Drywall Systems

Tro145.de

Technical Brochure 2016-11

Knauf Interior Design

Contents

Usage instructions

Dimensioning of the grid

For the customized constructions of Knauf ceiling design solutions, the normal stud frame spacings (profiles/connectors/suspenders) cannot be simply used without further thought, as the ceiling weights involved can diverge at different points from the regular weights. In case of doubt, please contact the Knauf Technical Advisory Service. In principle all of the following Knauf suspenders in the area of Knauf ceiling design can be used:

- Universal bracket
- Anker Hanger Clip
- Nonius Hanger Top with Nonius Hanger Bottom, Nonius Stirrup or Combo Hanger and if necessary with Nonius Extension and Connectors.

References to other documents

- Observe the Product Data Sheets of the Knauf system components
- Acoustic board ceilings,
  for further information refer to the System Data Sheet D12.de “Knauf Cleaneo Acoustic Board Ceilings”

Symbols in this technical brochure

The following symbols are used in this document:

(a) Spacing of suspenders/anchors

(b) Axial spacing furring timber batten/furring channel/hat-shaped channel (cladding span width)

(c) Axial spacing carrying timber batten/carrying channel (spacing furring timber batten/furring channel)

Intended use of Knauf systems

Please observe the following:

Caution	Knauf systems may only be used for the application cases as stated in the Knauf documentation. In case third-party products or components are used, they must be recommended or approved by Knauf. Flawless application of products/systems assumes proper transport, storage, assembly, installation and maintenance.

General notes on Knauf systems

Terms

Knauf boards with mitering
A board with mitering
Knauf design units
Consisting of several boards with / without mitering
Knauf curved elements
Consisting of several curved boards

Field of application

Knauf interior design supports sophisticated surface quality with mitring and moulding technology in combination with short building times.
Time savings during installation, ready to paint surfaces and high levels of prefabrication are the contemporary ways to build. Knauf design units are highly versatile and offer highest levels of precision and cost-effectiveness. Freely designed units can be implemented at any time on the basis of CAD drawings.

Introduction

Architect interview

"The ceiling is ever-present" – Interview with architect Lennart Wiechell

Mr. Wiechell, what significance does the ceiling have in the planning process at Schmidhuber?
Lennart Wiechell: Communication in the room is a central theme for Schmidhuber. For us, the ceiling is not just the upper termination of the six sides of a room, but rather the surface which we tell stories about. We use the ceiling as a communicative element. This is uncommon for conventional construction works. But this is also the reason why the ceilings are so exclusive and unique in our projects. We see them as a very important element in room design, in guiding the visitor and conveying messages to them. The ceiling is ideal for this purpose as it is always visible.

> **"Gypsum as a material is very interesting in its modularity."**

What in your opinion is the essence of a good, or even a perfect ceiling?
Lennart Wiechell: In our case it is a ceiling that can offer a lot. It is the natural room-enclosing feature and incorporates all functions that a room must deliver such as acoustics or thermal quality. For us this also means that they can guide the visitors through the building. The ceiling can receive a guest with a gesture, then it can transform itself and convert to a structure that can guide them along the levels. Thus it can truly communicate an overall theme.

Are there requirements that a ceiling does not currently fulfil that you can see it will need to fulfil in the future? What development potential can you envisage?
Lennart Wiechell: Acoustics play a vital role for us here. Ceilings should not just effectively absorb the sound, they must also emit it. Let's take light as an example: Do we need an increasing number of lighting fixtures or can the building component ceiling function as a large scale illumination element? Will I even be able to use the ceiling as a display? There are topics which are of interest to our sector.

What demands would you make in this respect: Should built-ins be visible or should they be concealed?
Lennart Wiechell: As I said at the beginning: The ceiling is ever-present in every room. Sometimes even to the chagrin of the architects, as technically necessary built-ins such as smoke detectors and sprinkler systems need to be integrated. We are fascinated with solutions that combine form with function and that look like a constructional component conceived for the concept as a whole. The additive joining of functions in an array is of no interest to us. We were very impressed when Knauf as the time came up with the idea of causing the entire drywall panel to oscillate using it as a resonance body (flat-panel loudspeakers Knauf Soundboard; Remark from the Editor). In a current project we are experimenting with solar cells created using print technology. This enables us to integrate a power generation function into many surfaces without the need, as is the case in many farmhouse roofs, of integrating a glass surface on a tiled roof. These are aspects which really inspire architects.

> **"For us the ceiling is the surface which we tell stories about."**

A characteristic feature of their architecture is the three-dimensionality that disperses the transitions between floor, wall and ceiling. What do you appreciate with gypsum as a material in the implementation of your plans.
Lennart Wiechell: When I first came to work here, Gypsum as a material in the areas that we operated was completely unacceptable. It was considered to be inferior as customers perceived laminated wooden panels to be considerably more sophisticated. In the meantime, this has changed considerably after a certain development in the desired shape as well as due to building speed considerations and costs as well as the opportunities offered by gypsum on the building site. We now work considerably more with design units and gypsum board, as certain shapes and forms can only be implemented with these materials. The transition from the planning stage to the building site is easier to undertake with this material than with other materials.

They are convinced by drywalling. Not all of your colleagues are convinced and continue to use solid constructional components.
Lennart Wiechell: This is a very atavistic feeling. Many people say: My house and home must be made of stone and built for eternity. Of course we have a different approach, because we like the flexibility of the emotional very much and this method of construction really plays to its strengths. There is generally a lot of educational work left to do, even among architects, as the material is still greatly underestimated, whether it be for ceilings or walls. There is still the opinion: A concrete ceiling is required if you want to have a good acoustical separation. That acoustics is also possible and much easier and smarter to implement by component separation and using lightweight materials is both clear and pioneering. It saves material and transport costs and usually space too, allowing us to work more cost-effectively.

Sophisticated architectural symbolism is not always possible to master with standard constructions. What support can be had, e.g. from a Knauf system supplier?
Lennart Wiechell: We have frequently worked together already in the laboratory and have undertaken and tried model projects employing diverse technologies. We have considered or jointly evaluated the relationship between the curve on the paper blueprints and the curve on the building site and gypsum as a material and gave feedback to the developers. This is how we know the radii that can be achieved with the materials. If we want narrower radii it is associated with higher costs. We strive for early coordination to significantly improve the interface between design and manufacturing and to prevent that the attractive concepts cannot be ultimately implemented as the costs will be exceeded. This occurs frequently, because computer design programs enable features that were previously unthinkable when all drawings were done by hand. The initial concepts are often drawn up within a few hours. The disillusionment is often great as these concepts can often not be implemented for reasons of cost or practicality.

Digital planning can often tempt you to sound out the limitations. How far can drywalling go here?
Lennart Wiechell: Gypsum as a material is very interesting in its modularity. Put in simple terms, all you need are C profiles, gypsum boards and a cordless screwdriver. This is the major benefit. Using both of these materials you can construct a large diversity of shapes on-site. This gives us a great amount of flexibility. If you go one step further and interface the computer drawings in the construction documentation with the CNC milling machines or laser cutters of the manufacturer, you can manufacture very complex frames. Wooden frame constructions of this type can be delivered to the building site for cladding or even delivered with cladding installed. With this system, a complicated shape can be easily, quickly and cost-effectively implemented under realistic building site conditions.

We work more closely with the manufacturers or product installers in many areas.

How happy are you in your experience with the precision of these prefabricated solutions?
Lennart Wiechell: They are perfect. Rendering and implementation are practically identical. We have taken an enormous step in architecture over the last decade. Our Expo pavilion in Milan or the IAA pavilion look exactly like how presented them for competition, as the interface between the computer and manufacturing is seamless. The structural engineers receive our 3D model. We all work with the same software and place the model on the FTP server. Specialized planning, structural engineering, utilities, fire protection – they all use the model and integrate their specialist areas three-dimensionally. The architect undertakes the collision planning from the various trades in the 3D model and performs checks. Every joint is perfectly drawn and proportioned in the computer and is implemented 1:1 on site. Even the prefabrication including frame as well as calibration can also be controlled now via the 3D model.

In which phase do you get third-party support?
Lennart Wiechell: At a very early stage. We usually approach the manufacturer in the concept phase; and certainly in phase 3 before approval planning. We always get support, regardless of the nature of this support, with the classical themes such as fire protection, acoustics, etc. and ultimately when manufacturing is an issue.

This helps avoid nasty surprises and of course reduces costs.
Lennart Wiechell: Exactly. This has also changed the method of working. We work more closely with the manufacturers or product installers in many areas. We have an established network of partners with whom we have cooperated for many years.

App or folder - which method of information procurement do you prefer?
Lennart Wiechell: This varies. We are currently considering whether to abandon the classical planning approach where a floor layout and the sections are constructed and drawn and instead working in a complete 3D model. There is still a generation who print out the classical blueprint, who then takes the folder onto the building site and who pin all the blueprints onto the walls. Where as others will take their tablet with the 3D model and enter all their comments. This transition is however not yet complete. It is still the case that the folders with products and particularly the material samples are stored in the cellar, even when they are stored in the digital library. The media effectively interact with one another. It is not just online only. Google research is also a very useful tool. Employees are becoming increasingly accustomed to acquiring information directly and in digital format. However, we still place great importance on physical models, sketches, 3D models, renderings and material samples. We regularly undertake and purposely implement a media change from the hand drawn sketch to a 3D model. This generates ideas which can sometimes be by chance, which can go unnoticed with a classical model approach. The model is ever-present, always online and available to all. This will not change.

Knauf Interior Design

Perfectly executed shapes are perfected by functional technology. Knauf interior design incorporates all special solutions for customised design of ceilings and walls in interior fittings. Whatever is imaginable in unusual perspectives and effects, it can be implemented one to one with Knauf system solutions.

The required level of flexibility is provided by Knauf gypsum boards, as design units in mitred design or moulded design with varying bending radii as well as solutions for cupolas and domes including jointing and finishing in the desired surface quality. The application of stucco is also possible.

There are aesthetic and functional room design elements available in combination with Knauf Board Ceilings, Knauf Acoustic Board Ceilings and Metal Stud Partitions.

The solutions show in this brochure are intended to encourage original and exceptional ideas.

Benefit from our technical know-how. We will support you from the birth to the implementation of your concepts.

Your benefits:

- High degree of prefabrication
- Highest level of precision and exact finished surfaces
- Precise and reproducible standard detail features
- Available from quantities of just one unit
- Individual design
- Cost-effectiveness and planning reliability
- Rapid continuation of the building phase
- Perfect final result

► **Good to know**

A further tool for planning of design ceiling solutions is the Knauf Formbar (German only) on the Internet:

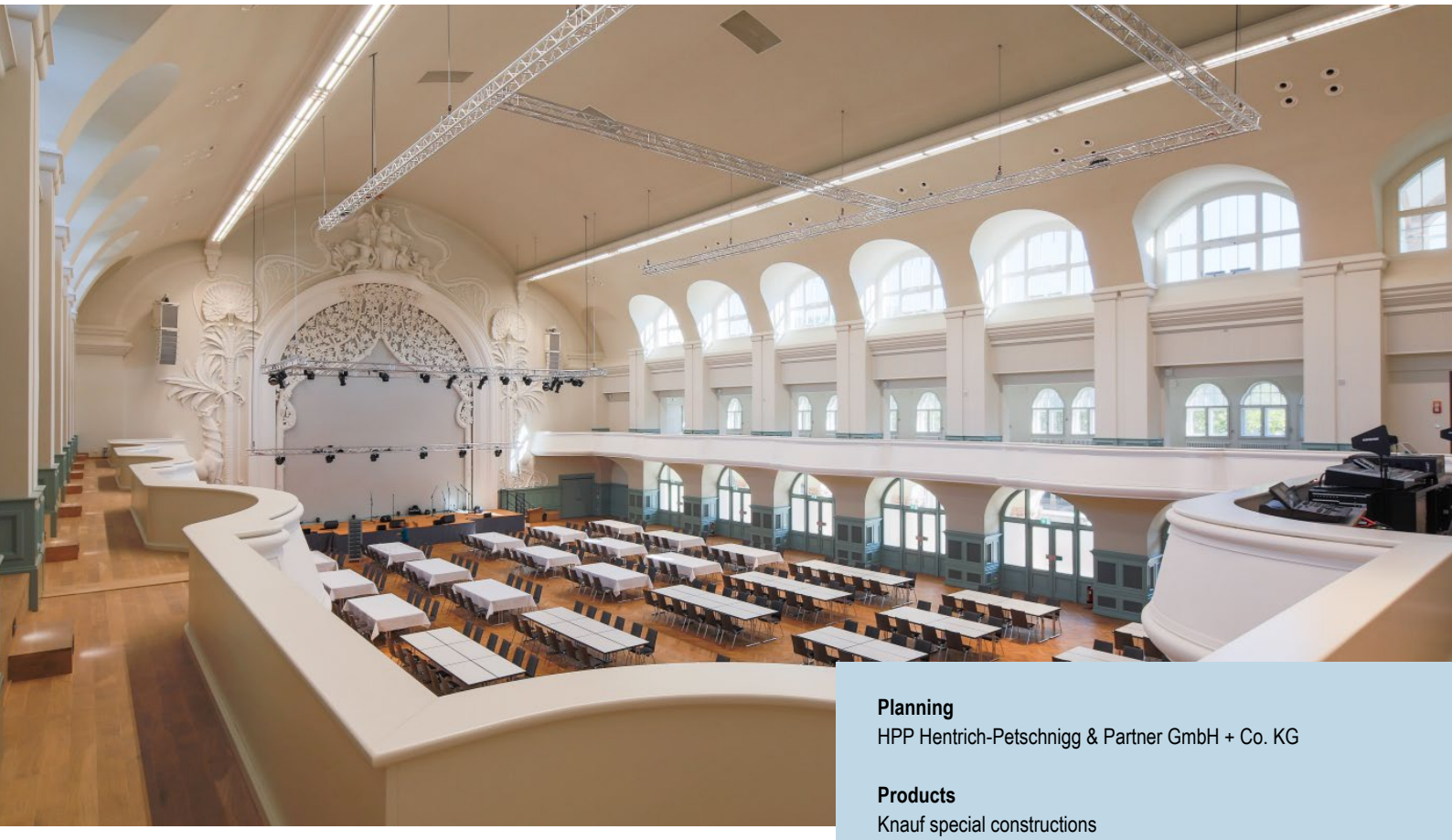
- www.knauf-formbar.de

Reference projects

Kongresshalle in Leipzig

With gypsum boards to a 3D shape

Gypsum design units supplement classical drywalling



Planning
HPP Hentrich-Petschnigg & Partner GmbH + Co. KG

Products
Knauf special constructions
Mitering technology
Gypsum design units
Knauf Cleaneo Acoustic Boards with standard square perforation 8/18 Q

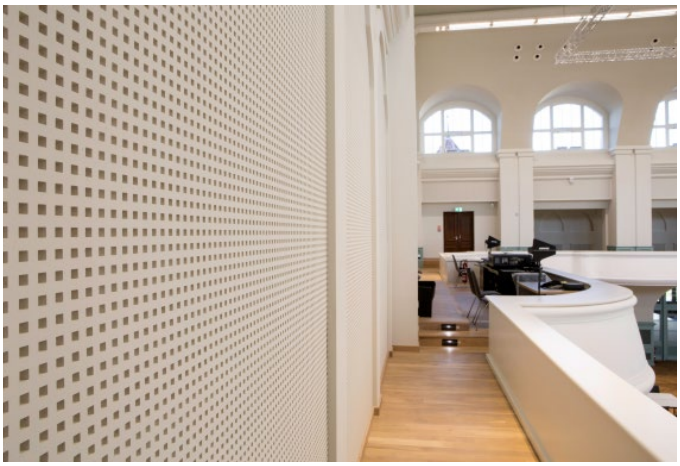
Expert consultant
Ekkehard Scholz, Knauf Gips KG
Special calculation and projects (SOKO), Knauf Gips KG
Michael Thorwart, Knauf Gips KG

The Kongresshalle am Zoo in Leipzig was remodelled with complex gypsum design units. The cornices, arches and column constructions based on mitered constructional components finished with stucco ex-works master the third dimension in perfection.

Design solution

Using Knauf special constructions, the drywaller is not left to his own devices with the third dimension of building constructions. Up to now, mitering technology was feasible in two dimensions, and combined with mitering building elements, even a third dimension. And it was only in the form of sharp edges, not three dimensional curves. This is only achieved by the combination of mitering technology and stucco. The results are sophisticated, smooth and perfectly shaped three dimensional gypsum design units ex-works.

Whereas straight cornices are made using classical mitering technology with subsequent stucco application, round cornices are made with the assistance of boards milled round with CNC machines. On the one hand, the boards feature a 45° machined edge, and on the other hand they are backed on the edge with suitably milled GKB strips. Against the edge reinforcement, board strips are bent, glued and fixed with staples under the 45° milled board strips. Subsequently the stucco prescribed by the architect is applied in the factory on the prepared mitered components in the desired radii. The cladding on the rear wall in the large hall is also a special construction. The wall linings with reproduction pillars and arches on top has been fully manufactured in CNC machined mitering technology and between the column constructions acoustic board cladding of standard square perforation 8/18 has been applied. The entire rear wall in the large hall has been designed as a sound absorber right up to below the rounded ceiling. The rated sound absorption coefficient α_w of a construction of this type is at least 0.6 and thus fulfils the requirements of sound absorption class highly absorbing. Acoustic boards are also applied under the cornices between the pillars. This comprehensive use of acoustic surfaces in the remodelled large hall ensures a very acknowledged good sound. The room is thus suitable for social gatherings as well as for concerts. Whereas the complex shaped balcony balustrades have been created with stucco, the lower sides of the balconies are made completely using drywalling. Due to the relatively large radii, these ceiling constructions on a classical substructure are applied using curved boards.



Cleaneo boards absorb about 60 percent of the sound.

Historic image of the large hall in the “Kongresshalle Leipzig”.

Cornices ex-works: Mitering technology combined with stucco

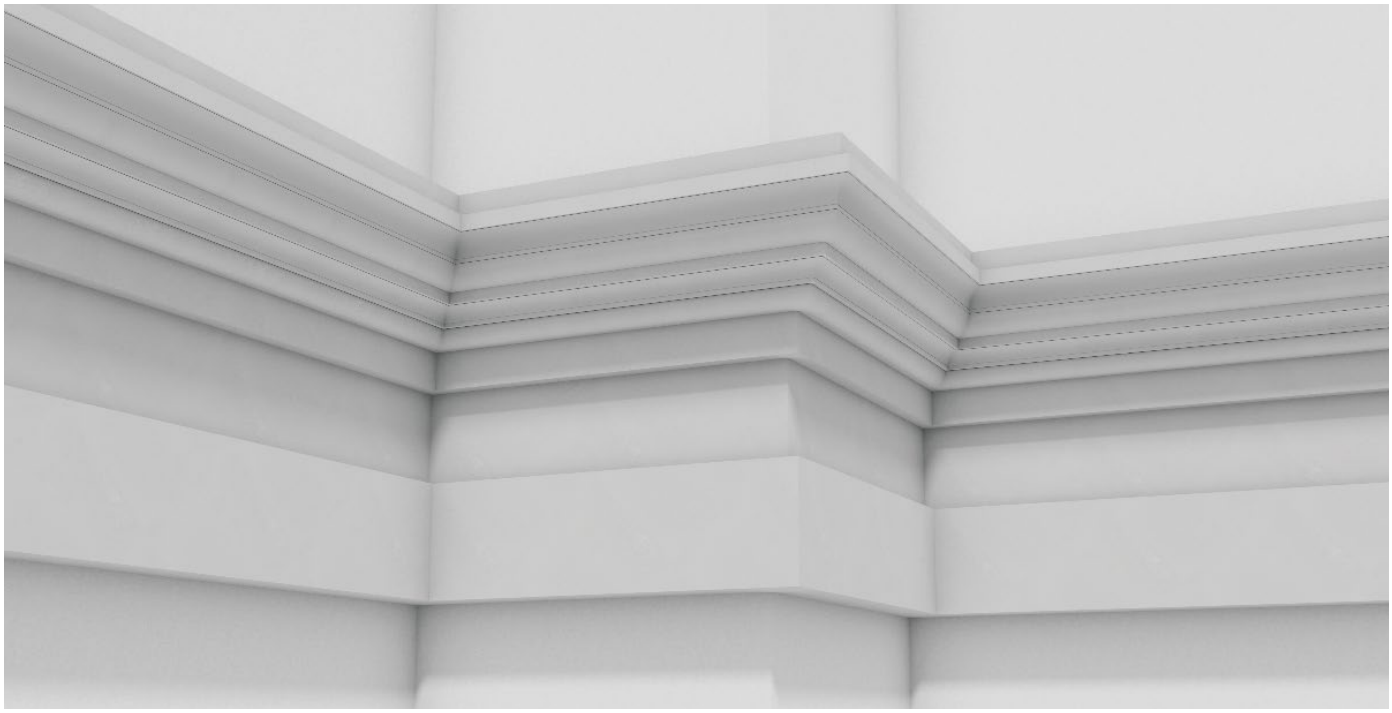
The rear of the large hall is a sound absorption surface and implemented using drywall.

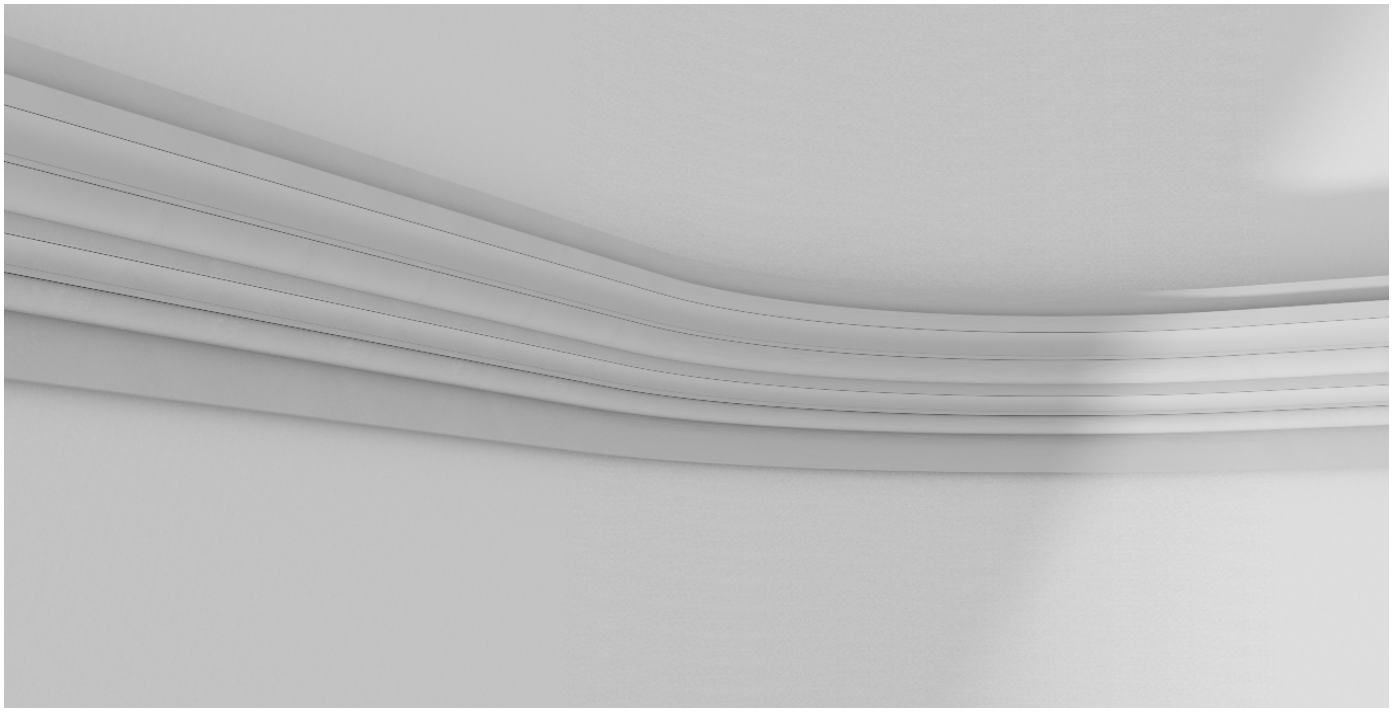
(Photo: Knauf/Halama)

Kongresshalle in Leipzig

Details

Shaping frame construction of milled ribs (gypsum fibre 18 mm)
Cladding 12.5 mm GKB: Cut to size or mitered elements
Stucco applied ex-works
Anchoring, e.g. using heavy-duty dowels + on-site sheet metal angles





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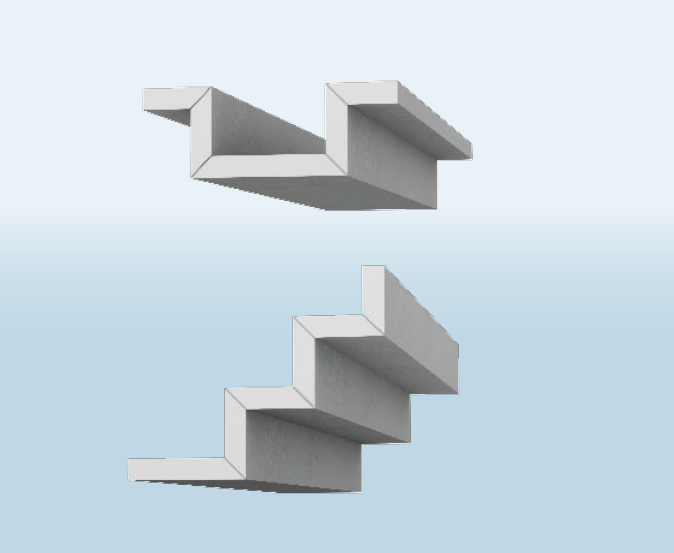
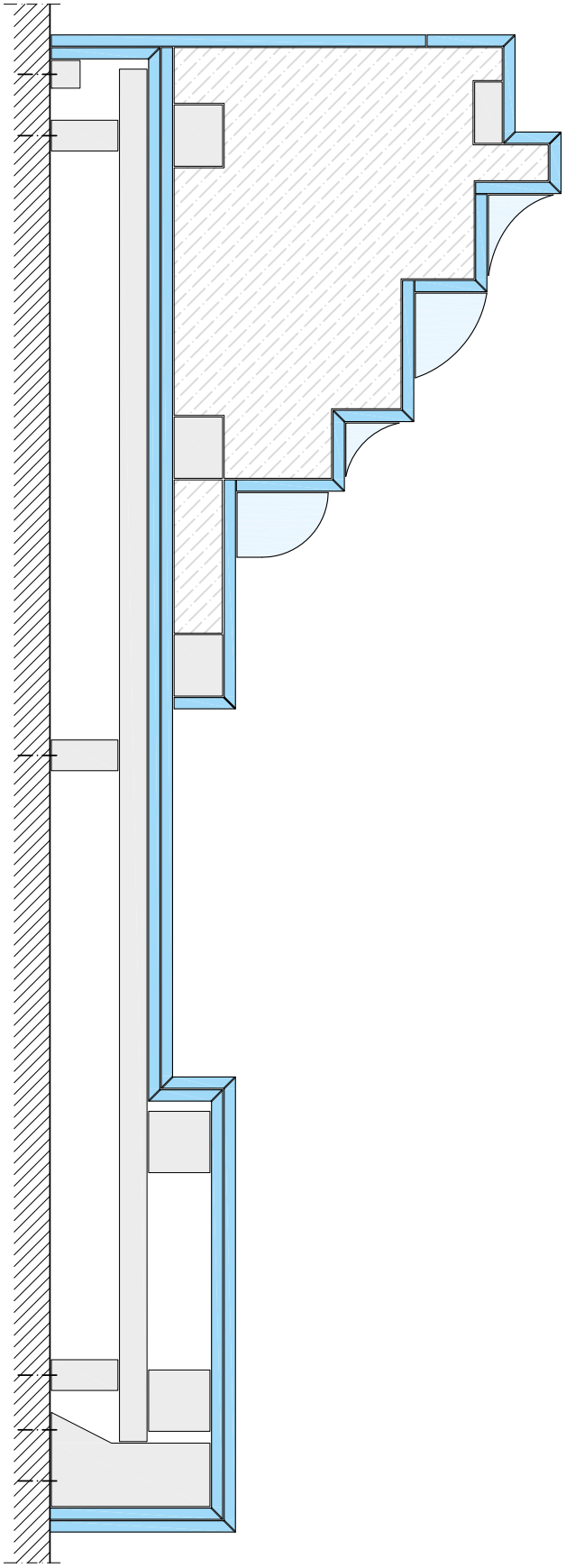
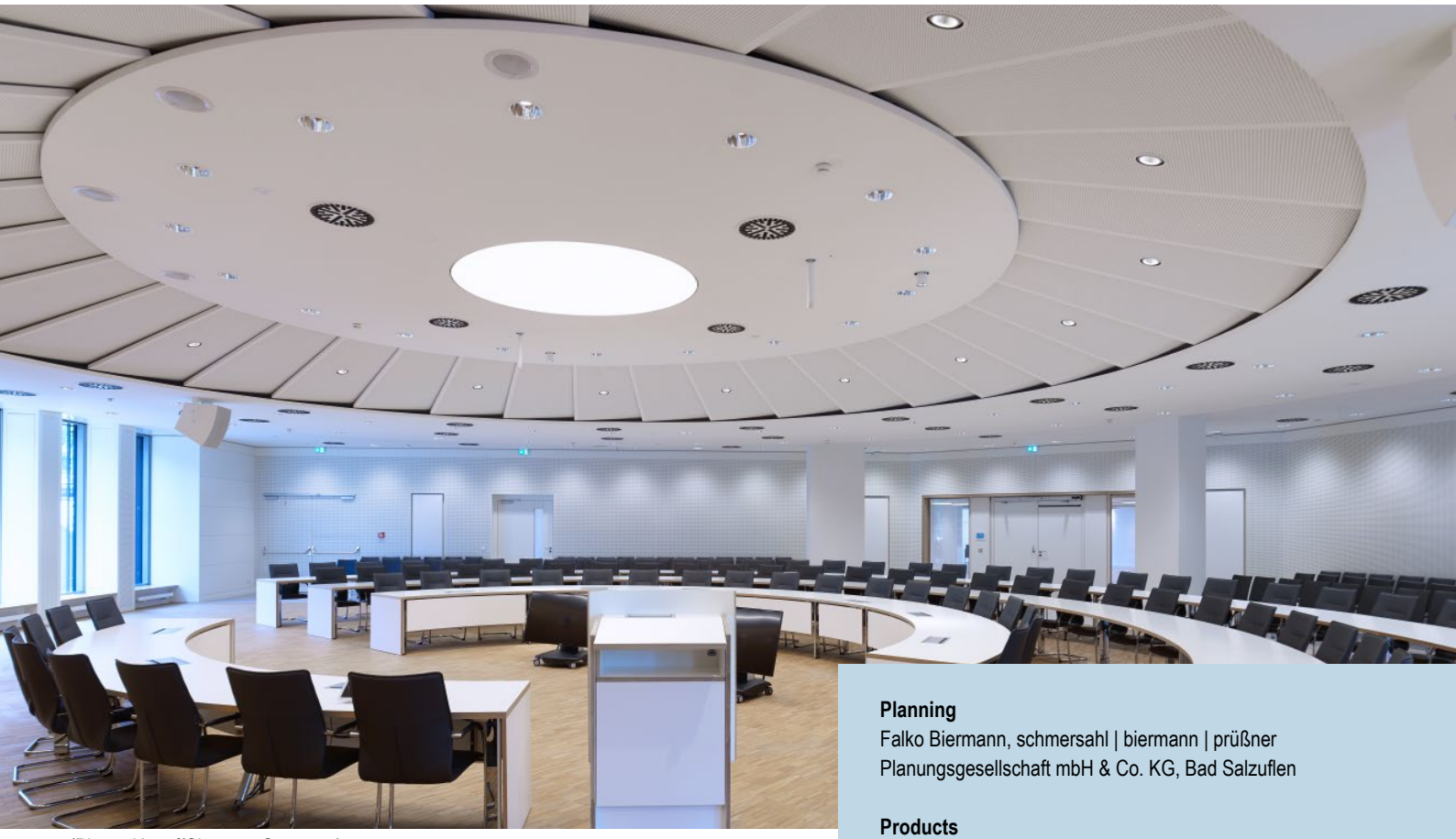




Conference level in district administration centre Detmold

Democratic geometries

Round ceiling canopy for conference level and new utilities



(Photo: Knauf/Clemens Ortmeyer)

The conference level in Kreishaus Detmold district administation centre was remodelled, redesigned and technically upgraded after 40 years. A difficult task in an existing building with a low storey heights. Modern drywalling provides the decisive contribution for successful remodelling.

Planning
Falko Biermann, schmersahl | biermann | prüßner Planungsgesellschaft mbH & Co. KG, Bad Salzuflen

Products
Knauf special constructions, Wallboard GKB, Knauf Acoustic Board Ceilings (type D127.de), Cleaneo Acoustic Boards with standard square perforation 8/18 Q, grids of UA profile and CD channels, Nonius Suspenders, Direct Connectors

Expert consultant
Dirk Rieger, Area manager drywalling systems
Michael Thorwart, Knauf Gips KG
Special calculation and projects (SOKO), Knauf Gips KG

Design solution

The complex round ceiling canopy has clearly defined tasks. The lowest level of the ceiling canopy is at just 2.35 m and mostly covers the large reinforced concrete beams. The intermediate level is approx. at the level of the beams (2.44 m), partly covering them and even integrating them into the ceiling landscape. The third and highest ceiling level consists of a Knauf Acoustic Board Ceiling (type D127.de). The cladding of the 2.52 m high ceiling consists of acoustic boards with standard square perforation 8/18 Q, covered on the top side with black fleece and mineral wool. All the utilities including the ventilation are located above the third ceiling level.

The substructure must have a very sturdy and robust design as the lower round ceiling canopy is suspended in a space saving way from the acoustic ceiling. For this purpose, reinforced Nonius hanger bottoms (suspended weight 0.4 to 0.6 kN), UA profiles 50/40/2, CD channels and direct connectors are used. The circular foyer ceiling canopy is suspended with Nonius Suspenders directly on the CD channels of the acoustic ceiling. Finally, electricians install energy-saving LED lighting elements in the centre of each of the round ceiling canopies.

The round ceiling canopies were provided with a 45° machined edge, the edges all around the ceiling canopy were backed with a machined GKB board and also with a 45° machined 50 mm high surround pre-installed ex-works. Some of the ceiling canopies also received visual protection with GKB coverings offset to the rear. The ceiling canopy segments were supplied on pallets and stored temporarily at a local dealer ready for call off. The Special calculation and projects (SOKO) department initially developed a circular frame made of four square tubes of radii 4161, 4819, 5539 and 6160 mm. The grids for the 32 segment type ceiling canopies were fitted surrounding these inclined tubular rings during the next stage. The particular challenge involved was the positioning of these segments under one another above the plenary hall ceiling and above the central circular ceiling, as well as over each other so that it was not possible to see behind the segments. Furthermore, the spacings of the 32 segments from one another and to the flanking ceiling components

Detail of the ceiling design in the plenary hall of the district administration centre in Detmold. (Photo: Jaeger Ausbau)

Ceiling construction of the foyer with the three ceiling levels during the building phase. (Photo: Jaeger Ausbau)

Preassembled kit for complete prefabricated canopy (Photo: Jaeger Ausbau)

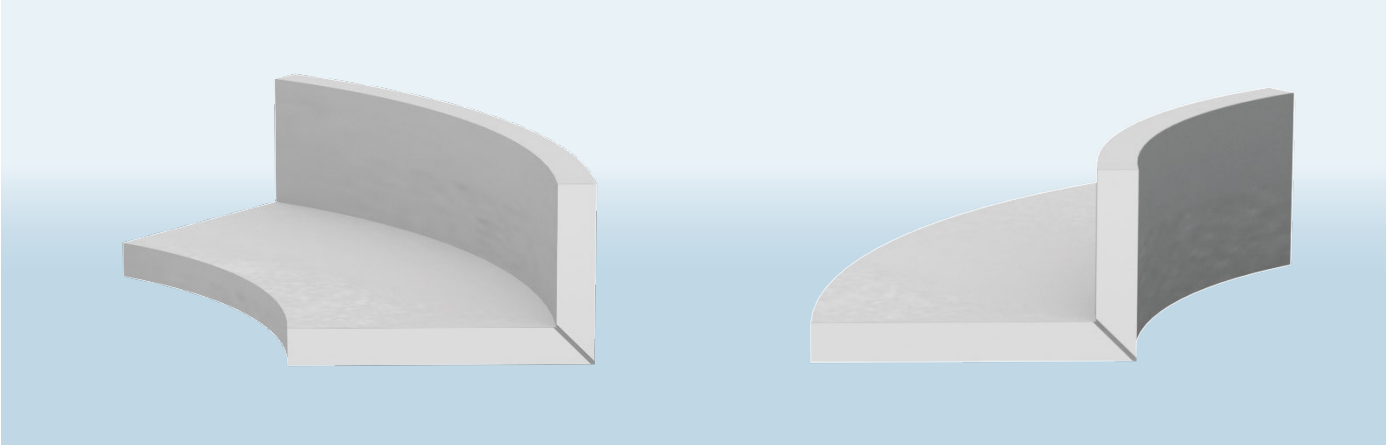
The new ceiling is arranged in three levels in height and cover the relatively low set reinforced concrete beams as well (Photo: Knauf/Clemens Ortmeyer).

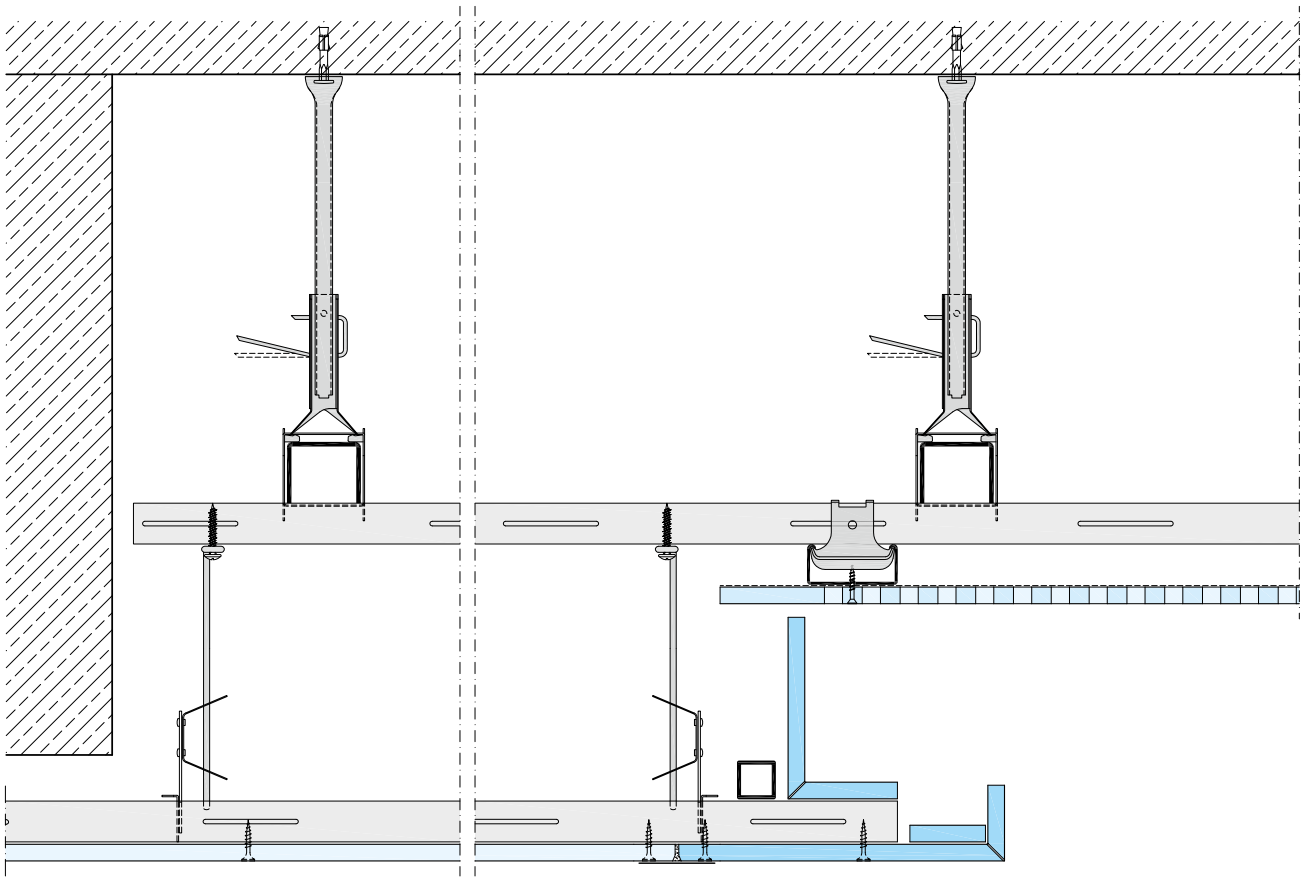
had to be precisely set, as each inaccuracy with the gap dimensions would have been immediately evident with such an intricate construction.
Knauf provided a professional adjustable system for the four large ring constructions and the matching inclined grid for the turbine-type blade segment arrangement. At the very conclusion, the aligned grid was clad with the perforated and partly mitred acoustic boards.

Conference level in district administration centre Detmold

Details

Three dimensional shaped units
Material: 12.5 mm Wallboard GKB, turned-up edges, curved and glued.





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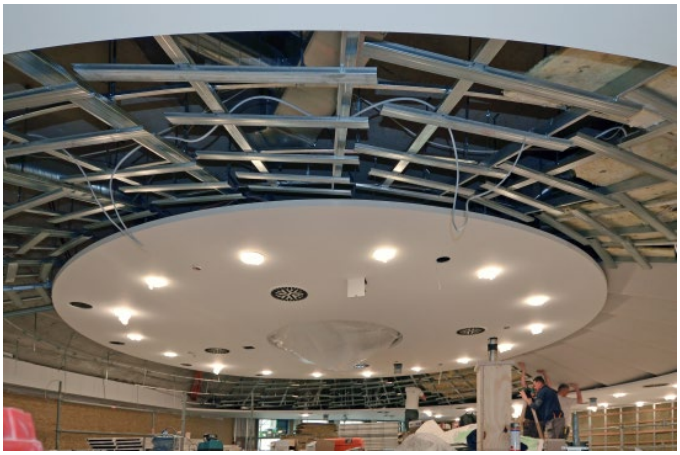
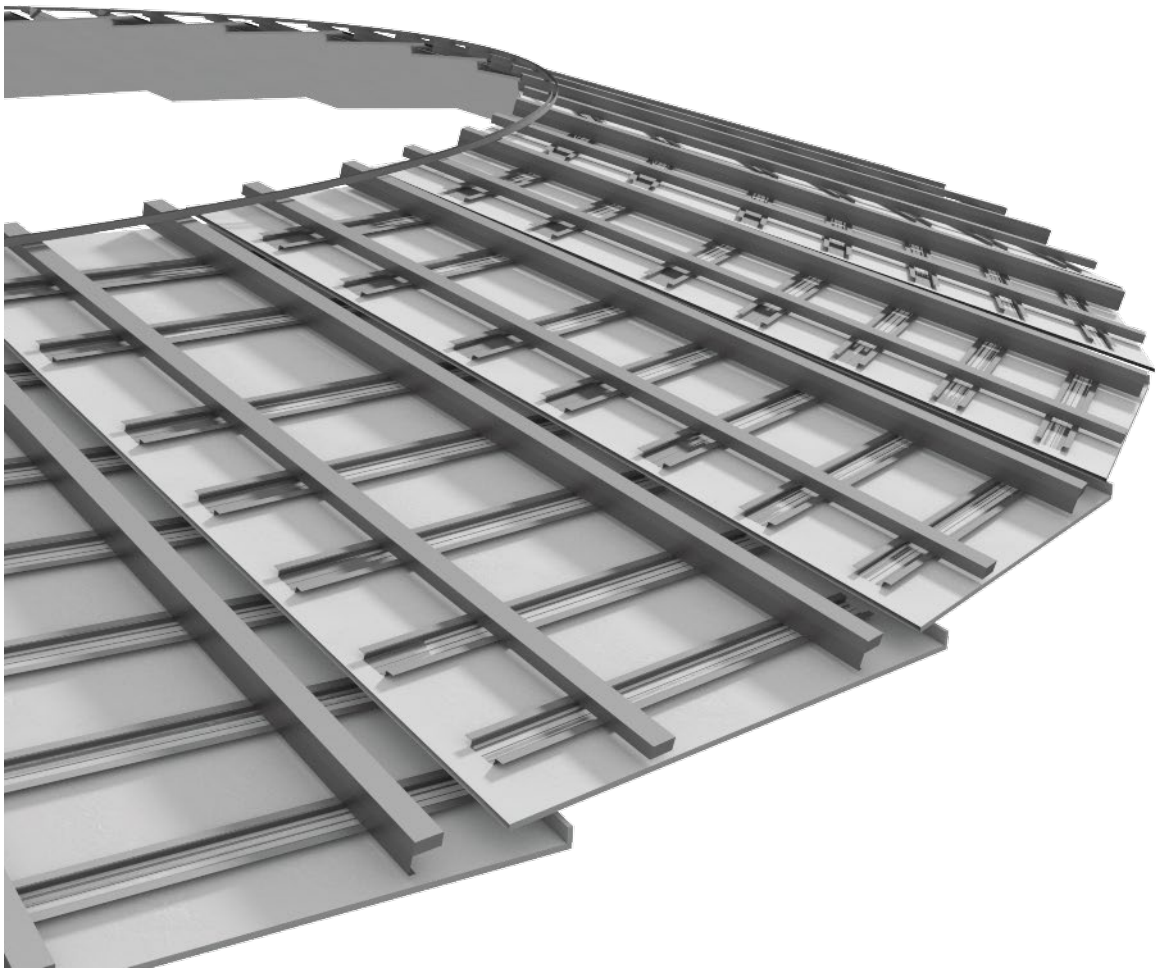


(Photo: Knauf/Clemens Ortmeyer)



Nespresso shop in Frankfurt

Prefabrication harmonizes quality, time and form

Well-rounded solution surrounding the Nespresso cup

Planning
Steguweit Brand Perspektives GmbH, Offenbach

Products
Knauf design units

Expert consultant
Karl-Heinz Schnitzer, Knauf Gips KG

Design solution

At the new Frankfurt boutique, the interior design architects and brand specialists Steguweit Brand Perspectives were inspired by the circular shape: For example, the round presentation elements on which the coffee machines, cups and other offers are presented. The coffee bar where the guests enjoy their Espresso is circular. And the floor covering accentuating the coffee bar and the presentation element also has a circular theme.

The most prominent mirror image of the concept is the ceiling construction of the shop. Four red, backlit circular cupolas show the way from the entrance area to the presentation element. A multi-level ceiling with integrated, embedded lighting towers with several layers above the coffee bar with a gigantic cup-shaped lamp at its centre. The presentation elements are also put centre stage by a backlit, circular canopy.

This ceiling landscape is made possible by Knauf boards and the craftsmanship of drywalling. Prefabricated constructional components were used exclusively by Debac Trockenbau GmbH, the company selected for the installation. The shapes planned using CAD drawings were produced by Knauf in Iphofen and delivered ready to fit to the building site. There they only have to be installed or assembled in the F90 rated subceiling implemented with Fireboard. Furthermore, lighting fixtures were installed with circular neon lighting guaranteeing consistent illumination. At the conclusion of installation, the installers plastered the gypsum board design units and frieze to Q4 quality. The result: Every curve is just like the next, every edge carried out to perfection, just like it should be.

The good preparation ensured that there were no problems. Ultimately, the drywaller only had four and a half weeks to complete all the work. “We would never have been able to do it without prefabricated elements”, stated drywall contractor Veselin Bakrac on behalf of Debac Trockenbau. Sophisticated premium drywalling is currently inconceivable without design units.” Nespresso Frankfurt is perfect proof of this.

Edges can be aligned exactly to the millimetre and bent to give the perfect shapes with the assistance of mitering. It permits quality and perfection on

Four red backlit circular cupolas guide you into the shop. On the left the coffee bar under a multi-level ceiling and gigantic cup shaped lamp.

Curved to perfection. This ceiling landscape was made possible by prefabricated design units.

Ceiling construction of the shop - The ceiling is suspended via many layers, the lighting is integrated and plastered in.

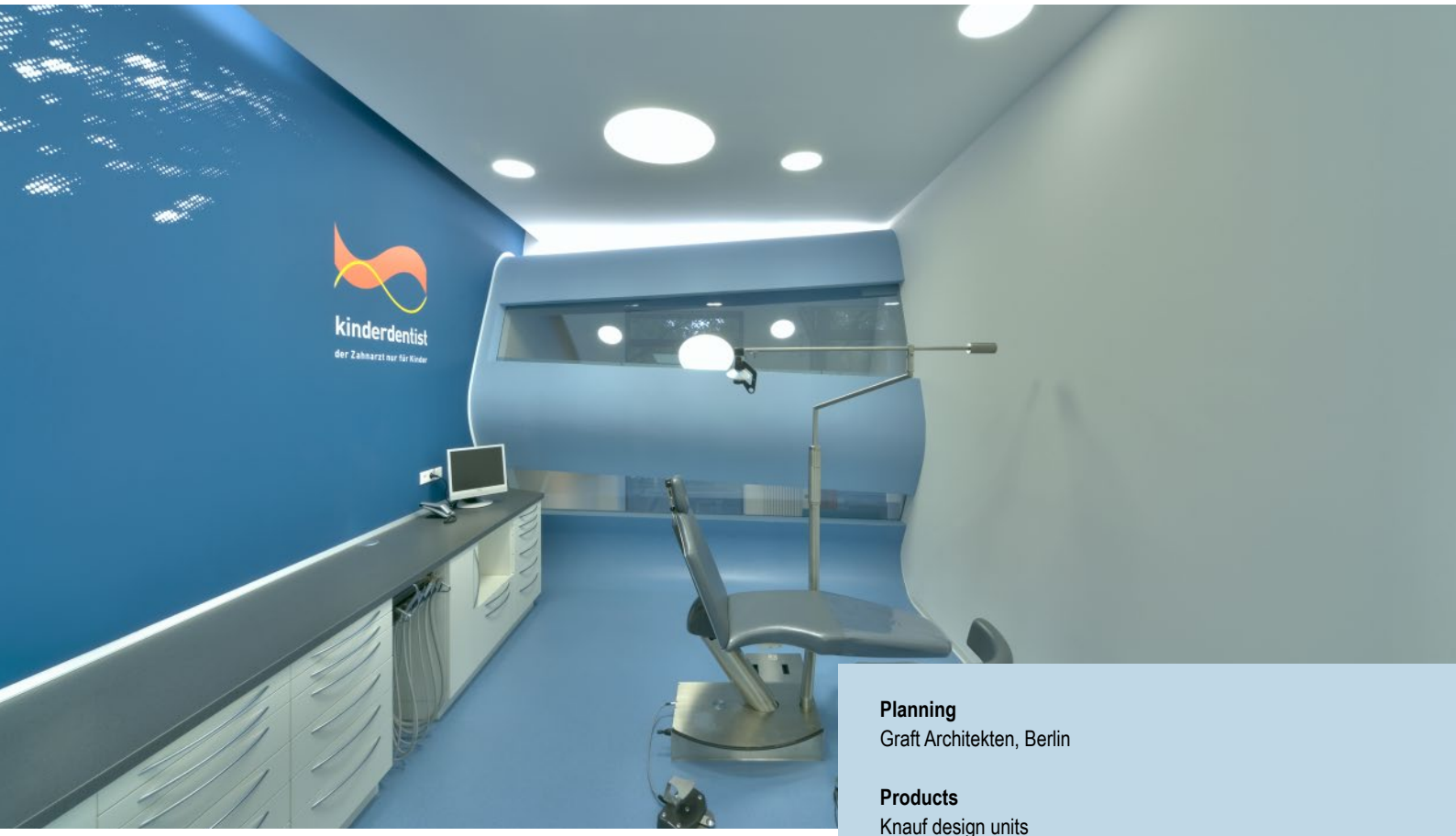
(Photo: Knauf)

the building site even with very tight deadlines. This applies even for unusual shapes such as circles or ellipses. As it is practically technically impossible to manufacture the optimum mitres on-site, customers can order the customized constructional component from Knauf and they will be custom manufactured in the factory.

Paediatric dental surgery in Berlin

A paediatric dental surgery makes waves

Drywalling creates an underwater world



(Photo: Knauf/Albert)

Thanks to the use of intelligent drywalling the paediatric dental surgery from Dr. Mokabberi in Berlin resembles the underwater world in the ocean.

Planning
Graft Architekten, Berlin

Products
Knauf design units

Expert consultant
Jens Schmeer, Knauf Gips KG

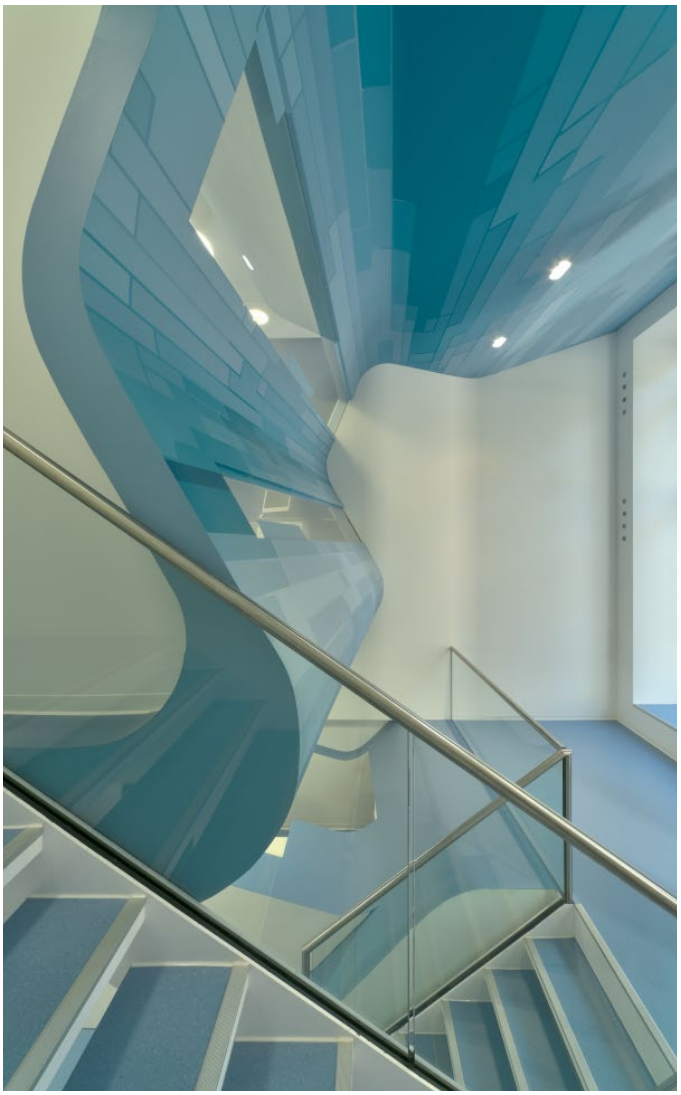
Design solution

It might be the sand dunes theme at a dental practice on the Ku´damm in Berlin, but there is a related theme at Kollwitzplatz: The sea, the waves and underwater worlds. At least for the first visit the children are impressed by the visual effects, and it is the intention to arouse their interest, win over their confidence and overcome their fears. If this is achieved the concept is a success. The young visitors are received by a giant wave that spreads out in front of them on the interior, but can also be seen from the street particularly when twilight is approaching, where the deep blue is illuminated through the window front. A fundamental issue facing the architects was the two storey layout of the premises that was originally conceived as a commercial floorspace with a workshop on the lower ground floor and with shop, office and residential space on the mezzanine floor. From the open, bright entrance to the former shop, your gaze is directed downwards to the reception desks. The waiting area is set up right behind it in a room to the left. Glass stairway and gallery railings ensure unrestricted perspectives. The ceiling above the lower ground floor rears up to a floor-to-ceiling Tsunami in the entry area. Two glass strips across the entire width of the wave give you a glimpse into the surgeries located as the front of the mezzanine floor; the children should see what is going on here.

The wave is featured in various intense blue shades. The underwater theme is continued along the walls of the surgeries in the mezzanine floors. Here shoals of white fish (with an individual orange-red specimen) cross the walls. The wave was not easy to manufacture from a constructional point of view. An I-beam spanning from wall to wall supports the flight of stairs and the projecting extension of the gallery, a construction made of 100 x 100 mm square tubing. The steel support structure for the wave and the grid profiles for drywalling are built on it. Bending radii of 10 cm were manufactured with prefabricated design units, the remainder with four layers of 6.5 mm Techniform Board cladding on site. For those drywallers who are accustomed to implementing GRAFT concepts, this task was not more challenging than usual. And of course the GRAFT architects have many ideas with this creation for the lighting concept

Modern moulding technology can be found across the entire paediatric dental surgery in Berlin. (Photo: Gallandi)

Drywalling from the lower to mezzanine floors. (Photo: Gallandi)



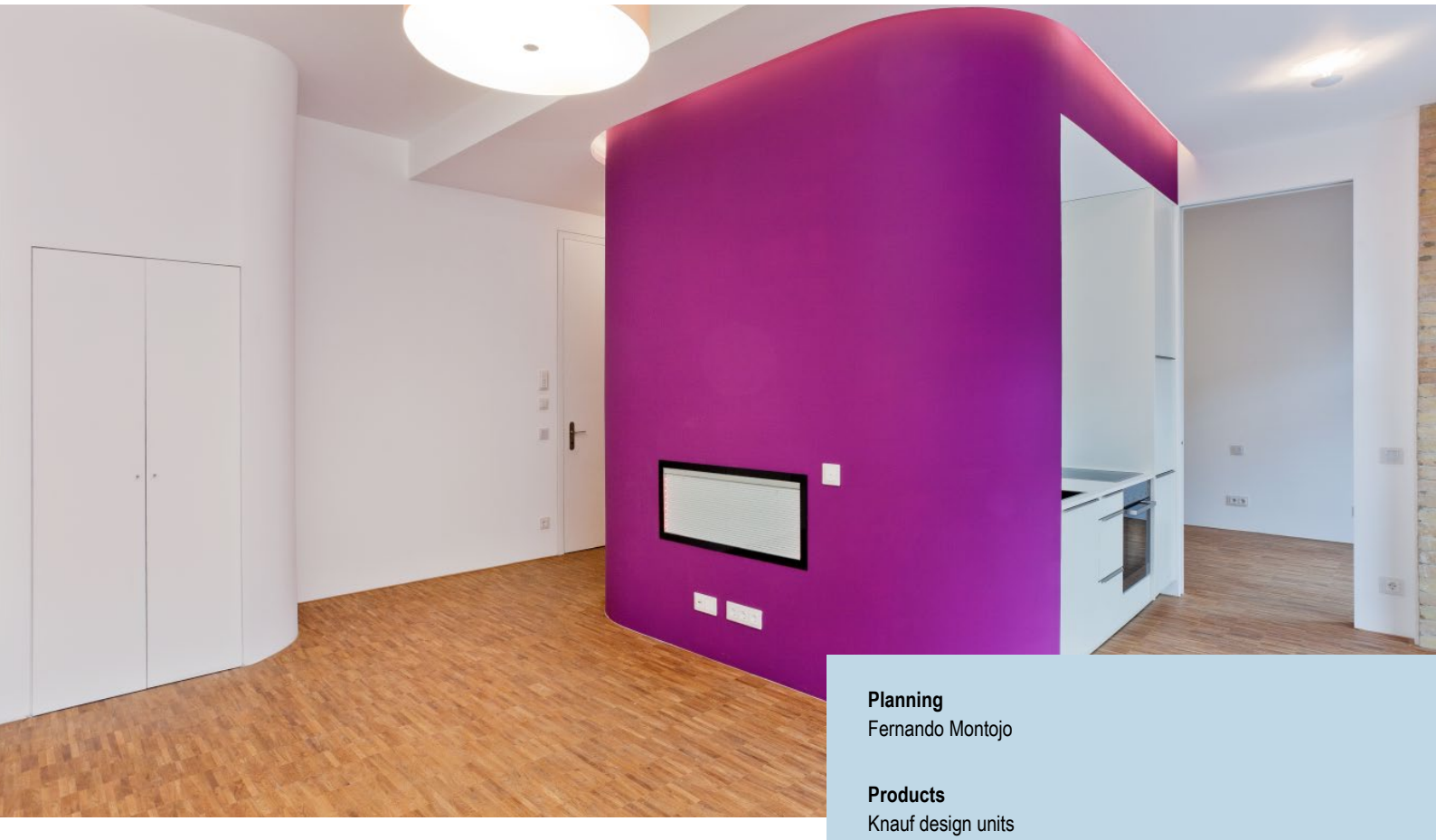
The wall and ceiling rear up to a floor-to-ceiling Tsunami in the entry area. (Photo: Gallandi)

using LEDs and indirect illumination.
The wall is constructed as a customized solution made of special 100 x 100 mm square tubing and Knauf CW 50 profiles. Narrow radii were clad with Knauf design units, further surfaces with four layers of 6.5 mm Techniform Board cladding on site. Ceiling construction according to the Knauf multi-level ceiling system with F90 basic ceiling and suspended exposed ceiling with integrated lighting.

e-living in Berlin

e-living of the future

Project 4: High level of interior design



Planning
Fernando Montojo

Products
Knauf design units

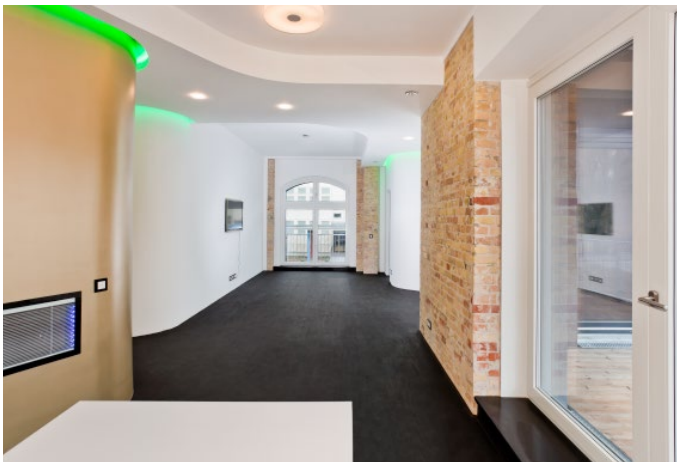
Expert consultant
Ralf Lehmann, Knauf Gips KG
Philip Schrape, Knauf Gips KG
Harry Kliebe, Knauf Insulation

Pioneering architecture, design and technology concept for former factory in Berlin realised with Knauf drywalling technology.

Design solution

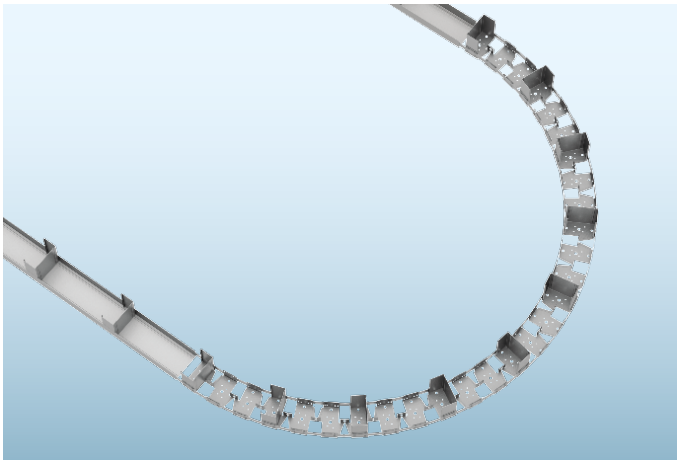
The project was realised with partners from industry, trade and research and their innovations. The involvement of Knauf in the partnership at an early stage proved to be optimum in filling the empty shell with ideas. Curvaceous room designs have the desired aesthetics and function thanks to Knauf know-how. Very high levels of fire protection and sound insulation requirements are implemented cost-effectively as shown, for example, by a current building acoustics quality test. It shows that a party wall built according to Knauf system methods achieves the sound insulation class between rooms III according to VDI 4100, exceeding it by 6 dB, which is a quality characteristic facilitating individual lifestyle choices. Knauf components such as the Pocket Kit sliding door element allow the residents to flexibly adapt the open room design to their individual requirements. The newly constructed penthouse level as a timber-framed construction also demonstrates the building physics as well as design performance of modern manufacturing methods applying Knauf drywalling technology. Even the design of the ceiling level with varying height levels and dynamic curves gives the space an area defining striking character. The integration of indirect and freely programmable recessed LED lighting underscores the spatial concept as well as controllable spotlighting installed in the ceiling level. Shelf space or seating are also included in the room design. “Drywalling is not just ideal for dynamic room design, but also serves us as a multi-functional level for a diverse range of technical and building physics requirements”, explained architect Fernando Montojo, who positively rated the close cooperation with the media partner Knauf. “Whether in the area of fire protection, sound insulation or in the development and implementation of design oriented details – innovation and know-how from Knauf were decisive in the cost-effective implementation of our presentation.”
The possibilities for prefabrication in drywalling are ideal in the e-living house. The Knauf Sinus profile is used for perfect radii ensuring that boards curved on site with convex or concave curves can be implemented with precision. Knauf Pocket Kit sliding door units with frameless reveals can be installed ensuring flexible room usage. The reveal – an innovative further development – is made

Drywalling know-how from Knauf forms the basis, and not just for the curvaceous room designs.



The party walls on the basis of the Knauf system W115.de as dual stud partitions, clad with Knauf Diamant and Knauf Piano, achieve a weighted sound reduction index R'_w of 65 dB. This is 12 dB more than the minimum requirement according to DIN 4109.

Frame with the Knauf Sinus profile



Detail view of the Knauf Sinus profile for curved walls.

(Photo: Gallandi)

consisting of design units manufactured by folded gypsum boards that are easy to install.

Ordnungsamt in Frankfurt

Distinctive spiral band structure

Spiral band structure realized with Knauf drywalling

Planning
Meixner Schlüter Wendt, Frankfurt am Main

Products
Knauf Cleaneo Acoustic Boards
Knauf design units

Expert consultant
Knauf Gips KG

A publicly accessible department with recognition factor. The Ordnungsamt (Public order office) in the Gallus city district is one of the most modern service centres in the City of Frankfurt. The building designed by architects office Meixner - Schlüter - Wendt on a triangular site has a meandering basic shape. The band theme is evident right through to the interior design. Lighting strips, manufactured from Knauf drywalling technology integrated seamlessly into the room, illuminate the foyer.

Design solution

"The requirements for fire protection and acoustics had to be solved as well as the integration of technology. In addition, the desired design shape was also a factor" stated Thomas Rohe, project manager of the installing company Heinrich Bollmann Innenausbau from Aschaffenburg, and he added: "The details and heights were discussed in advance with the architects and the technical consultants at Knauf to precisely define the individual design units." The ceiling construction is implemented with Knauf system D112.de. The basic shape of the lighting strips across differing levels consists of prefabricated design units installed on Nonius Suspenders. "The assembly procedure is comparable with the manufacture of a frame in which a picture is installed. In the Ordnungsamt, the design units are installed, and subsequently the perforated ceiling with straight perforation as an acoustically active area is sandwiched in it" is how Rohe exemplified the construction. The ceiling levels located at different heights were particularly challenging during installation in the connection areas. The sculptured shaping with its impeccable appearance is achieved by careful filling as well as surface quality Q3. Precision planning and detail work in interior fitting becomes clearly evident at the point where the different trades interact. An effective and at the same time cost-effective lighting concept was implemented in conjunction with drywalling technology. "We continued with the band theme and devised lighting slits manufactured from gypsum design units, in which neon tube lighting is installed", stated Schlüter, indicating a cost-effective solution thus enabling the construction of a sophisticated ceiling solution with a limited budget. And the transition of the vibrant band structures through all room levels from the wall into the floor level impresses. The terrazzo floor surface pulled about 30 cm into the wall level without a step via fluting. As all the surfaces have a similar level of brightness, it creates the impression that the white ribbon continues on its way. "We have created sculptured rooms and chosen gypsum as the material for realisation, as it has a malleable quality", stated Schlüter about his choice. "In combination with the bright terrazzo floor, tension is created between the abstract material gypsum and the identifiable material stone." Even the transition from the

Split level ceiling in S arch form

Aesthetic design of the Ordnungsamt in Frankfurt.

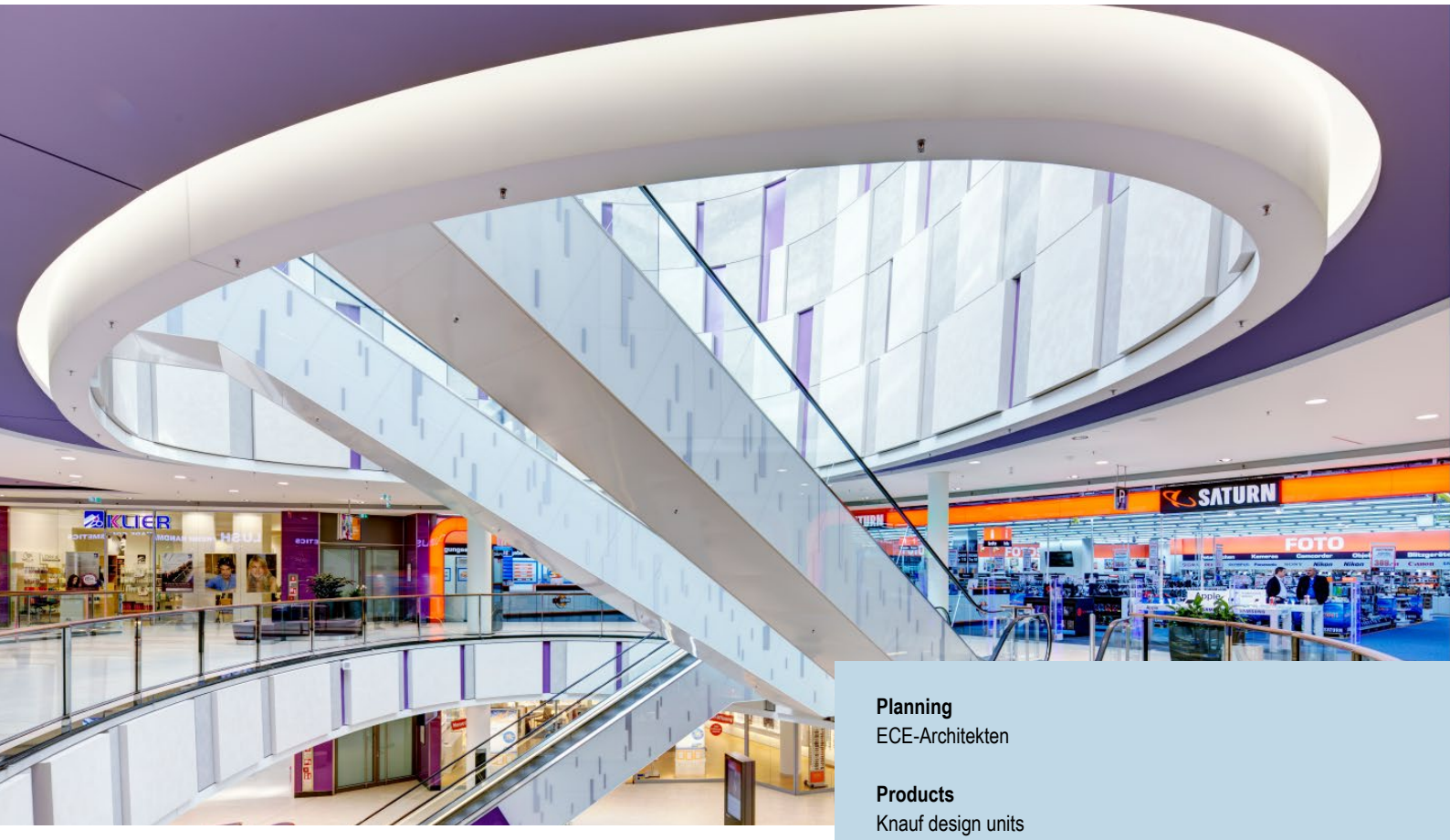
Ceiling lining with Knauf Cleaneo Acoustic Boards (Photo: Knauf/Albert)

foyer to the cafeteria, which was to be treated as a fire zone according to the building codes and standards, adheres to the band design concept spanning the spaces. Glazing as well as a glass door in F90 quality guarantee the required fire protection watershed. Optically however, it assures the spatial link whereby the fire protection glazing is not perceived as such. The frame construction is cleverly concealed behind Knauf furring.

Skyline Plaza in Frankfurt

Shopping as a design experience

Knauf design units in Skyline Plaza Frankfurt



38,000 m² of sales floors, 2,500 running metres of L-shaped design units 600 linear metres of freeforms: The Skyline Plaza shopping paradise is a highlight of free design. Prefabricated design units and detailed installation plans make it possible.

Planning
ECE-Architekten

Products
Knauf design units

Expert consultant
Ekkehard Scholz, Knauf Gips KG

Design solution

On the leading front the respective individual elements are implemented in various radii. On the rear edge they align with the rear walls that are also inclined at varying angles, to which they are mounted.

16 amorphous ceiling rafts with integrated curving recessed lighting put the passageways above the galleries into the right lighting perspective. They individually measure about 4 m in width and 8 to 10 m in length. Ten to twelve individual elements, each with double cladding applied, were required to construct ceiling rafts of this magnitude. They too consist of design units which were manufactured including the prefabricated bevelling for the lighting and assembled by specialists on-site. Similar coves and recessed lighting embellish the remaining ceiling elements of the building. They run as decorative framing along the façades of the shops, and four times in a row around the central plaza of the mall as well as around both the secondary centers at the ends of the shopping paradise and thus mirror the shape of the building in the ceiling.

This shape also posed the greatest challenge of this project for the drywallers. “I can create a circular shape myself on-site, then scribe it and construct it”, stated Loch. However, with the freeforms in the Skyline Plaza this was not possible, “as we did not have a reference point where we could commence measurement.” The open spaces in particular were difficult to measure. Sometimes there was just a single axis that the installers could use as a reference. “We had to place reference center gauges every 50 cm from this axis, sometimes even over a length of up to 50 m. We then had to attempt to establish the freeform on this basis”, he continued. He is convinced: ”Without the use of detailed installation plans and prefabricated elements it is impossible to build something like this in high quality.” This is why the drywallers employ Knauf manufactured design units planned using CAD engineering. 2,500 running metres of L-shaped design units are required for the project. Additionally, 600 linear metres of freeforms created on a template basis were also applied. Heiko Loch knows: “With just eight months of construction time, a project of the level of sophistication such as that of the Skyline Plaza can

The coloured curved elements of the relief structures on the wall surfaces curved at varying radii making up the mall eyes consist of prefabricated gypsum boards.

Recessed ceiling levels with recessed lighting guides the visitor and aptly puts the shopping arcades in the limelight. More than 2500 linear metres of L design units were installed.

Staggered ceiling levels break up the large surfaces. The prerequisite for a perfect surface was created by Knauf Horizonboards with tapered edges around the perimeter.

Free formed ceiling rafts with integrated curving recessed lighting put the passageways above the galleries into the right lighting perspective. Ten to twelve individual elements were required to construct the ceiling raft.

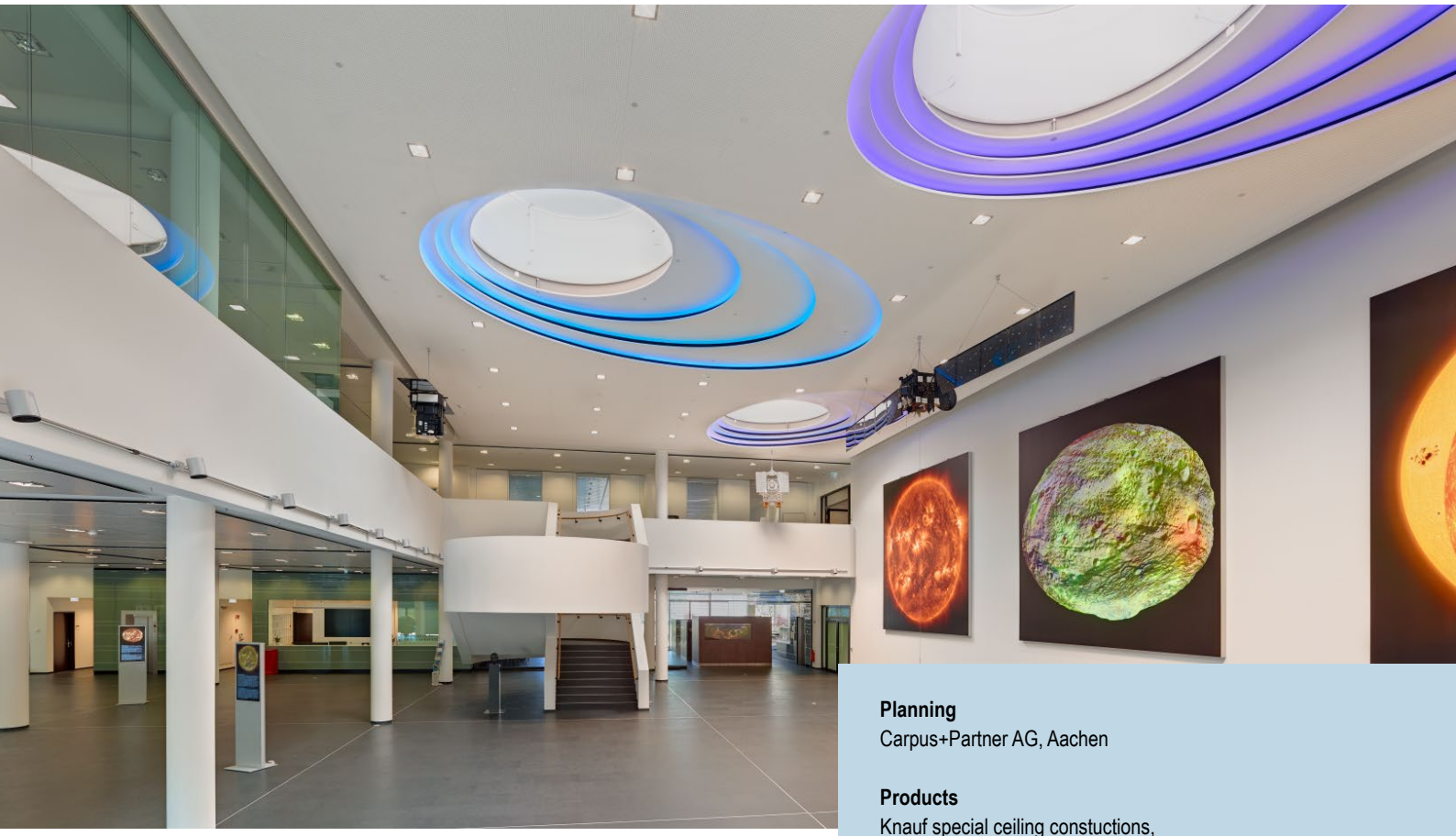
(Photo: Knauf/Lustenberger)

only be undertaken on the basis of prefabricated elements and not by hand. This is only successful when planned together with the manufacturer when they provide all of the individual elements from the axis involved as well as the corresponding installation plans.

Max-Planck-Institute in Göttingen

Precise orbits

Elegant Knauf special construction to a high level of sophistication



(Photo: Knauf/Braun)

The elliptical ceiling construction in the new Max-Planck-Institute for Solar System Research in Göttingen demanded expertise from all involved. The planetary orbits were machined into the gypsum boards via CNC control. Knauf provided the special construction.

Planning
Carpus+Partner AG, Aachen

Products
Knauf special ceiling constuctions,
Cleaneo Linear Acoustic Boards

Expert consultant
Ekkehard Scholz, Knauf Gips KG
Special calculation and projects (SOKO), Knauf Gips KG

Design solution

The creative response of the architects to the Rosetta mission is reflected in the two-storey foyer. Here three different elliptical skylights are cut into the ceiling as a design element that represents the planetary orbits of the solar system. In the centres of each of the three elliptical constructions installed in the main foyer is a skylight that practically represents the sun. And as this is particularly complex, the drywalling is also based on complex figures. At the latest when the formula $e=\sqrt{a^2-b^2}$ comes into play, it becomes evident that no point on the elegant curvature can be determined using the usual measuring tools. A ceiling construction of this type is not possible to implement on site with the usual effort and expense.

The CNC controlled milling machines in Iphofen are conceived for these types of formula and capable of machining the fine curvatures with millimetre precision. The technicians at Knauf simply needed to divide the ellipses into useful individually manufacturable board sections. The ceiling constructions of varying elliptical sizes with maximum 6.80 metres, 8.70 metres and 6.90 metres were machined into a total of 125 gypsum boards. Most of the boards were also reinforced of elliptically machined GKB and OSB strips. The kit sections were numbered and delivered to the building site.

Starting from the central skylight, the drywalling specialists installed the individually numbered 12.5 mm thick boards of the elliptical construction in the intended direction according to the Knauf installation plan. The front edges of all boards are provided with a 45° machined edge and backed with a corresponding GKB strip. Approx. 80 mm higher, and also under 45° machined board strips were mounted with a curvature on the front end and subsequently cut to fit level to the surface with the backing GKB strips. This creates a precisely formed 25 mm high front edge. The prefabricated boards from Knauf also have a reinforcement on the rear of the elliptically machined area implemented with an OSB ring precisely machined to the required geometry. This ring acts simultaneously as an end limit for the GKB sealing of the ellipse and is set back 150 mm from the front edge. In this way, a box results between the front gypsum strips and the rear seal, where a coloured

The inspiring foyer is the interface between the public outer area and the research laboratories. (Foto:Knauf/Braun)

A sophisticated ceiling construction characterizes the foyer of the Max-Planck-Institute for Solar System Research in Göttingen. (Photo: Knauf/ Braun)

Detail split level ceiling (Photo: Ruben Peter Ausbau GmbH)

Detail of the ceiling construiction in the Max-Planck-Institute. (Photo: Ruben Peter Ausbau GmbH)

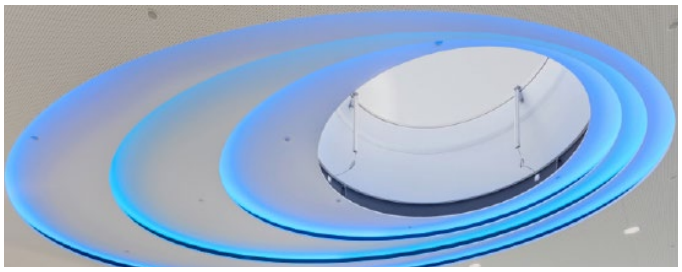
LED strip has been installed. Where as the ceiling is fully white, the seals are blue. All surfaces of the ellipses are completed to quality level Q4. In addition to the three ellipses in the foyer, there are three further ellipses in the corridors of the institute. The design of these ceiling constructions only differs marginally from that of the described foyer ceiling.

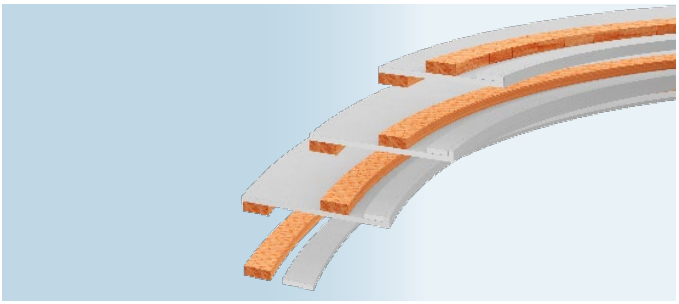
Max-Planck-Institute in Göttingen

Details

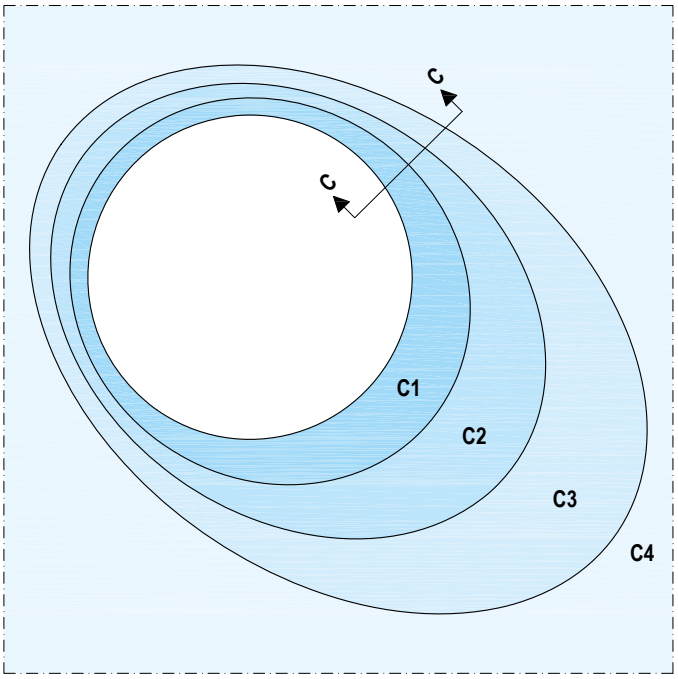
Design units made of 12.5 mm Wallboard GKB, prefabricated with wood reinforcement

Scheme drawings I All dimensions in mm

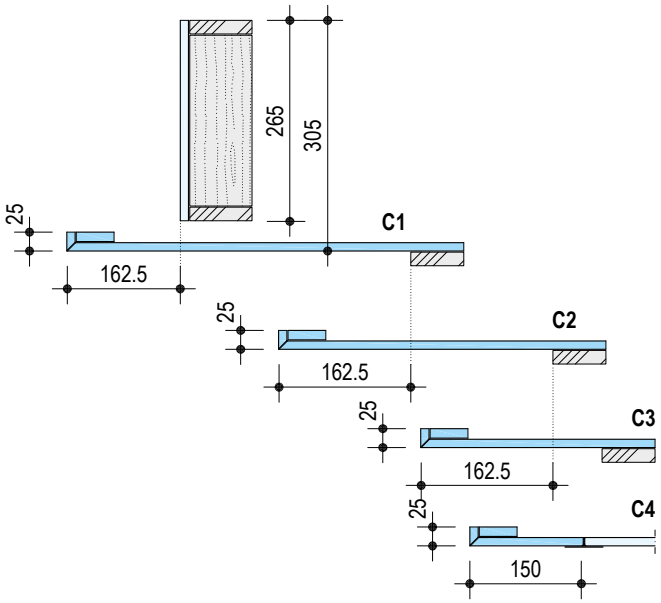




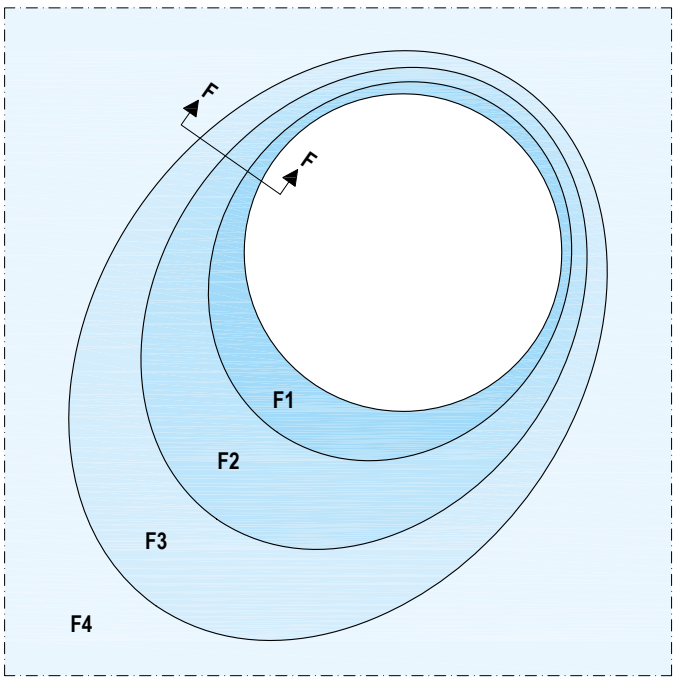
Ellipse C



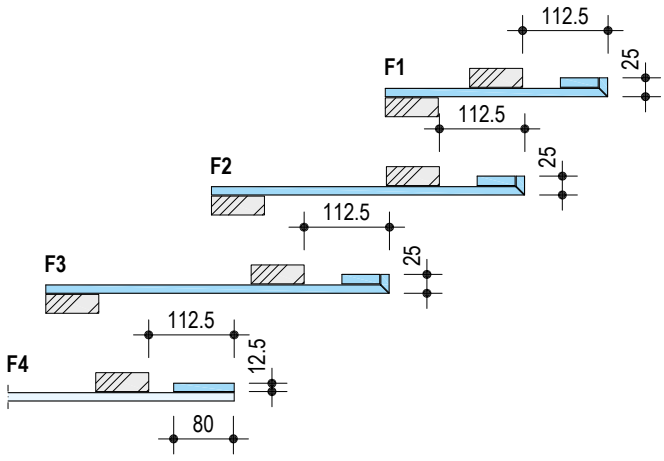
Section C-C



Ellipse F

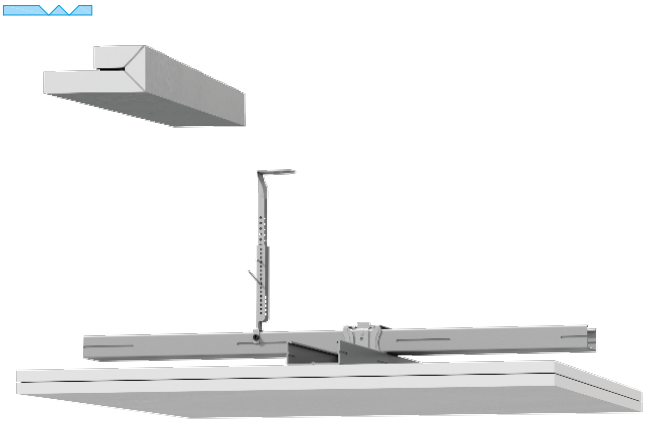


Section F-F

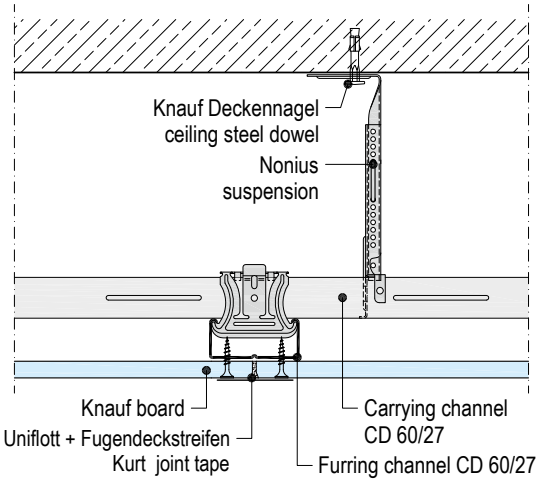


Details

2x 90° miters

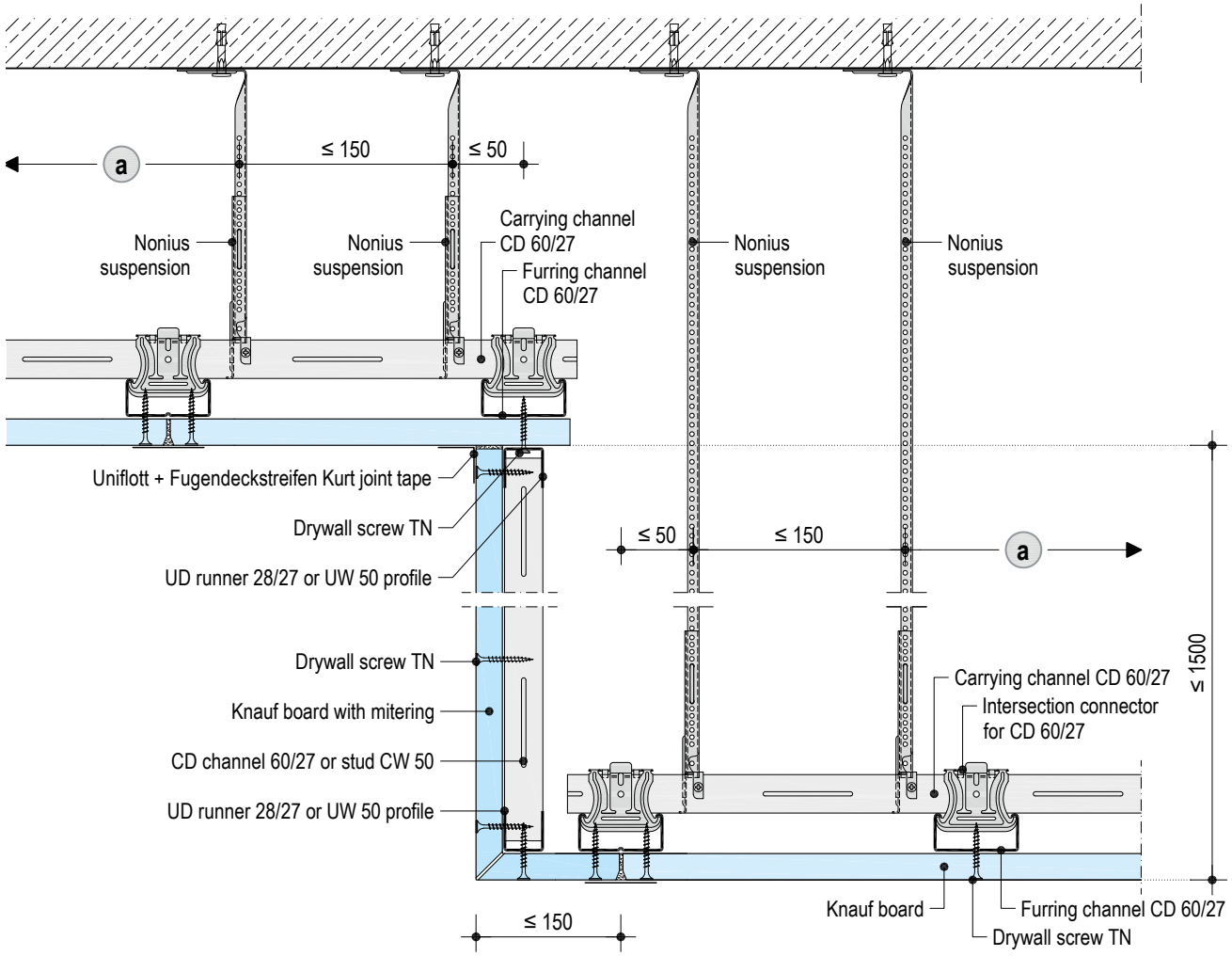


Scheme drawings



Scale 1:5

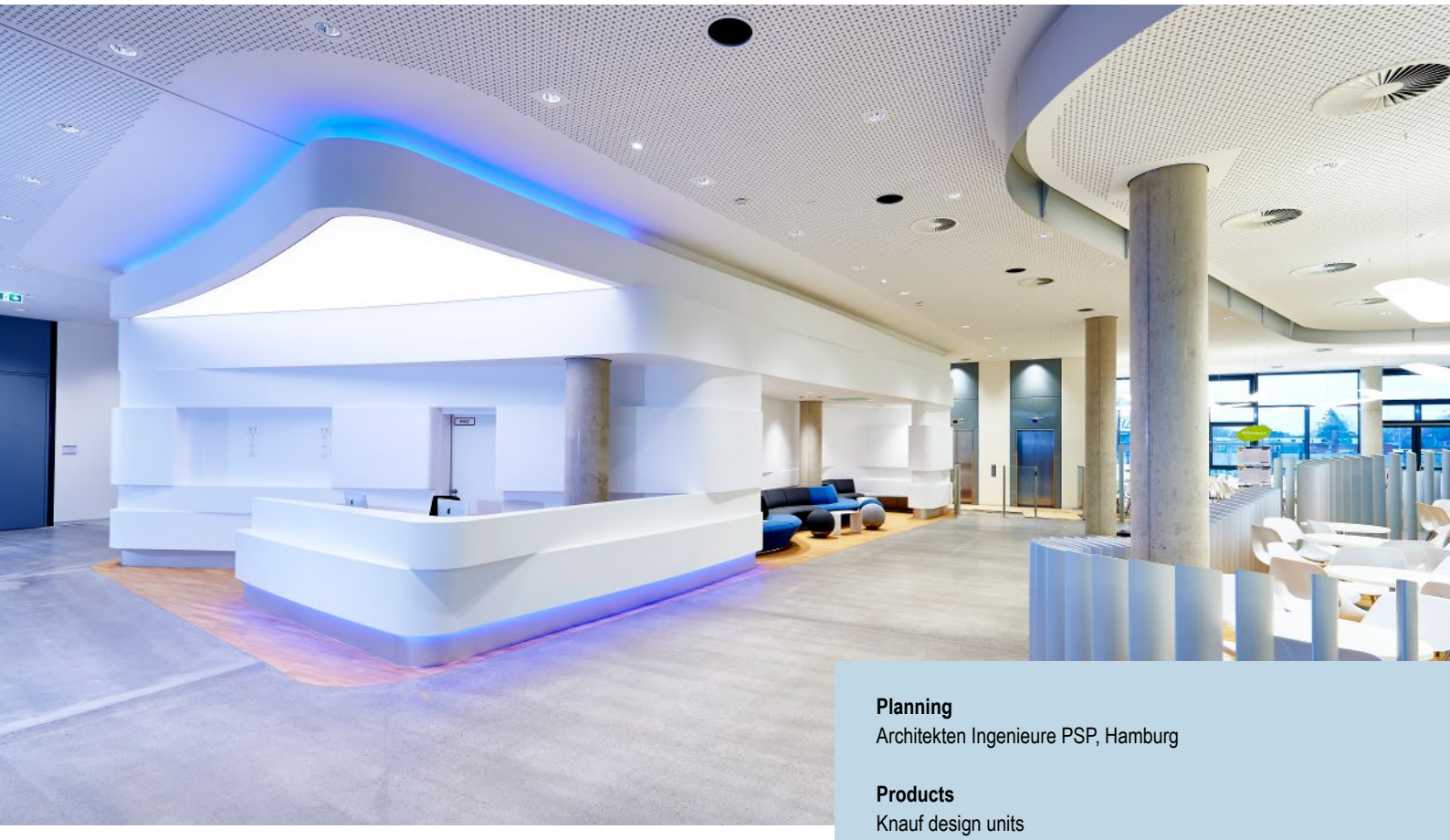
Scale 1:5 I All dimensions in mm



ZAL Finkenwerder in Hamburg

Drywall design at ZAL Finkenwerder in Hamburg

Light, curvaceous, aerodynamic



Planning
Architekten Ingenieure PSP, Hamburg

Products
Knauf design units

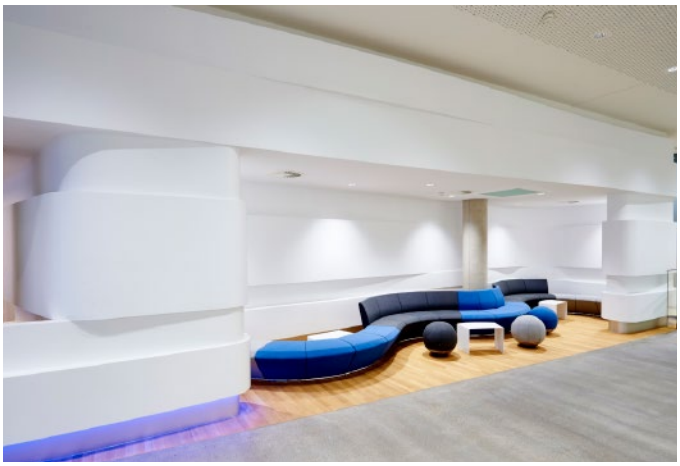
Expert consultant
Ekkehard Scholz, Knauf Gips KG
Hanno Maeding, Knauf Gips KG

As if lightly sketched by hand and finished with exactly the same zest is how the wall elements that are curved and stacked on one another in the prestigious reception and waiting area are fashioned at the Center of Applied Aeronautical Research (ZAL) in Hamburg-Finkenwerder. Tailor-made drywall installations made of Knauf design units allow you to design a diverse range of shapes that are as elegant as they are sophisticated.

Design solution

The building complex located by the water consists of two hall buildings for research purposes housing the most advanced laboratories in the aerospace sector. There is space for up to 25 rental units on an area of 25000 m² here. Around 600 people work here. Connected to both of the research buildings is an office wing and a connecting structure with conference, gastronomy and exhibition areas. The project costing 20 million was completed at the end of 2015, and the City of Hamburg, the aerospace company Airbus and Lufthansa Technik are each involved with a 20 percent share as principal shareholders. Also on board are the aerospace supplier industry in the metropolitan region as well as Hamburg's most important universities and the German Aerospace Center (DLR). The drywall landscape, a radial body, is located as an island in the connecting structure of the ZAL and features a prestigious reception area. The core element is the counter area in an aerodynamically curvaceous triangular shape. The entire drywall radial body is surrounded by a parquet floor strip. It is located in the center of the hall floor made of a mineral material, which also highlights the island situation. Architect Ulrich Joachim from Architekten Ingenieure PSP Hamburg explained: “The area with the radial body has a key guiding function: On the one side you will find the elevators and the cafeteria, on the other the conference area. Our design took its inspiration from the curvaceous, rounded shapes in the interiors and exteriors of aircraft construction. This was very beautifully mastered within the constraints of the budget with the drywall design units from Knauf. Materials like those used in aircraft construction such as lightweight metals would have been too expensive.” But it was not just the design possibilities of the Knauf design units that were convincing. The wall and ceiling elements are also functional, on the one hand regarding room layout and orientation, and on the other hand with respect to the demands placed on fire resistance, room acoustics or sound insulation.

Diverse Knauf design unit designs, curvaceous and stacked on one another, with recesses, inclined sloped projections, etc. form the rear wall of the counter and the walls in the lounge area. Knauf recessed lighting on the



Soft curvaceous, horizontally arranged wall installations made of Knauf design units form the lounge.

Rounded Knauf design units are also located on the ceiling of the canteen areas in the reception area of ZAL, sectioned off by aluminium pedestals.

Like an aircraft nose, the drywall construction made of Knauf design units projects into the lounge of the ZAL Finkenwerder.

(Photo: Mier)

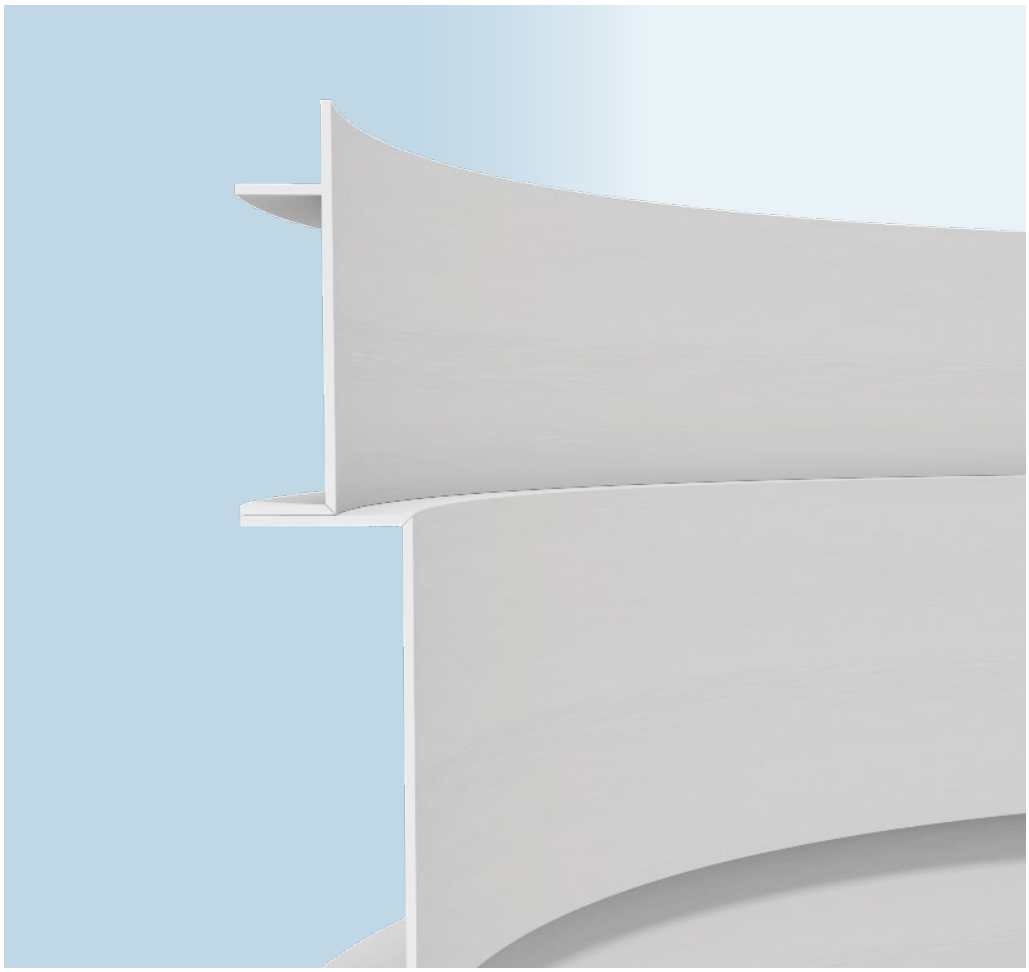
recessed base allow the counters to appear to float just like the suspended ceilings above them. A fair-faced concrete support provides a visual reference for the counter construction. The ceiling design resembles an aircraft wing with its rounded triangular shape. An illuminated wide shadow gap underscores the lightness and sets the counter ceiling apart from the acoustic hall ceiling in a sophisticated manner with its round ceiling projections made of Knauf design units. From below, the Knauf ceiling design unit is covered by a backlit stretched ceiling ensuring a warm and inviting reception. Shadow gap, stretched ceiling and counter base can be illuminated synchronously or individually with coloured light in all RGB colours, for example, in the CI colours of the visiting company.

For site manager Alexander Kolm from Innenausbau Matthias Mier GmbH it was clear that the sophisticated design ideas of architects PSP could only be realised with Knauf design units as a manual special fabrication. Free forms of all types are possible on the basis of CAD drawings.

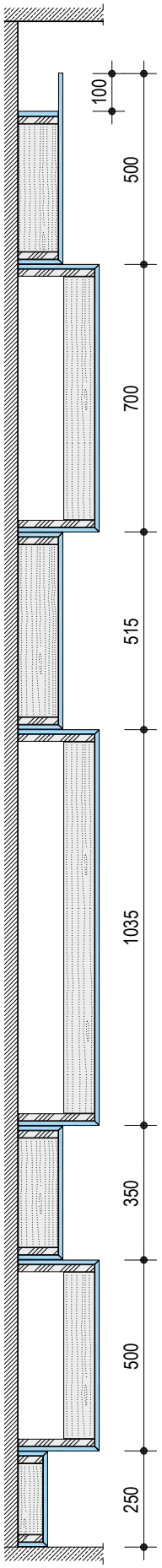
ZAL Finkenwerder in Hamburg

Details

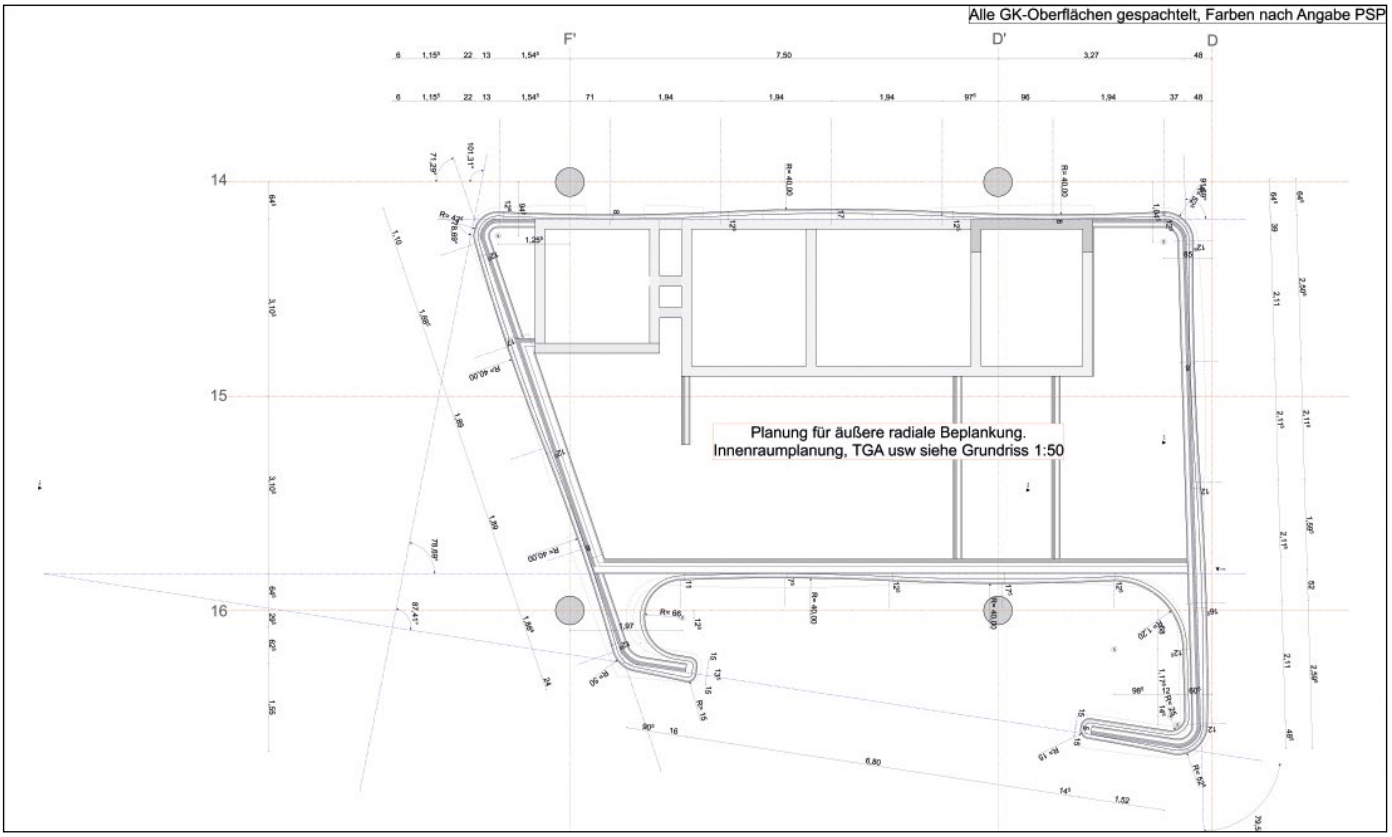
Design units, three-dimensionally curved and turned-up edges with OSB/ gypsum fibre board reinforcement



Scheme drawings I Dimensions in mm



Details


Alle GK-Oberflächen gespachtelt, Farben nach Angabe PSP
F'
D'
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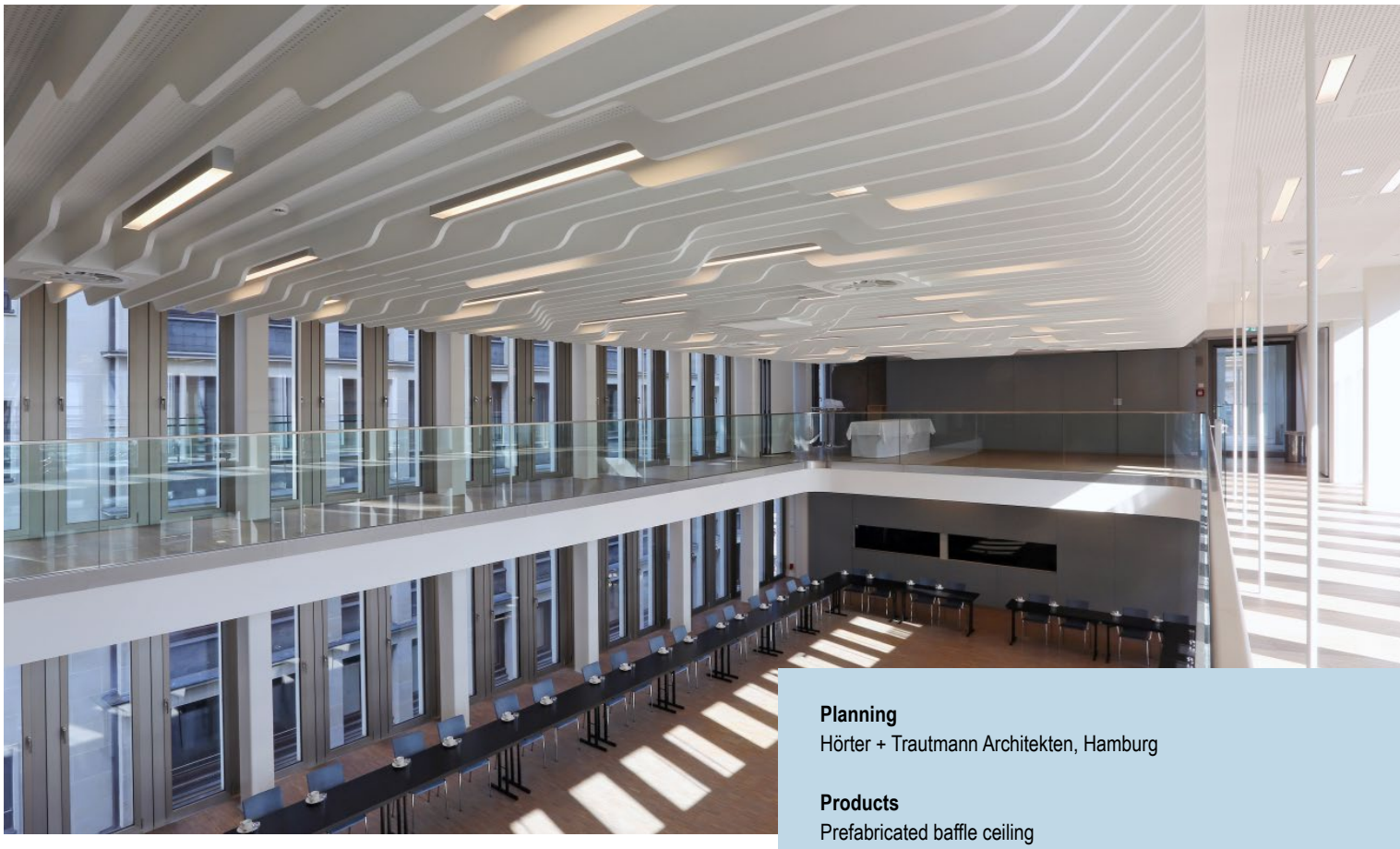
14
15
16
Planung für äußere radiale Beplankung.
Innenraumplanung, TGA usw siehe Grundriss 1:50

HK Handelskammer in Hamburg

North sea waves break sound

Suspended ceilings conceal the ventilation system



The ceiling construction in the auditorium of the InnovationsCampus of the HK Handelskammer in Hamburg (Hamburg chamber of commerce) resembles the waves of the North See. The complex acoustic ceiling conceals the central ventilation system of the building.

Planning
Hörter + Trautmann Architekten, Hamburg

Products
Prefabricated baffle ceiling
Knauf special constructions
Knauf Cleaneo Acoustic Boards with standard circular perforation 10/23 Q and standard square perforation 8/18 Q

Expert consultant
Ekkehard Scholz, Knauf Gips KG
Special calculation and projects (SOKO), Knauf Gips KG
Michael Thorwart, Knauf Gips KG

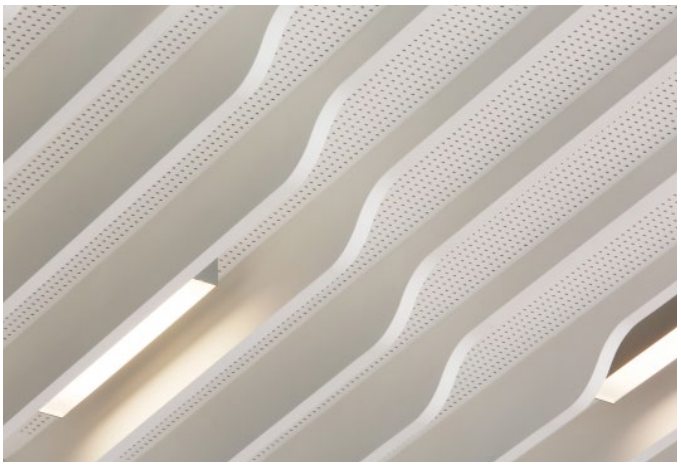
Design solution

In the baffle ceiling area, Knauf Cleaneo Acoustic Boards with standard circular perforation 10/23 R were used and laterally above and below the gallery Knauf Cleaneo Acoustic Boards with standard square perforation 8/18 Q were used. These ceiling surfaces with a rated sound absorption coefficient α_w of at least 0.6 comply with the requirements of sound absorption class highly absorbing. The basis for the baffles are 30 mm thick, straight and curved hollow bodies consisting of milled and mitered 6 mm thick Wallboard GKB. The baffle sections are backed, depending on the requirement, with U profiles 18 x 30 mm or 18 mm thick gypsum fibre boards. The integrated U profiles are not just intended as bracing, but also as the grid and supporting frame for screw fixing the baffles to the furring channels of the ceiling construction. Every baffle consists of about 11 parts, of low and high straight joists, of wave-shaped transitions and of side elements that enclose the ceiling panelling at the height of the galleries.

A total of 16 different baffle types were envisaged whose shape results in a ceiling with diverse wave fronts when placed in a row. A wave shaped ceiling made of 66 baffles evolves by different combinations of 16 types. In total the abundant ceiling construction of the large hall consists of at least 1000 prefabricated design units.

An extensive grid system must be mounted for installation of the ceiling. Diagonal to the auditorium, carrying channels (CD 60/27) suspended on Nonius hangers in a grid of 210 mm and below them furring channels (CD 60/27) in the longitudinal direction of the hall every 300 mm were installed with Intersection Connectors. The aim was to use traverses to bridge the ventilation ducts already installed by the ventilation system engineers. Common to all baffle sections is that they terminate on the top side with a U profile. This profile is screw fixed during installation to the furring channel. The backing of U profiles of gypsum fibre boards ensures a precise alignment of the individual baffle parts to each other and ensures perfect results with the finish. When a baffle has been put together and jointed, a 195 mm wide and 1998 mm long board strip with continuous 8/18 R perforation follows. The drywaller

Perfect integration of the ceiling panelling by laterally arranged baffles.



Interplay of baffles and perforated board strips.

Finned section during prefabrication: The prefabricated side elements of the fins are backed by 18 mm thick gypsum fibre boards.

Perfect wave fronts on the ceiling of the large auditorium in the InnovationsCampus of the HK Hamburg.

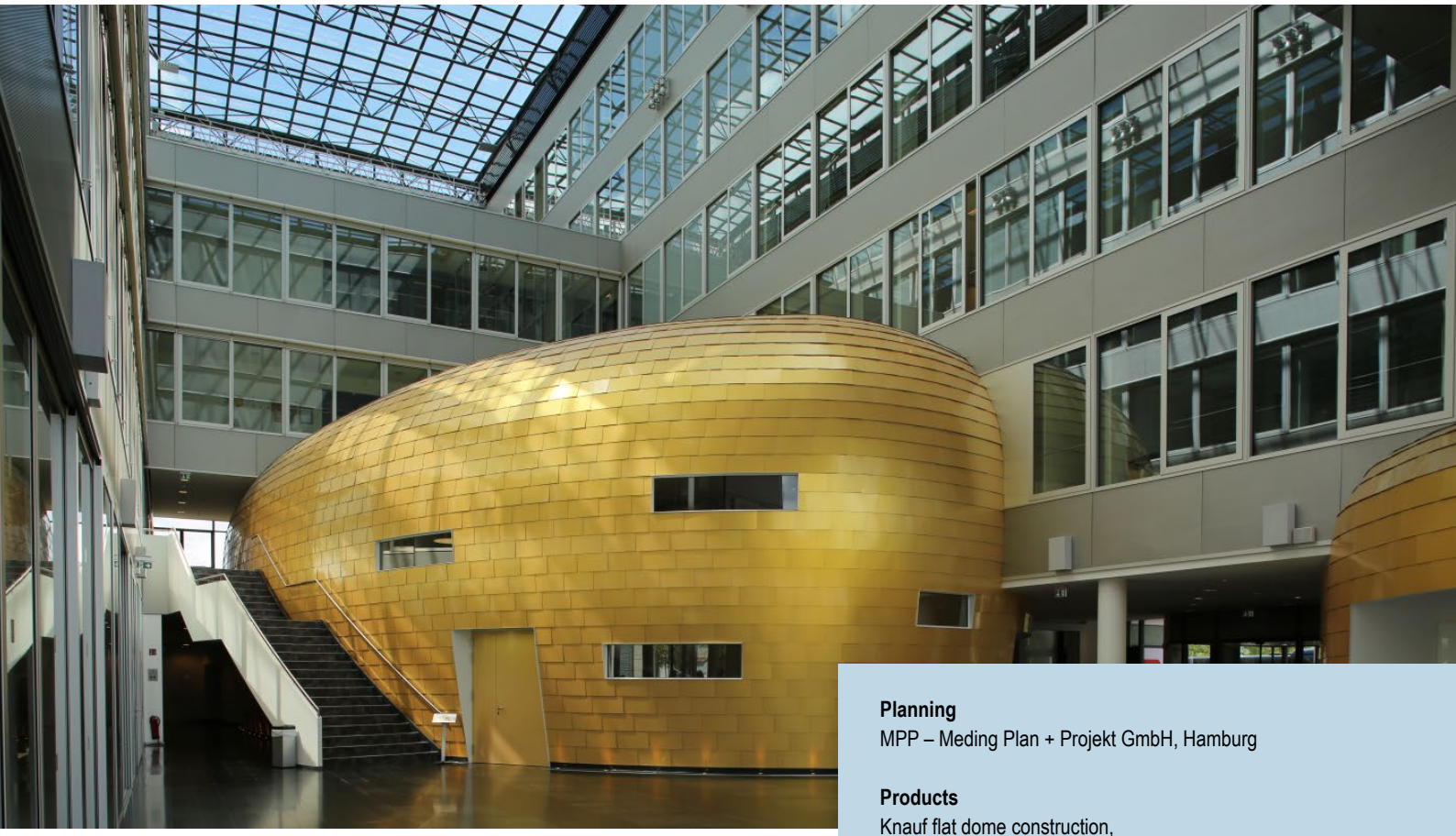
(Photo: Knauf/Halama)

subsequently installs 20 mm thick mineral wool boards in the plenum above the perforated boards.
Acoustical board ceilings with standard square perforation 8/18 Q were installed and backed with 20 mm thick mineral wool boards all around the central waved ceiling and above and below the side galleries. Frameless lamps and loudspeakers are integrated into these ceiling areas.

Kühne Logistics University in Hamburg

Study at the golden egg

Space-defining drywalling with Knauf



(Photo: Knauf/Halama)

A golden egg is located in the middle of the atrium of the Kühne Logistics University in Hamburg's fashionable HafenCity. It includes an auditorium that seats 299 and consists of curved steel, rounded glued timber and intelligent drywalling from Knauf.

Planning
MPP – Meding Plan + Projekt GmbH, Hamburg

Products
Knauf flat dome construction,
Installation shaft wall construction W635.de

Expert consultant
Jörg Schröder, Regional Market Manager Drywalling, Sales Region North, Knauf Gips KG
Special calculation and projects (SOKO), Knauf Gips KG

Design solution

The concept of a golden egg breathing new life into an austere existing building is fascinating. Drafted with a visualisation software in the existing atrium, the appearance of the intended design quickly became clear. Then the real specifications to be implemented by the planners followed: 299 seats, escape routes at least 1.20 m wide on the inner left and right of the seating rows, and an exterior escape stairway at least 2.00 m wide. For the interior of the auditorium the architects demanded a sound reduction index $R_{w,R}$ of 47 dB. This demand also applied for the straight partition to the existing building, a freely-suspended and acoustically decoupled installation shaft wall spanning two stories. Jörg Schröder, Regional Market Manager Drywall North at Knauf, solved this task with the Knauf Installation Shaft Wall W635.de, which was structurally upgraded (2x UW150, axial spacing 417 mm, cladding 2x 15 mm Diamant boards), so that the drywall construction could freely support the required 7.50 m. One of the main challenges was the curved interior surfaces of the auditorium in surface quality Q4. The entire package as demanded here could ultimately only be solved by Knauf. The special calculation and projects (SOKO) department were put into action. Their employees developed an acoustically decoupled round interior shell based on the geometric specifications of the planners. The basis for the interior shell is the Knauf flat dome construction. For this project it consisted of CD channels, borne on CD profile connectors with square tubing and suspenders on the horizontal wooden ribs and fixed using screws and decoupled with felt strips. The CD channels 60/27 were shaped by Knauf with the required radii (50.95 m – 11.75 m – 3.15 m – 2.16 m). The same applied for the horizontal 20x20x2 square tubing with CD profile connectors, connected to wooden ribs. This square tubing was bent and delivered by Knauf in the 120 different radii required for the project.

In the first step, the craftsmen from Fritzke Innenausbau installed the curved horizontal square tubing 20x20x2 with CD profile connectors every 70 cm on the wooden ribs. Then the vertical installation of the curved CD channels followed. Narrow board strips screwed onto the CD channel were subsequently

A look into the Auditorium Maximum with interior plastering work to quality level Q4. (Photo: Knauf/Halama)

A detailed look: Curved CD channel 60/27, curved horizontal square tubing 20x20x2 with CD profile connectors and suspenders for square tubing on felt separating layers. (Photo: Knauf)

The highlight in the atrium of the Logistics University is the large auditorium seating nearly 300. (Photo: Knauf/Halama)

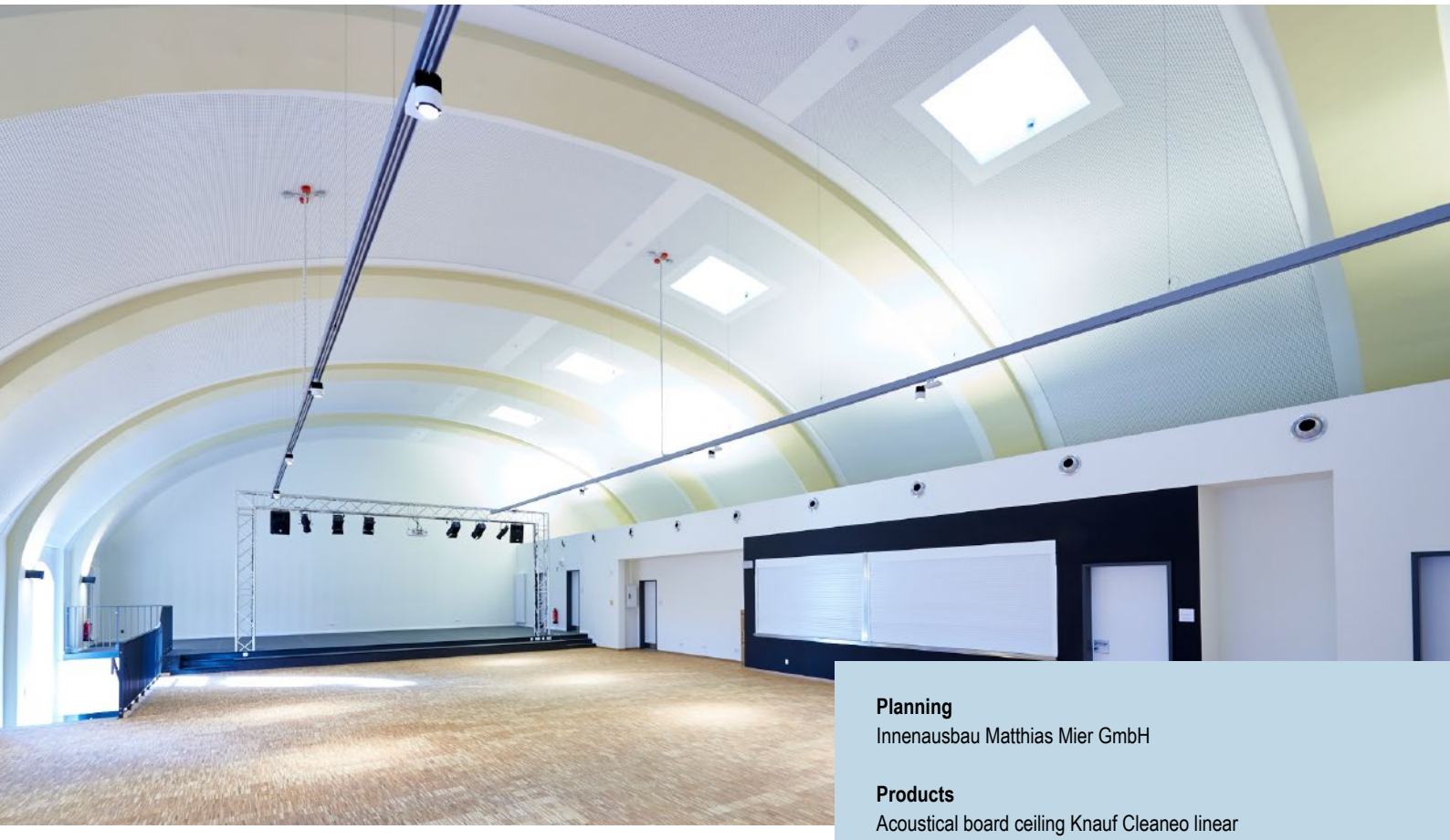
(Photo: Mier)

the basis for the double-layer cladding with Knauf Piano GKF fire-resistant board. Before installation of the bendable boards, the board liner of the boards was perforated with a spiked roller, the boards were moistened and after a short time were screwed onto the curved frame. A 3 mm thick Q4 spray plaster completes the surface. The curves have been such a perfect success that the elegant arched white surfaces of the auditorium are only really perceivable in the connection areas of the windows and doors.

Sports hall in Hamburg

Good acoustics, clean air

Arched ceiling with Knauf Cleaneo Acoustic in Hamburg



Planning
Innenausbau Matthias Mier GmbH

Products
Acoustical board ceiling Knauf Cleaneo linear

Expert consultant
Heiko Bross, Knauf Gips KG

Design solution

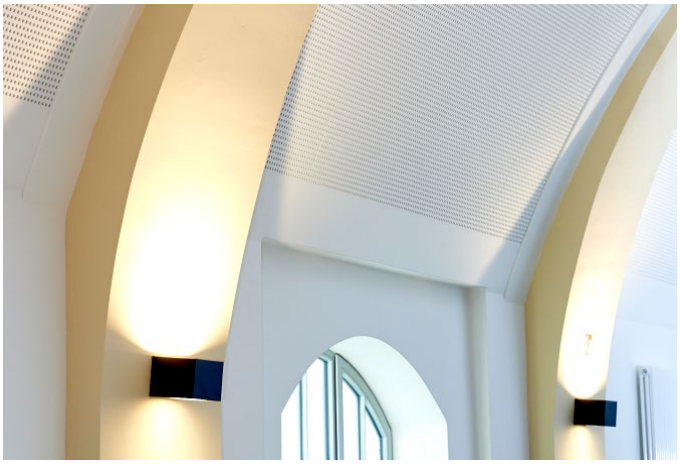
The barrel vault ceiling forms a semi-circular arch over the hall. The fine regular perforation pattern of the white Knauf Cleaneo Acoustic Boards hemmed in a smooth frieze has a bright and modern appearance. Ochre coloured coated props from the existing hipped roof stand out and section the approx. 511 m² large suspended drywall ceiling surface. The barrel vault was installed during renovations of the old gym of the Vocational Schools Hamburg B1 W1/W8 in the Burgstraße 33-35 and now make an aesthetic statement. The choice for the new ceiling was made in favour of the Knauf Cleaneo roof system. “The main reason why we chose the Knauf Cleaneo was the good acoustical characteristics of the ceiling system”, explained site manager Alexander Kolm from Innenausbau Matthias Mier GmbH. The gypsum boards absorb the room noise in the perforations and the acoustically effective fibre fleece lining on the rear of the boards. The fleece also acts as trickling protection for the acoustically effective insulation material located behind it. With the Knauf acoustic board ceiling the demands made on the room acoustics under the 7.70 m high ceiling are met and the atmosphere is still muted regardless of the large room volume.

In addition to the sound absorption and design there is a further feature of the Knauf Cleaneo acoustic board: It cleans the room air and contributes to improvement of the room air quality. This makes sense in a multi-purpose hall where there are sports activities or other events and in rooms where food is served. Dessicated Zeolite has been added to the gypsum material of the acoustic boards and it neutralizes unpleasant odours and cleans the air. The acoustic boards are fixed to a grid made of CD channels which is attached to the concrete hip roof with Nonius Suspenders. “What's special is the curved design of the carrying channel for the barrel vault ceiling. The profiles were prefabricated in the factory with the required radii and delivered as an exact fit to the building site”, explained Heiko Bross, Area Drywalling Manager in Sales Area North at Knauf. The tailor-made, 12.5 mm thick Knauf Cleaneo linear acoustic boards can be adapted to the grid without being pre-bent in the factory due to the large radii, and screwed onto the CD channels. A

The grid onto which the perforated boards of the Knauf Acoustic Board Ceilings are screw fixed is adapted to fit between the beams.

The curved carrying channels of the grid were prefabricated in the factory to the required radii and delivered as an exact fit.

Clad ceiling openings extended right up to the roof covering where a skylight is installed.



Functionally and aesthetically pleasing renovation of the multi-purpose hall with inclusion of its historic windows.

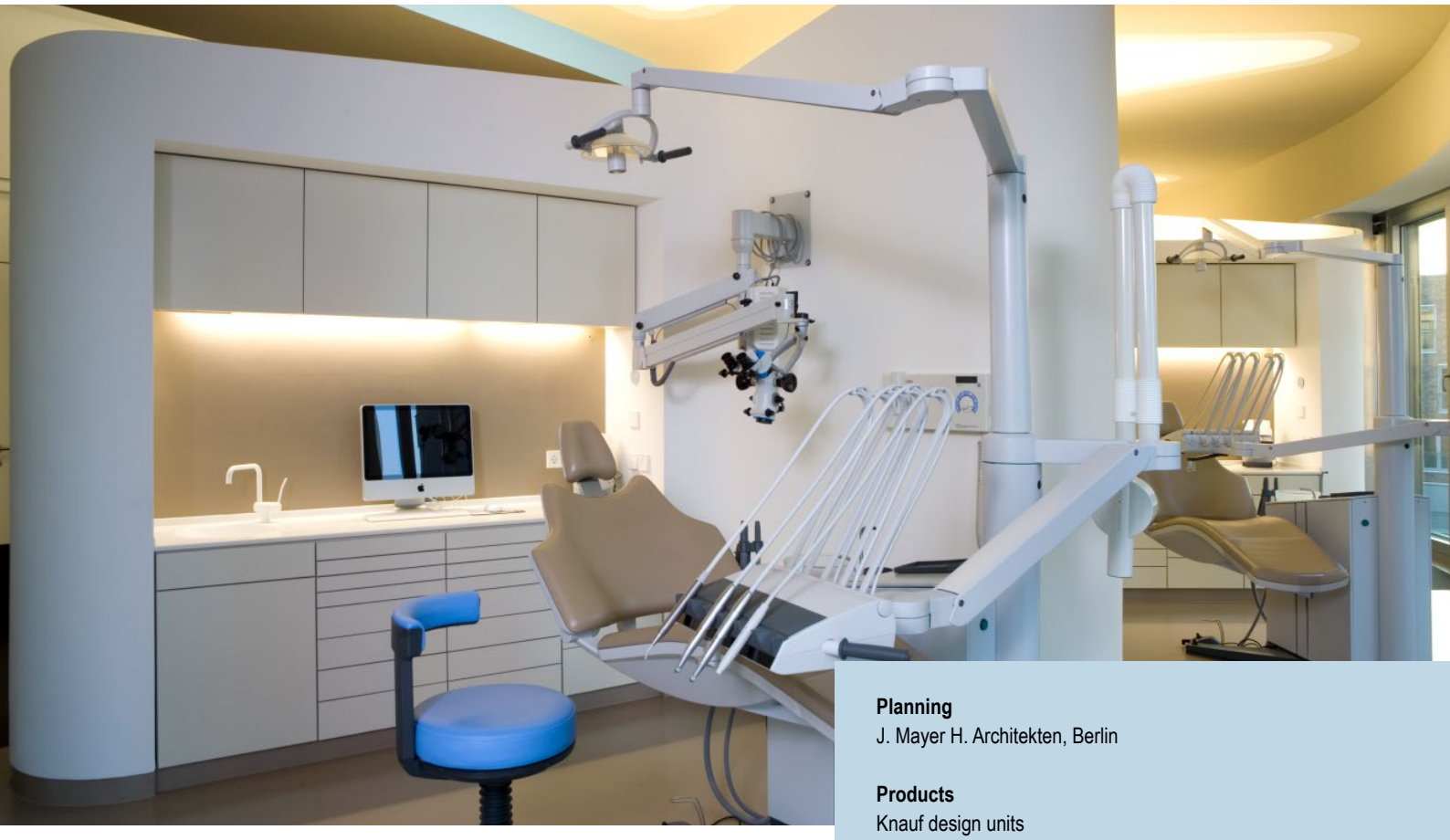
(Photo: Knauf/Masbaum)

challenge easily mastered by the Mier company, was the clean application of the acoustic boards on the more than 500 m² surface. When applying abutting boards, the precise board dimensions automatically allow for the correct perforation spacing. The nice feature: Knauf Cleaneo Acoustic does not need jointing as it has a rebate on the entire perimeter (two edges with a groove and two with a notch). The edges are factory primed and bevelled. The bright white face paper can be coated directly.

Centre for dental medicine in Hamburg

Symbiosis of functionality and design

The center for dental medicine in Sankt Georg



Planning
J. Mayer H. Architekten, Berlin

Products
Knauf design units

Expert consultant
Philip Schrape, Knauf Gips KG
Jörg Schröder, Knauf Gips KG

The Centre for Dental Medicine in the Sankt Georg district of Hamburg presents an exceptional room design concept. A dynamic spatial concept is created by the free distribution of cores in the space. They provide the division between distinct areas and functions. The concept developed by J. Mayer H. architects cleverly maximize the design potential in drywalling, creating a seemingly free-flowing and endless space.

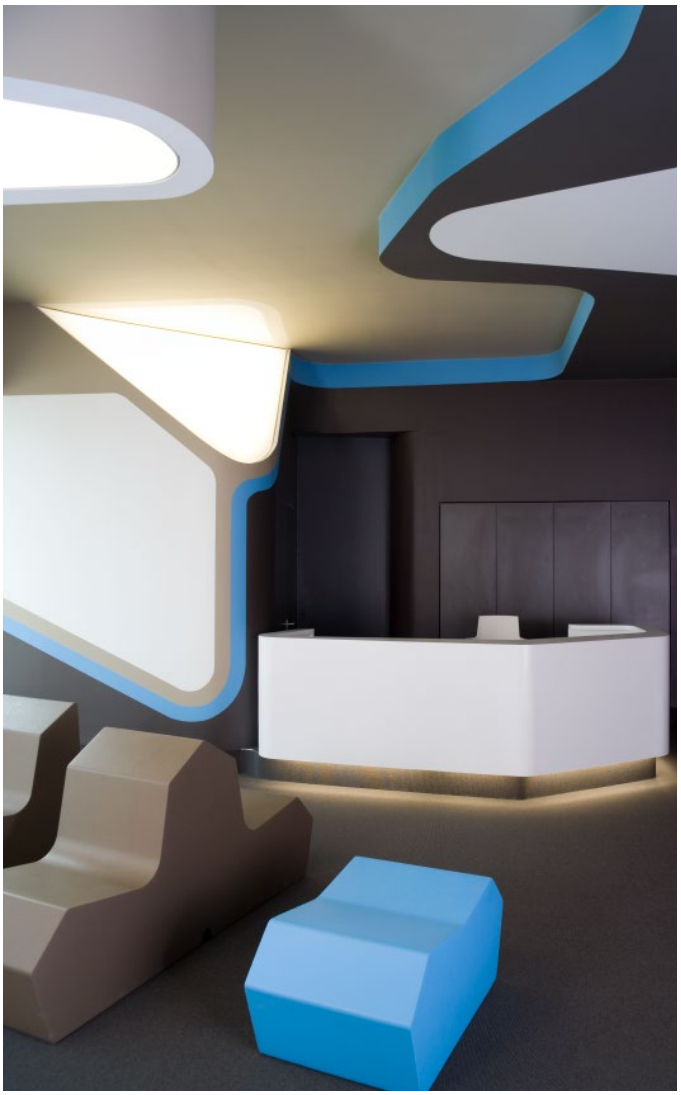
Design solution

The Centre for Dental Medicine Brauner-Wegner-Priehn is located in a health centre in the St. Georg district of Hamburg. The 400 square metre floorspace of the new practice is characterized by the oval design of the building designed by the architects Pysall Ruge. The area provided for the practice was a large, open room without any subdivisions, and the existing room height of 3.75 metres also provided sufficient freedom of expression for a creative approach. At the same time, there was a decisive limitation: There was a heating and cooling system integrated into the existing ceiling construction, so that an installation of a suspended ceiling was not possible. The architects from Jürgen Mayer H. developed an exceptional solution for the existing room geometry: The internal subdivision of differing functional areas, such as treatment, consultation and waiting area are implemented by freely placed cores. These elements divide the open space while not lining up the individual treatment rooms in a row, as is usually the case. At the same time, the room elements with their sculptural effect also incorporate the self-contained working units such as X-ray room, oral hygiene, sterilization room or consultation room. The dynamic design shape as well as the continuous, jointless surface also provide the elements with sensory qualities. These are devised constructionally as room cells and implemented with the highest standards in creativity in Knauf drywalling technology.

The room elements are between 2.40 and 2.80 m in height. With sloped ceilings designed as luminous ceilings, the cores themselves project light onto the room ceiling and create emphasized indirect lighting. Regarding the geometry, the cores presented a challenge to the drywalling area. In addition to the curves with extremely narrow radii, it was essential to create precision right angled cut-outs for washstands, furniture build-ins and for standard door dimensions, for room-high glass fins and slopes with differing inclination angles. Architect Blum coordinated the implementation of the planning directly on site: “Starting from a single axis, we created a coordination grid for the room in order to define reference points, from which the individual cores could be measured point for point.” The basic shape of each individual core was then

The dental practice that is something different, room elements for work areas.

Jointless surfaces as a dynamic design shape.



Illuminated ceilings and lighting elements underscore the room geometry.

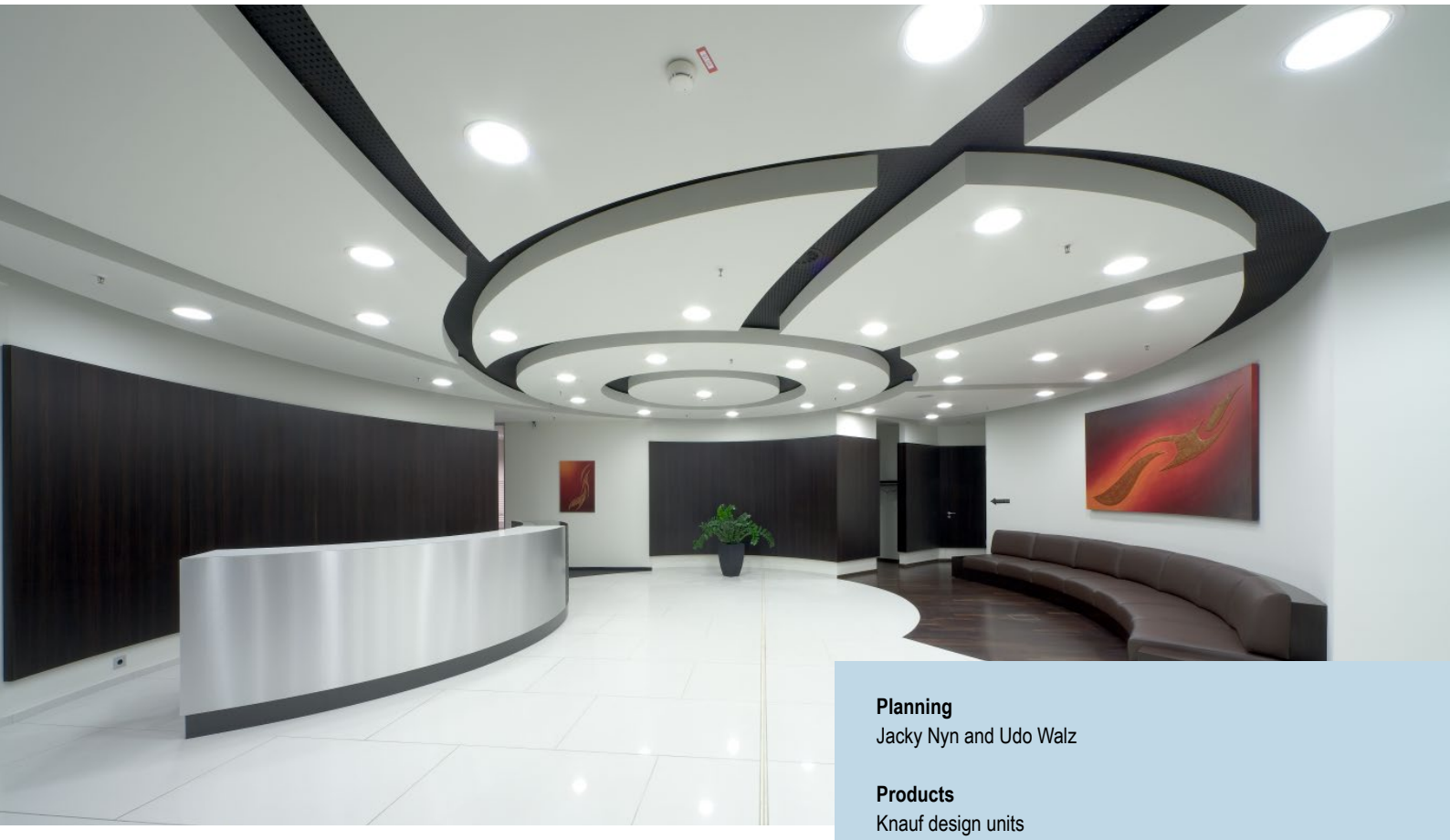
(Photo: Ludger Paffrath)

determined by the performing drywalling company Dieter Tews und Partner GbR using the formable UW Runner Knauf Sinus, which was then anchored to the floor with screws. Not an everyday occurrence was the installation of the CW Studs to be placed in the upwardly sloping inclines. “Practically no height for the individual CW Studs was identical, as the upper wall ends were intended to be sloped, to install sloped and inclined luminous ceilings”, was how the installer recalled the installation work.

Huber Group in Mühlhausen

Pioneering volutes

Drywalling with guidance function at the Huber Group



Planning
Jacky Nyn and Udo Walz

Products
Knauf design units
Knauf Cleaneo

Expert consultant
David Nitschke, Knauf Gips KG
Jens Franchois, Knauf Gips KG

The ceiling landscape in the foyer of the Huber Group in Mühlhausen brings together three functions: It integrates all of the engineering located in the foyer, guides the visitors and is also a striking visual highlight for the room.

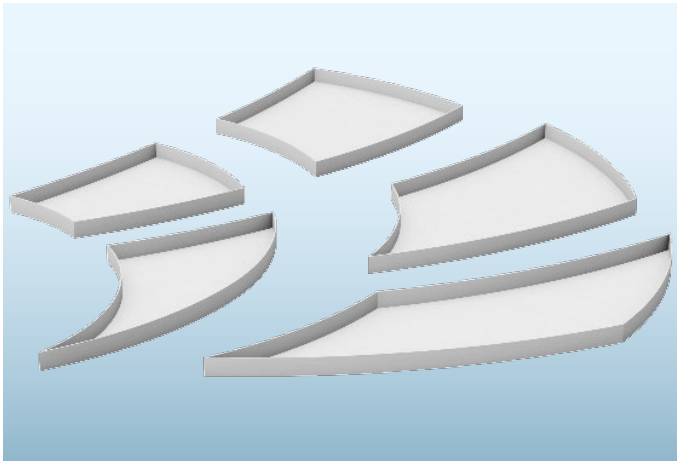
Design solution

In addition to its guiding and representative function, the ceiling landscape made completely of gypsum boards also takes on a range of further tasks: The sound insulation and fire protection, as well as the entire engineering required for the loudspeakers, illumination and ventilation of the foyer are concealed in and above the white and black Knauf boards. For this reason, the construction is also arranged on two levels. For the first level, the installers at Roland Gruber Akustik- & Trockenbau contracted for the work suspended a black acoustical fleece backed Knauf Acoustic Board Ceiling (type D127.de) with standard circular perforation 12/25 R using Nonius hangers about 1.05 m under the basic ceiling and painted it black. On this level, the loudspeaker system as well as the fire alarm system and the room sensors and the ventilation outlets are integrated.

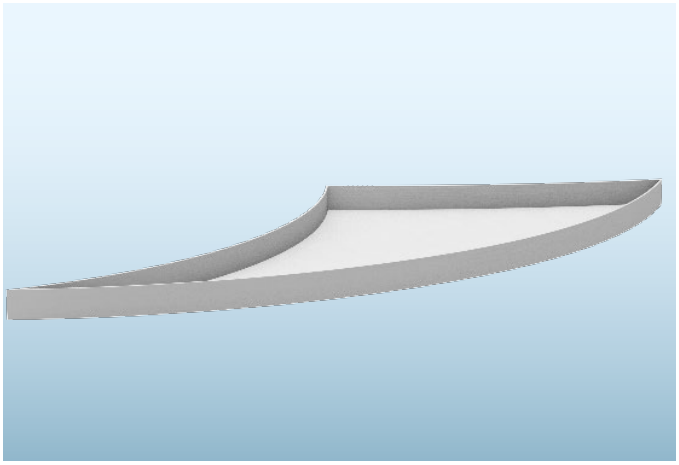
An access platform above the engineer equipment center guarantees access to all units and devices located between the basic ceiling and the Knauf Acoustical Board Ceiling (type D127.de). Located below it, also with Nonius hangers, is the second visually striking level: The volute, a work of art made up of individual, round and multiple graduated segments, that is assembled on-site consisting of individual elements. Invisible from below are three access openings concealed in the side walls of the spiral segments, which lead to the accessible equipment center. The illumination is also integrated into the ceiling in the form of circular ceiling apertures.

All elements were prefabricated in the Knauf factory and delivered as design units to the building site. They were put together like a large puzzle, then installed and finished to Q3 quality and painted, where since installation the skilfully designed volute has guided the visitors to the Huber Group.

The ceiling as a signpost for the visitors to the Huber Group in Mühlhausen.



The volute is assembled on-site from individual components.



Prefabricated design unit in detail.

(Photo: Knauf)

Archiepiscopal office in Munich

In the infinite space of prayer

Chapel of the episcopal office

Planning
Fink + Jocher
Gesellschaft von Architekten und Stadtplanern mbH

Products
Knauf design units

Expert consultant
Bernhard Bredl, Knauf Gips KG

From the ellipse to the perception of infinity where everything is interconnected is not a long journey. This s why Fink + Jocher presented the chapel of the episcopal office as an elliptical-shaped construction. Peter Muskat build it using drywalling technology with Knauf prefabricated gypsum board elements.

Design solution

Round design units prefabricated in the Knauf factory assembled and jointed on site make up the envelope of the prayer room and the adjacent sacristy. The adjacent devotion of the Virgin Mary was also manufactured by master drywalling specialist Peter Muskat, owner of Peter Muskat Innenausbau GbR, and his employees on site. To guarantee the dimensional tolerance of the construction and to comply with the safety measures, the installers are required to adhere to a predefined sequence when installing the walls and ceilings. At the start of work, a framework was erected at half the height of the prayer room extending over two stories. Then several wooden joists at spacings of 70 cm were installed as the support structure in the area in the episcopal office building that had been gutted beforehand. After fitting, a ceiling framework was installed laterally on the perimeter shell of the prayer room.

“Whereas the walls of the prayer room were prefabricated at Knauf, we implemented the sacristy directly on-site. We simply wanted to try if it was possible to make this shape directly on-site” laughed Muskat. Element by element the craftsmen formed the about 3.20 m high walls of the 4.50 m long and about 3.50 m deep ellipse of the sacristy, constructed it including the ceiling canopy and subsequently jointed and plastered this room space to quality level Q4. The frame for the structure was formed using 25 mm OSB boards, cut to the corresponding curvature and clad with two layers of dry bent 6.50 mm gypsum board. Thus 24 curved design units were created as well as four on three radii interconnected corner elements. “As the boards can only be bent in one direction, for the corners we used an OSB board construction to define the basis shape made of three converging radii, and clad this with board strips cut in a conical shape. Subsequently, the surfaces curved in three directions were smoothed using flexible Japan spatulas.”

The design units manufacture by Knauf for both the longitudinal fronts of the main room are also based on a ribbed construction. As the basis for the walls of the 6.50 m high and 4.50 m wide room, eight elements each are used, and the central section is comprised of six elements with the upper front made of two elements. In order to construct the curved middle segments of the room

Construction of the chapel of the episcopal office

Design units form a room in room system

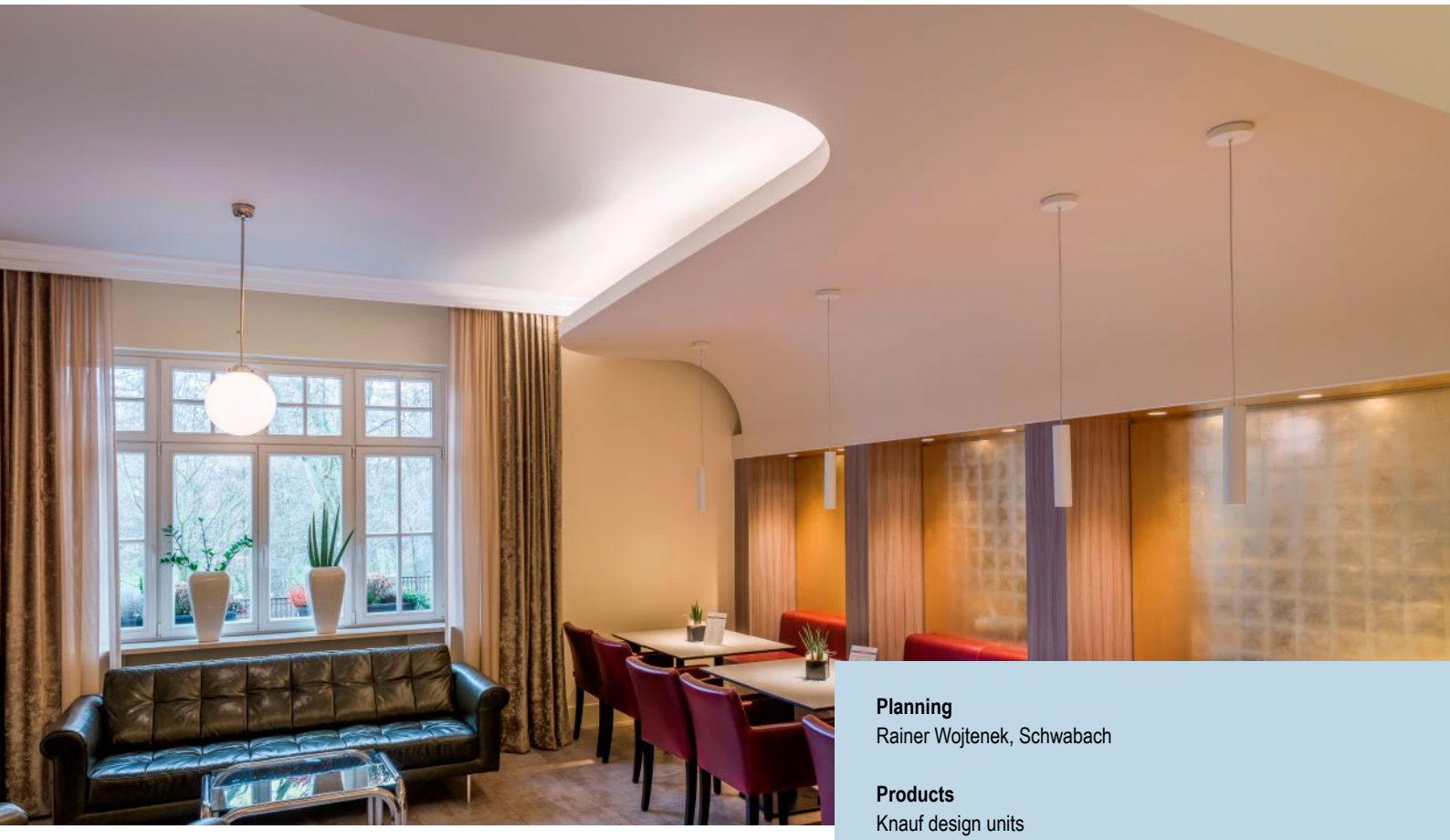
(Photo: Ducke)

as cost-effectively as possible, the Knauf technicians decided on a grid made of metal profiles, that can be installed faster than the necessary ribs used in other areas. The basis is formed by profiles made of Knauf standard systems for domes and cupolas, whose radii ideally suit the elliptical shaped design of the prayer room. The furring channel that is a square profile design follows the horizontal curvature. The CD channels mounted on them run horizontally where the curvature increases near the top.

Hotel Prinzregent in Nuremberg

Remodelling during ongoing operation

Knauf prefabrication ensures on schedule readiness



Planning
Rainer Wojtenek, Schwabach

Products
Knauf design units
Domes

Expert consultant
Special calculation and projects (SOKO), Knauf Gips KG

Guests and tradesmen in the hotel at the same time – will that work? It can, as shown in the redesign of the reception and breakfast area of the Prinzregent hotel in Nuremberg. This was made possible by a combination of prefabrication using drywalling technology and dedicated craftsmen, who were even willing to help carry the occasional suitcase.

Design solution

The new cupola was built at the height of the first landing, which is now like a turntable marking the entrance to the reception area located to the side and the lounge and breakfast area. The construction with a diameter of 1 m and a rise of 20 cm was prefabricated by Knauf for the drywaller. The individual components were provided in segments, integrated on-site in the new suspended ceiling and then gilded by the fine-arts painter and restorer Andreas Wüst commissioned for this purpose.

To compensate for cavities and to safely secure ceiling elements the craftsmen had to apply a two-component material at the suspension points on the basic ceiling and to integrate heavy duty dowels. “The building was at that time equipped with ultra-modern reinforced concrete ceilings, which at that time were state-of-the-art, but the staircase was constructed as a wooden joist ceiling”, explained architect Wojtenek as clarification for the background of this procedure. Today, Nonius hangers and metal profiles suspend the new suspended ceiling construction with its two layers of gypsum boards around 50 cm underneath the basic ceiling. Edge frieze ensures that cracks do not form. Underneath the cupola, a protruding circle guarantees that the indirect illumination with LED lighting can be a concealed installation.

The effect of the new reception area is based on the counter made by carpentry and a drywalling ceiling installed above it which is suspended like an inclined canopy from the wall. Together, they lend an organic flow to the long entrance and make the corridor appear shorter than it is. To place the reception area at the ideal location, the previous room layout had to be modified and the kitchen had to be relocated. This allowed very little time for completion work. This is why Weiß had the canopy manufactured partly from Knauf prefabricated units. “This was decisive for awarding the contract”, added Wojtenek. “We had the curvature on the front edge of the ceiling canopy and the rear section prefabricated in several individual sections, and the latter positioned with a stud construction made of CW 75 profiles and an inclination of 3 degrees in front of the original wall. We assembled the rest of the construction on site and equipped it with downlights” he recounted.

The breakfast room was redesigned with a new ceiling canopy and seating niches made of drywalling and extended by a lounge area.

The individual elements of the dome were supplied in segments.

The drywallers manufacture the ceiling canopy above the seating niches in the lounge from prefabricated boards to reduce the assembly time.

The dome as a lynch pin: A fine-arts painter gilded the dome making it the highlight of the stairwell.

(Photo: Knauf/Ernst)

“We were able to stick to the scheduled construction period thanks to prefabrication” Joachim Weiß recalled. Knauf had about six weeks in total from the receipt of the order to complete the production and preliminary planning stages involved. In the meanwhile, the dismantling and preparation work continued in the hotel. The hotel only closed at the conclusion of the building phase to complete remaining work.

Exhibition stand in Ostrava

Dynamic volutes

Modular drywalling accelerates the pace of exhibition architecture

Planning
Archimedes Exhibitions GmbH, 10405 Berlin

Products
Knauf special constructions, gypsum fibre boards, GKB boards, CD grids

Expert consultant
Ekkehard Scholz, Knauf Gips KG
Daniel Heß, Knauf Gips KG
Special calculation and projects (SOKO), Knauf Gips KG

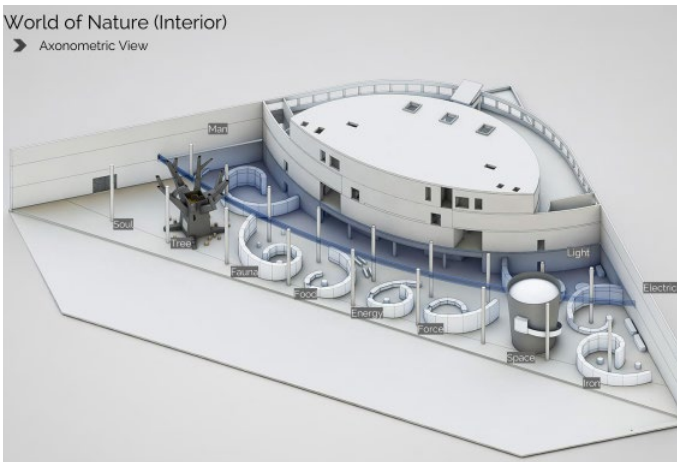
Volute shaped exhibition walls in the Science and Technology Centre in Ostrava, Czechia guide the visitors into the world of technology. The sophisticated exhibition was implemented in a very short time on a modular basis. The exhibition opened on time thanks to state-of-the-art drywall engineering.

Design solution

When Gunnar Behrens from Archimedes and Tancred Heydecke from Bohle Innenausbau consulted on the project they quickly reached a conclusion: In terms of its size, the time scale involved, the geometric complexity and required dimensional accuracy, this order was not feasible on site in Czechia. Thus the idea was born to construct the exhibition from modular prefabricated drywall elements. Ekkehard Scholz, active in project management at the special calculation and objects department at Knauf (SOKO), accepted the challenging and difficult assignment in April 2014.

Instead of proceeding one step after the other, parallel working was developed and instead of producing reams of paper, the entire exhibit was developed in three dimensions on the computer. The data from the 3D modelling from Archimedes was passed onto Knauf and prepared for the CNC controlled milling process. An initial completed module section became available on which future discussions could be based in May 2014. Requests for modifications pertaining to subsequent built-ins were made on the basis of this module. The project started the manufacturing phase at Knauf in June 2014. Each of the eight volutes is designed exclusively for the theme being exhibited. The radii have different sizes, the heights vary as required and the number of modules for each volute vary between 12 and 16 to suit the length and size of the volute. To ensure ease of transport, the modules are divided in up to three sections in their height. The largest segments are up to 3500 mm in height and consist of three sections stacked on each other. Together they weigh about 400 kg. The central sections are up to 2500 mm in height, and consist of two sections and weigh around 250 kg. The flat table components, about 740 mm in height, weigh around 110 kg. They are all mounted on an about 85 mm high wipe-off plinth with ABS edge. In total, about 220 individual modules and 100 matching plinths were manufactured.

Due to the geometry of the volute, the exterior radii of the respective modules diminish in size for example from 13 m to 6 m. Every module exhibits a constant radius over the entire curvature. This radius merges tangentially into the following module. The exact geometry of each individual module is



3D visualization of the world of engineering in Ostrava, Czechia.

Drywalling in perfection at the science centre “World of Nature” exhibit in Ostrava, Czechia. Eight volutes guide the visitors into the world of nature.

The exhibition display cabinet is fitted to the precision milled module. A glass cover and white table top will round off this module.

With millimetre precision: Connection point of two modules beside one another and two modules above one another.

(Photo: Knauf/Halama)

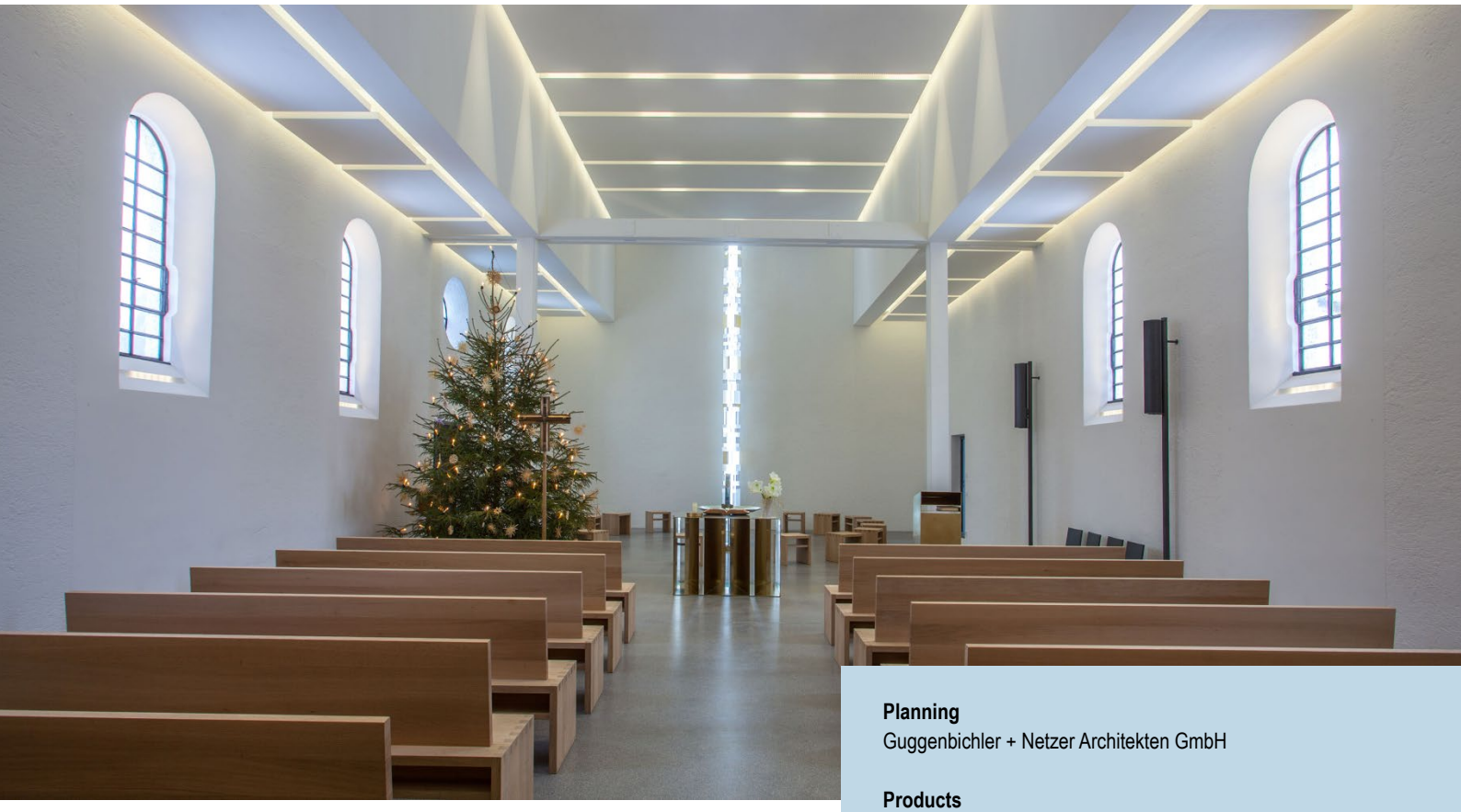
determined in the horizontal plane by four CNC milled plinth boards, several rib-type boards and further covering boards made of gypsum fibre. The radii of the floor, rib and cover boards were manufactured to the highest level of machine precision. In this sector this means an accuracy of about one tenth of a millimetre. In order to achieve the most perfect curvature, the curved surfaces are fixed in place every 31.5 mm with vertical CD channels and clad with 2x 6 mm thick dry bent Wallboard GKB. Suitably milled and machined side walls brace the adhesively bonded and screw fastened modules. From the exterior on the circular side the volutes are completely closed, whereas the surfaces on the inside are straight and usually have large openings for the built-ins. Many surfaces have been prepared for embellishment that they will receive when on site. The modules feature apertures, drilled openings and milled out sections to provide bases for the exhibits.

The modules supplied by Knauf have clearly defined interfaces for the build-in elements of the exhibition. This on the one hand included table surfaces precisely machined to specification and on the other hand circumferential surrounds for the large openings. The prepared table surfaces were also fitted by Archimedes employees with prefabricated exhibit display cabinets and subsequently covered by white plastic table tops.

Parallel to the installation work painters painted the elements white on top and on the outside and the interior surfaces of the polygons black. Subsequently, the round exterior surfaces of the volutes were covered by adhesive high-quality printed, water-proof and photostable (light-resistant) foil. The last exhibit was installed one day before the exhibition opened. Many craftsmen worked through the night. The exhibition was ready on time. According to Archimedes, irrespective of the narrow time-window involved, for this fair new standards in terms of surface quality and above all the long-term durability of exhibition technology were set.

Christchurch in Tutzing

Geometry of light



Planning
Guggenbichler + Netzer Architekten GmbH

Products
Knauf Acoustic plaster base boards

Expert consultant
Knauf Gips KG

After a thorough renovation using demure materials, the Christchurch (Christuskirche) in Tutzing, constructed in the 1930's, had the interior space redesigned. Indirect lighting and modern Knauf drywalling played a major role.

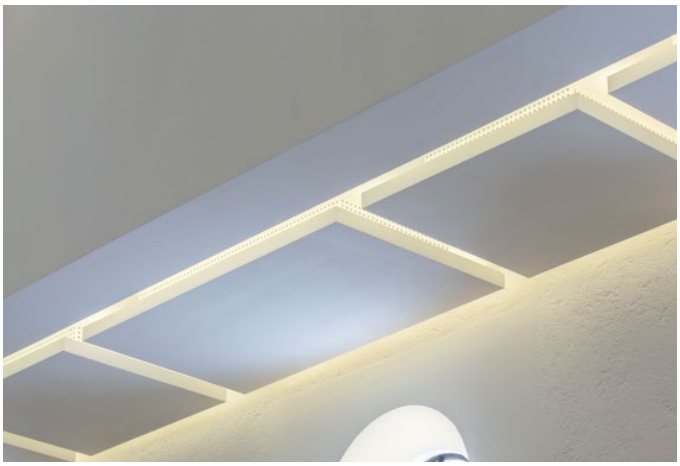
Design solution

On the ceiling, rectangular ceiling canopies with indirect backlit strip lighting arranged between them line up and divide the room into equal rhythmic fields. Incidentally, this drywall construction addresses all questions pertaining to fire resistance and acoustics within this church building.

The materials and the arrangement of the ceiling boards were selected, in particular with a view to maintaining and optimising the acoustic quality and character of the room. The craftsmen clad the insulated construction with a layer of 12.5 mm Wallboard GKB, which have also been installed using universal brackets and Nonius hangers. This coffering covered the roof truss and the layer of beams below it and was jointed and finished subsequently in Q3 quality. The grid was designed regarding the profile and suspended spacings as well as the load capacity so that visible ceiling canopies could be suspended from it from the church interior.

The ceiling canopy construction consists of 12.5 mm Tectopanel acoustic plaster base boards with round perforations 8/15 Globe, which are suspended from a single grid profile. After installation of the grid and calibration of the ceiling, the ceiling canopy and the side skirts installed for acoustical reasons made of perforated boards, were also cut to fit. The cut-outs for the ceiling illumination were also milled out. The ceiling upstands were provided by Knauf as prefabricated design units. They were adhesively bonded to the boards and jointed on site.

“One large challenge presented by this project was the calibration work and the precision manufacture of the individual ceiling canopies”, explained Monika Schwab, Project Management Special Projects at TM Ausbau GmbH. In accordance with the architectural specifications the ceiling canopies were aligned with the axes of the windows. And this even though the church room was neither orthogonal nor symmetrical. The course of the wall from one corner to the next had a bulge of 5 cm so that the long front had to be compensated for, so that the those churchgoers visiting the church today can discover the irregular features. The illumination should be symmetrical. “The wooden joists of the roof construction were also skewed and sagged by up



Rectangular ceiling canopies divide the room into equal rhythmic fields.

Ceiling canopies made of Knauf Tectopanel acoustic plaster base boards with acoustical plaster absorb the sound in the church.

Ceiling canopies and lighting strips adorn the church interior.

(Photo: Knauf/Ducke)

to 8 cm", continued Monika Schwab. Accordingly, the ceiling canopy must be narrowed evenly along the uneven wall and the suspension height balanced and adjusted. Shadow gaps on the edge of the wall enable a harmonious transition between wall and ceiling. The installers also implemented an expansion joint at the level of the central support

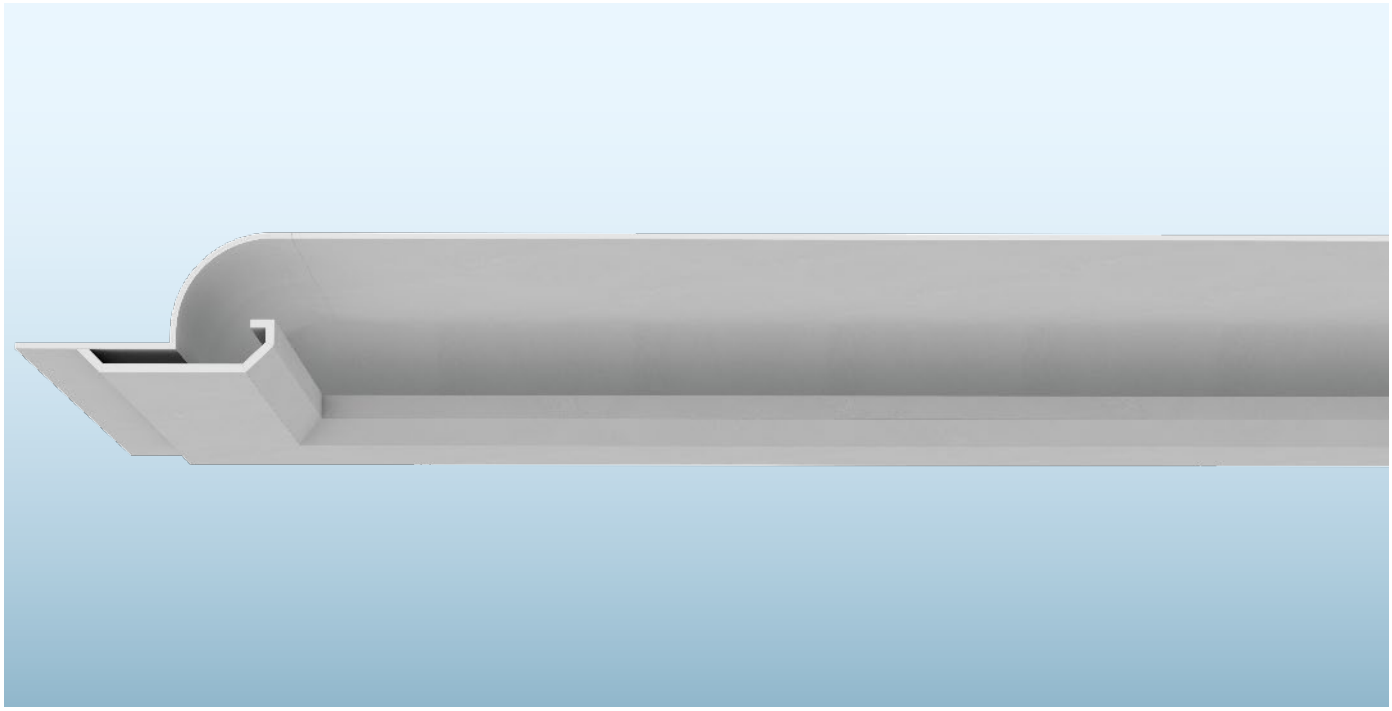
Details

Examples for ceiling variants

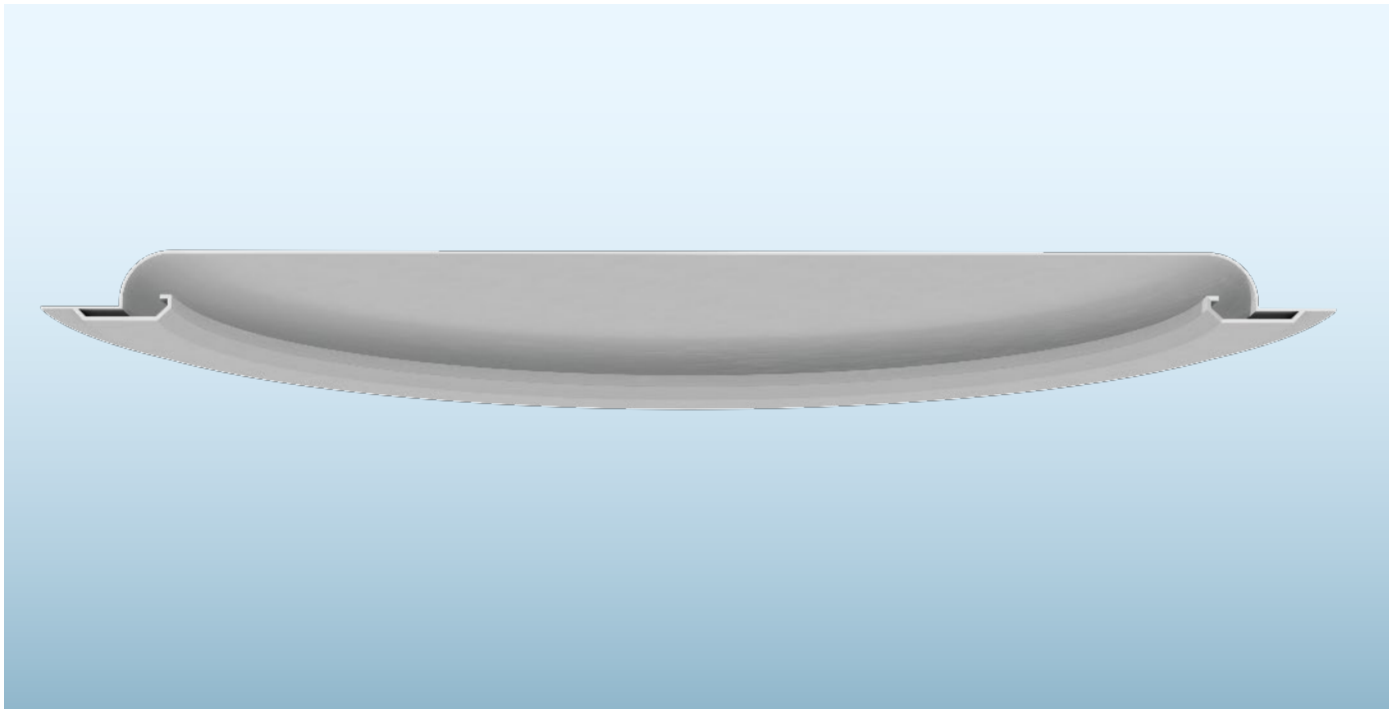
View

Scheme drawings

Example



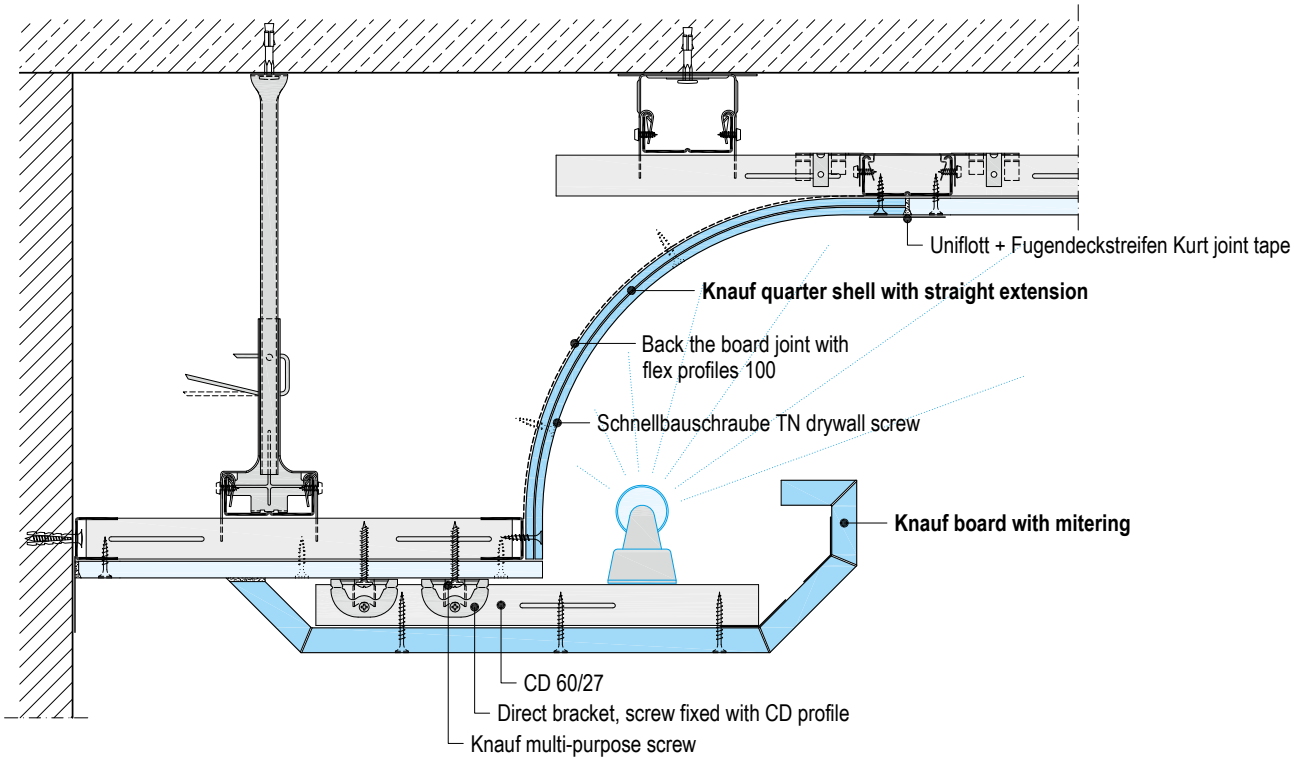
Example



Details

Scale 1:5

D192.de-S6 Recessed lighting - split level ceiling

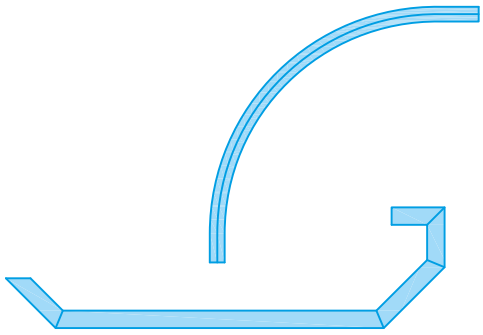


Flex profile

- Ribs and contour rings may be necessary with a curved design
- Max. overhang / max. lamp weight on request

Scheme drawings

Design units

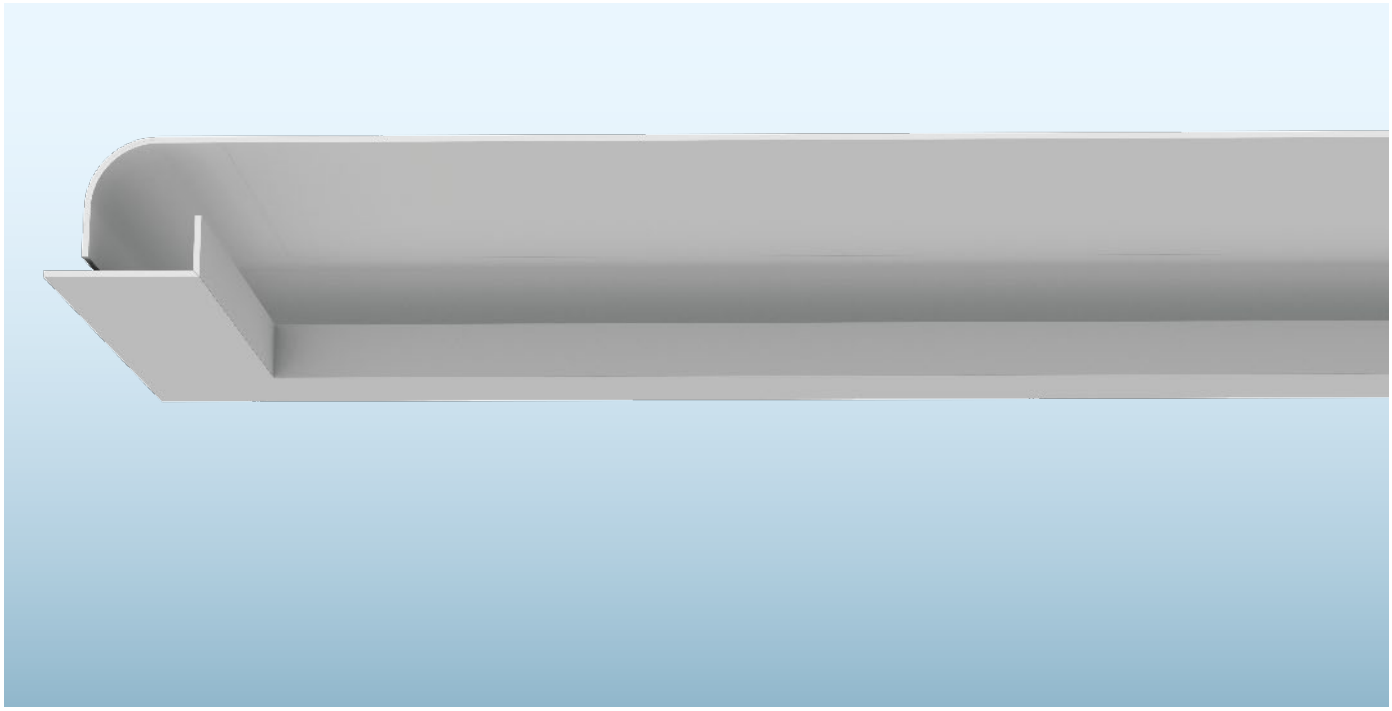


Knauf quarter shell 90°, concave
with straight extension
+
Knauf board with mitering 45° + 90°

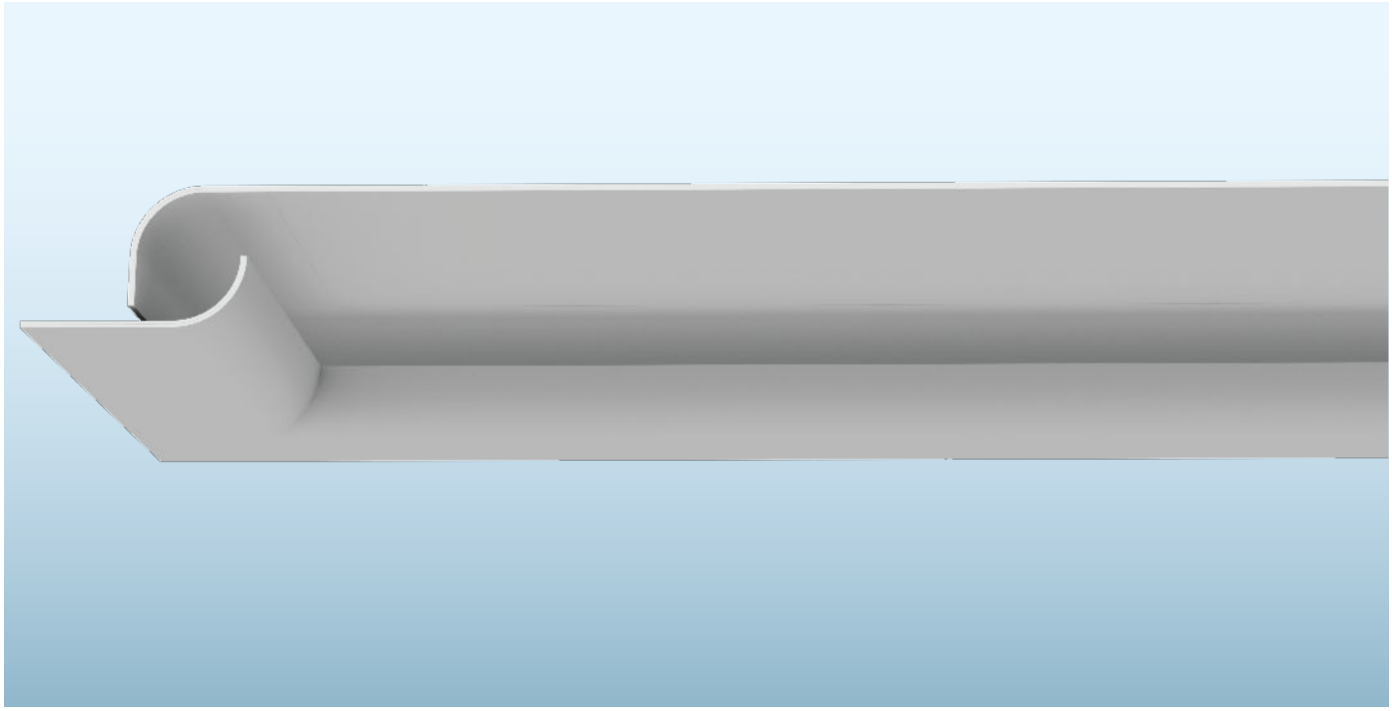
View

Scheme drawings

Example



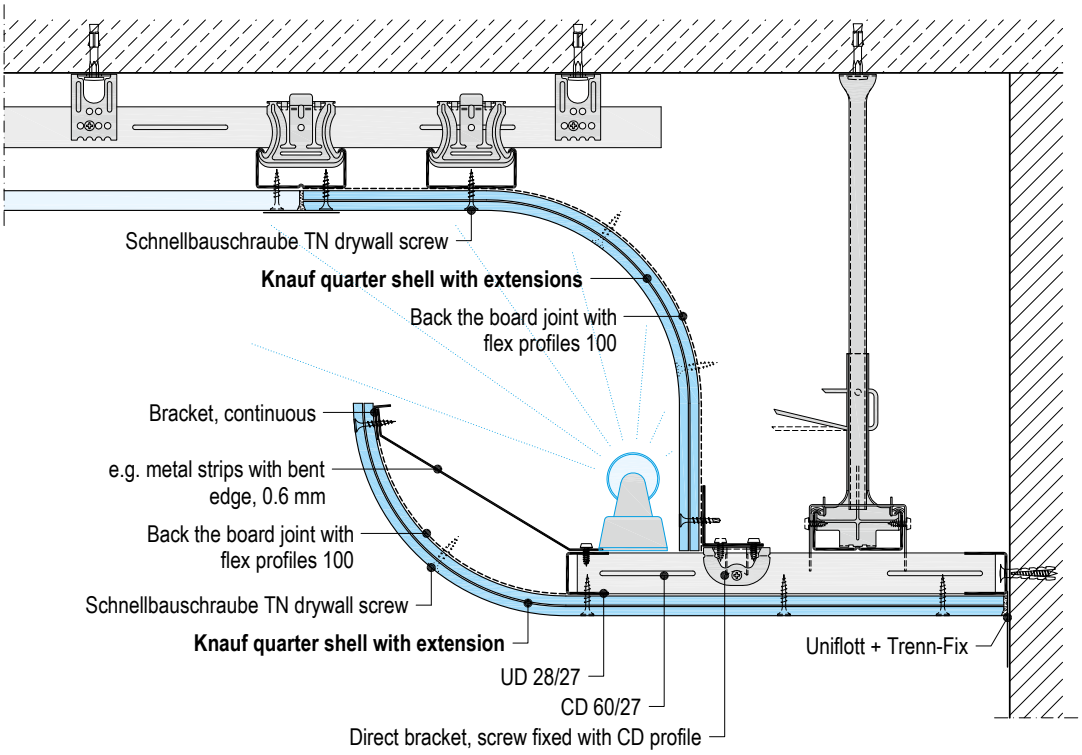
Example



Details

Scale 1:5

D192.de-S3 Recessed lighting - 90° arch



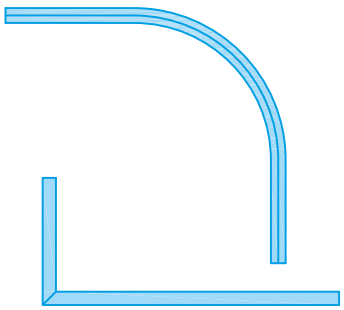
Flex profile

■ Max. overhang / max. lamp weight on request

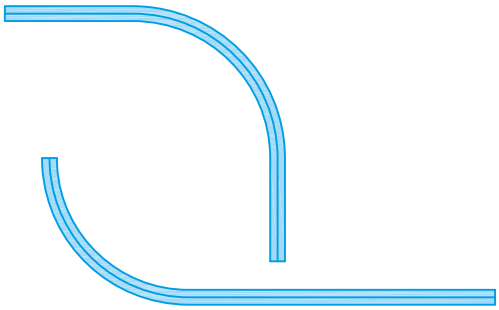
Scheme drawings

Design units

Alternative 1



Alternative 2



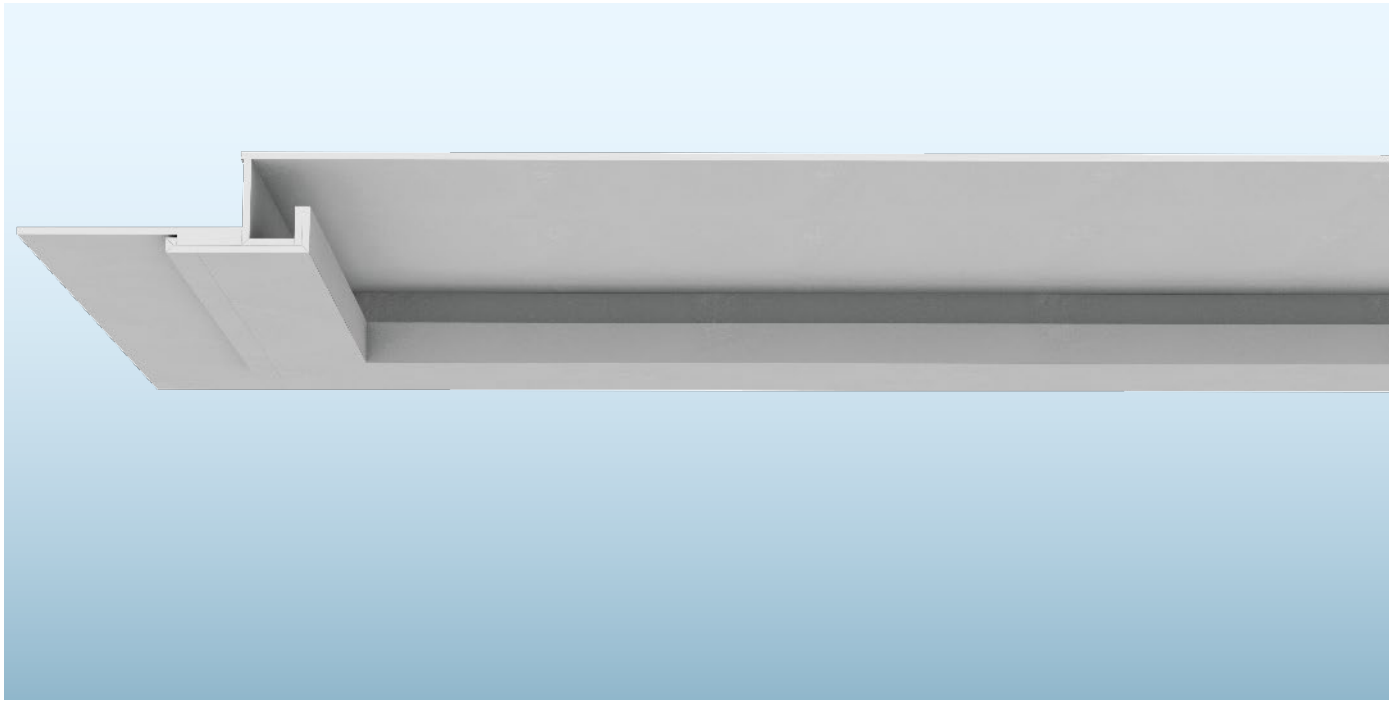
Knauf quarter shell 90°, concave
with straight extensions
+
Knauf board with miter 90°
or
Knauf quarter shell 90°, convex
with straight extension

Recessed lighting

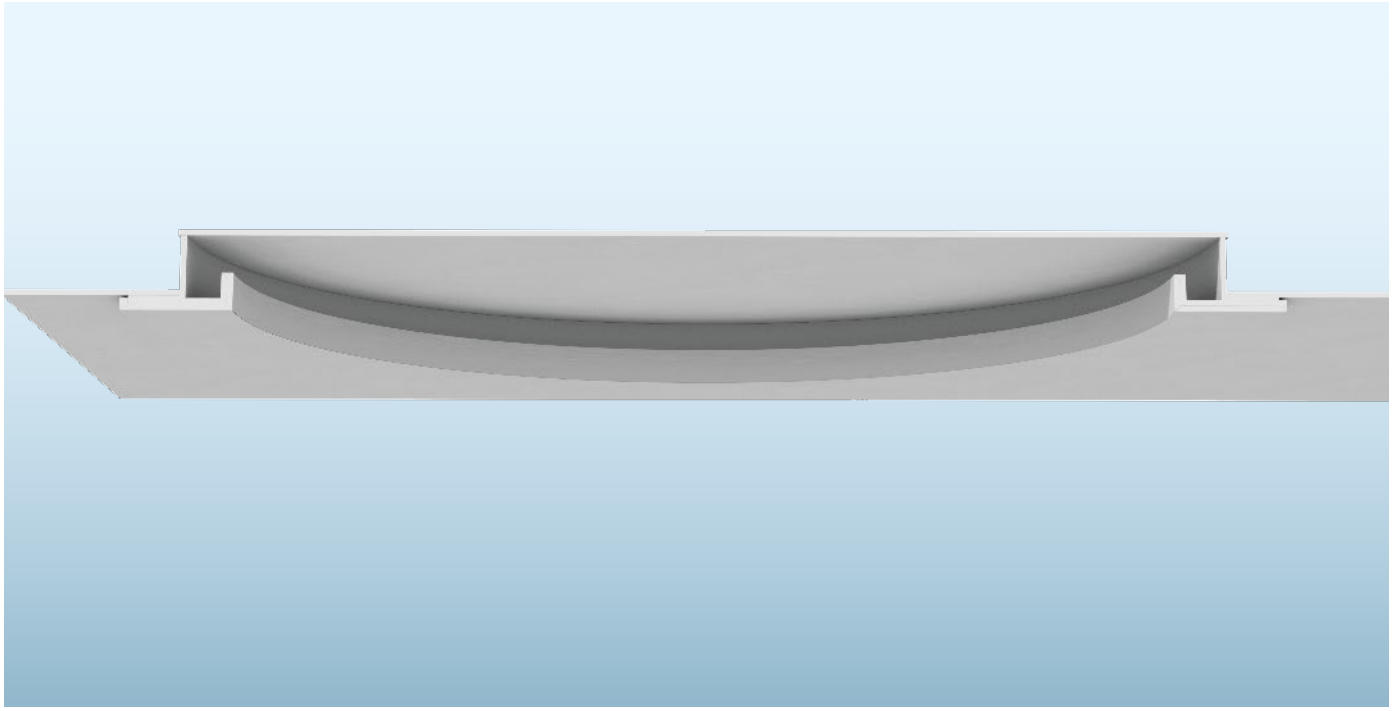
View

Scheme drawings

Example



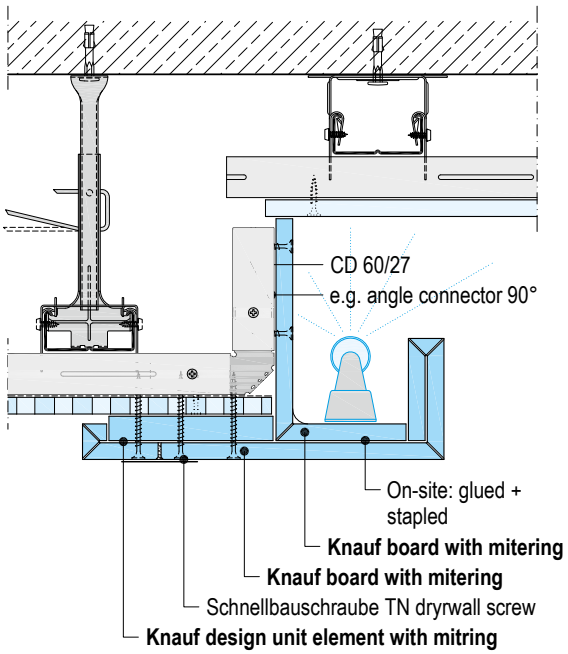
Example



Details

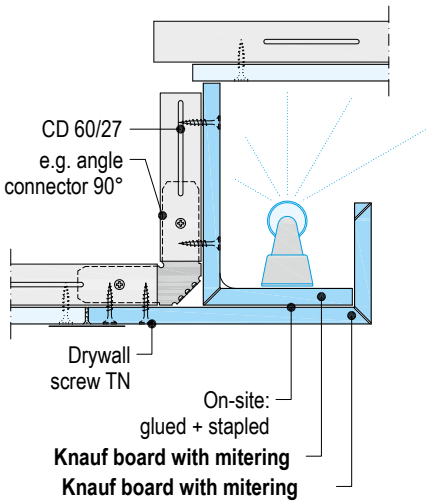
Scale 1:5

D191.de-S13 Recessed lighting - split level ceiling

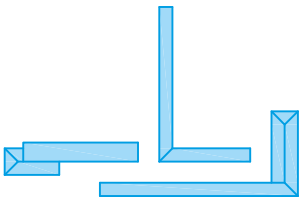
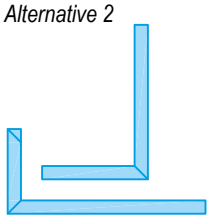


- Max. overhang / max. lamp weight on request

Variant



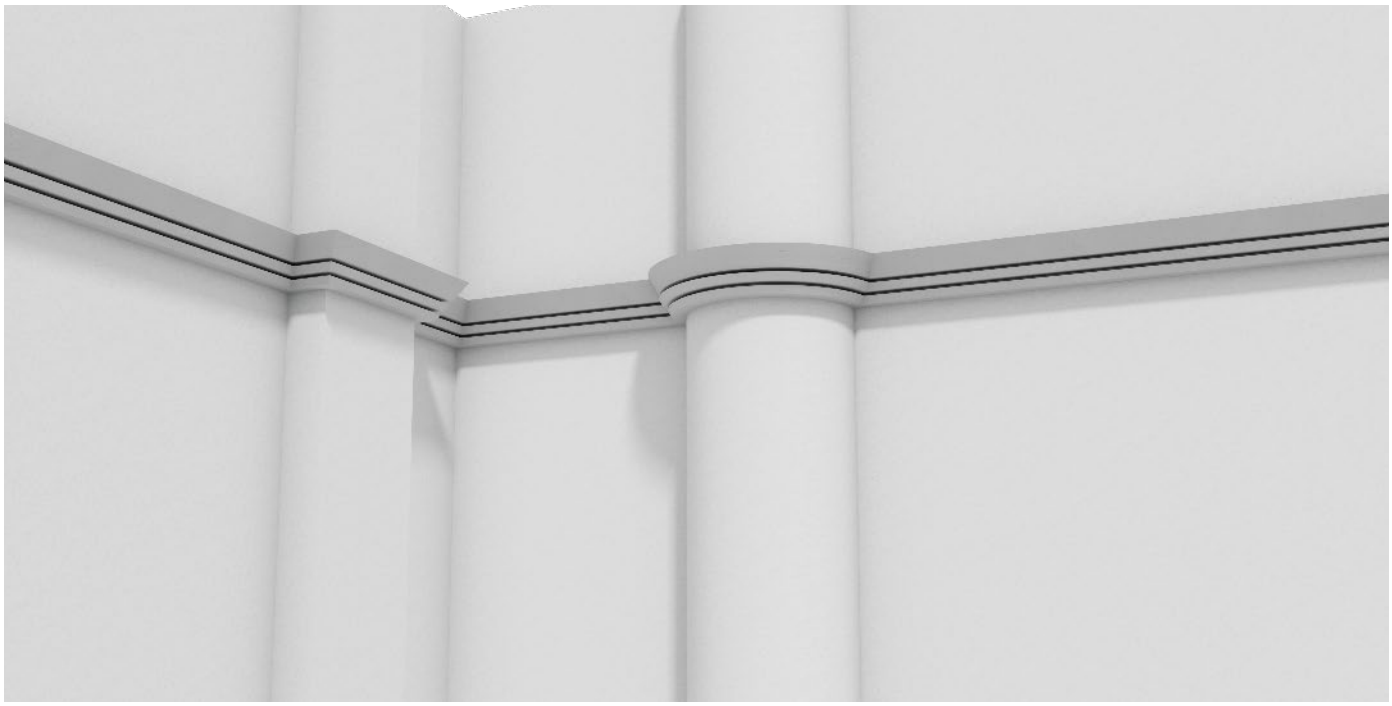
Scheme drawings

Design units	
Alternative 1 	**Knauf design unit** (miters 90°) **+** **Knauf board with mitering 90°** **+** **Knauf board with mitering 90°**
Alternative 2 	**Knauf board with mitering 90°** **+** **Knauf board with mitering 90°** (glued edge)

View

Scheme drawings

Example

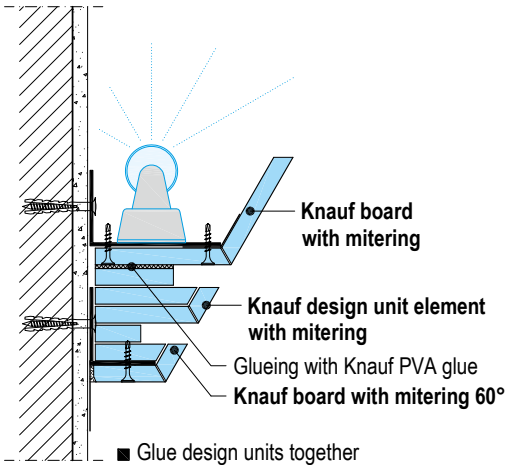


Example

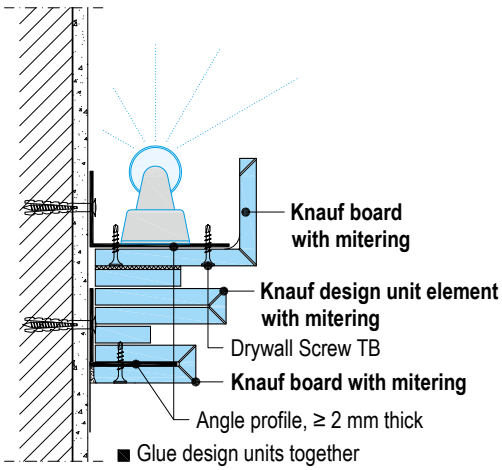
Details

Scale 1:5

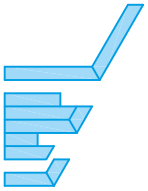
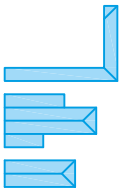
D191.de-S14 Recessed lighting – cornice



Variant



Scheme drawings

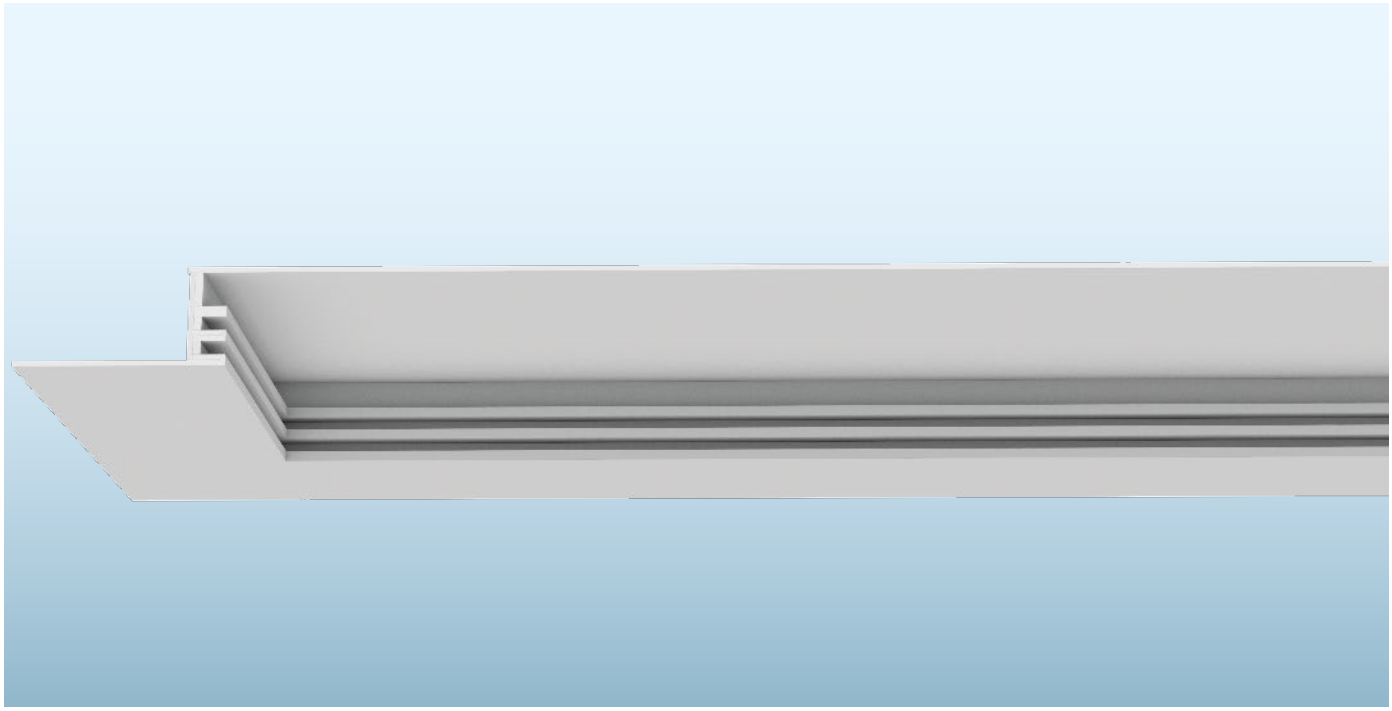
Design units	
Alternative 1 	**Knauf board with mitering 60°** + **Knauf design unit** (mitering 60°) + **Knauf board with mitering 60°**
Alternative 2 	**Knauf board with mitering 90°** (glued edge) + **Knauf design unit** (mitering 90°) + **Knauf board with mitering 90°**

Fins

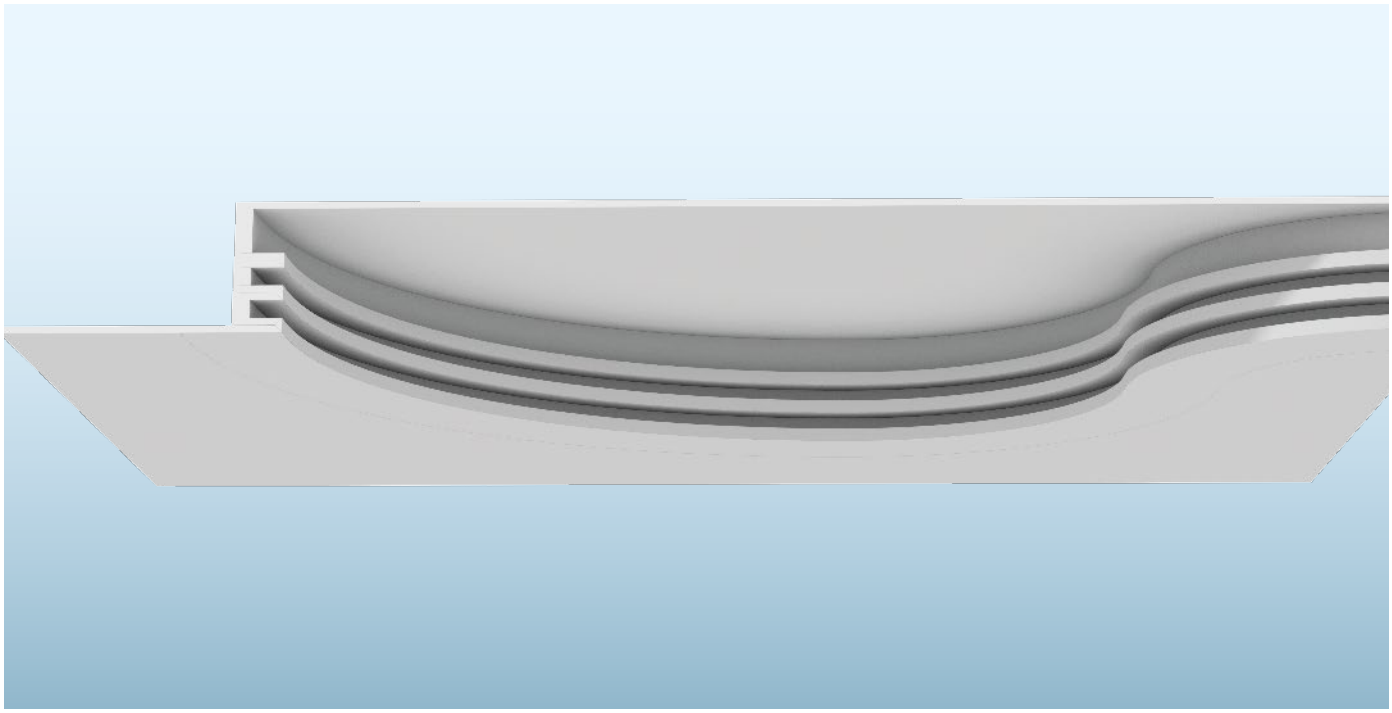
View

Scheme drawings

Example



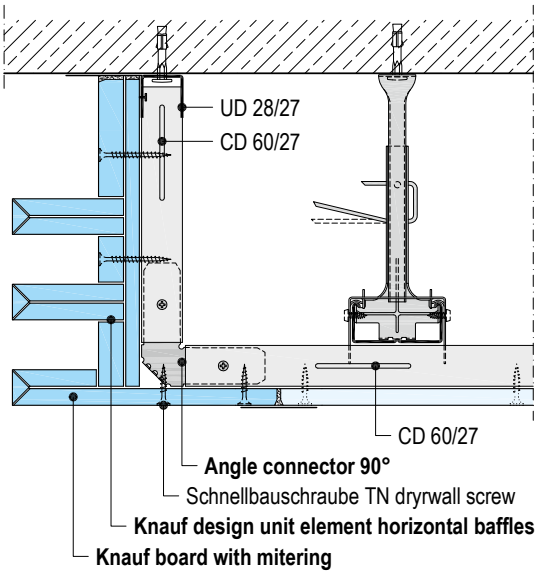
Example



Details

Scale 1:5

D191.de-S4 Horizontal baffles

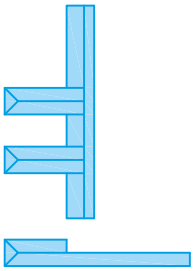


■ Max. overhang see pages 106 to 108

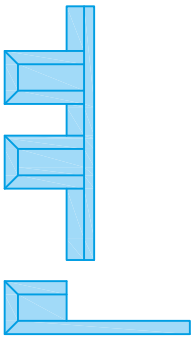
Scheme drawings

Design units

Alternative 1



Alternative 2



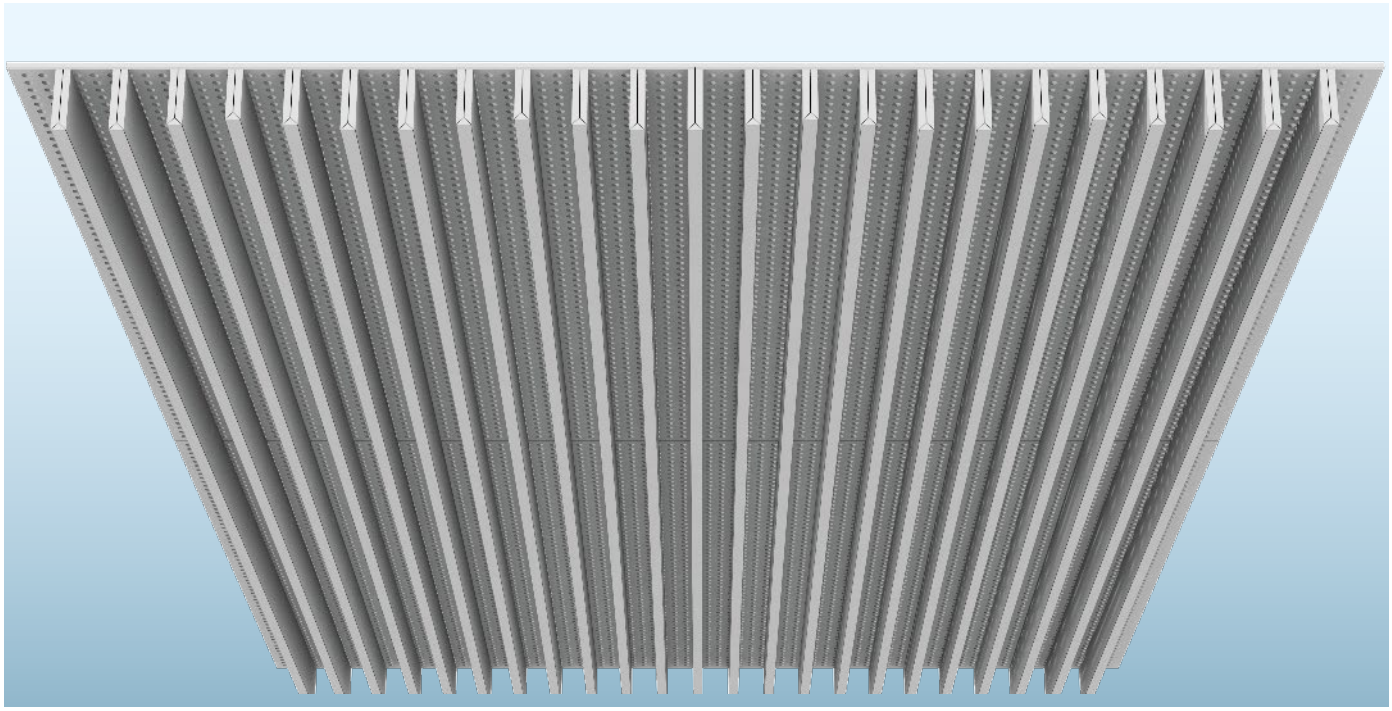
Knauf design unit element horizontal baffles
Variable baffle width and height
+
Knauf board with mitering 90°
or
Knauf design unit
(mitering 90°)

Baffle ceilings

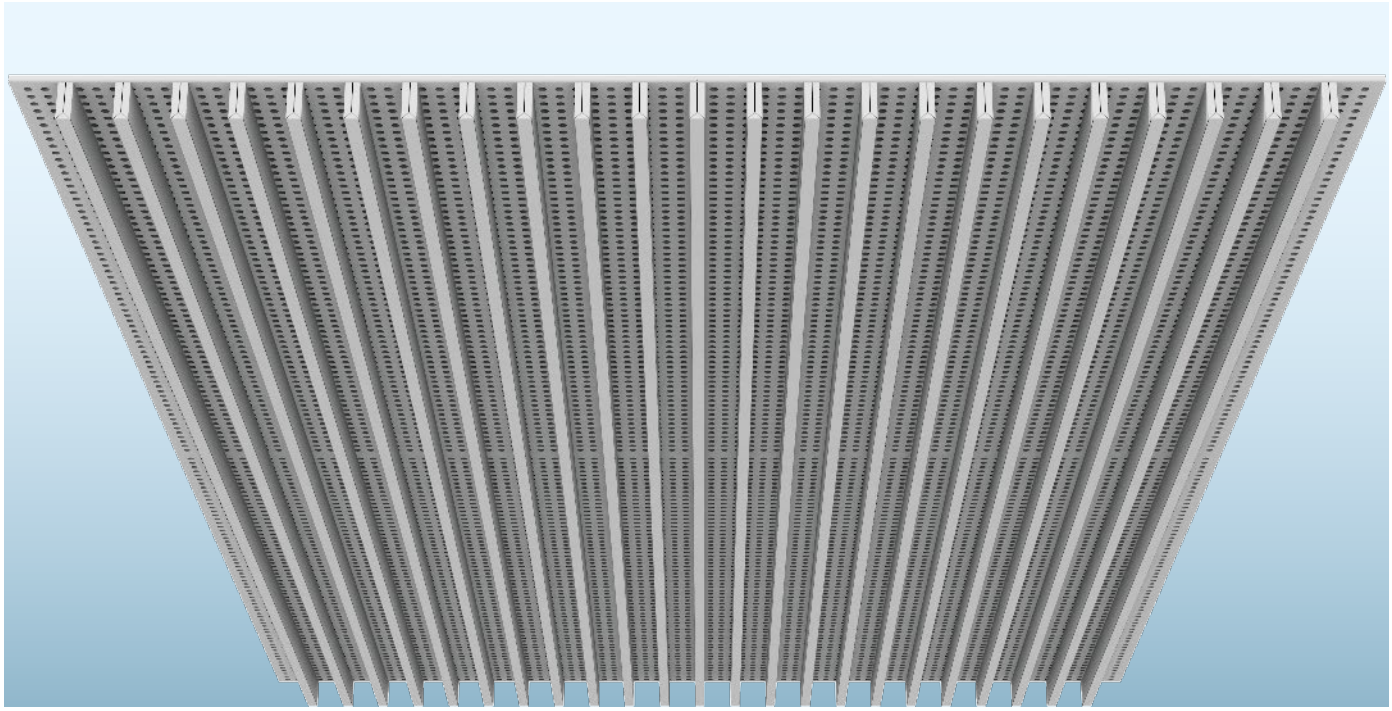
View

Scheme drawings

Example



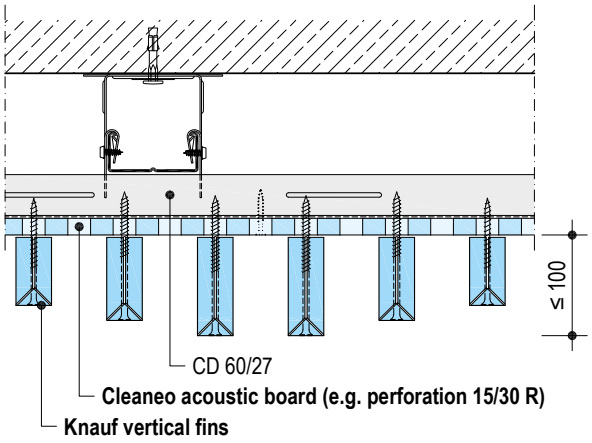
Example



Details

Scale 1:5

D191.de-S28 Vertical baffles



With Drehankerwinkel daisy chain clip see page 114

- Baffles lateral to the furring channel CD 60/27
- Drill on site and screw into the CD channel
- Use suitable TN drywall screws to suit the baffle height:

  Baffle height

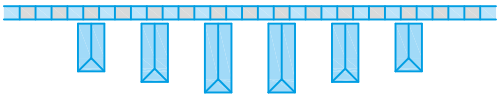
  Minimum screw length = + horizontal board layer

  + minimum penetration of the CD channel ≥ 10 mm

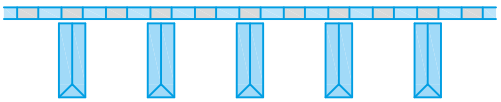
Scheme drawings

Design units

Alternative 1



Alternative 2

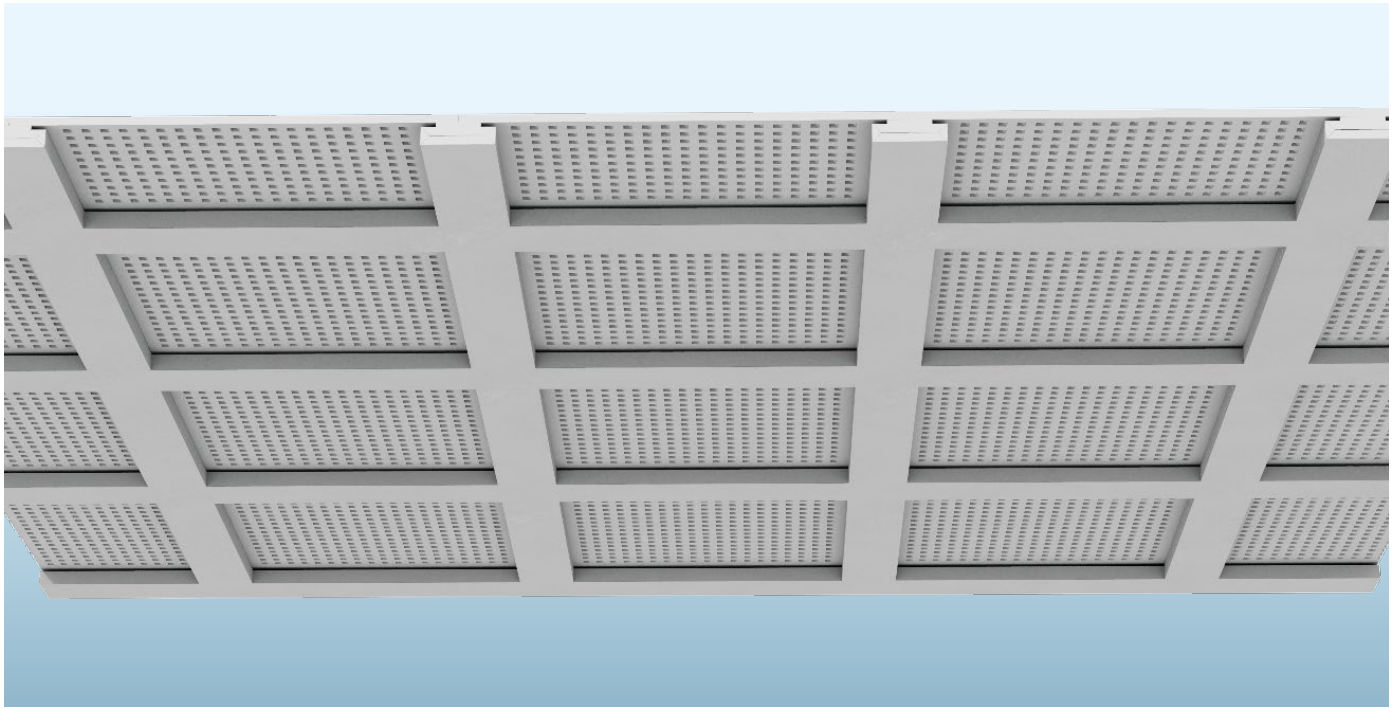


Knauf vertical baffles
width 25 mm / variable baffle height
+
Cleaneo Acoustic Boards
e.g. perforation 15/30 R or 20/24 R

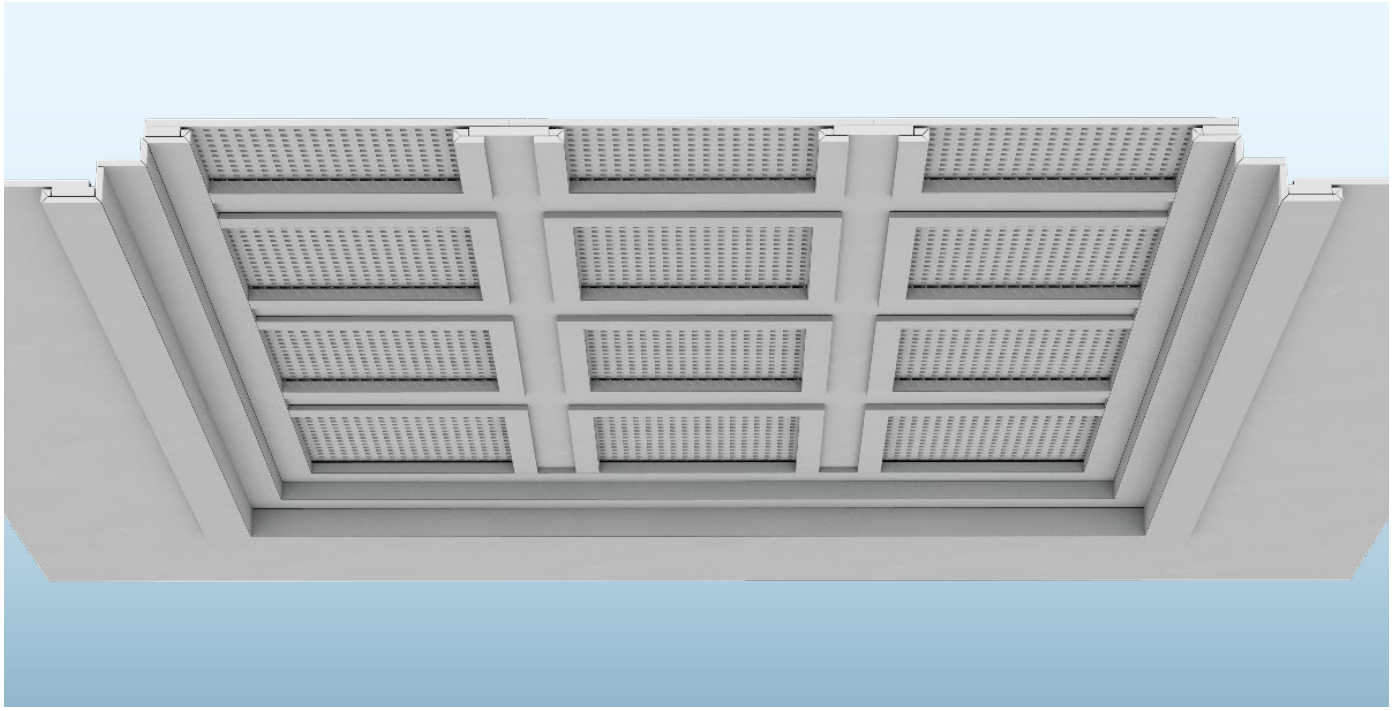
View

Scheme drawings

Example



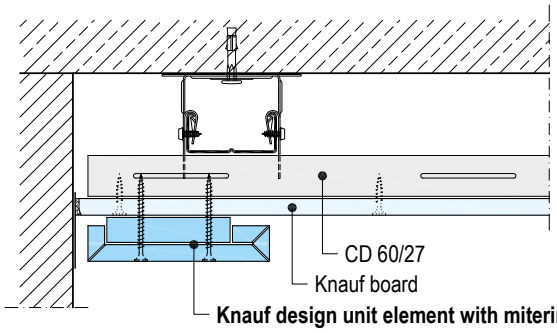
Example



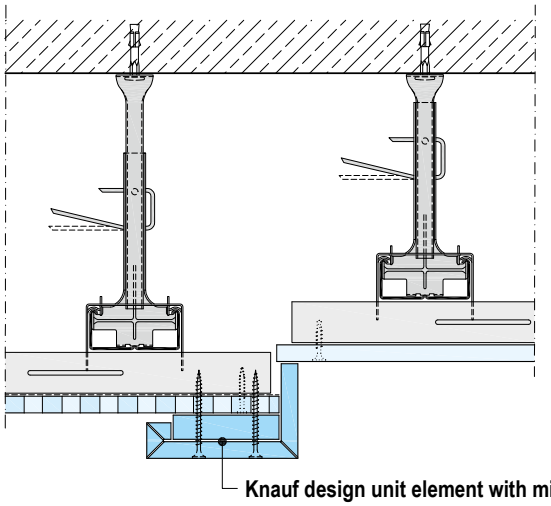
Details

Scale 1:5

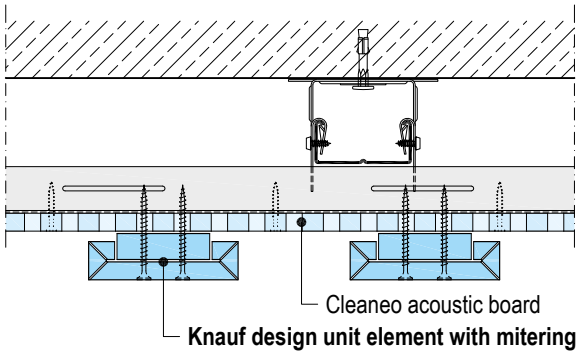
D191.de-S3 Grid ceiling - fitted frieze



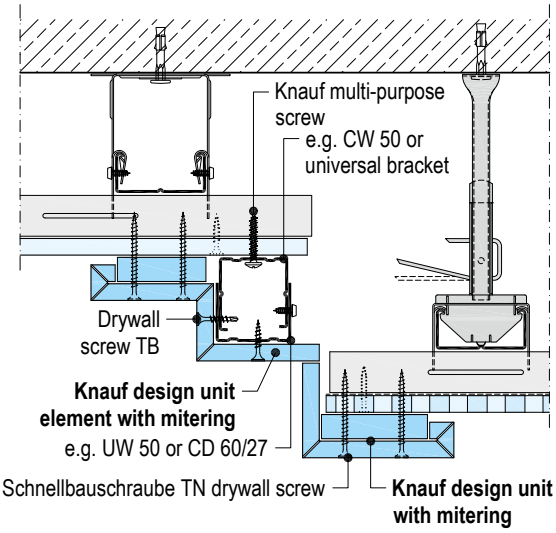
D191.de-S11 Grid ceiling - split level ceiling as frieze



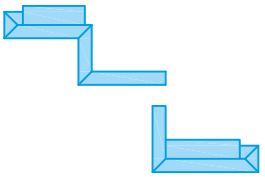
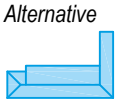
D191.de-S9 Grid ceiling



D191.de-S11 Grid ceiling - stepped split level ceiling



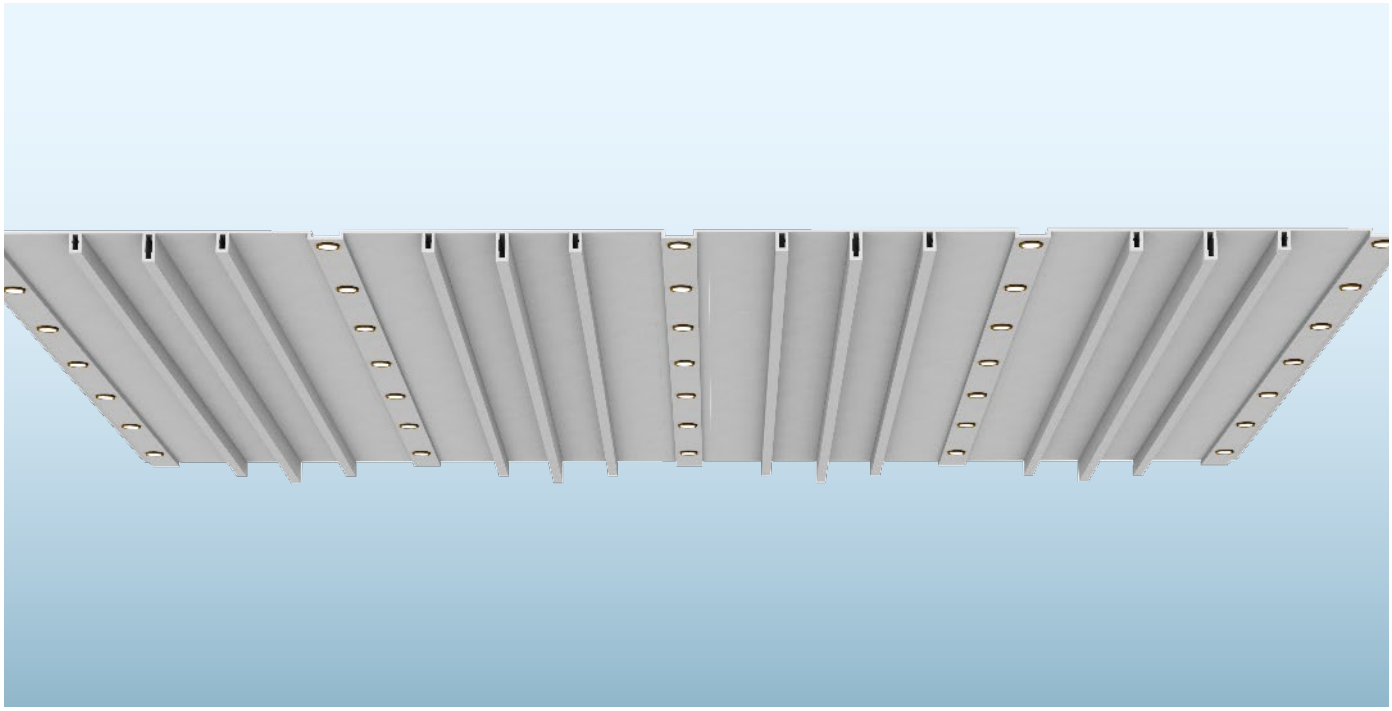
Scheme drawings

Design units	
Alternative 1  *Alternative 2*  *Alternative 3* 	**Knauf design unit elements** (mitering 60° or 90°)
Alternative 1  *Alternative 2*  *Alternative 3* 	
Alternative 	
Alternative 	

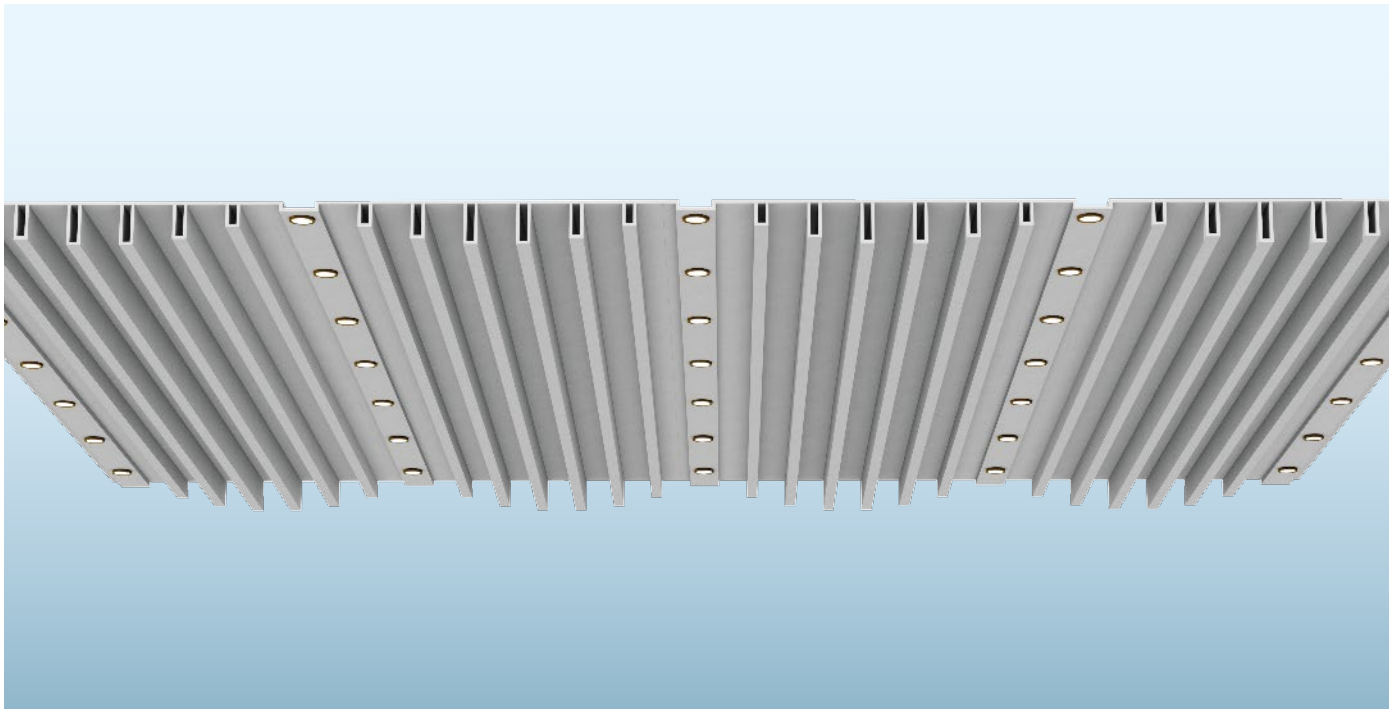
View

Scheme drawings

Example



Example

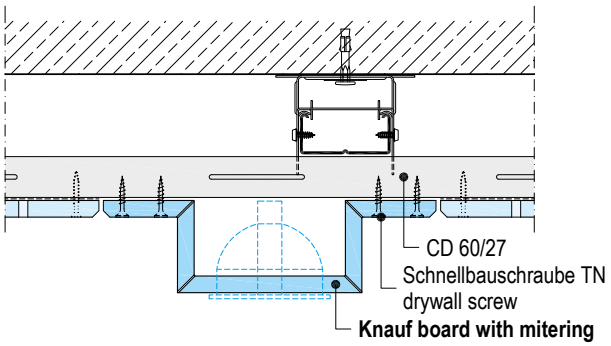


Details

Scale 1:5

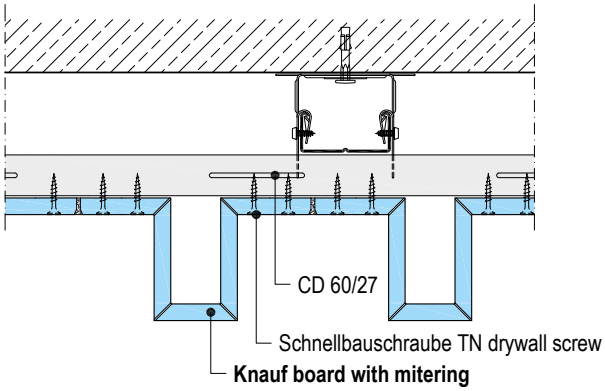
Scheme drawings

D191.de-S7 Ceiling elevation



- Fasten the heavy lamps to the grid or raw ceiling

D191.de-S29 Ceiling elevation

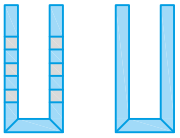


Design units

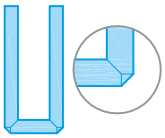
Alternatives

Alternatives

Alternatives

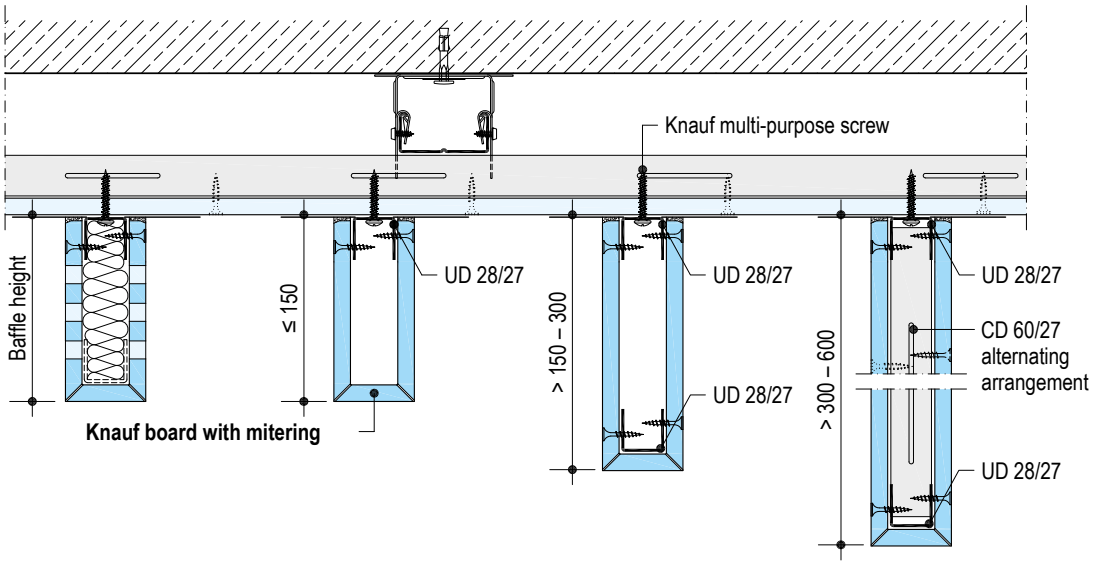


Alternatives (bevelled)



Knauf boards with miters 90°

D191.de-S6 Ceiling elevation - baffles



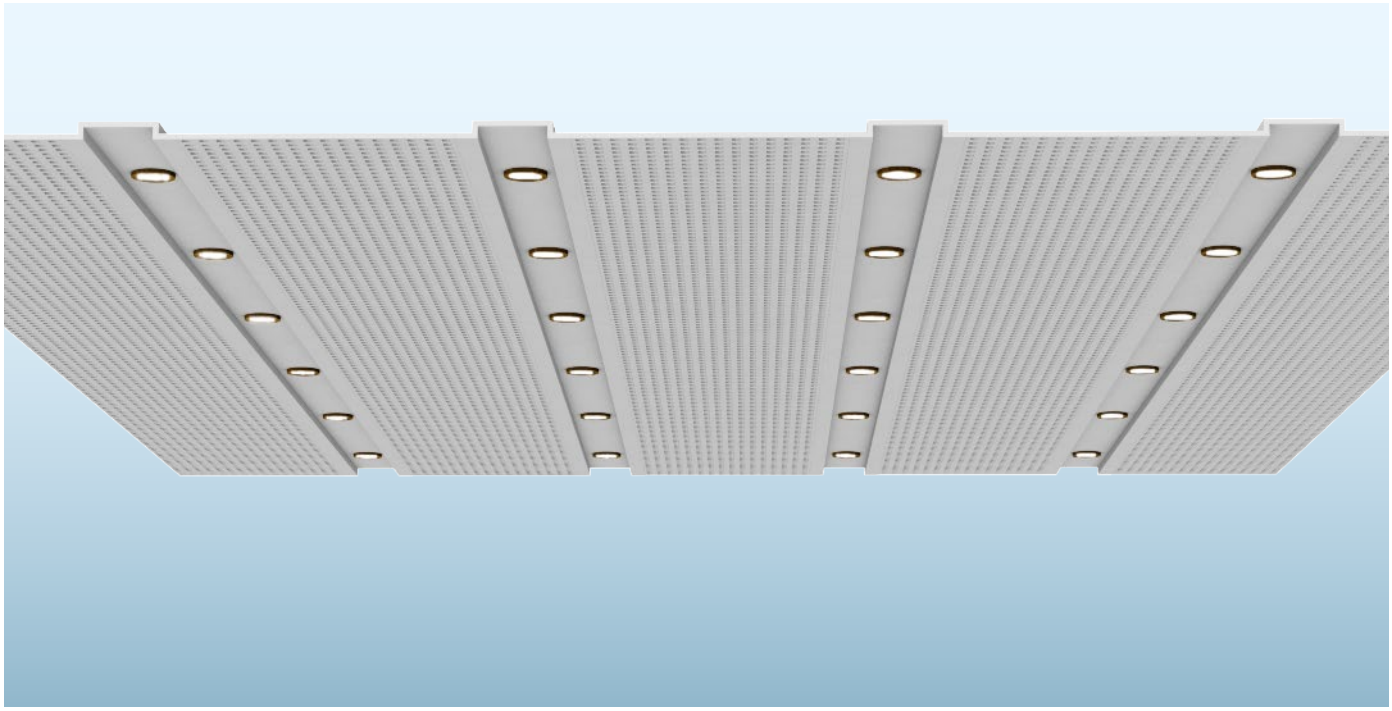
- Grid is dependent on the baffle height:
  ≤ 150 mm: upper UD runner only
  > 150 to 300 mm: upper + lower UD runner
  > 300 to 600 mm: upper + lower UD runner + vertical CD channel alternating arrange at axial spacings ≤ 625 mm and screw fix the gypsum design units accordingly.

Ceiling recesses

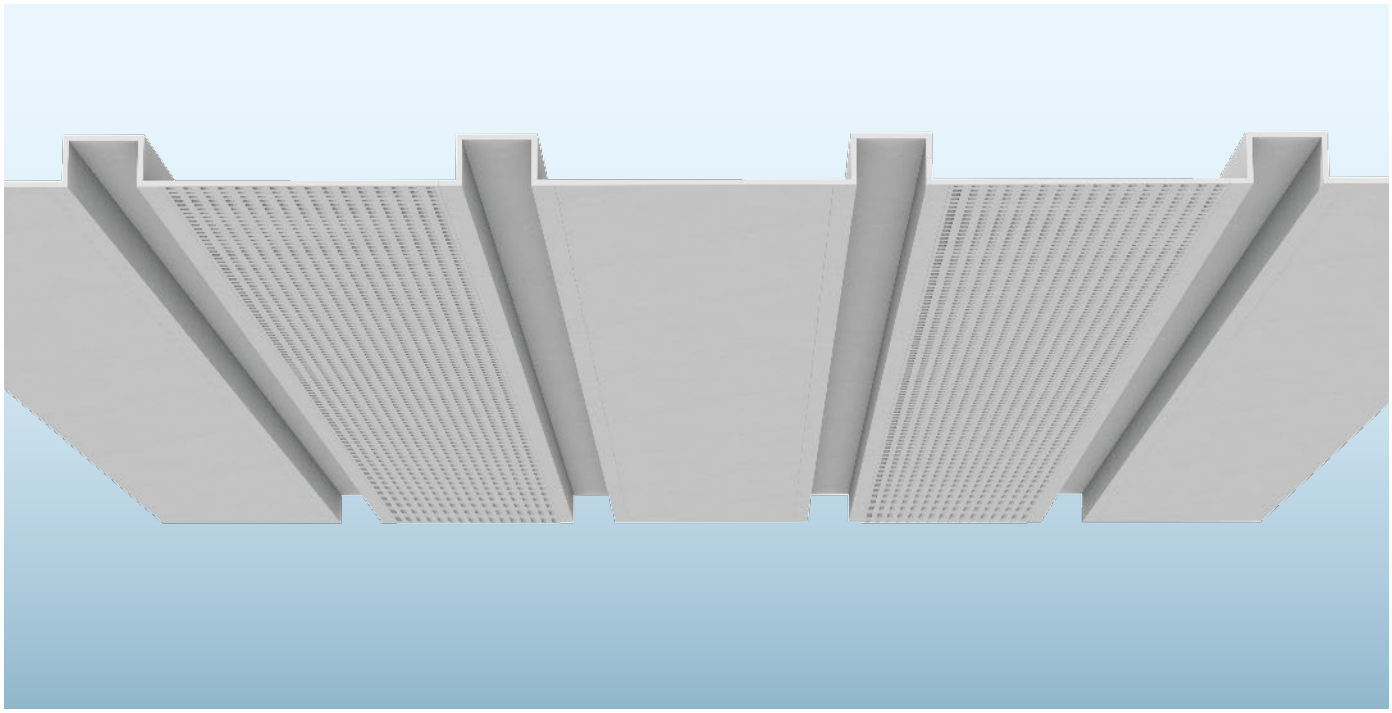
View

Scheme drawings

Example



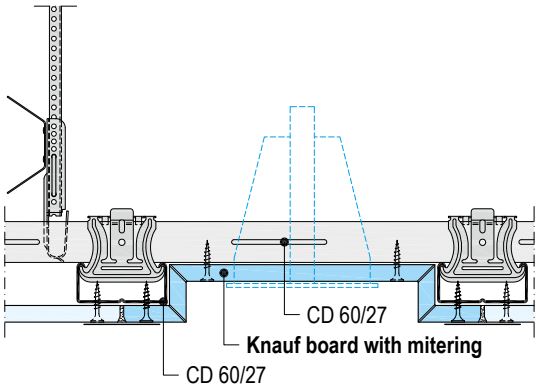
Example



Details

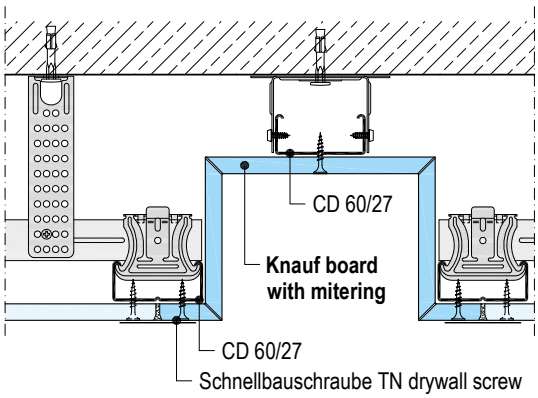
Scale 1:5

D191.de-S10 Ceiling recess

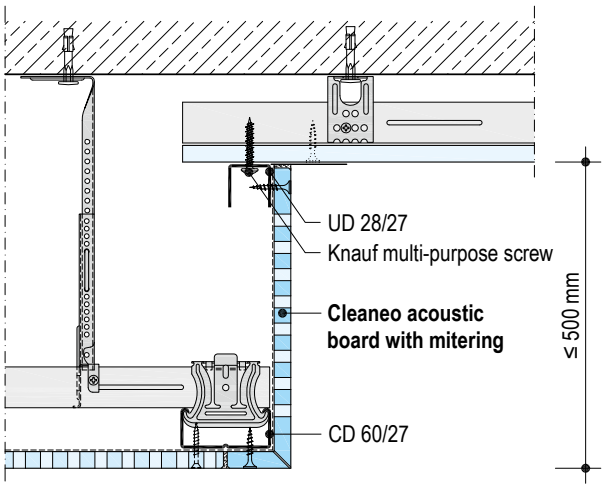


- Fasten the heavy lamps to the grid or raw ceiling

D191.de-S30 Ceiling recess



D191.de-S31 Ceiling recess - perforated split level ceiling



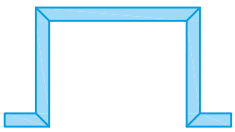
≤ 500 mm if no offset of the ceiling surfaces to one another are to be expected.
Otherwise reinforcement measures are required

Scheme drawings

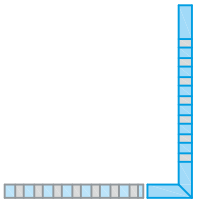
Design units

Alternatives

Alternatives



Alternatives



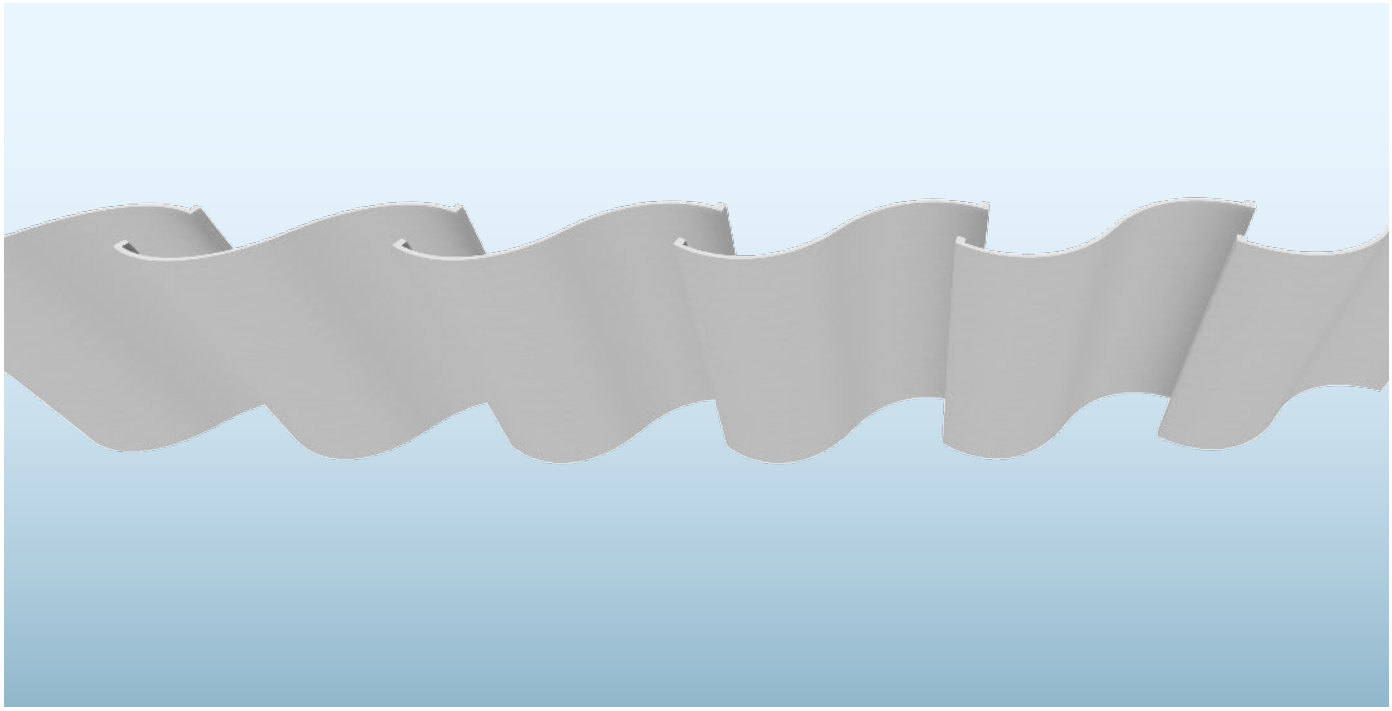
Knauf boards with miters 90°

Waved ceiling

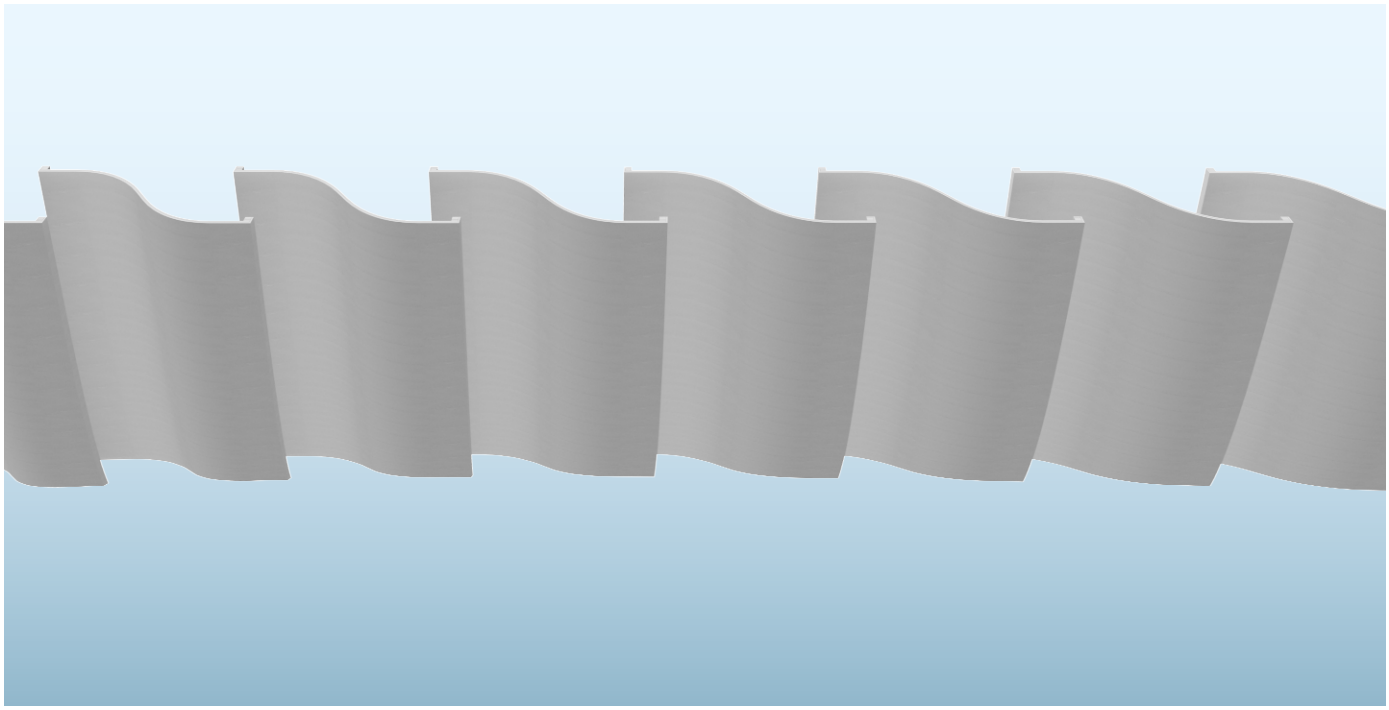
View

Scheme drawings

Example



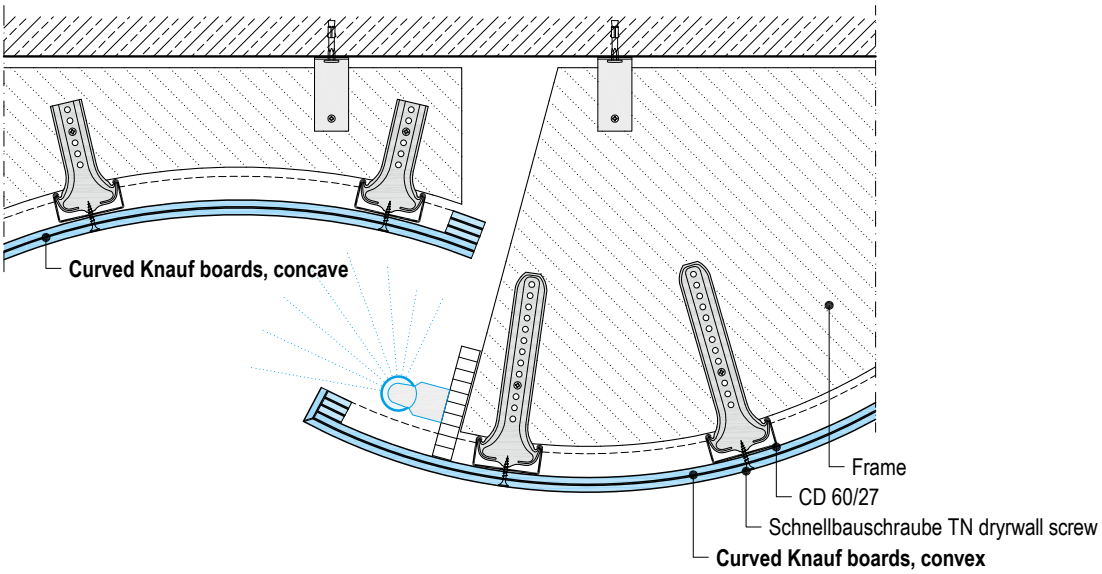
Example



Details

D192.de-S10D Waved ceiling

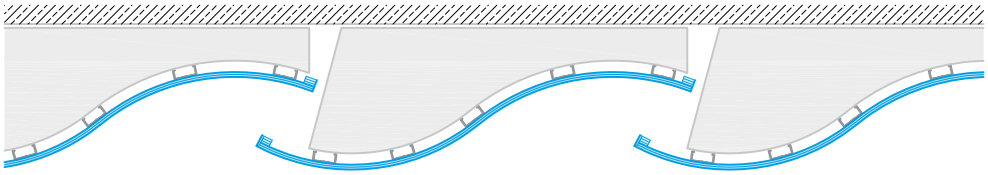
Not to scale



Scheme drawings

Design units

Alternatives



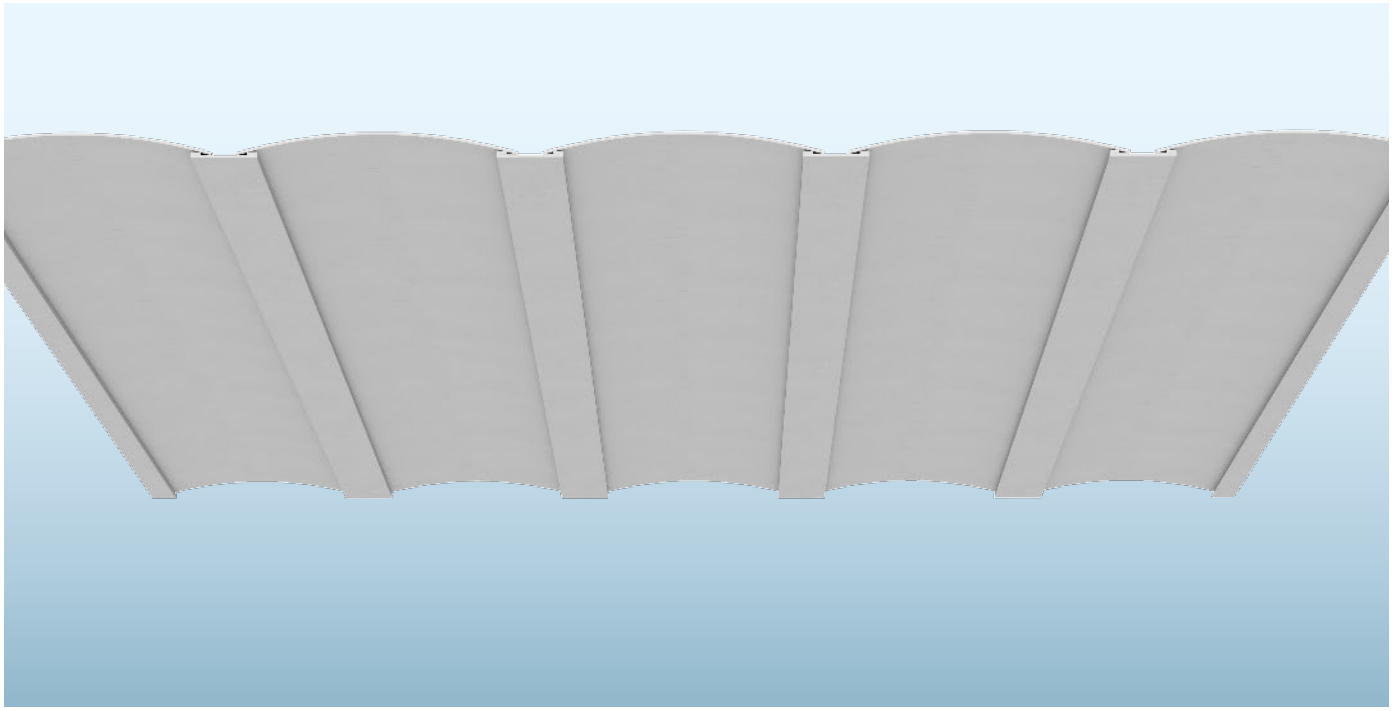
Curved Knauf boards, convex
with upstand + board strips
+
Curved Knauf boards, concave
with board strips
+
Curved Knauf CD channels, convex + concave
or
ribbed design

Vaulted ceiling

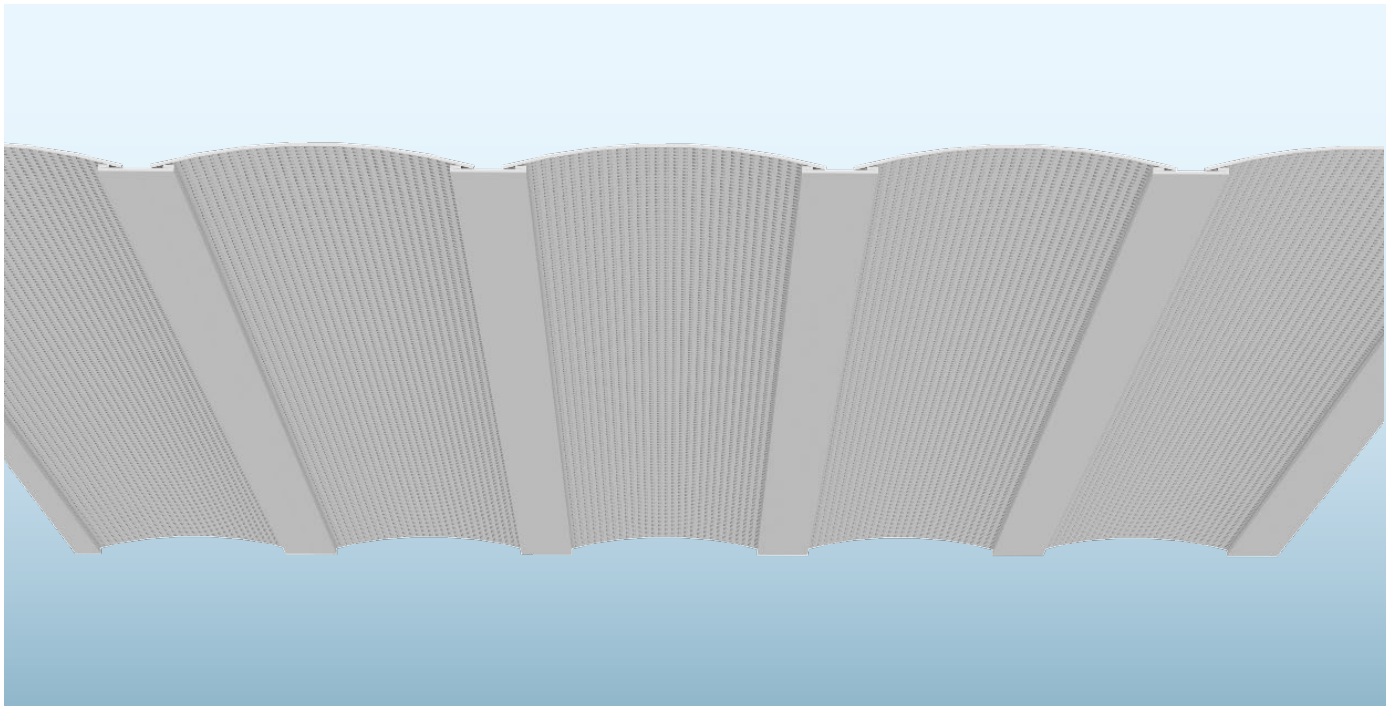
View

Scheme drawings

Example



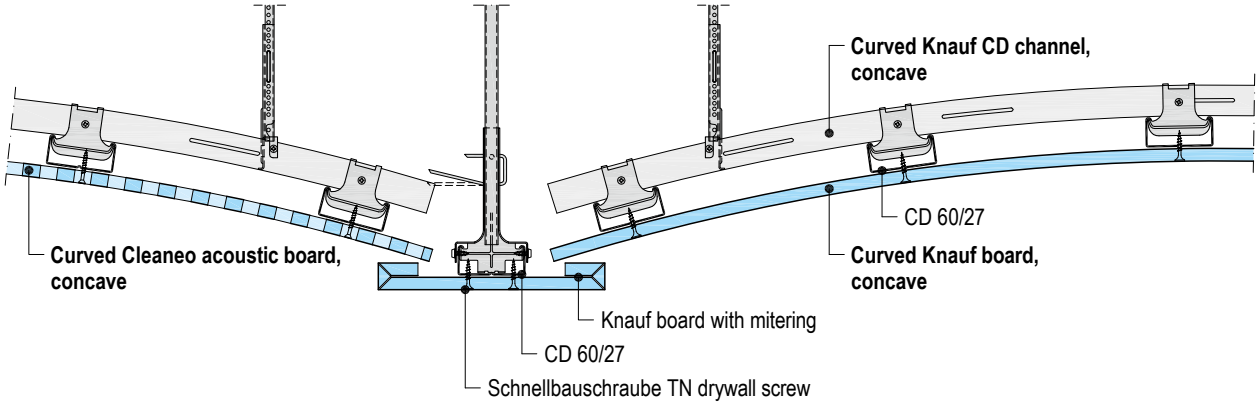
Example



Details

Not to scale

D192.de-S11 Vaulted ceiling - concave

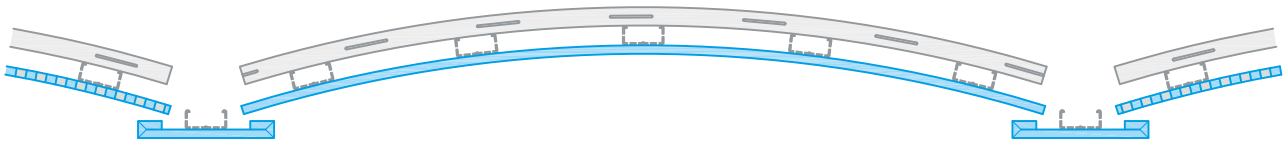


- Cleaneo Acoustic Boards:
  Perforations, bending process, bending radii and axial spacings of furring channel, see Knauf Product Data Sheet K761.de Cleaneo Acoustic
- Max. overhang see pages 106 to 108

Scheme drawings

Design units

Alternatives



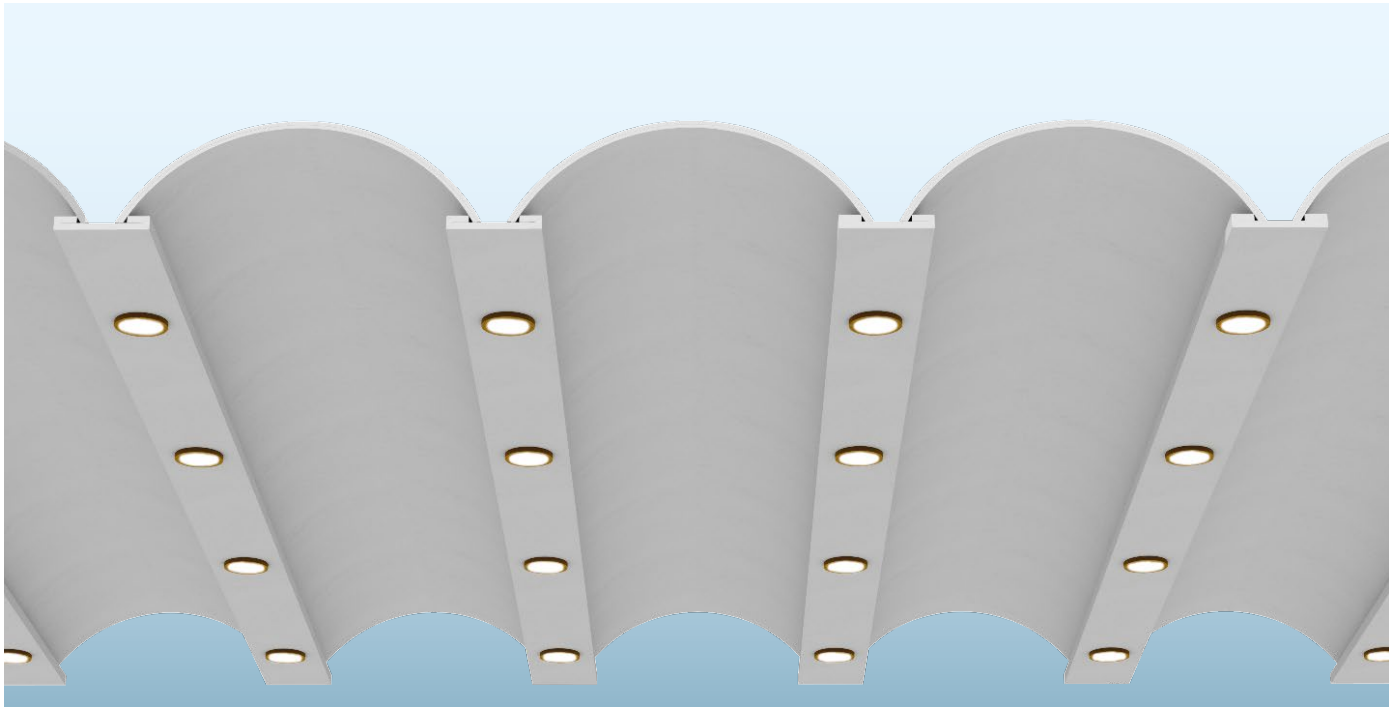
Curved Knauf boards, concave
+
Knauf boards with miter 90°
+
Curved Knauf CD channels, concave

Barrel vault

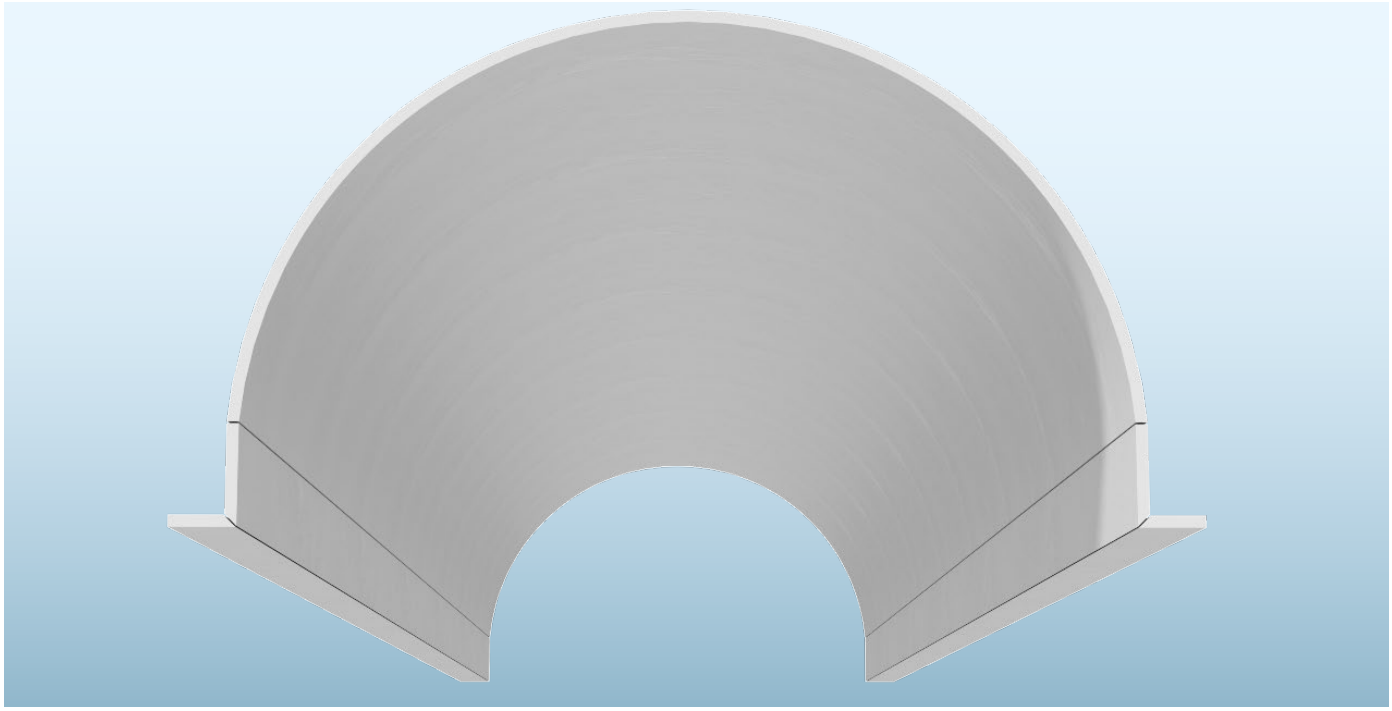
View

Scheme drawings

Example



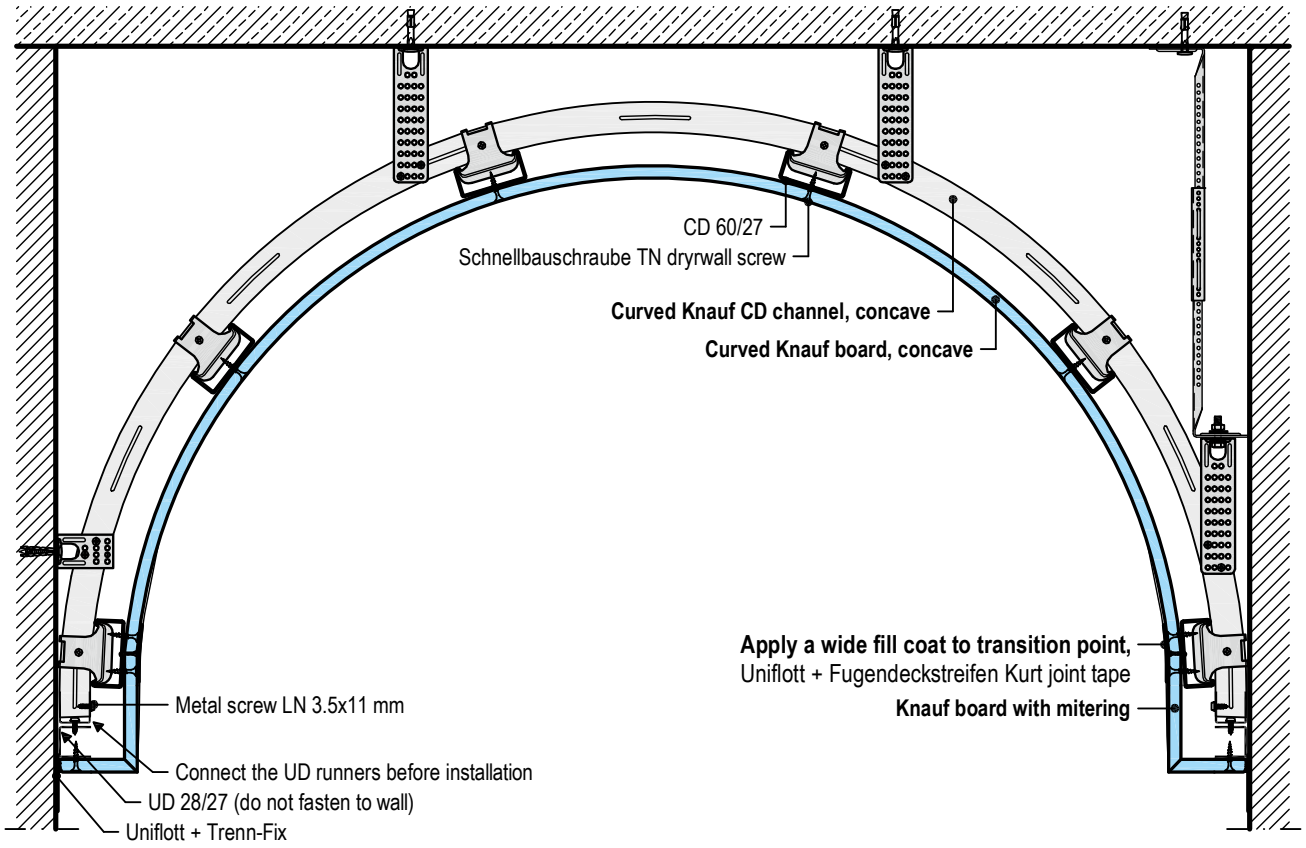
Example



Details

Not to scale

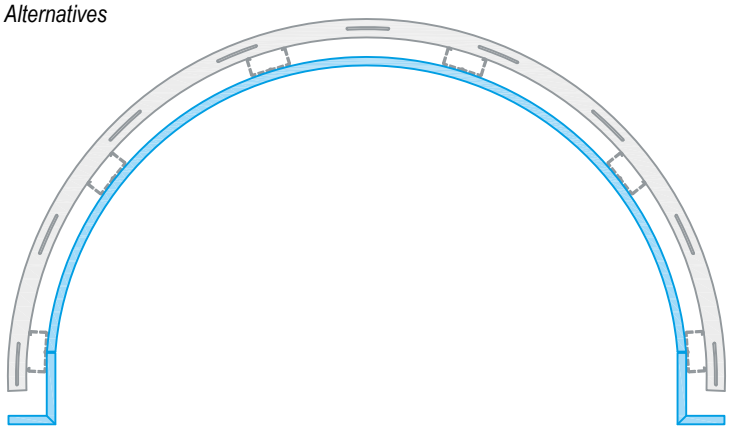
D192.de-S9 Barrel vault, concave



Scheme drawings

Design units

Alternatives



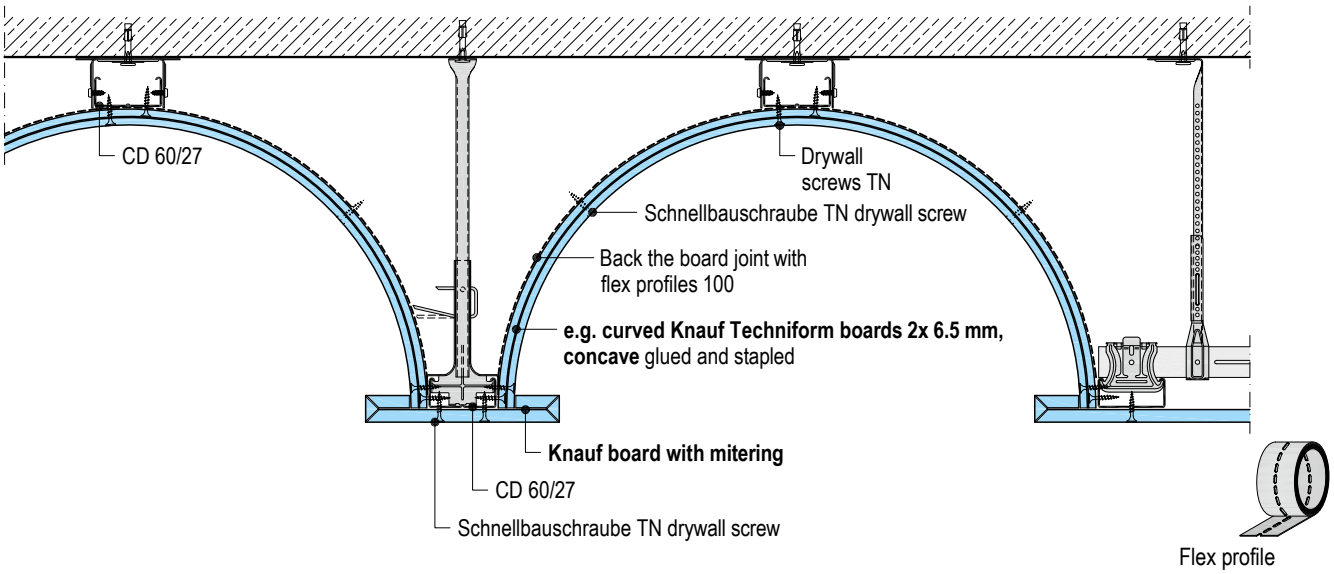
Curved Knauf boards, concave
+
Knauf boards with mitering 90°
+
Curved Knauf CD channels, concave

Barrel vault

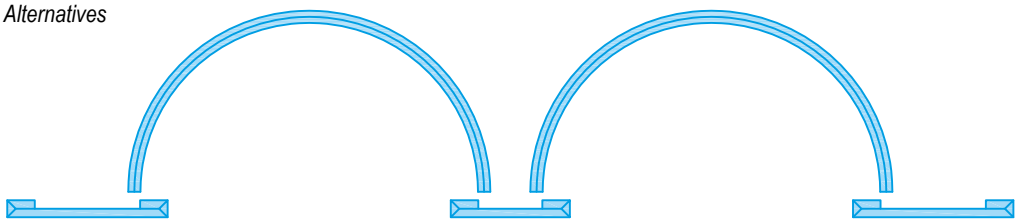
Details

Not to scale

D192.de-S1 Barrel vault, concave with Techniform boards



Scheme drawings

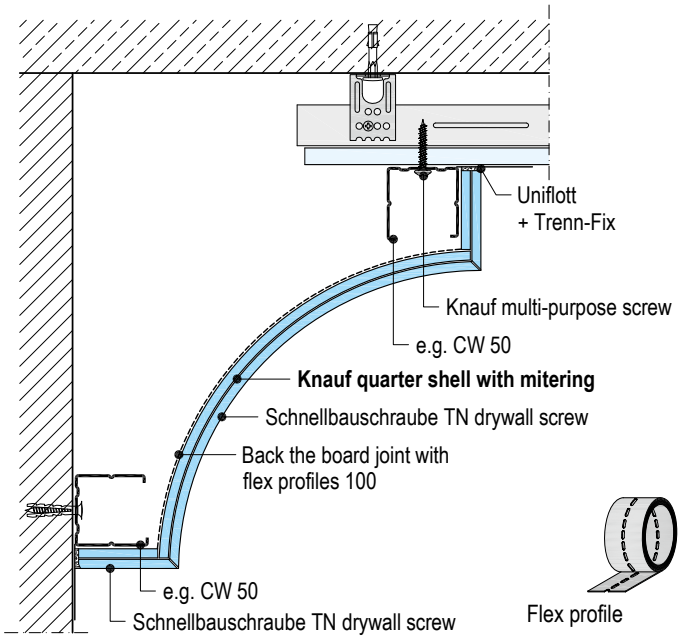
Design units	
Alternatives 	**Curved Knauf Techniform boards 2x 6.5 mm, concave or Knauf half shell 180°, concave + Knauf boards with miters 90°**

Details

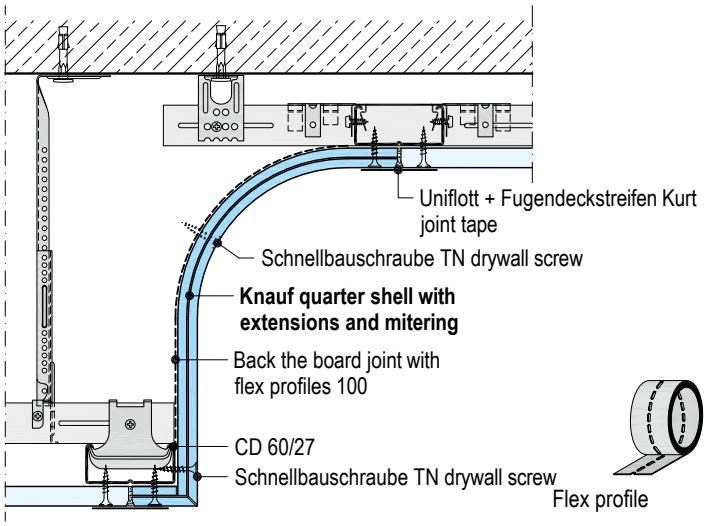
Scale 1:5

Scheme drawings

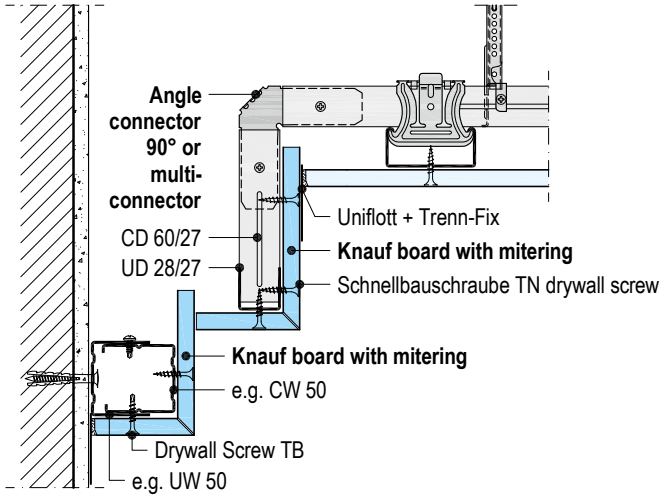
D192.de-S12 Cornice, connection to wall

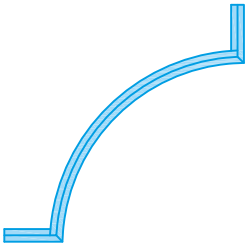
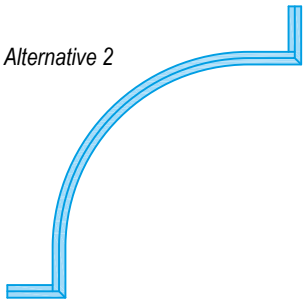
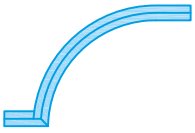
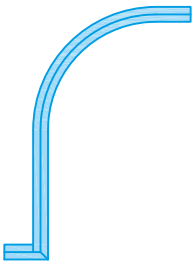
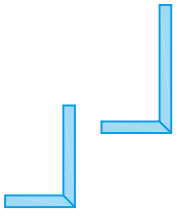
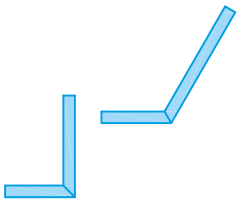


D192.de-S12 Cornice, split level ceiling



D191.de-S1 Cornice, connection to wall



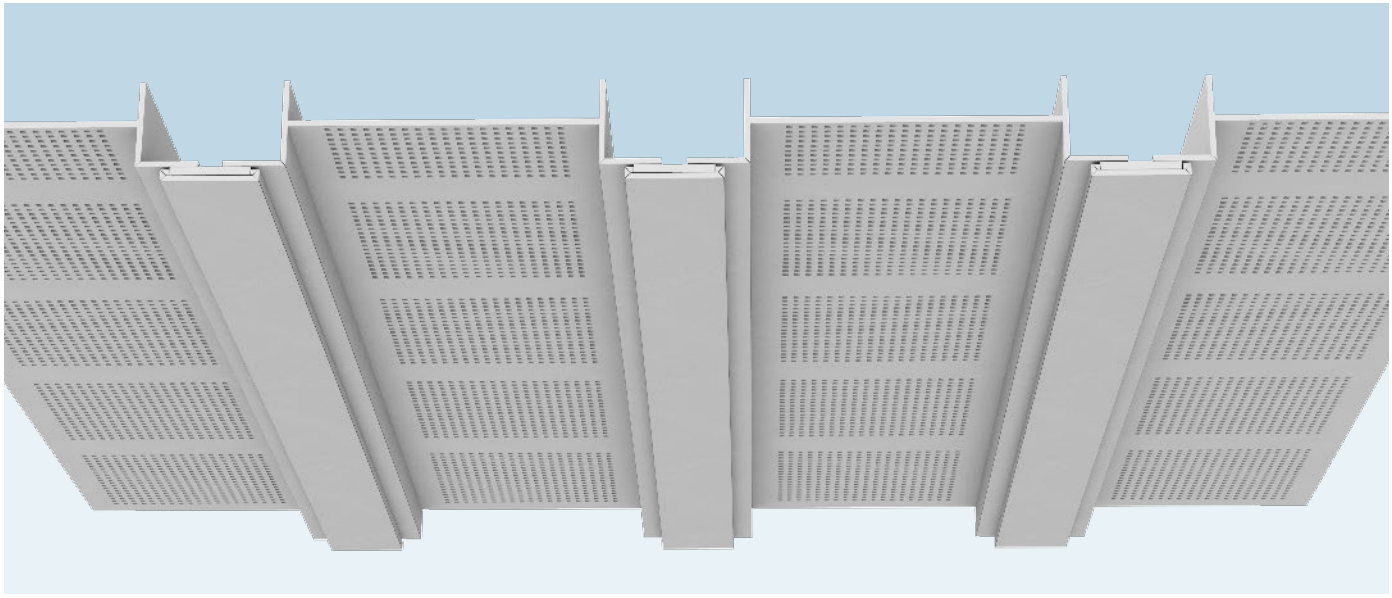
Design units	
Alternative 1  *Alternative 2* 	**Knauf quarter shell 90°, concave** with mitering or With straight extensions and mitering
Alternative 1  *Alternative 2* 	**Knauf quarter shell 90°, concave** with straight extension and mitering or with straight extensions and mitering
Alternative 1  *Alternative 2* 	**Knauf boards with mitering** **90°**or **60°** and **90°**

Split level ceilings

View

Example

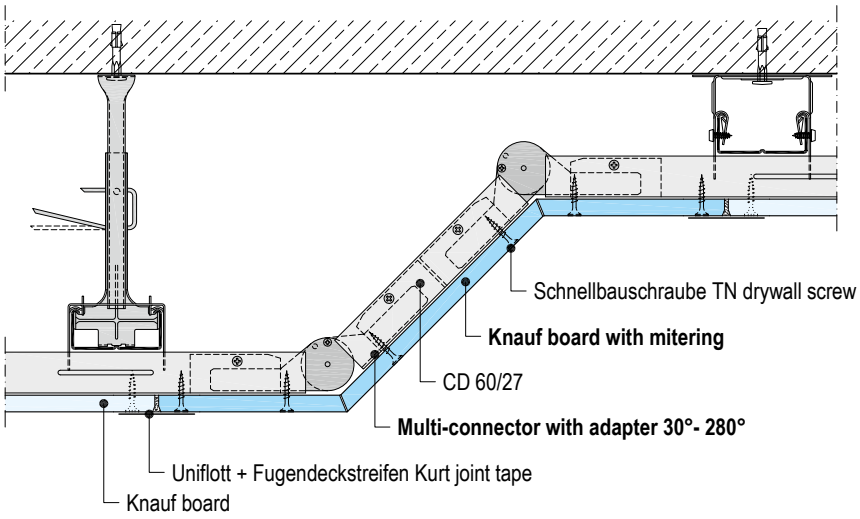
Scheme drawings



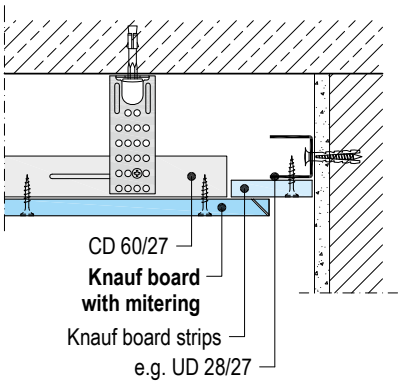
Details

Scale 1:5

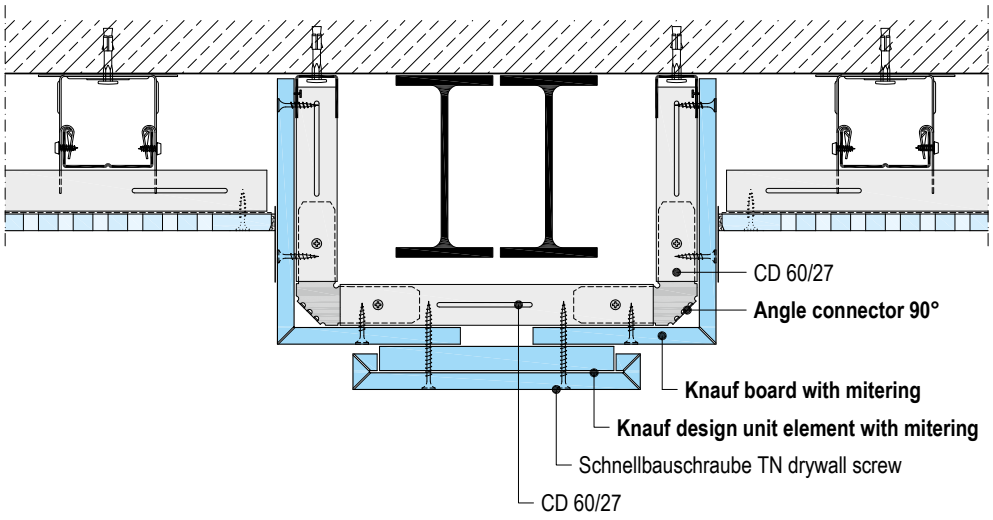
D191.de-S21 Split level ceiling 45°



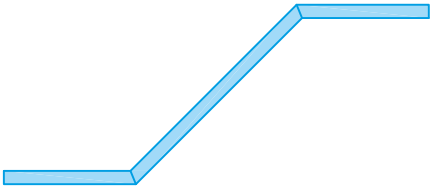
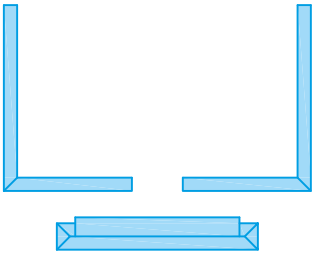
D191.de-S32 Shadow gap



D191.de-S33 Split level ceiling, beam encasement



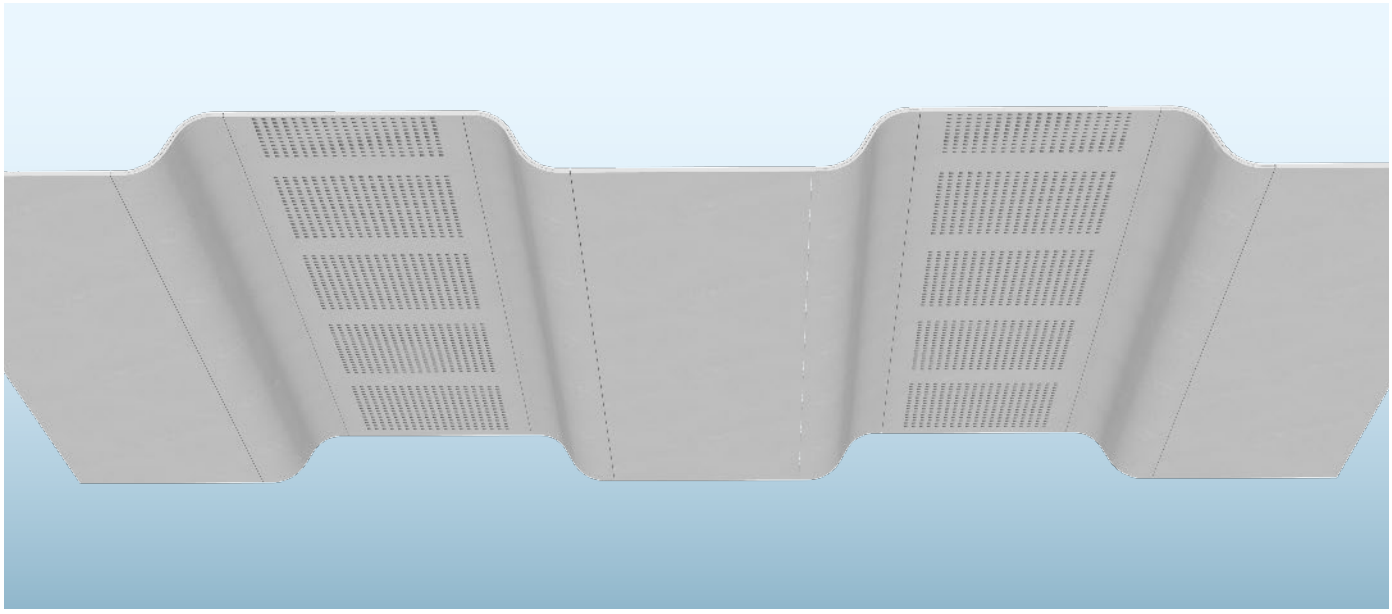
Scheme drawings

Design units	
Alternatives 	**Knauf board with mitering 45°**
Alternatives 	**Knauf boards with mitering 90°** + **Knauf design unit** (mitering 90°)
Alternatives 	**Knauf board with mitering 90°** (glued edge)

Split level ceilings

View

Example

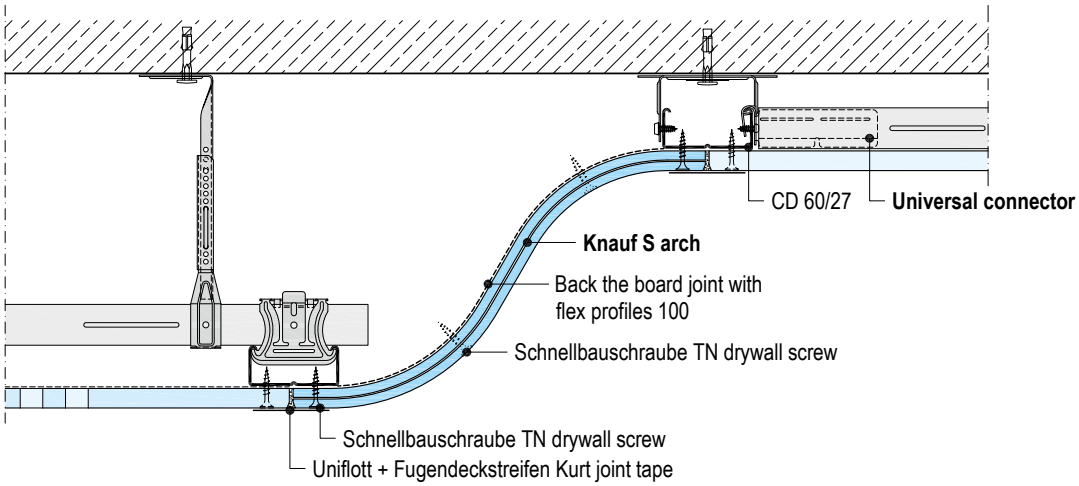


Scheme drawings

Details

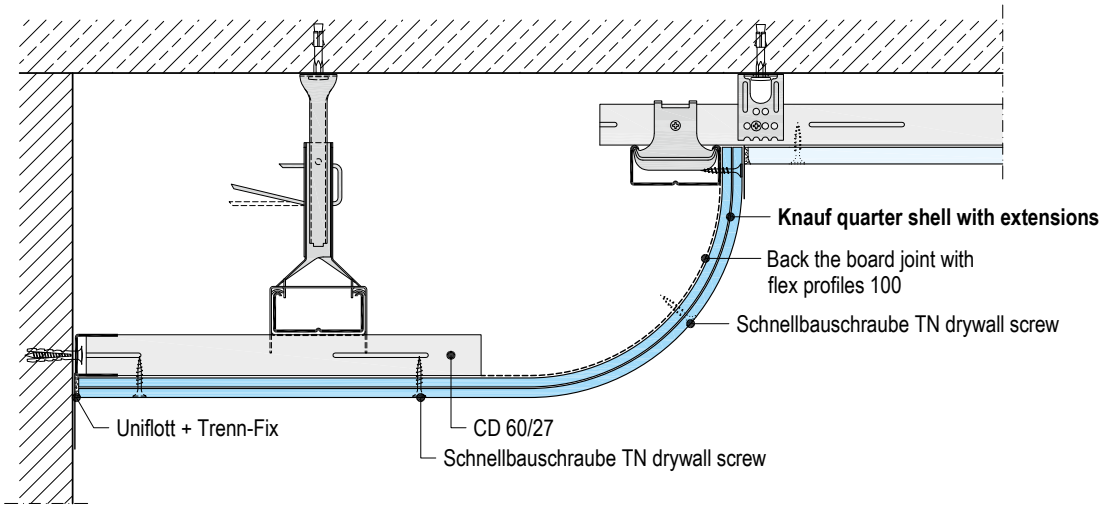
Scale 1:5

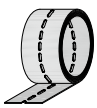
D192.de-S4 Split level ceiling, S arch



Flex profile

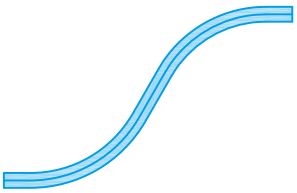
D192.de-S2 Split level ceiling, 90° arch, convex





Flex profile

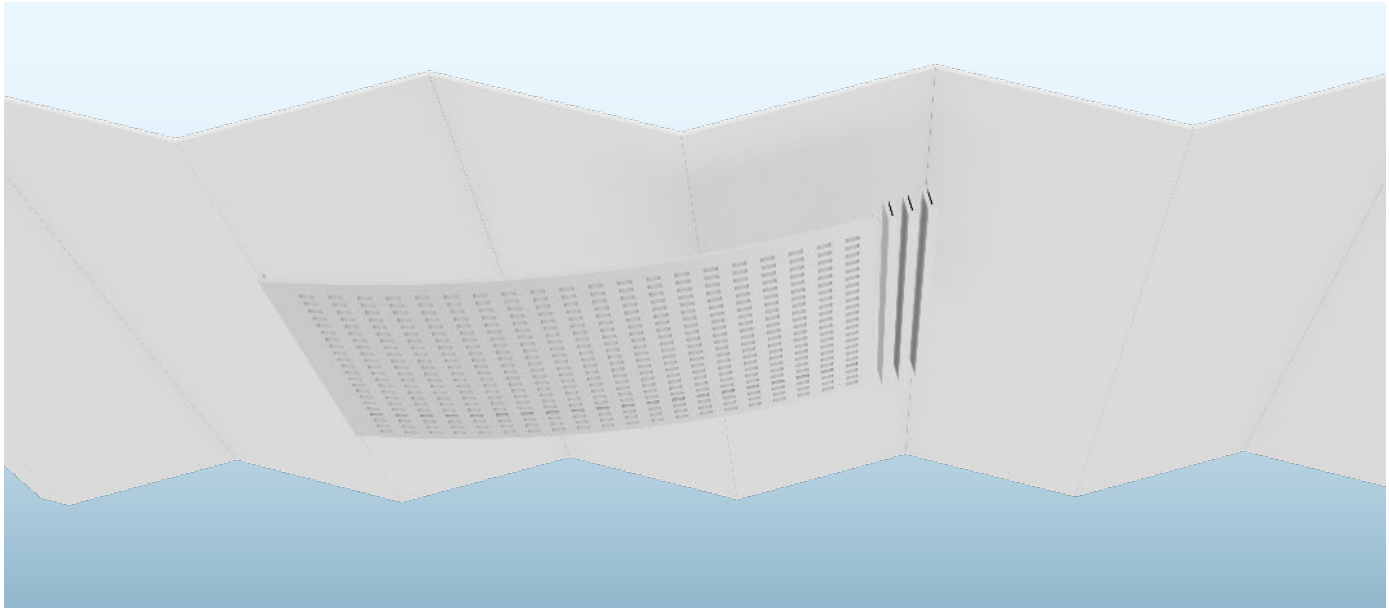
Scheme drawings

Design units	
Alternatives 	**Knauf S arch**
Alternatives 	**Knauf quarter shell 90°, convex** with straight extensions

Sawtooth ceiling

View

Example

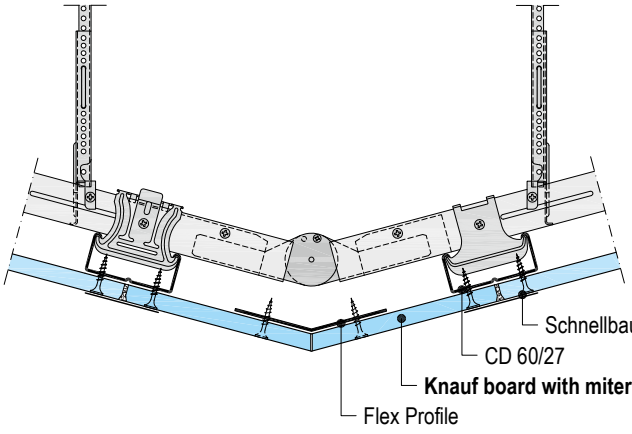


Scheme drawings

Sawtooth ceiling with ceiling canopy

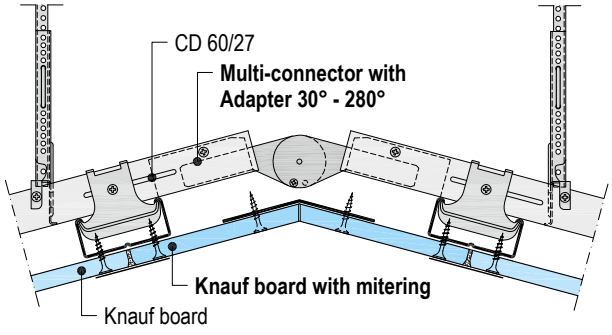
Scale 1:5

D191.de-S26A



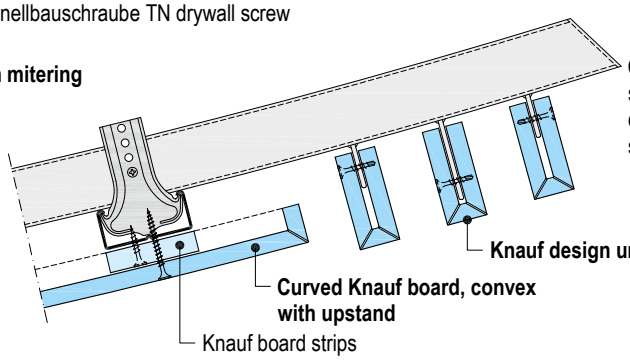
Flex profile

D191.de-S26B

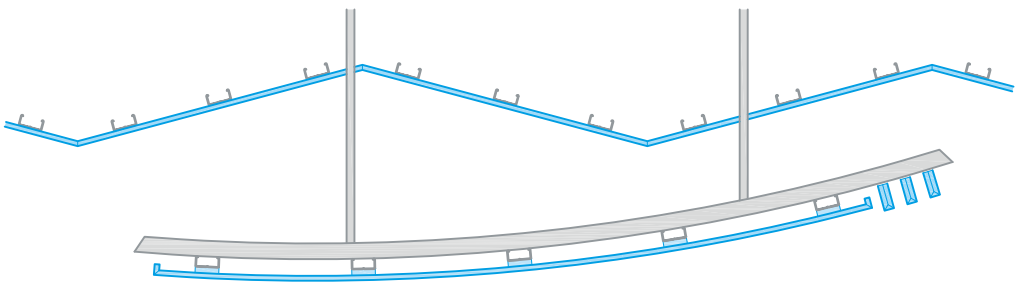


D191.de-S26C

Ceiling canopy in special design e.g. stainless steel, suspend separately

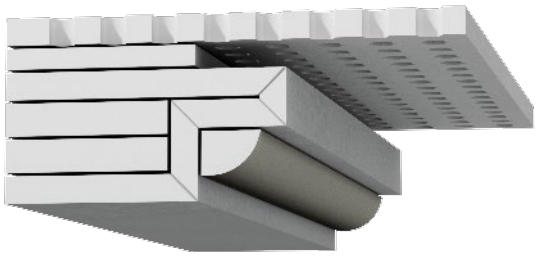


Design units



Curved Knauf boards with miters e.g. 30°
+
Curved Knauf boards, convex with upstand
+
Knauf design unit baffles

Example, mitering technology + on-site stucco work

Drawing
Design unit elements + on-site stucco work


Stucco work can also be worked onto Knauf boards on site

Knauf mitering technology

Design units: Knauf boards with mitering
Knauf design unit elements

Introduction

Knauf mitering technology

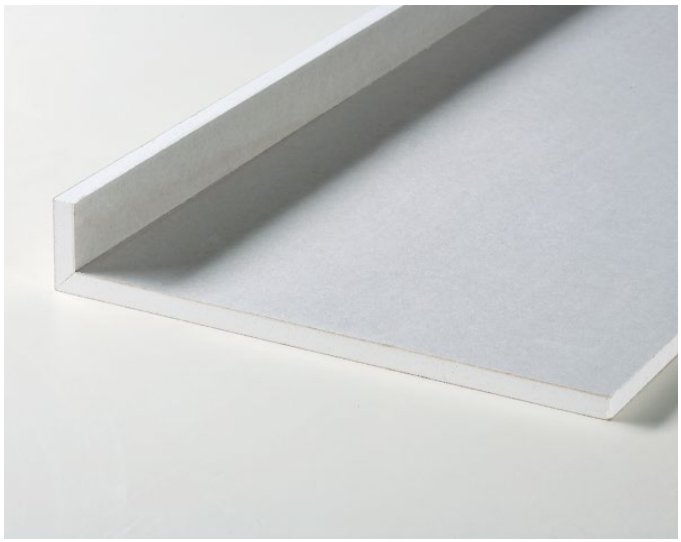
Knauf mitering technology consists of design units made of design unit elements or gypsum boards with factory made mitering, used for the manufacture of Knauf Design solutions supplied glued or unglued on request. Mitering in a gypsum board on the one hand facilitates easy manufacturing of board liner covered edges and thus the achievement of perfect surfaces. Mitering can be implemented at different angles. Mitering can be used to manufacture decorative borders, fins, baffles, split level ceilings, cornices for indirect illumination, cladding for columns and beams as well as column heads and keystones. Mitering can be implemented at any angle from 30° to 150°.

Mitering with bevel

This edge type is used wherever sharp edges are perceived as bothersome.

Application with unglued boards

Prime mitering with Knauf Tiefengrund primer and glue with Knauf PVA glue.



► **Good to know**
Further technical data
www.knauf-formbar.de

Design units: Knauf boards with mitering / Knauf design unit elements

Options: Mitering from

30° mitering

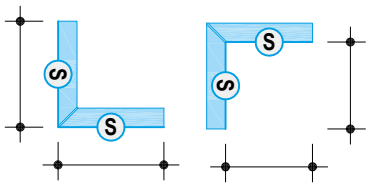
to:

150° mitering

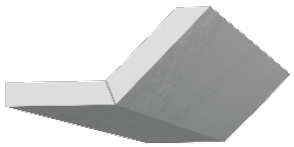
All degree settings possible

Scheme drawings

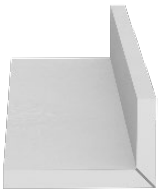
Board formats
6.5 mm to 25 mm
Board types
■ Knauf Wallboards ■ Knauf Fire-Resistant Board ■ Feuerschutzplatte Knauf Piano fire-resistant board ■ Diamant ■ Techniform Board ■ Thermoboard ■ Others on request
Mitred design units available on request
■ Glued / partly glued / unglued ■ Straight / curved
Necessary when ordering
■ Specification of dimensions ■ Marking of the face side (S)



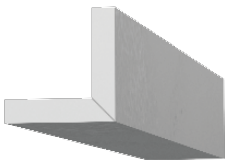
Example: L-angle



45° mitering

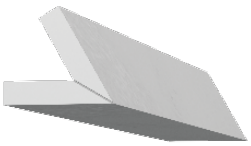


Straight

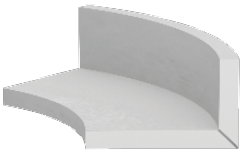


90° mitering

Curved, e.g. upstands



120° mitering

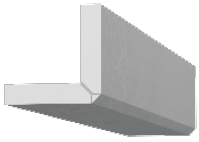


Curved, e.g. upstands

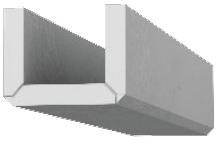
Option: Mitering with bevelled edge

Miters - bevelled 90°

L angle bevelled

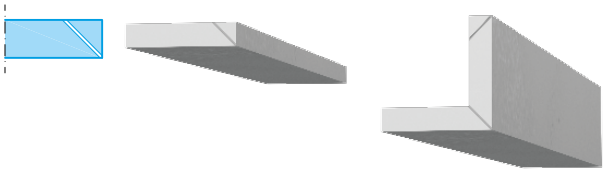


U shaped shell, bevelled



Option: Mitering as a glued edge

Mitering - glued edge 90°



Board thicknesses
12.5 mm
Board types
■ Knauf Wallboards ■ Feuerschutzplatte Knauf Piano fire-resistant board ■ Diamant
Mitred design units available on request
Glued in the factory

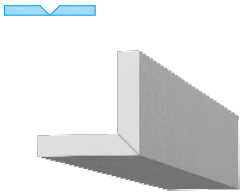
Board thicknesses
6.5 mm to 25 mm
Board types
■ Knauf Wallboards ■ Knauf Fire-Resistant Board ■ Feuerschutzplatte Knauf Piano fire-resistant board ■ Diamant ■ Techniform Board ■ Thermoboard ■ Others on request
Mitred design units available on request
Glued in the factory

Design units: Knauf boards with mitering / Knauf design unit elements

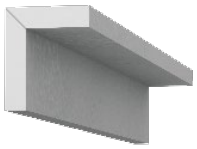
Mitering technology examples

Scheme drawings

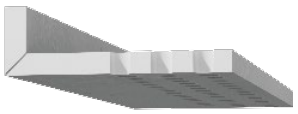
1x 90° mitering



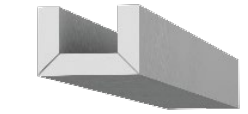
1x 90° mitering



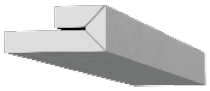
1x 90° mitering



2x 90° mitering



2x 90° mitering



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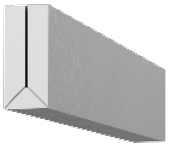
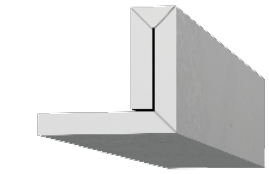
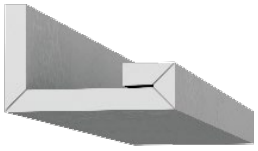


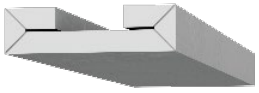
3x 90° mitering



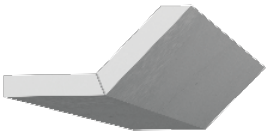
3x 90° mitering



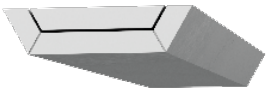
4x 90° mitering



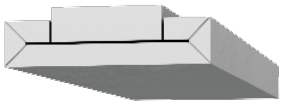
1x 45° + 1x 90 mitering



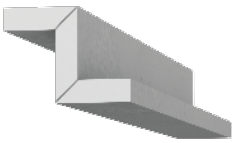
2x 60° + 2x 90 mitering + board strips



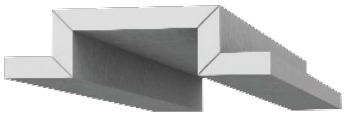
4x 90° mitering + board strips



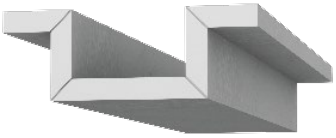
1+1 90° mitering



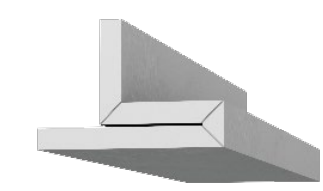
2 + 2 90° miters



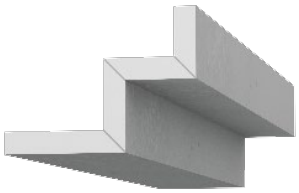
2 + 2 90° miters



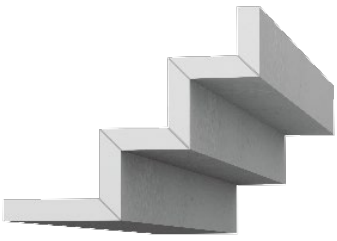
2 + 1 90° miters



2 + 1 90° miters



3 + 2 90° miters



Knauf moulding technology

Design units: Knauf arch elements

Curved Knauf boards

Curved Knauf boards

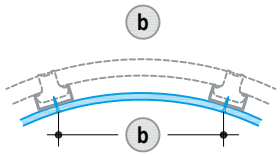
Knauf moulding technology

Knauf moulding technology profiles are factory preshaped and arched design units made of gypsum board and are generally delivered to the building site for creation of Knauf design solutions ready to be used or curved and arched on site. The wet or dry boards are bent into the desired shape depending on the radius required. In this way s-arches, segment arches, exterior and interior arches, arches with extensions and column encasements are made. Special board segments are required for wave shaped arched shells and cone sections. These elements are manufactured to suit in the factory.

Thanks to the smooth surface of the Techniform board, additional surface skimmimg of the surface is not generally required.

Fastening of the curved Knauf boards

Radius [r] mm	Axial spacing Furring channel (b) mm
300 – 2500	≤ 300
> 2500	≤ 400



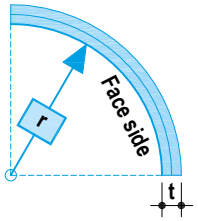
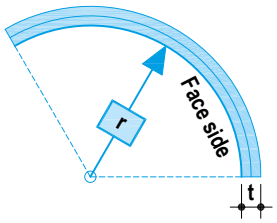
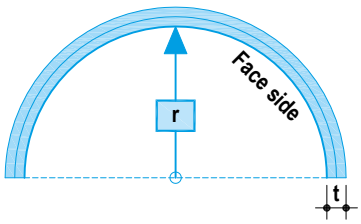
► **Good to know**
Further technical data
■ www.knauf-formbar.de

Curved elements

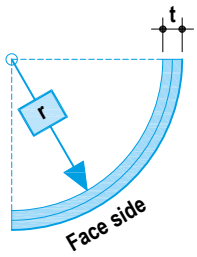
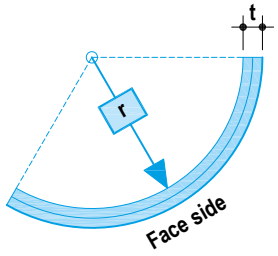
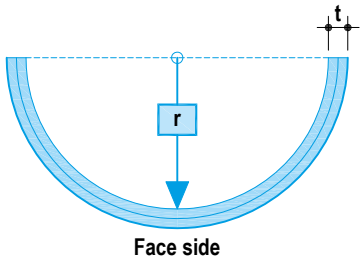
Scheme drawings

Element thickness -d-
■ 12 mm (2x 6 mm) ■ 18 mm (3x 6 mm) ■ 24 mm (4x 6 mm) ■ Others on request
Radius
r ≥ 70 mm
Angle
180°
Element length
Max. 3480 mm (dependent on radius and angle)
Moulding technology design units are:
■ Glued in the factory ■ Straight / curved depending on the design

Concave inside arch

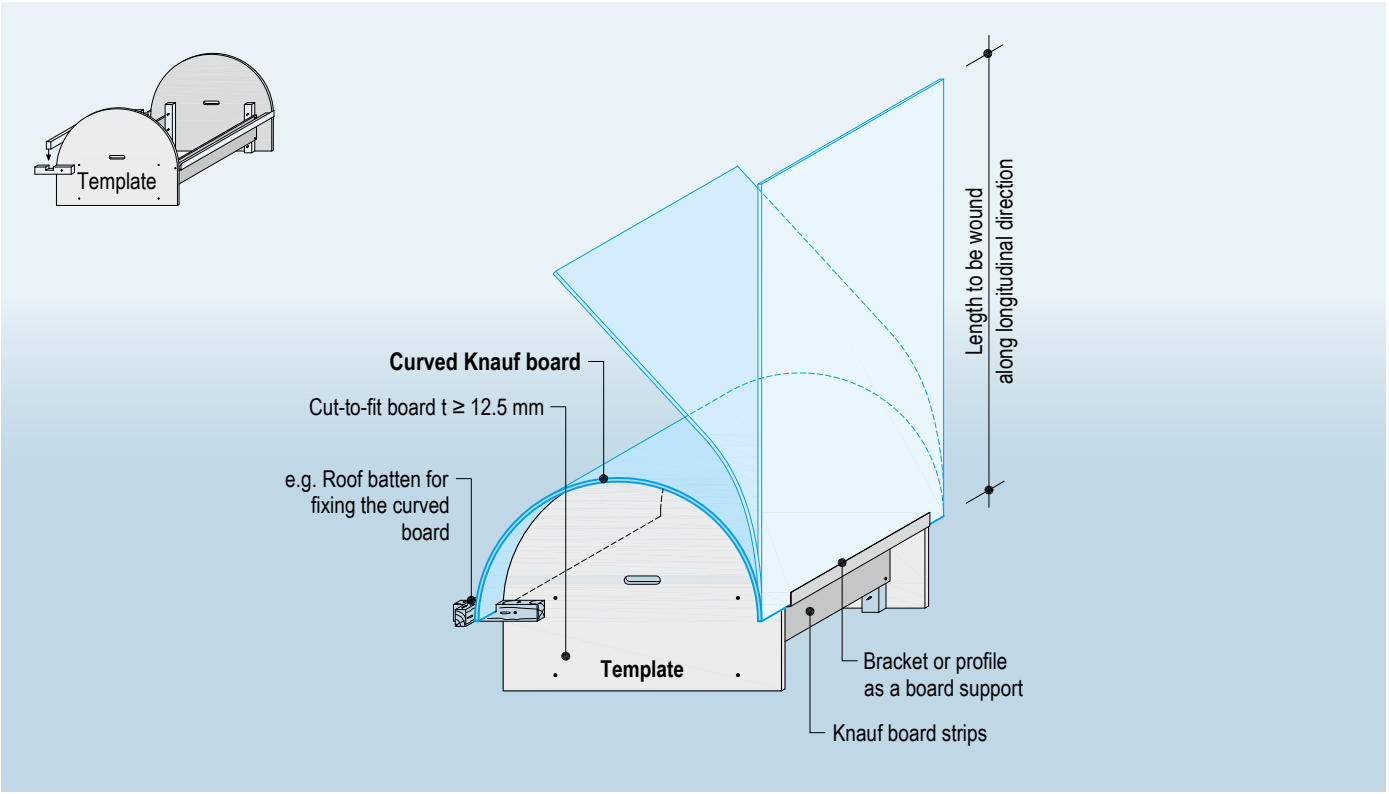
Drawing	Remark
	90° quarter shell
	120° shell
	180° half shell

Convex outside arch

Drawing	Remark
	90° quarter shell
	120° shell
	180° half shell

Curved Knauf boards

Scheme drawings



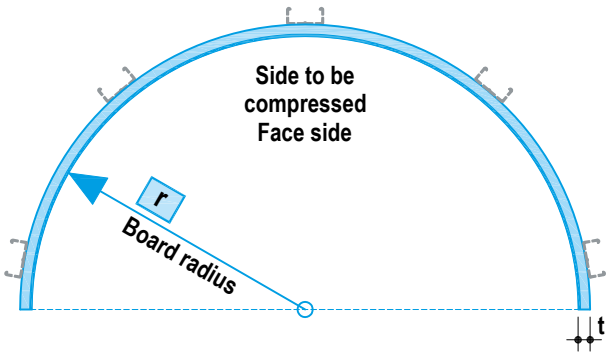
Cleaneo Acoustic Boards:
Perforations, bending process, bending radii and axial spacings of furring channel, see Knauf Product Data Sheet K761.de Cleaneo Acoustic

Board thickness t mm	Bending radius r Dry bending mm	Wet bending mm
6.5 Techniform	≥ 1000	≥ 300
12.5 GKB / GKF	≥ 2750	≥ 1000
12.5 Diamant	≥ 2750	≥ 1000

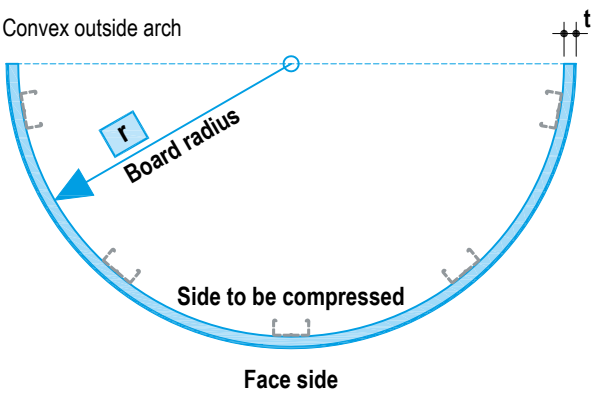
■ Other Knauf Boards / bending radii on request

Examples

Concave inside arch



Convex outside arch



Application of curved Knauf boards

Dry bending

1. Bend Knauf Board slowly and laterally over the grid.
   Pre-bending on moulding device template is recommended.
2. Fasten board with Drywall Screws along the curvature.

Wet bending

1. Place the Knauf board cut-to-length with the side to be compressed facing upwards and the excess over the side on the grid frame or similar (allowing the excess water to drip off)
2. Perforate with a spiked roller longitudinally and transversely.
3. Wet the board with a sprayer or lambskin roller and allow to soak in for a few minutes, repeat the work step several times until saturation is achieved and the excess water runs off.
4. Place the board on the prefabricated template, bend, fix and allow to dry.

Image 1: Perforate with a spiked roller - longitudinal and transverse

Image 2: Place board on template

Image 3: Bend the board

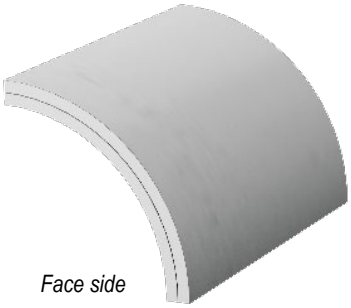
Image 4: Fix board on template

Design units: Knauf arch elements

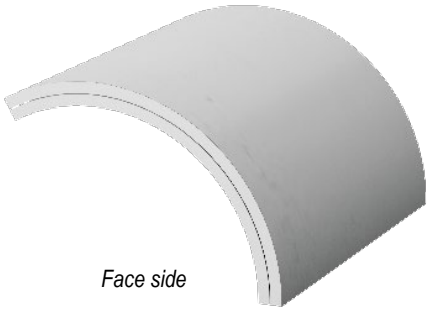
Examples - Moulding technology

See detail pages for further examples

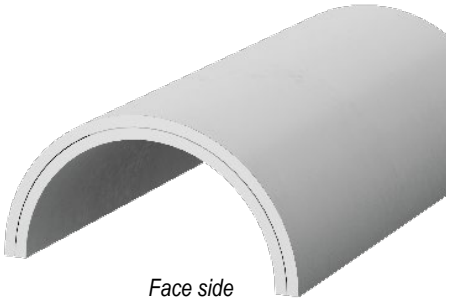
Quarter shell 90°, concave



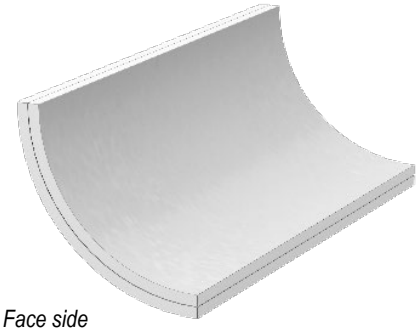
Shell 120°, concave



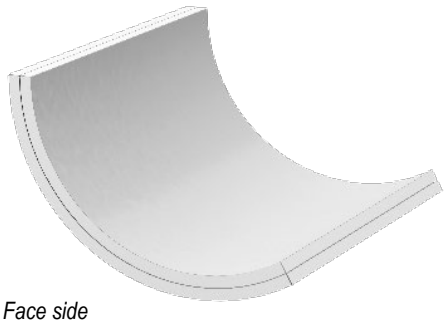
Half shell 180°, concave



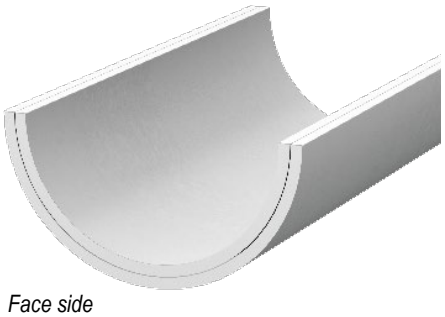
Quarter shell 90°, convex



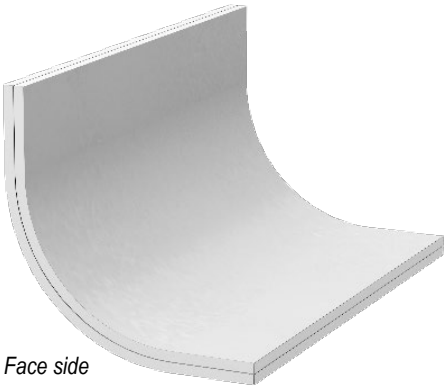
Shell 120°, convex



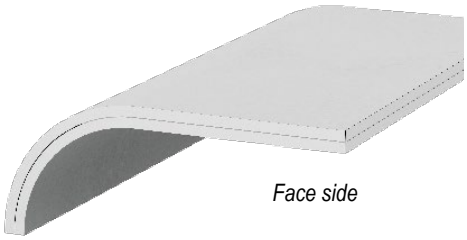
Half shell 180°, convex



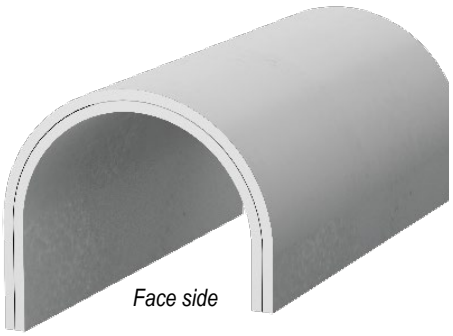
Knauf quarter shell 90°, convex with straight extension



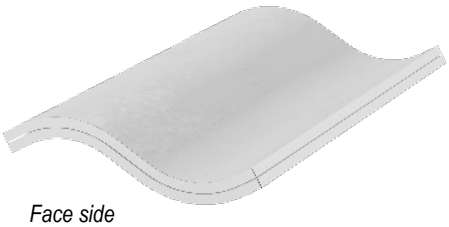
Quarter shell 90°, concave with straight extension



Half shell 180°, concave with straight extensions



S arch

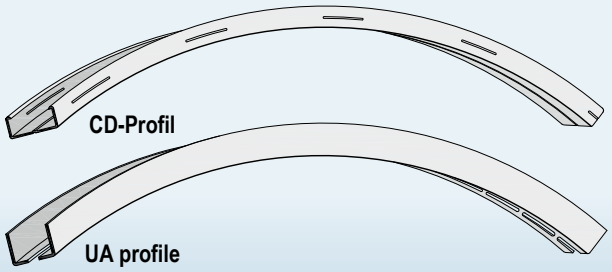


S arches with a straight extensions

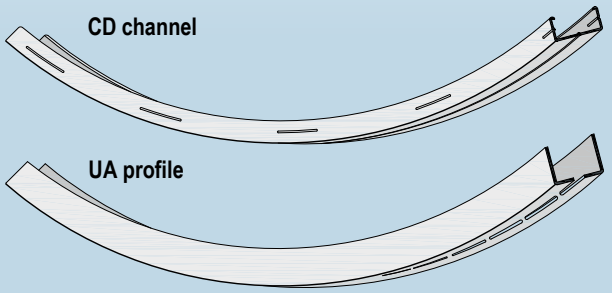
Curved Knauf profiles CD / UA

Scheme drawings

Concave
Min. bending radius r1 = 500 mm



Convex
Min. bending radius r1 = 1000 mm



Knauf CD channels

CD 60/27

Knauf UA profiles

- UA 50
- UA 75
- UA 100

Profile lengths

On request

Element length

Max. 3480 mm
(dependent on radius and angle)

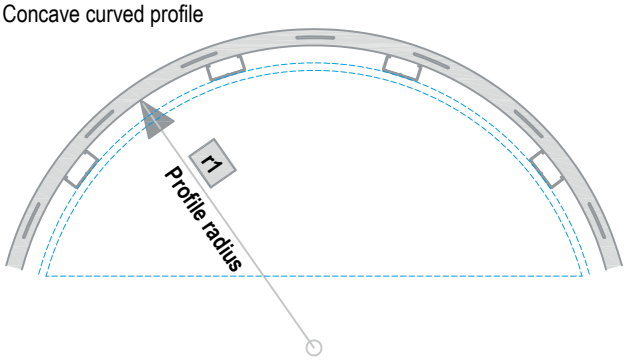
Grid axial spacings

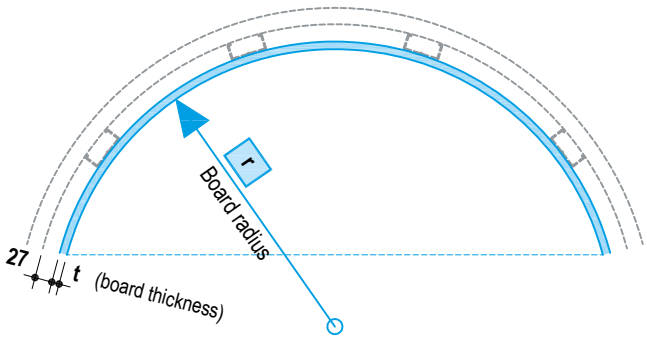
Max. suspender spacing (a)
Max. carrying channel spacing (c)
of the respective ceiling system according to Knauf System Data Sheet e.g. D11.de.

Start and end sections of the Knauf profiles are not curved on either side for 150 mm.
Other versions (as fixed cuts) on request.

Example

Concave curved profile





Knauf domes

Special domes and vaults

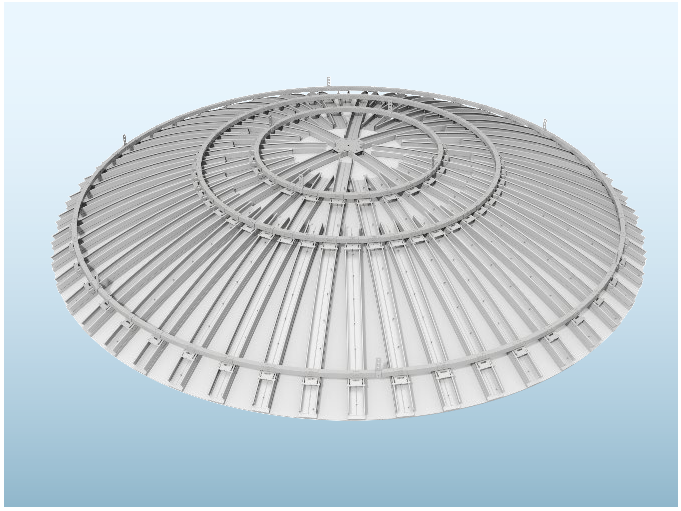
Knauf domes

Knauf domes are manufactured as project-related kits and according to planning specifications. The profiles are already preshaped in the factory, the board strips and cladding segments are pre-cut.

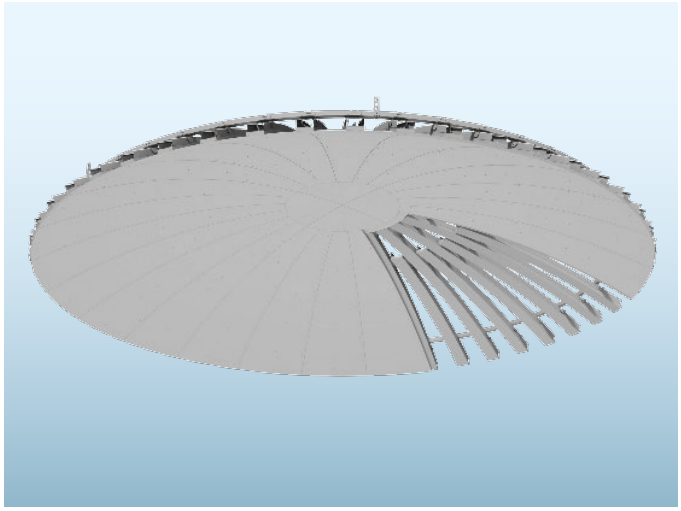
It is only necessary to bend the board strips and cladding elements during the installation phase on site. A uniform round surface finish results by the subsequent filling of the full surface.

Rooms can be defined with accentuated and textured features using Knauf Dome solutions. The precision technology for prefabricated dome elements coupled with the individual freedom for expression opens the way for completely new room concepts.

Examples

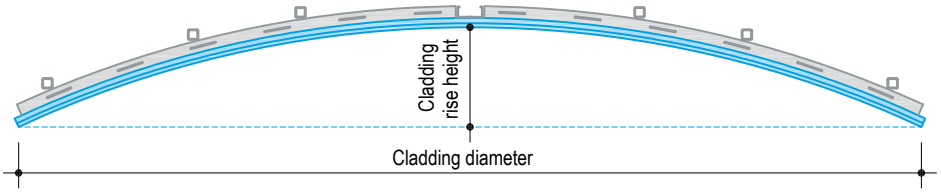


Scheme drawings

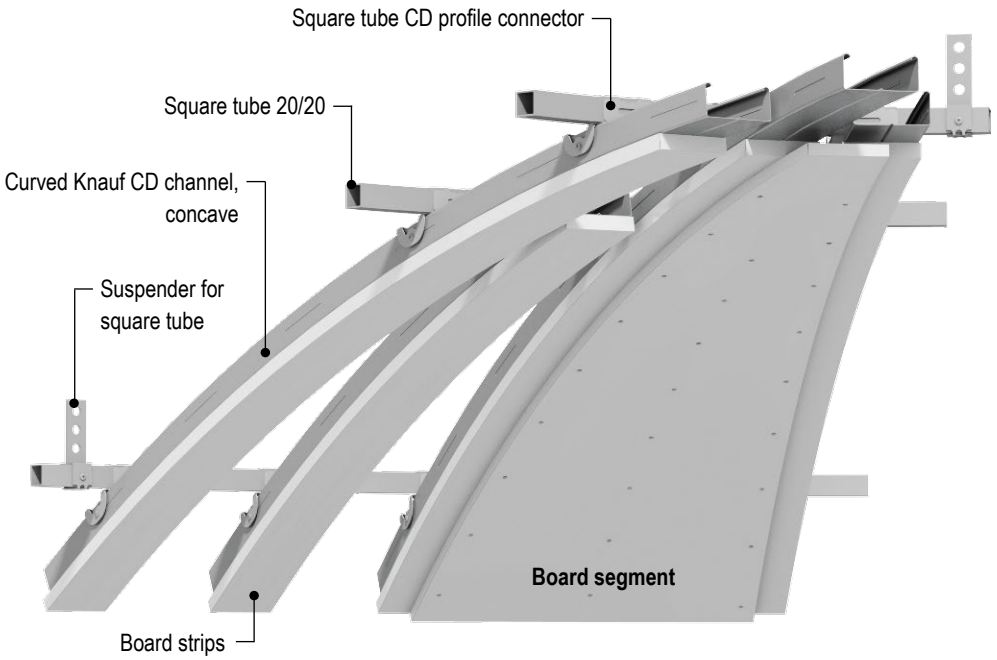


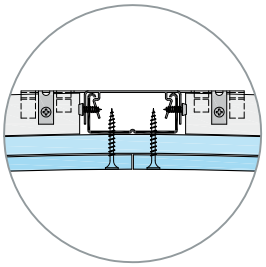
Knauf standard flat domes

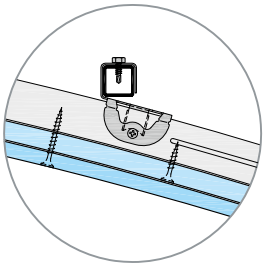
Scheme drawings

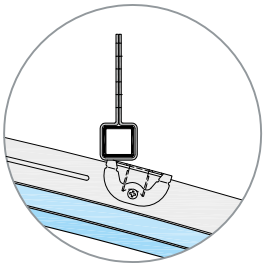


D193.de-P1 Flat dome cut-out



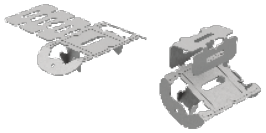






Flush connector
Connection of CD channels **at the crown**

Square tube CD profile connector
Provision on square tube



Hanger for square tube 20/20
Supplied un-bent

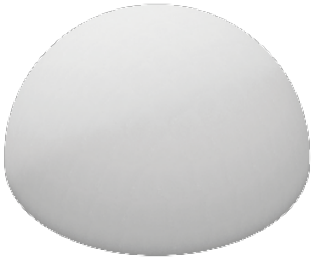
Suspended with Nonius Suspenders/ Threaded rod

Scope of delivery

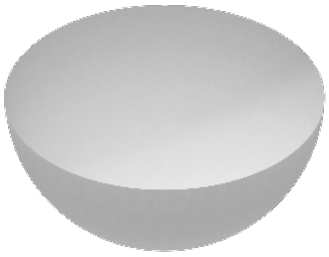
Flat domes	
Complete grid	(with the exception of Nonius suspension / threaded rod with required screw fastening)
+ **Complete cladding**	Knauf board strips 12.5 mm + board segments, e.g. 9.5 mm
+ Assembly plan	

Special domes and vaults

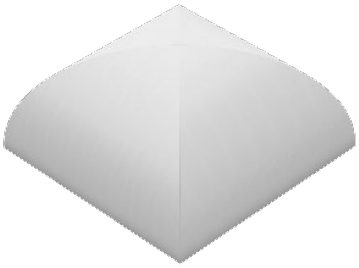
Concave dome



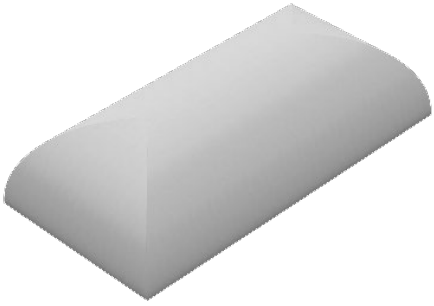
Convex dome



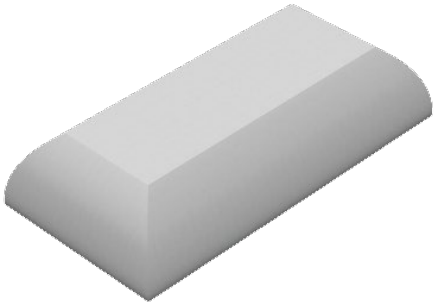
Cloister vault



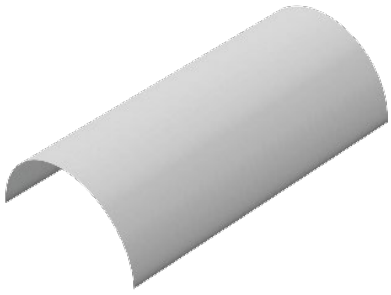
Tray vault



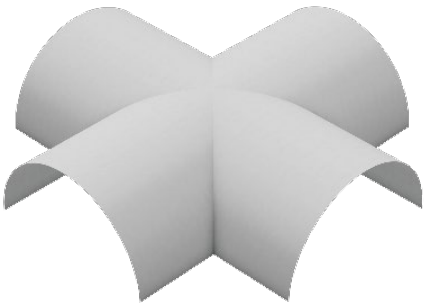
Mirror vault



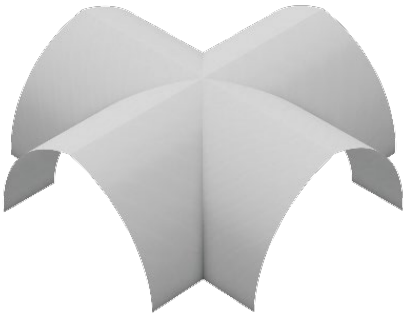
Barrel vault



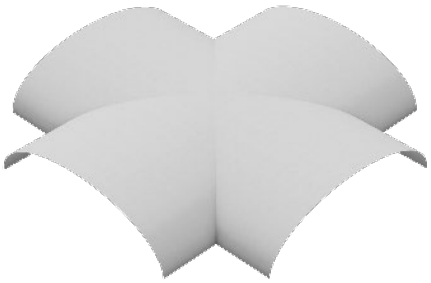
Cross vault



Ogive cross vault



Three-centre cross vault



► **Good to know**
The shapes shown are just examples.
Further on request.

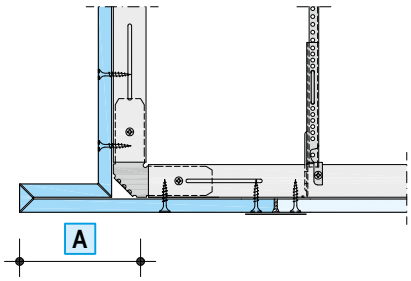
Cantilevers

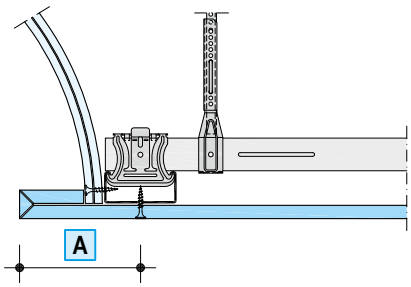
Cantilevers

Examples

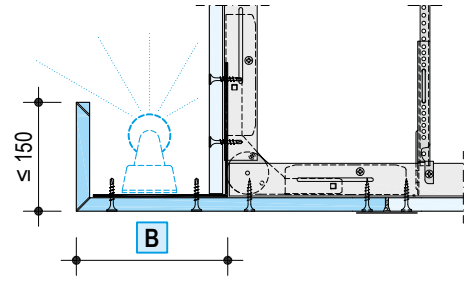
Scheme drawings I Dimensions in mm

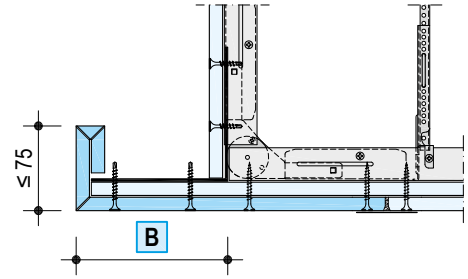
Gypsum board only

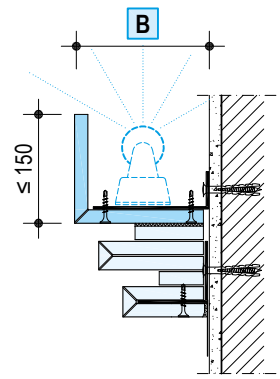




With sheet metal angle



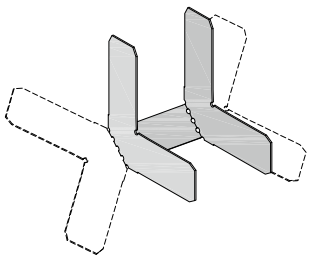




Permissible cantilever length A ≤ 100 mm

- Board thickness: ≥ 12.5 mm
- Upstands at the cantilever end are not permissible
- Additional loads due to lighting are not permissible

Angle connectors:



Permissible cantilever lengths B

Load class of ceiling kN/m²	Linear load in the cantilever centre (e.g. built-in lighting) None	≤ 2 kg/m	≤ 5 kg/m
≤ 0.15	≤ 150 mm	≤ 150 mm	≤ 100 mm
≤ 0.30	≤ 150 mm	≤ 100 mm	–
≤ 0.50	≤ 100 mm	–	–

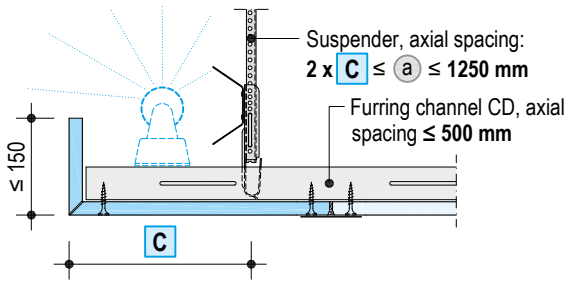
- Metal gauge: ≥ 2 mm
- Board thickness of upstand: ≤ 12.5 mm

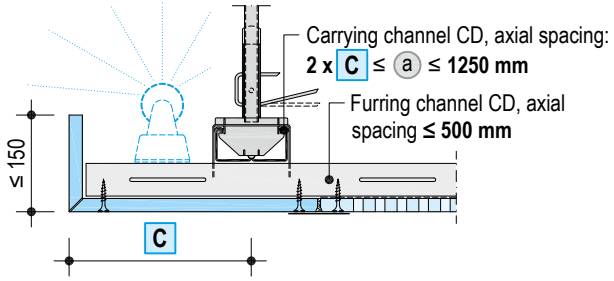
Notes

Grid axial spacings: Observe the **max. suspender axial spacing** (a) **/ max. carrying channel axial spacing** (c) for the respective ceiling system according to Knauf System Data Sheet, e.g. D11.de.
In addition to the specifications made here, the specifications for the respective ceiling system must also be observed.
Longer cantilever arm lengths, higher loads, other axial spacings are also possible on request with more precise structural calculations.
Other constructive solutions in individual cases by prior agreement.

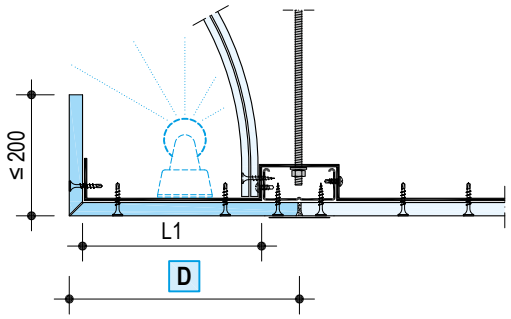
CD channel 60/27 as furring channel Scheme drawings I Dimensions in mm

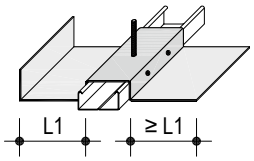
Single-layer:





With sheet metal cantilever arm



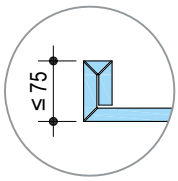


Permissible cantilever lengths C

Load class of ceiling kN/m²	Linear load in the cantilever centre (e.g. built-in lighting) None	≤ 2 kg/m	≤ 5 kg/m
≤ 0.15	≤ 250 mm	≤ 200 mm	≤ 150 mm
≤ 0.30	≤ 200 mm	≤ 150 mm	≤ 100 mm
≤ 0.50	≤ 150 mm	≤ 100 mm	≤ 100 mm

- Specifications are only valid for cantilever CD furring channels
- Board thickness of upstand: ≤ 12.5 mm
- No profile extension (butt joint), e.g. with multi connector in the adjacent section of the cantilever arm between the first of both suspenders (single profile grid) or connectors (double profile grid) permissible.

Double-layer:



Permissible cantilever lengths D

Load class of ceiling kN/m²	Linear load in the cantilever centre (e.g. built-in lighting) None	≤ 2 kg/m	≤ 5 kg/m
≤ 0.15	≤ 200 mm	≤ 150 mm	≤ 150 mm
≤ 0.30	≤ 150 mm	≤ 150 mm	≤ 100 mm
≤ 0.50	≤ 150 mm	≤ 100 mm	≤ 100 mm

- Metal gauge: ≥ 2 mm
- Board thickness of upstand: ≤ 12.5 mm

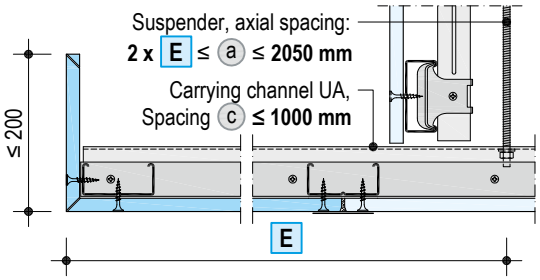
Notes

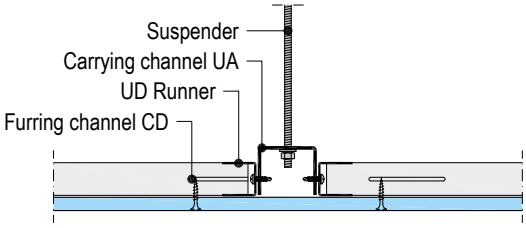
Grid axial spacings: Observe the **max. suspender axial spacing** (a) **/ max. carrying channel axial spacing** (c) for the respective ceiling system according to Knauf System Data Sheet e.g. D11.de.
In addition to the specifications made here, the specifications for the respective ceiling system must also be observed.
Longer cantilever arm lengths, higher loads, other axial spacings are also possible on request with more precise structural calculations.
Other constructive solutions in individual cases by prior agreement.

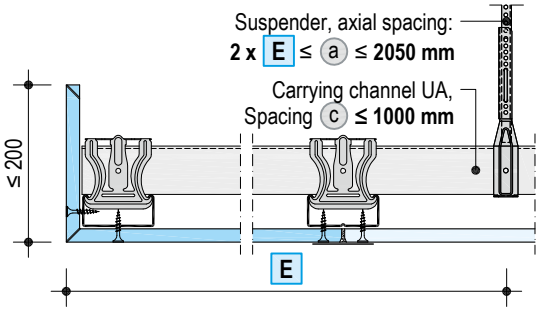
Cantilevers

UA profile 50 carrying channel **Scheme drawings I Dimensions in mm**

Flush construction





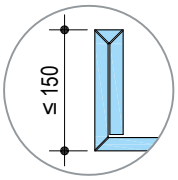


Permissible cantilever lengths E

Load class of ceiling kN/m²	Linear load in the cantilever centre (e.g. built-in lighting) None	≤ 2 kg/m	≤ 5 kg/m
≤ 0.15	≤ 400 mm	≤ 350 mm	≤ 300 mm
≤ 0.30	≤ 350 mm	≤ 300 mm	≤ 300 mm
≤ 0.50	≤ 300 mm	≤ 300 mm	≤ 300 mm

- Specifications are only valid for cantilever UA carrying channels
- Board thickness of upstand: ≤ 12.5 mm
- No profile extension (butt joint) in the adjacent section of the cantilever arm between the first of both suspenders

Double-layer:



Notes	Grid axial spacings: Observe the **max. suspender axial spacing** (a) / **max. carrying channel axial spacing** (c) for the respective ceiling system according to Knauf System Data Sheet e.g. D11.de. In addition to the specifications made here, the specifications for the respective ceiling system must also be observed. Longer cantilever arm lengths, higher loads, other axial spacings are also possible on request with more precise structural calculations. Other constructive solutions in individual cases by prior agreement.

Design elements

Ceiling canopies

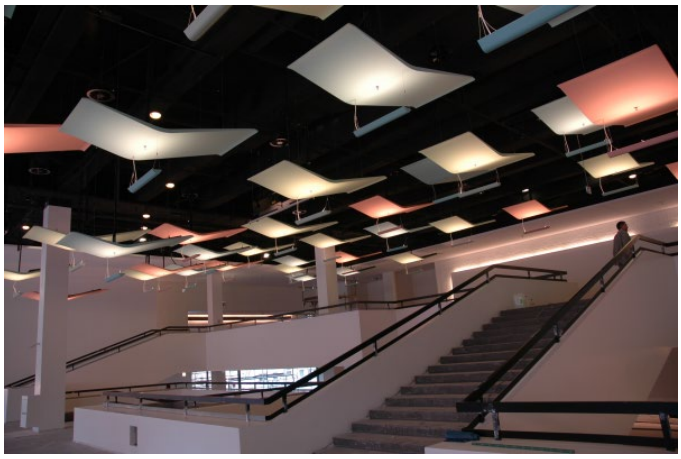
Wall design elements / absorbers

Knauf canopies

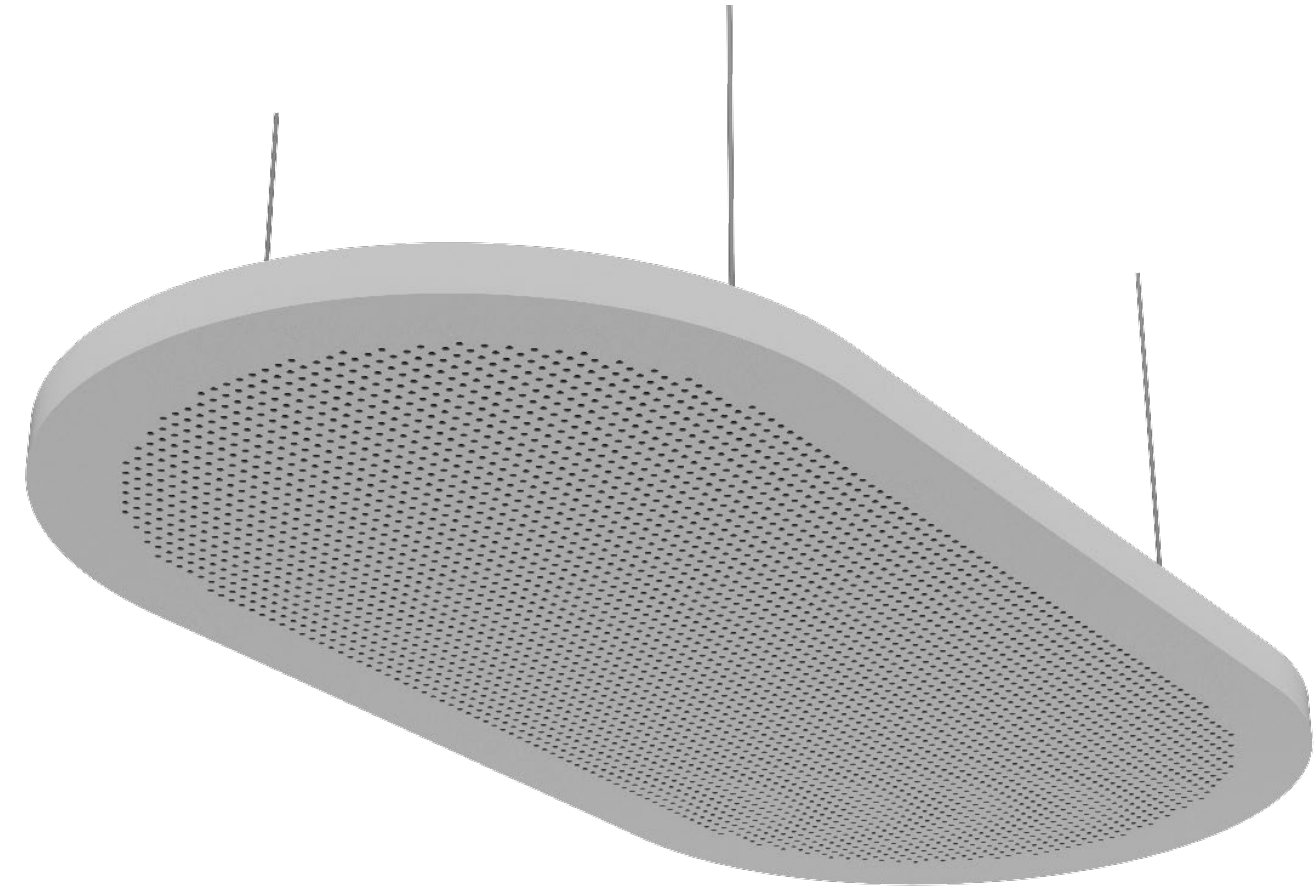
An attractive ceiling design is the crowing conclusion of a successful interior design. With this in mind it is worth noting that ceiling design employing ceiling rafts is increasing in significance.

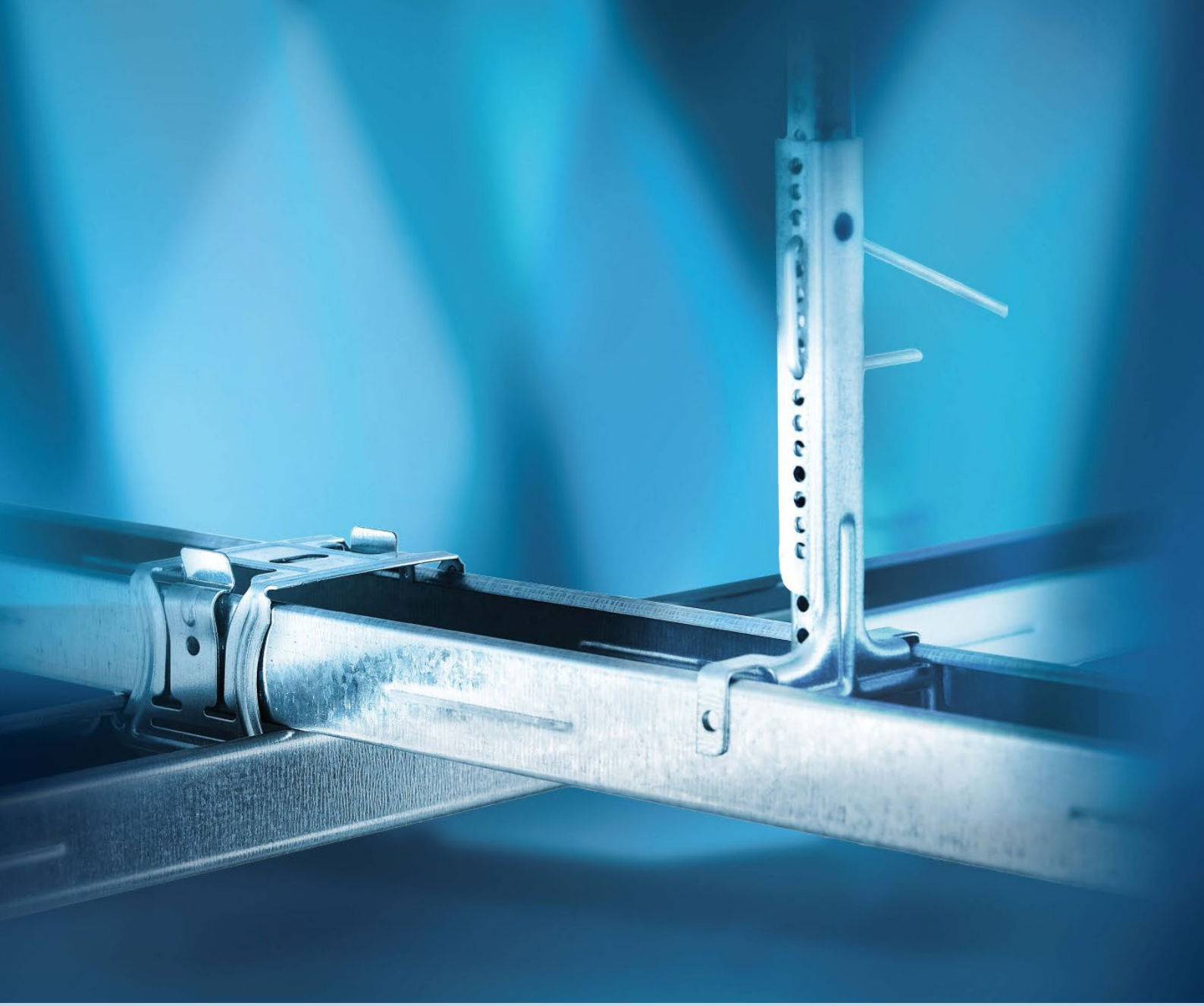
Ceiling rafts can be used directly for the improvement of room acoustics, as reflective surfaces for indirect illumination and at the same time also couple acoustic, sound absorption requirements in a single element. Knauf ceiling rafts allow you to integrate functions in the room directly where they are required.

Whether flat, undulating or wave-shaped, as a small-scale or large scale room element, with sound absorbing or sound reflecting features and with or without integrated illumination – the Knauf prefabrication for ceiling rafts guarantees highest precision in every case.



(Photo: Roland Halbe)





Accessories

Multi Connector

Angle Connector 90°

Universal Connector

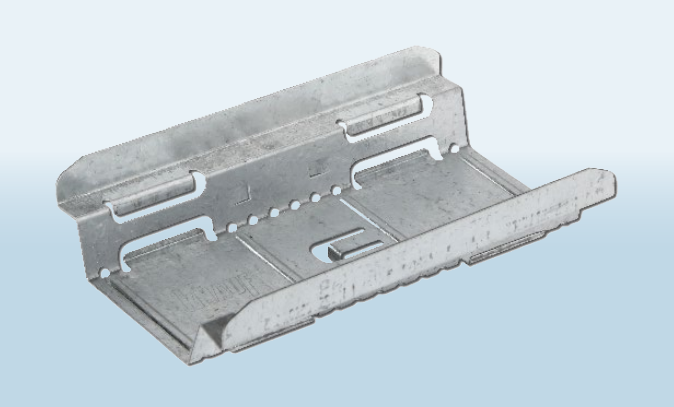
Drehankerwinkel Daisy Chain Clip

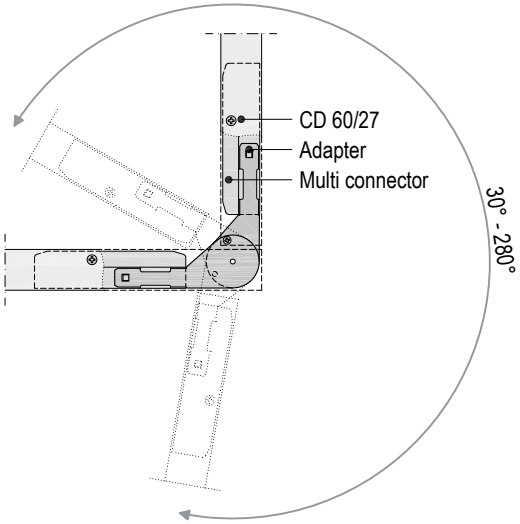
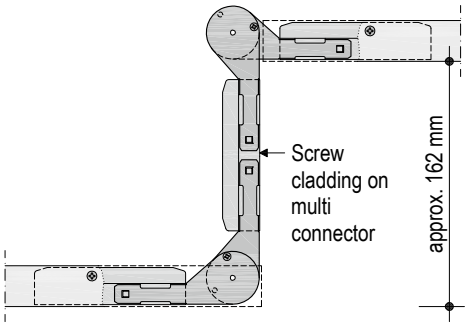
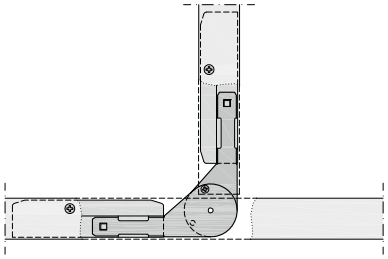
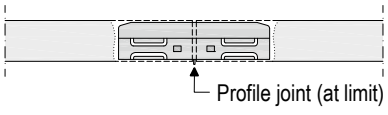
A larger range of accessory parts are available for manufacturing the grid for Knauf design ceiling solutions.

Practically every conceivable grid variant can be manufactured with Knauf suspenders and profile connectors.

Knauf Multi-Connector (with adapters) for CD 60/27

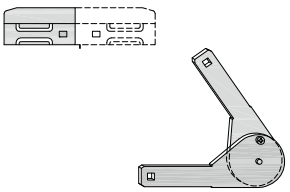
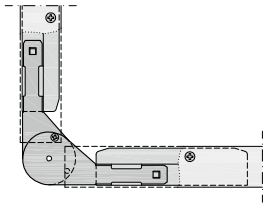
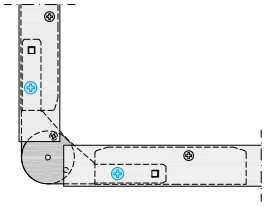
Scheme drawings



Fields of application	
	**Angle 30° - 280°** *2x multi-connector + 2x adapter 30° - 280°*
	**Split level ceiling 90°** *3x multi-connector + 2x adapter 30° - 280°*
	**Angle 90° with overhang** *2x multi-connector + 2x adapter 30° - 280°*
	**Longitudinal connection - 2 CD channels** *1x multi-connector*

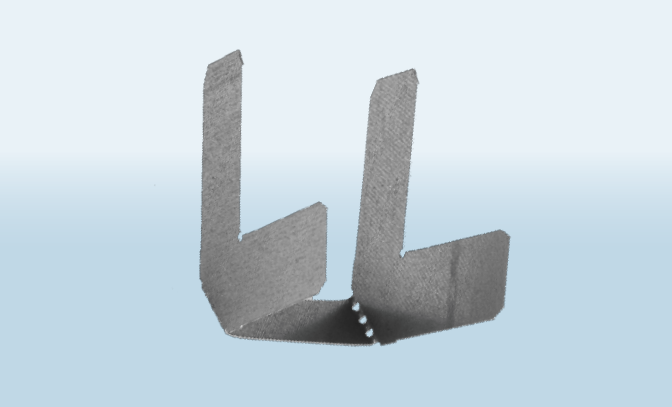
Installation

Scheme drawings

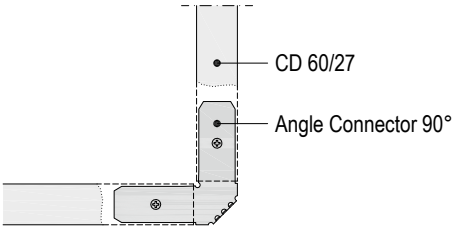
Angle brackets / shadow gap	
	Connect multi-connectors with adapters. **The adapters must engage**. Push in and screw fix the angle connector in the CD channel Multi-connectors can be shortened with metal shears if required Fix adapters 30° - 280° with metal screws LN 3.5x11
	Screw fix the multi-connectors with 2 drywall screws TN 3.5/25 to the CD channels
	With fire resistance from above, screw fix the complete angle connector (adapter, CD channel, multi-connector) with 2 drywall screws TN 3.5/25 for each CD channel
Longitudinal connection - 2 CD channels	
Slide the multi-connector onto the CD channel up to the limit (shortening connector not permissible)	

Angle connector and daisy chain clip

Knauf angle connector 90° for CD 60/27



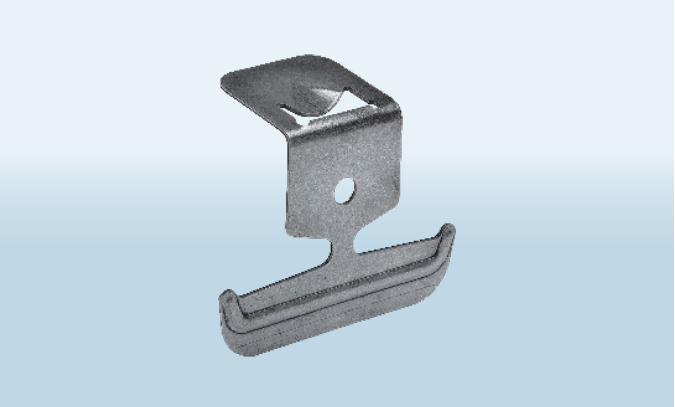
Field of application



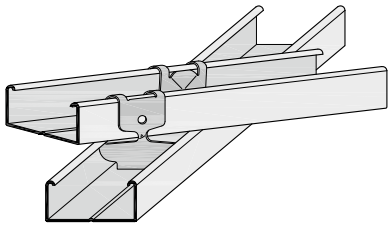
■ **Angle 90°**
1x angle connector 90°

Knauf daisy chain clip for CD 60/27

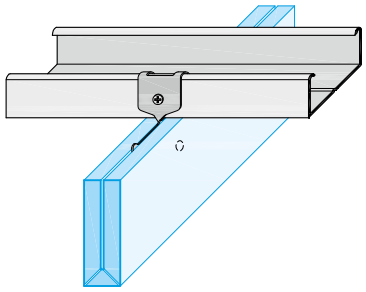
Scheme drawings



Field of application



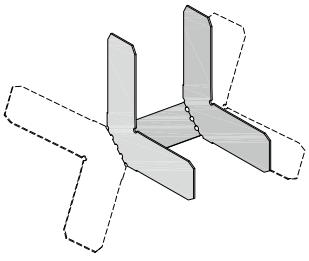
Profile connection
(CD channel 60/27)
Daisy chain clip not permissible as a profile connector for ceilings with fire protection requirements



Vertical fins
Completely prefabricated in the factory with daisy chain clip and primed white.
Bend the daisy chain clip and screw onto CD channel if required

Installation

Angle Connector 90°



Unbent when delivered
adapt for assembly

Screw fix angle connector with 2 metal screws LB 3.5/9.5 mm each to the CD channels
Tip:
Before screw fastening crimp the CD channel and angle connector with the stud crimper to aid instalation.

Installation

Profile connection CD

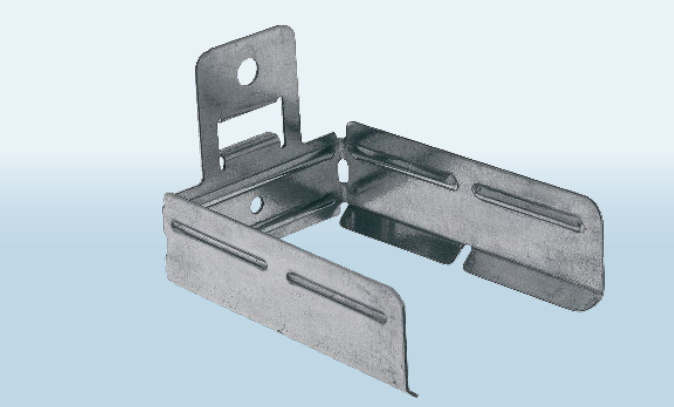
Unbent when delivered

Set approximate angle before installation
Adapt for installation on carrying channel and furring channel

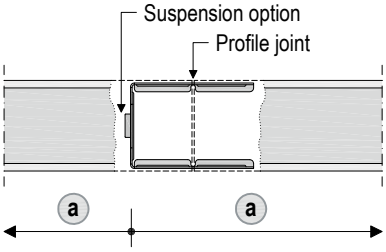
Bend for installation on carrying channel
Screw fastening with metal screw LN 3.5x11 mm to carrying channel possible

Knauf universal connector for CD 60/27

Scheme drawings

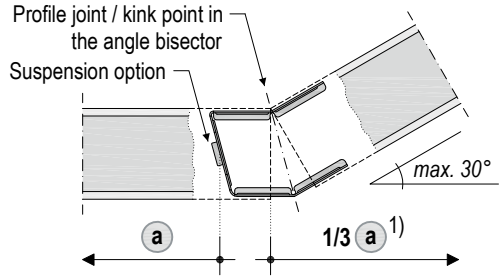


Fields of application



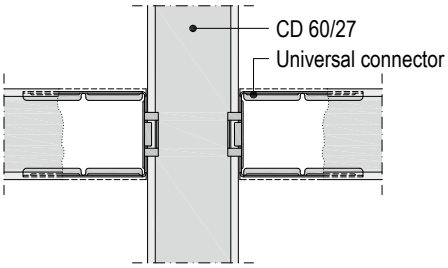
Longitudinal connection straight

Grid axial spacings:
Observe the max. suspender axial spacing (a) for the respective ceiling system according to Knauf System Data Sheet, e.g. D11.de.

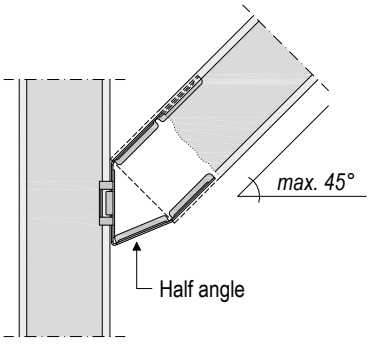


Longitudinal connection up to 30° 2)

Grid axial spacings:
Observe the max. suspender axial spacing (a) for the respective ceiling system according to Knauf System Data Sheet, e.g. D11.de.



T junction or double T junction
Ceiling opening possible with T junction



T junction up to 45° 2)

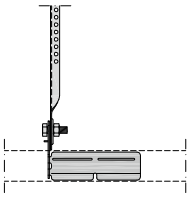
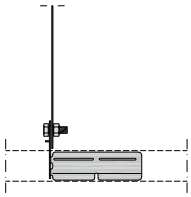
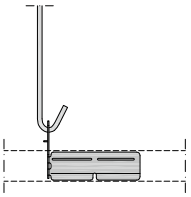
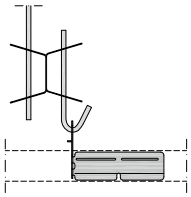
1) When used as a suspender

2) With fire resistance requirement on the ceiling: Screw fix the universal connector and CD 60/27

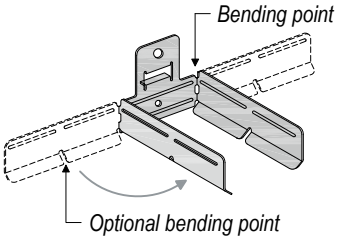
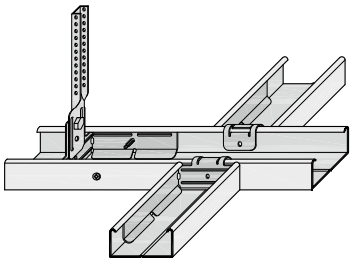
Universal Connector

Suspension options

Scheme drawings

Load bearing capacity class acc. to DIN 18168-2			
Nonius Hanger Top **0.4 kN** (40 kg)	Slot strap **0.4 kN** (40 kg)	Wire direct **0.25 kN** (25 kg)	Wire and double cleat **0.15 kN** (15 kg)
			

Installation

Universal connector	
	Supplied un-bent **Set approximately to suit application** Set precisely during installation
As a connector and / or suspender	
	

Notes	**With fire resistance requirement on the ceiling:** Screw fasten universal connector and CD channel 60/27 using metal screws LB 3.5/9 mm.

Project acoustic ceilings

Ceiling according to installation plan

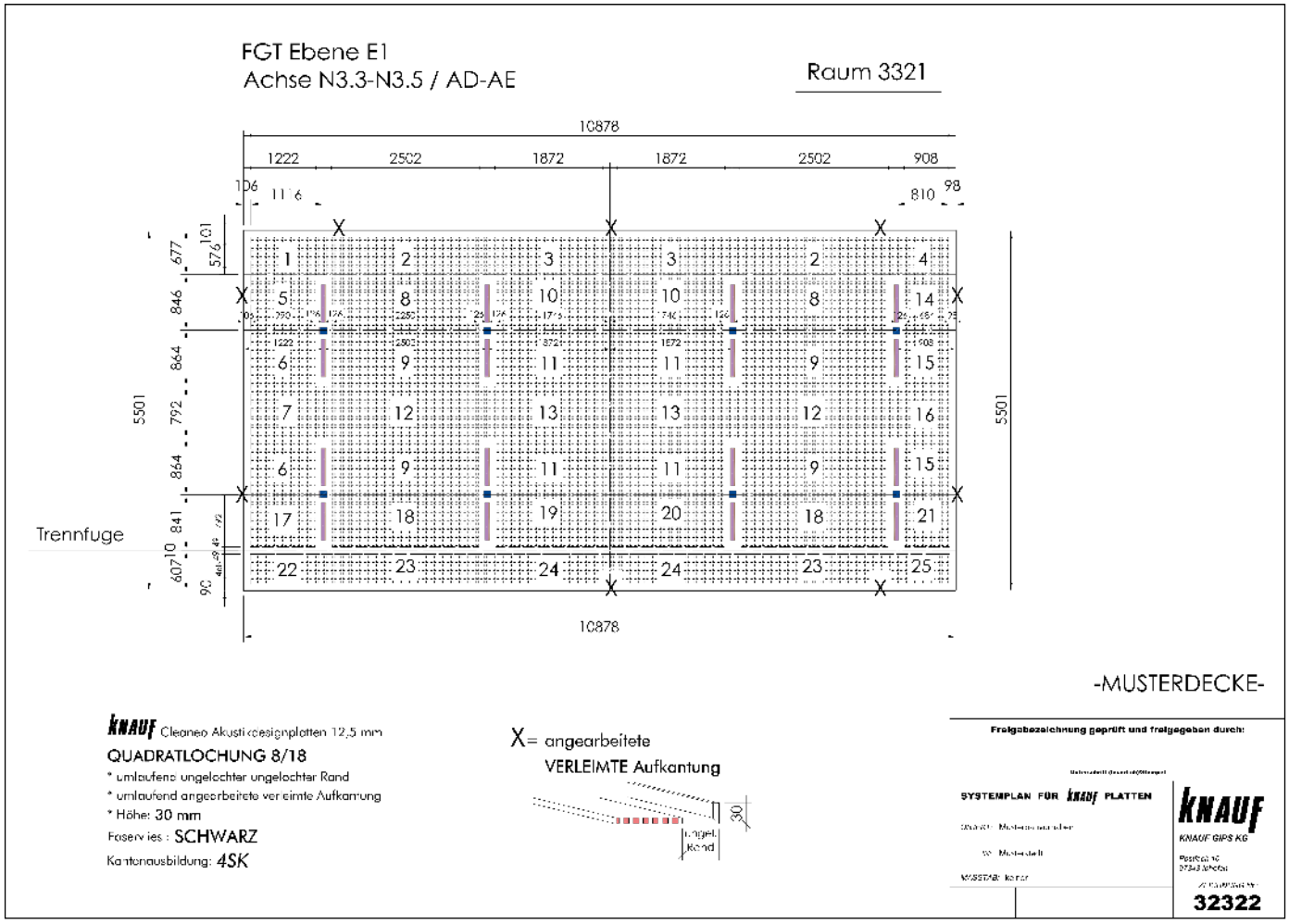
Knauf project acoustic ceilings

Ceiling according to installation plan

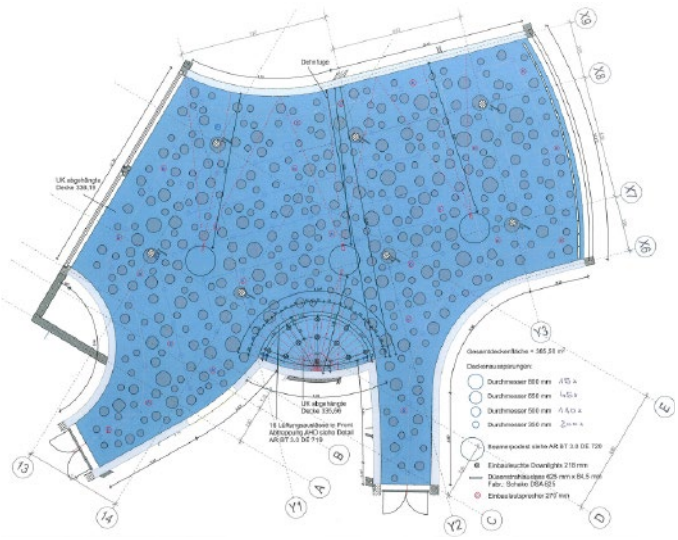
One department at Knauf provides computer supported and case-related installation plans for projects. The plans are created in a scale of 1:50 with all the necessary information. The production is geared according to the demands of these plans. Each individual board is numbered on the rear with the corresponding number on the installation plan. For application speed, we recommend preparation of the layouts as installation blueprints M 1:50 in DXF or DWG file format.

Individual perforations according to customer demands

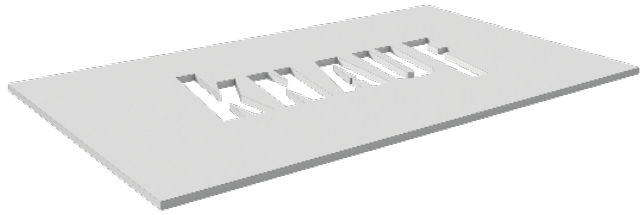
We can also provide individual perforation design on request. State-of-the-art machine engineering facilitates a wide range of possibilities here. We would be happy to make you an offer for customized perforation.

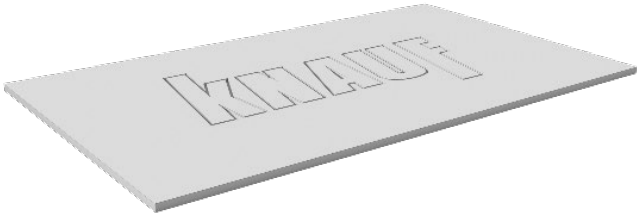


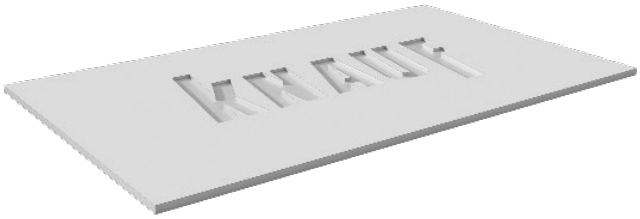
Examples

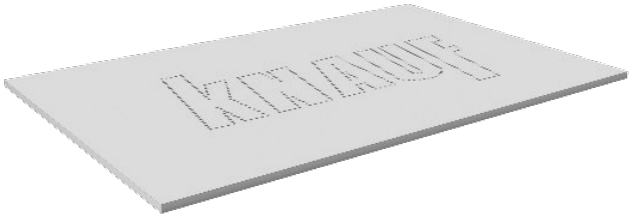


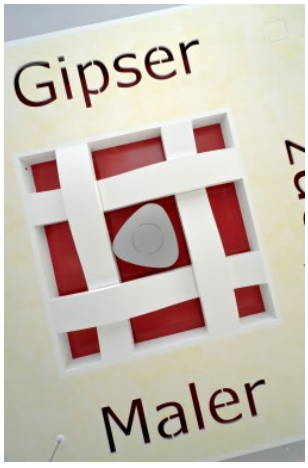
Examples











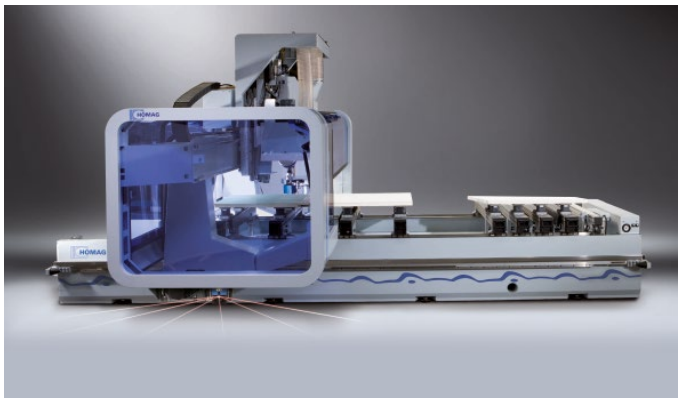
Presentation of our internal sales and field sales representatives

Ordering process for customized constructions

Creative minds

The special calculation and projects (SOKO) department is the main contact for our customers for all drywall products that diverge from the standard range. This is primarily in the areas of perforated boards, mitering and moulding technology as well as design unit manufacture. The department consists of a 10 man team and includes quantity surveyors, technical draftsmen and design engineers. The main task of the department is to assess the feasibility of the queries, to provide technical solutions as well as create the corresponding offers. Up to 600 customer requests are processed each month. SOKO processes queries from partner dealers in Germany and from Knauf partner companies internationally.

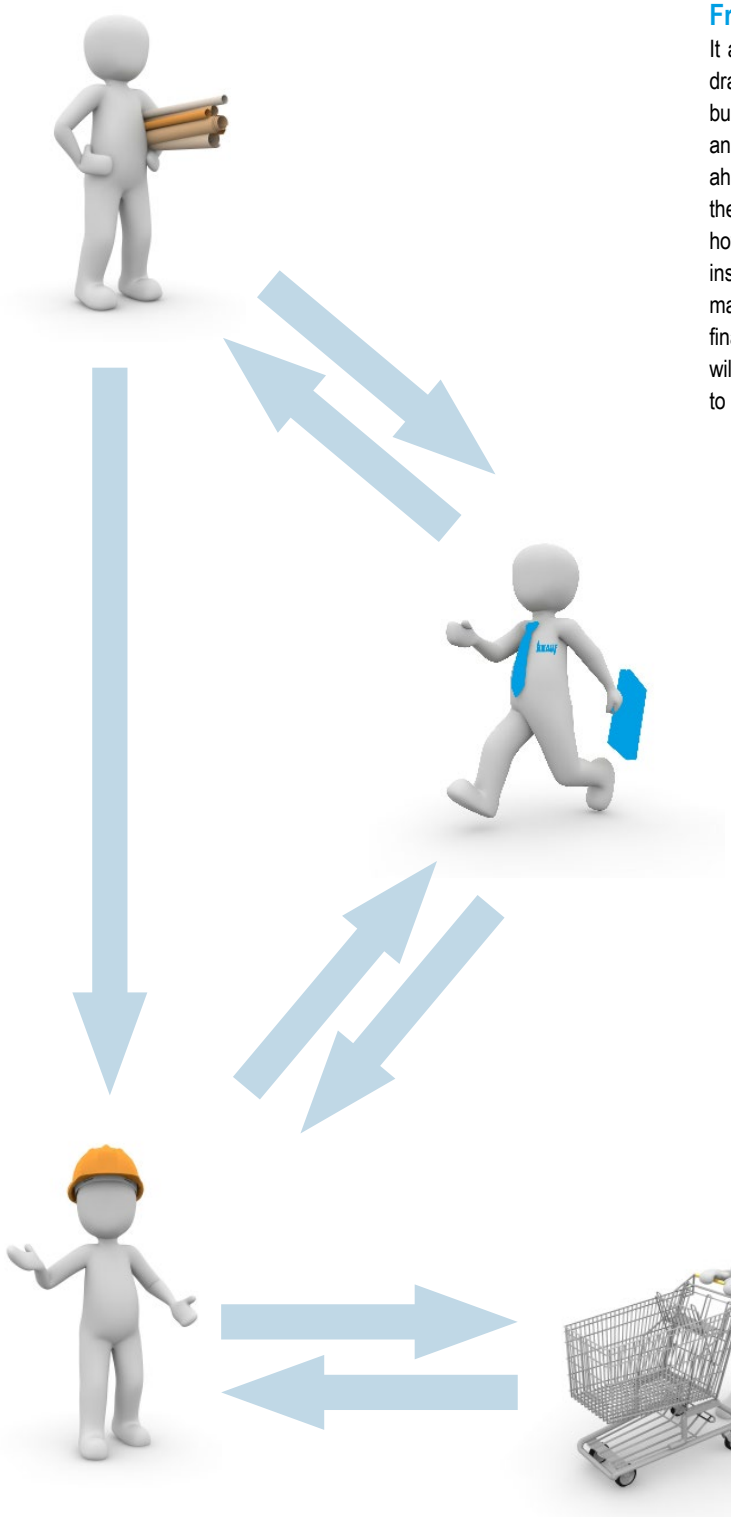
Furthermore, the department is responsible in ensuring the subsequent implementation of the order as well as the required sketches and blueprints.



Project work when ordering special constructions

From the tender through to the building site

It all starts with the planing and tender specifications by the architects. The draft for creation of a tender is received via the professional installers and the building material suppliers. This is where the SOKO department gets involved and assess the planning of the architects with regard to its feasibility. If the go ahead is received, the order is placed by the trade and the development of the technical details can be undertaken. SOKO draws up a precise plan on how the construction is to be implemented. The architect and the professional installers examine the planning and approve it. Then the constructions are manufactured at Knauf and send subsequently directly to the building site for final assembly. A big plus: If a construction task required it, Knauf specialists will even go to the building site to assist with difficult questions on location and to ensure professional application and finishing.



Query, order, approve
Manufacturing drawings by professional installers for dealers

Query, order, transfer the approval
Manufacturing drawings from dealers to Knauf internal sales department

Order, production planning
Order confirmation to dealer for installer

Delivery time commences after receipt of approved manufacturing plan

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