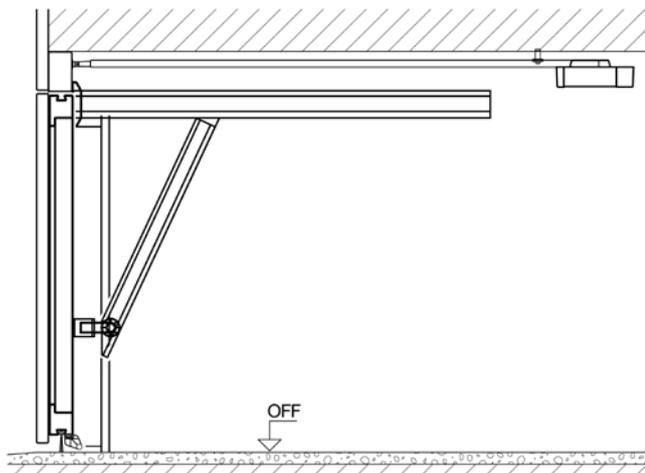
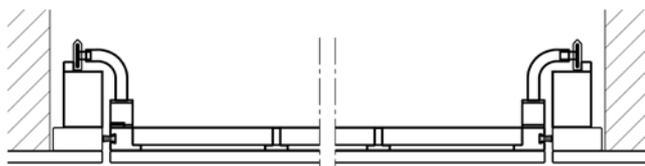
Single and double-leaf T 90 steel security  
fire-rated doors H 16 WK 3 and WK 4

Sheet steel doors in part equipped for  
access control and for dock operation

Single and double-leaf T30 steel fire-rated  
doors STS

## NON-PROTRUDING UP-AND-OVER DOOR WITH ON-SITE SURFACE- MOUNTED INFILL

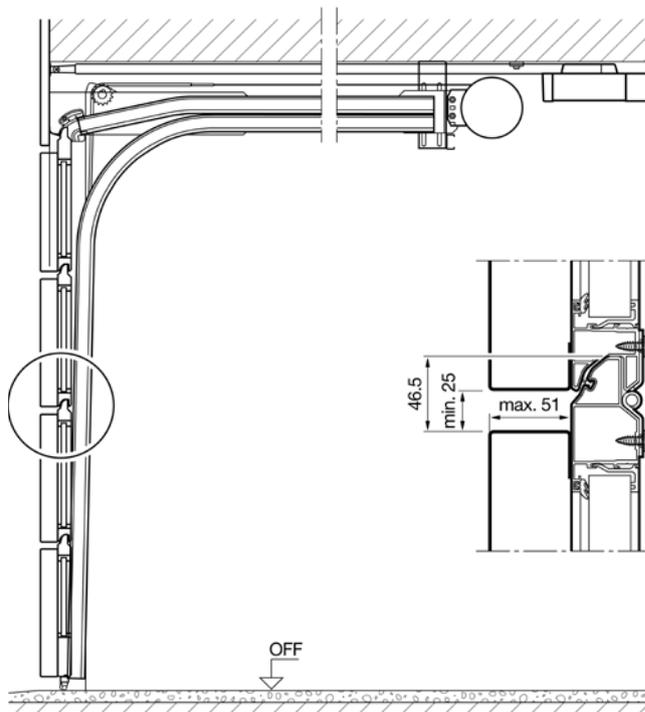
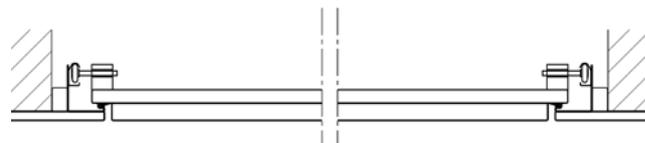
The non-protruding up-and-over door ET 500 with on-site infill must be fitted in the opening. 260 mm of the width on both sides must be planned for the side subframe, while the operator boom occupies 130 mm of the height of the clear opening. At the side, on the top and the bottom, gap dimensions of 30, 20 and 35 mm should be observed, thus a clear opening of  $5,520 \times 2,540$  mm is required for a nominal size of  $5,000 \times 2,375$  mm. This results in a closed door surface of  $4,940 \times 2,340$  mm. Depending on the style and size of the door, facade elements can be added to this surface on-site up to a weight of  $32 \text{ kg/m}^2$ . For a size of  $5,500 \times 2,500$  mm in the heavy door version it is still  $6 \text{ kg/m}^2$ .





## SECTIONAL GARAGE DOOR FOR ON-SITE INFILL

The door is technically based on an industrial sectional door ALR to allow it to bear the additional weight of a maximum of  $12 \text{ kg/m}^2$ . As the dimensions of each door must be adjusted to the facade elements and their weight, individual planning and technical inspection by Hörmann are required. The door is flush fitted in the opening. A subframe is required on the side, made of square tubes  $60 \times 40 \text{ mm}$ , for example. In the lintel area an installation height of at least 260 or 280 mm must be taken into account, depending on the type of operator. With a clear opening height of for example 2,375 mm, this results in a height of 520 mm for each of the four door sections. On each section, 25 mm must be taken into account for the finger trap protection, thus, in this example, each facade element may have a maximum height of 495 mm. To prevent the elements added on-site from hitting the lintel during opening, they may only protrude by 51 mm or less. On the side and top of the door, the facade elements cover the lintel as well as the subframe and frame of the door.



# ARCHITECTURE AND ART

## Miklos Gaál

The Finnish photographer of Hungarian descent is skilled in unsettling the viewers of his photographs by delaying the process of perception. He challenges the real impression of photography as it is conveyed to us daily in the media by alternating focused and unfocused sections. He primarily uses the bird's eye view when taking photographs of landscapes and residential streets. Persons, houses, cars appear as if in a miniature world which in the unfocused sections really resemble static Playmobil figurines. The classic picture viewer is startled and forced to pause for a moment. Contrary to what may be expected, Miklos Gaál

does not utilize digital photo editing. The visual effects are solely generated by the settings of the camera, which the artist handles virtuously, just like a painter handles his brush. His main theme was and continues to be human beings, even though he presents them extremely small. He is primarily interested in group formations in public areas with their relationship between the individual and the mass. He repeatedly employs different technical methods to explore the contradictions of seeing. With his innovative landscape photographs, Miklos Gaál is among the key representatives of the young Finnish scene.



Sightseeing tour 3, 2008,  
C Print, 108 × 142 cm  
(right side)

Construction men, 2007,  
series of 7 (shown 1),  
C-Print, 67 × 76 cm each,  
(left side)

## PORTRAIT

### Miklos Gaál

Born 1974 in Espoo, Finland  
1993—95 Attended Borga School of Crafts and Industrial Art in Porvoo, Finland; 1995—99 Bachelor of Arts (Graphic Design) at the University of Arts and Design in Helsinki, Finland; 1997—98 attended the University for Photography and Film in Gothenburg, Sweden; 1999—2004 Master of Arts (Photography) at the University of Arts and Design in Helsinki; 2008—2009 two-year scholarship at the Rijksakademie in Amsterdam, Netherlands.

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## Topic of the next PORTAL issue: High rises

In metropolises around the world, high rises reach dizzying heights. German metropolises, on the other hand, have a more moderate approach to these “giants”. Our urban centres still have room for spatial expansion, yet corporations like high rises and use them as status symbols. Accordingly, their architecture is getting very important. PORTAL features new high rises that are not only remarkable for their height.



## Building with Hörmann — Your project in PORTAL

Every four months PORTAL reports on current architecture and the surrounding conditions in which it is created. And if you wish, PORTAL could soon serve as the display case for one of your own projects! Send us information on the buildings you have realised using Hörmann products — as a brief documentation with plans and photos, maximum in A3 scale, by post or e-mail:

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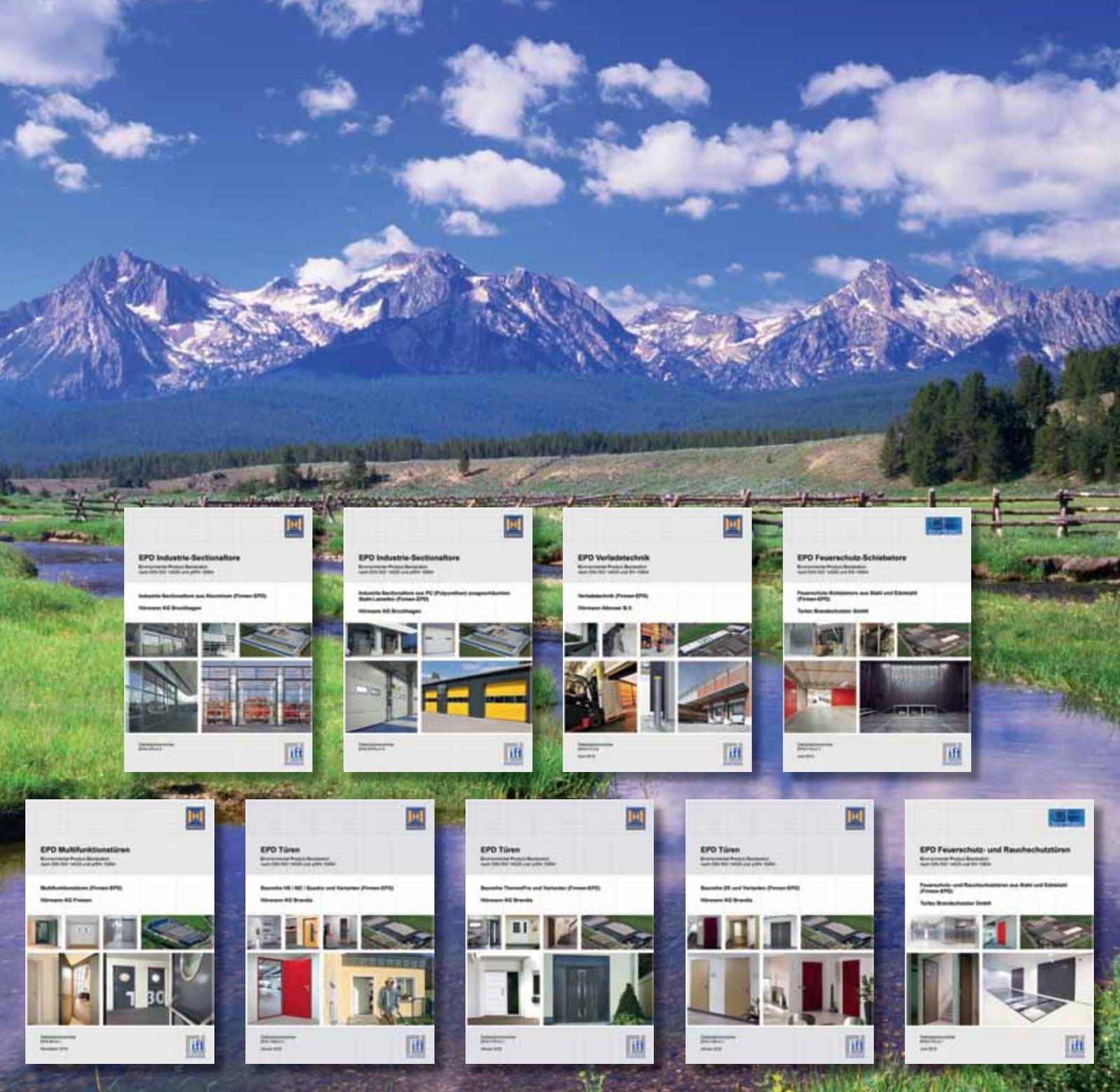
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 Environmental Product Declaration  
 nach EN 15804:2012 und prEN 15804

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Feuerschutz-Schiebetore aus Stahl und Edelstahl  
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 Environmental Product Declaration  
 nach EN 15804:2012 und prEN 15804

Multifunktions Türen (Flächen EPD)  
 Hörmann AG Feilen

**EPD Türen**  
 Environmental Product Declaration  
 nach EN 15804:2012 und prEN 15804

Bausätze H1 H2 (Quere und Varianten) (Flächen EPD)  
 Hörmann AG Brands

**EPD Türen**  
 Environmental Product Declaration  
 nach EN 15804:2012 und prEN 15804

Bausätze ThermPro und Varianten (Flächen EPD)  
 Hörmann AG Brands

**EPD Türen**  
 Environmental Product Declaration  
 nach EN 15804:2012 und prEN 15804

Bausätze 23 und Varianten (Flächen EPD)  
 Hörmann AG Brands

**EPD Feuerschutz- und Rauchschutztüren**  
 Environmental Product Declaration  
 nach EN 15804:2012 und prEN 15804

Feuerschutz- und Rauchschutztüren aus Stahl und Edelstahl  
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# Sustainable production: Doors by Hörmann



HÖRMANN sectional doors  
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