
HAUFE
DECKENSYSTEME

slapa oberholz pszczulny architekten | Fürst & Friedrich | Dusseldorf

Contents

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LOVE architecture and urbanism ZT GmbH (AT) I 50 Hertz Netzquartier I Berlin

HAUFE Ceiling Systems GmbH

The sophisticated HAUFE system

Be it light, acoustics, heating, cooling or fire protection: HAUFE ceiling systems integrate all essential building service requirements. At the same time, they offer the architect almost unlimited creative license without dominating the ceiling view with technical installations.

With our ceiling systems, the upper end of an interior space turns into an expressive part of the architecture. As an owner-managed medium-sized company, we are always very close to your project. Because we believe that it is not the architectural design that has to submit to the possibilities of a component. We rather adapt our products to the architectural requirements – and still offer the reliability of an industrial production, the trustworthiness of a sophisticated system concept and the flexibility of an industrial manufacturer.

Build sustainably

With the advancing climate change, building culture is also changing. In addition to individual user requirements in terms of air-conditioning, lighting, aesthetics and comfort, the demand for genuinely sustainable products has grown.

Sustainability is shown above all by the HAUFE surface temperature control, which enables the customer to achieve maximum efficiency through low flow temperatures. Even with a low flow temperature of 28 °C for heating, the ongoing operating costs are clear lower compared to conventional heating systems such as convection or underfloor heating, as these require higher temperatures and therefore more energy. In addition, the surface temperature control cools noiselessly and without drafts at 19 to 20 °C, which is perceived as very pleasant.

At HAUFE, we mainly process aluminium, a material that is very easy to recycle. The recycled part is 85-90 percent and the material properties are ecological and seamless in the verification process. Since our ceilings work as a click system, installation is just like building blocks: very simple and without any gluing or fusion of materials. Conversely this means that all components can be optimally separated from each other according to type and are therefore 100% recyclable. In addition, the HAUFE surface temperature control system is suitable for use in accordance with DGNB, the German Sustainable Building Council.

The advantages at a glance:

- Use of the DGNB-compliant ceiling more than 50 years possible
- Aluminum strips are made up of 85-90% recycled material, and can expire use can be brought back into circulation.
- All materials are individually separable and therefore 100% recyclable
- Optimization of the HAUFE surface temperature control for maximum efficiency with enormous savings potential at the customer

CE

Execution of the system ceilings according to DIN EN 13964

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Jarosch Architektur | Party Rent Group | Feldkirchen/Munich

Consulting – planning – implementation

Our experience

Since 1968, HAUFE Deckensysteme GmbH has been accompanying the development of contemporary architecture with new system ceilings that have constantly been adapted to each current requirement. Today, the company is run in the second generation by managing director Helmut Schmalseder and his wife Ute Schmalseder, née Haufe. Our production site is located near Stuttgart. From here, we keep in close contact with the architects and provide our customers with a competent planning service that is specifically geared to architectural requirements.

This constant and intensive exchange keeps leading to new, architectural questions and constructive challenges. HAUFE responds to these with project-related developments, but also with new ceiling systems. Hence, over the years, a wideranging product system and an abundance of ceilings specially developed for projects have been created in close cooperation with well-known architecture firms.

Our way of working

Architectural quality is always a result of planning quality. That is why we rely on detailed preparation and perfect implementation. Our employees are experienced in coordinating the details of the planning directly with the architect.

After having clarified all questions with the architect, we create tailor-made planning including all special solutions and constructive details after the order receipt. Once the planning has been released, all parts are manufactured and packaged in our company, then delivered as an assembly set to the construction site on time.

A HAUFE ceiling is not created on the construction site, but already within the perfect interaction of well-thought-out planning and precise production with state-of-the-art equipment. This guarantees HAUFE's high quality, it considerably reduces installation time and provides the architect with execution security.

Installation by qualified laying experts

Thanks to the clear taxonomy and simple installation, a HAUFE ceiling can be installed quickly and safely by any specialist company. Nevertheless, we recommend installation teams trained by us, who are working within the entire German-speaking area as well as internationally. This leaves the architect the free choice of a laying company.

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Making structure visible

Aesthetics and functionality

Modern architecture and rooms with a pleasant atmosphere require a high-level ceiling system. Our aim is to meet this requirement. Therefore, we constantly incorporate our customers' wishes into our products as well as our many years of experience in the manufacture of ceilings. The diversified HAUFE program offers you a variety of individual construction variants. We have been successfully manufacturing high-quality system ceilings for decades.

The sophisticated system perfectly adapts to the functional requirements of today's building culture. Technical building services (TGA) and fire protection systems invisibly work in the background. The quick inspection capability enables easy access to installations on the bare ceiling. Low installation heights, a wide variety of colors and a well-thought-out illumination concept complete the system. Worldwide, modern offices, event halls, museums, sales rooms and public buildings are equipped with our system.

Besides acoustics, the indoor climate plays a major role these days. We faced this challenge and developed an innovative system that can both heat and cool: HAUFE area temperature control. It creates a pleasant room climate, which in combination with micro-perforation and acoustic fleece perfectly meets the requirements of climate and acoustics.

Variants of the HAUFE slat ceiling

The HAUFE slat ceilings are all available in fire protection class A2 and in the following versions:

U-slat

V-slat

U-slat with acoustic effectiveness

U-slat with surface temperature control

U-slat with surface temperature control and acoustic effectiveness

© Lukas Schaller

Franz und Sue ZT GmbH | Bundesgymnasium Gainfarn | Bad Vöslau, Austria

HAUFE U-/V-slat systems

Systems without acoustic effectiveness

HAUFE slat systems are mainly characterized by their stringent and exact linearity. The slats can be planned and installed very flexibly. They therefore offer sufficient scope for individual solutions – without you having to renounce the security of a sophisticated system.

The spacing between the slats as well as between the mounting rails can be freely selected. Both light bands and recessed luminaires can be integrated flush-mounted into the HAUFE slat ceiling. It perfectly adapts to a wide variety of operation sites with their different building service and constructive requirements. As the slats' color design is almost freely selectable, the slat ceiling can be found in office buildings, conference centers and event rooms as well as in museums, sales rooms and public buildings of all kinds.

The slats and mounting rails are made of aluminum (strip material thickness 0.4 mm). The profiles of the U slats are 10 mm wide. The standard slat height is 40 mm. Special heights of 50/60/70 mm are also feasible. The slat spacing (measured from axis to axis) is referred to as module. The module can be set individually.

Due to their profile, V slats are more elegant and delicate by nature. In addition, they are 4 mm higher than U slats. U and V slats offer the same technical details and functional advantages.

The mounting rails are used to attach the slats. They can be planned at irregular intervals. To ensure the alignment of the slats, we recommend spacing between 800 and 1,200 mm. Occasionally, spacing up to max. 1,500 mm is possible. Every 700 to 800 mm, the mounting rails are fixed to the bare ceiling with the lower parts of adjustable hangers and suspension wires (to be provided by the customer). It is also possible to attach the mounting rails directly to installations or to the ceiling without adjustable hangers using angles or screws (also to be provided by the customer) in order to gain room height.

HAUFE slat ceilings are available in all RAL and NCS color shades as well as in a large selection of special varnishes such as an anodized or wooden look as well as matt-finished surfaces. Our standard colors can be found in our technical brochure. You can also find patterns and further details in the technical brochure.

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kadawittfeldarchitektur I Wissenspark-E I Salzburg-Urstein (Austria)

HAUFE acoustic slats

Timeless – elegant – functional

In energy-efficient buildings with concrete core activation (BKT), high demands are made on room acoustics. With a free cross-section of 80% and an acoustic absorption value (aw) of 0.4 (H), the acoustic slat is the link between a good climate and pleasant room acoustics.

The slats are micro-perforated and equipped with a special sound-absorbing acoustic fleece on the inside. In this way, we achieve full absorption of the ambiance. Due to the particularly large free cross-section, the air of the technical building services units can fall down two-dimensional through the ceiling. Compared to the conventionally circulating air, air falling from above is perceived as particularly pleasant because there are no drafts.

Making acoustic absorption variable

To increase the absorption of the reverberation, the acoustic system can be supplemented with additional options. Always consider whether the ceiling system may close the free space to the bare ceiling or whether the system's large free crosssection needs to be used. This is the case, for example, with concrete core activation.

Variant A:
All of the slat systems we offer can be equipped with a highly effective acoustic panel or an acoustically effective fleece. Both the acoustic panels and the acoustic fleece are placed directly on the slats. Due to the high free cross-section of the system, the functionality of the acoustic panel or the acoustic fleece is not significantly impaired. Therefore, an aw value of up to 1.0 (H) can be achieved. But, this closes the system, which means that additional fire protection systems have to be installed on the second level.

However, the acoustic panel can also be attached to the raw ceiling to obtain the advantages of the free cross-section of the ceiling. This still gives an aw value of approx. 0.8 (H).

Variant B:
Our depth absorber system is additionally mounted vertically above the slat system on a CD profile substructure (on-site). This allows the aw value to be increased to max. 0.6 (H). The ceiling system is not closed and the advantage of the high free cross-section can still be used.
This system can also be combined with all of our slat systems offered by us. The absorption values are different in combination with the standard system and the acoustic slat system. The depth absorber system can be planned in the course of the slat and/or support rail. The entire system is available in fire protection class A. Sections and further details can be found in the technical brochure.

© Michael Meisinger

kadawittfeldarchitektur I medi Bayreuth

HAUFE surface temperature control

Our idea

Three components are decisive for the feeling of comfort: air and surface temperature as well as the air humidity in a room. If they are in due proportion to each other, you feel comfortable. A good room climate and pleasant room acoustics help people to concentrate better and work more relaxed. However, it is often difficult to combine all three requirements in a cost-effective and sophisticated manner. We took on this complex task and developed a slat system that cools and heats the room and significantly reduces the reverberation time in the room.

The awareness that buildings are big energy guzzlers in terms of oil and gas consumption has also changed significantly. Sustainability is a major component of today's building culture, especially when it comes to generating energy and using this energy effectively. HAUFE surface temperature control can offer an optimal solution when it comes to heating and cooling.

As a rule of thumb when it comes to heating, the larger the radiating surface, the less energy is required in advance. Slats offer a great advantage because they have a large radiating surface. With a surface temperature control in our ceiling system, the flow temperature can be reduced to 27-30 degrees - compared to 40 to 60 degrees with a conventional heating system. Nevertheless, with the surface temperature control, I can create a room climate that consistently reaches 23-24 degrees. This includes an enormous savings potential.

Efficiency in practice

The HAUFE surface temperature control system clearly stands out from many commercially available air-conditioning ceilings thanks to its extremely positive cost balance. With flow temperatures of 19 to 20 °C for cooling and 26 to 28 °C for heating and a large flow volume, the ongoing operating costs are significantly lower compared to conventional heating/cooling systems.

With only one overall hydraulic circuit, a building is heated and cooled. Conventional planning with a concrete core activation or underfloor heating is superfluous, as the HAUFE surface temperature control implements this function faster and more efficiently. In addition, the system can be operated exclusively with regenerative energy sources such as geothermal energy and heat exchangers. If the required electricity is generated by a photovoltaic system, sophisticated planning enables the entire building to be operated self-sufficiently and CO_2-neutrally, regardless of its size. Supply air and exhaust air, fire protection measures, lights and other built-in parts are perfectly integrated into the overall system. The reverberation time is significantly reduced by special acoustic slats. The low construction height of the system reduces the construction costs considerably.

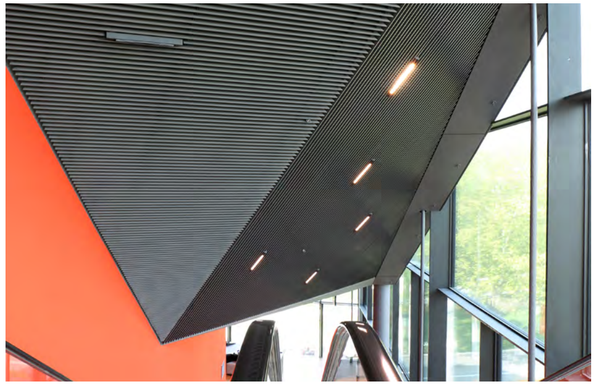
The cooperation with our system partners guarantees the correct dimensioning of the system. In the planning phase, the built-in components, the position of the heating circuit distributors and all other details can be precisely planned and thus a uniform appearance of the ceiling be designed.

Due to their geometries, rooms cannot always be 100% occupied with temperature control elements. Therefore, the slats are continued in the edge areas without tempering, so that a uniform ceiling appearance is created. Inspection flaps for the heating circuit manifold can be planned in these areas.

The assembly of the HAUFE surface temperature control is simple, with our support any installer can carry out the installation. A list of experienced companies can be requested from us.

Sauerbruch Hutton | Science Center Experimenta | Heilbronn

HAUFE special developments



The Experimenta Science Center in Heilbronn with all its special features: The total area of the floors was divided into individual ceiling panels that are set at different angles to each other. The alignment of the HAUFE slats was changed in every ceiling panel so that they also meet at different angles. In addition, individual ceiling panels in areas of the escalators and the planetarium dome were set to an inclined, almost vertical plane. The ceiling panels do not have any right angles. Therefore, in order to include the slats, a special mounting rail was developed, which then was precisely adapted to every angle. This resulted in a harmonization of the ceiling design while at the same time making the installation considerably easier. All slat lengths were calculated and manufactured in our factory.

From rigid to flexible

Our slat systems were developed as a classic ceiling lining. However, creative architects have kept using them in unconventional ways. Due to our openness to new ideas and our close contact with the designing and planning architectural offices, we also put innovative, architectural ideas into practice. For example, the slats have already been used for large-scale wall cladding.

Who says that a linear structure must always consist of parallel, straight lines? Our slat systems also allow for fan-shaped structures on the ceiling. The material characteristics of the aluminum rails clearly set natural limits. Nevertheless, we always enjoy pushing these boundaries a bit together with the architects.

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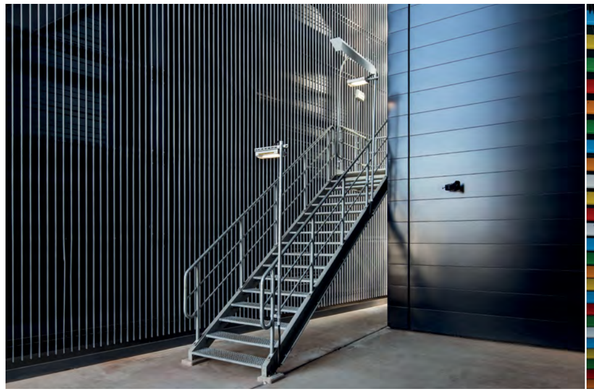
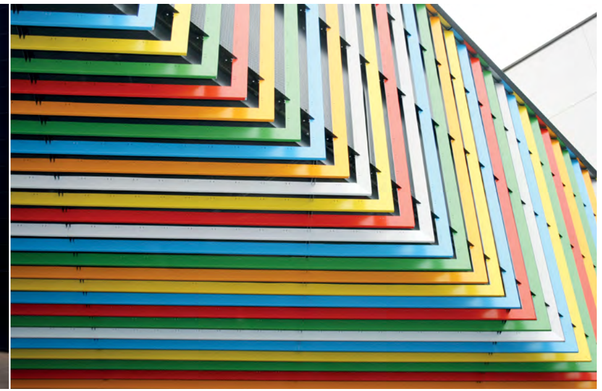
Holzer Kobler Architekturen | Filter Museum Mann + Hummel | Ludwigsburg



HAUFE slats do not have to be used solely as ceilings. In 2016, kadawittfeldarchitektur used the system in the Lausward gas and steam turbine power plant near Dusseldorf as a ceiling, but also as a wall cladding. It extends to a height of 60 meters.



At Bundesgymnasium Gainfarn, Bad Vöslau (AT), the slats were continued outdoors and mounted vertically on the attic using special mounting rails. The mounting rails run on the edge outside a 90° angle to the slat.

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Fire protection – TGA – DGNB

HAUFE ceiling systems are ideally suited for use in DGNB-certified buildings such as the one at 50 Hertz Netzquartier and its head office in Berlin | LOVE architecture and urbanism ZT GmbH (AT).

Security in buildings

The large free cross-section of our slat system allows in consultation with the fire protection commissioned the installation of fire protection systems such as smoke detectors and sprinkler systems on the raw ceiling of the building. The saving of the second level means a great reduction in costs. Our systems are available in fire protection class A2, and we are constantly developing our products. The acoustic slat, for example, was re-tested by MFPA Leipzig GmbH. This evaluates the acoustic slats made of perforated aluminum sheet and a fleece applied on the inside as non-combustible building materials (building material class DIN 4102-A2) according to DIN 4102-1.

Air conditioning systems, cooling sails and technical building equipment are also installed above the slatted ceiling on the raw ceiling. Supply air can be planned to fall through the ceiling in the upper area. Alternatively, slot diffusers can also be integrated in the slat system.

With the HAUFE system, only a few installations are attached directly to the ceiling system. This gives you a calm, harmonious room design with a HAUFE baffle ceiling. Our products are ideally suited for use in DGNB-certified buildings.

© Michael Wegmann

Sauerbruch Hutton | Science Center Experimenta | Heilbronn

HAUFE accessories

HAUFE inspection flaps

If the slat ceiling needs to be opened on a large scale, the slats can be removed individually from the mounting rails by unfixing them. For regular maintenance and control work, we offer a swiveling inspection flap which is adapted to the visual appearance of our system.

HAUFE absorbers

As an accessory, you can get an absorber system that is attached above the acoustic slats in addition. It is available in different versions and enables further improvement of the sound absorption in the room. With it, the slat system still offers a free cross-section of 80%. However, an aw value of 0.6 can be achieved with this combination.

Acoustic panel

Of course, our slat systems can also be extensively covered with an acoustically effective panel. Hereby, sound absorption values of up to aw = 1.0 (H) can be achieved. However, this closes the system, which means that additional fire protection systems have to be installed on the second level.

Module panels

For installations in the slat ceiling (e.g. spotlights, smoke detectors, WLAN routers, etc.), we offer installation frames that are adapted to the installations' respective dimensions and cover the slats' open ends.
You can find patterns and further details in the technical brochure.

ZUMTOBEL linear light INLINE

The system light is routed underneath the mounting rail. This greatly simplifies the interface between the drywaller who installs the slat system and the electrician who usually supplies and installs the lighting. The power supply sits directly on the lamp. The power pack and lamp have a total installation height of 70 mm.

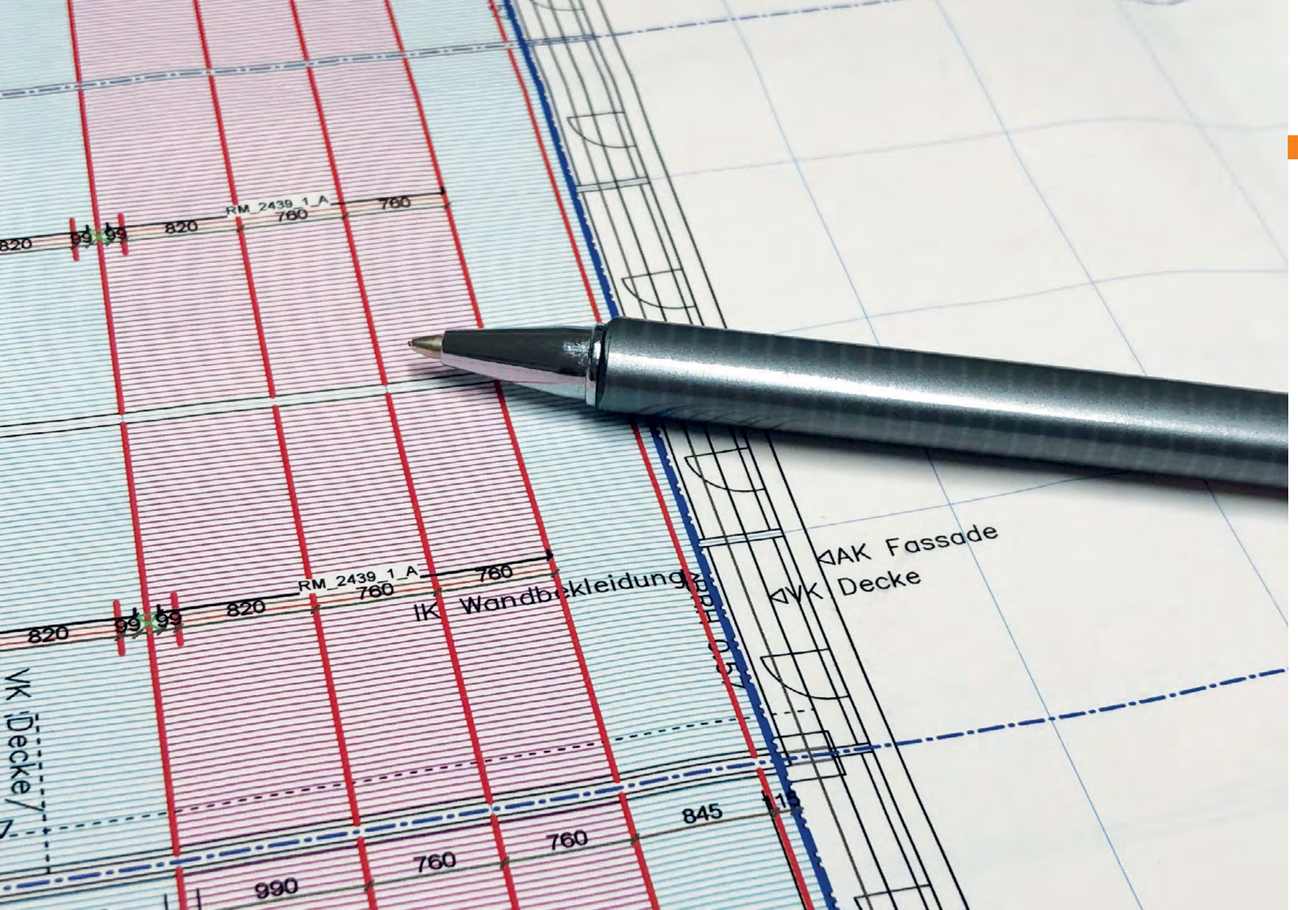
Light strips and recessed lights developed by ZUMTOBEL for the HAUFE slat systems can be integrated into the system across the board. The position of the lights can be determined independently of the position of the mounting rails, since the light strips rest on the slats with tool-free snap holders. The low installation height of 25 mm avoids interrupting the mounting rail.

Thanks to their low installation height and their excellent glare control, ZUMTOBEL light strips can be easily integrated into the HAUFE slat system across the board. The solution combines aesthetics, light, air conditioning and soundproofing.

There are three variants for different applications without breaking the architectural style:

- recessed lights
- surface-mount modules
- pendant modules

Accent lights are also available, which can be used either as selective accent lighting or as an accent/linear combination.



Planning service HAUFE slat systems

Our ceiling plan is based on the architect's plan, in which the technical installations above and in the ceiling as well as the ceiling line and the desired direction of the slats can be seen. After the fabricator has sent us the natural dimensions, we start working on the ceiling plan in close consultation with them. Here we also determine the support rail distances, which are based on the installations in the raw ceiling area and in the ceiling.

The length of the slats is also adjusted to the allowance. In this way, costly cuts on site can be largely avoided. The punchings for accommodating the slats in the mounting rails can be aligned with the planned mounting rail position so that no further punchings are visible in the slat outside. This guarantees precise implementation of the planning in the object. Thanks to our modern stamping systems, we are able to adapt the length of the slats to sloping walls as early as the planning stage and deliver the goods ex works. A special support rail that runs outside the 90° angle to the slat can also be offered for this purpose.

Since the mounting rail distances can be planned at irregular intervals, the ceiling can be precisely adapted to the spatial conditions. In this way we achieve precise lines and a harmonious overall picture.

A good example of the high quality of our planning is our reference object "Experimenta Heilbronn", in which the entire length of the slats (including the inclines) were planned in the ceiling plan and manufactured in our factory. The distances to walls and adjoining slat fields were maintained with absolute precision based on our planning.

Of course, our systems can also be installed without planning. For such orders, the slats are supplied in a standard length and with a standard punching of e.g. 100 mm provided. The mounting rail position can then be installed in a grid of 100 mm. In this case, the slat lengths must be adjusted on site using a chop saw. By eliminating the planning lead time, we can also realize shorter delivery times.

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Jarosch Architektur | Party Rent Group | Feldkirchen/Munich

Digital Data Sheets

Sustainability has many facets and we as a company try to make our contribution to climate protection in several areas. In addition to other internal measures, we would therefore also like to do without print products and only make our brochures and data sheets available in digital form in the future.

More files can be found at:

http://haufe-deckensysteme.de/downloads/

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Atelier Thomas Pucher | U3A Universitätsbibliothek | Graz / Österreich

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Would you like to have tender documents, technical data sheets or test certificates?

We will be happy to send them to you. Simply contact us by phone or send us an email to:
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