BASWA acoustic®

Planning documents for **BASWA Natural acoustic systems**

Natural Base

Natural Fine

Natural Classic Fine

Natural Classic Top

www.baswa.com

Edition 2024/1

Content

System description

General information

System properties

- Very good sound absorption up to αW 0.8/NRC 0.80, Class B
- Fire classification: B-s1, d0 (DIN EN 13501-1)
- Indoor climate: French VOC Regulation: A+
- Fiber and solvent free
- System thicknesses: 30/40 mm
- 1 or 2 layer system
- Colour shade BASWA Base, Fine and Top: ~ NCS S 0500-N
- High whiteness/L-value: up to 92%
- Unlimited colour selection (RAL, NCS, etc.)

Benefits

- EXCELLENT ECOBALANCE – sustainable, fast growing and regionally produced hemp fibers
- Per m^3 of hemp plant, approx. 100.75 kg more CO_2 is bound than caused (per m^2 approx. 3 kg CO_2)
- Complete avoidance of herbicides, pesticides and fertilizers in the cultivation of natural fibers
- High surface quality standard
- Materials that are harmless to health
- Extensive cleaning and sanitation concept

Suitable for application in

- Horizontal, inclined or vertical surfaces
- Convex, concave surfaces, vaults (single and double), etc. (minimum radius: 50 cm)
- seamless surfaces (up to the maximum permissible size of the substrate or substrate structure)

Visit **www.baswa.com** to view our project portfolio and list of references.

System variations

BASWA Natural systems are installed directly on all mineral substrates such as concrete, already plastered substrates, drywall systems (GKP etc.).

The BASWA Natural acoustic panels glued in the offset can be coated seamless with various BASWA acoustic coatings.

Types of the final layer are:

- **BASWA Base** Roughest surface structure (Grain 0.7 mm)
- **BASWA Fine** Average surface structure (Grain 0.5 mm)
- **BASWA Top** Finest, ultra smooth surface structure (Grain 0.3 mm)

BASWA Natural **Base**

Finish coat **BASWA Base**

BASWA Natural **Fine**

Finish coat **BASWA Fine**

BASWA Natural **Classic Fine**

Base coat BASWA Base

Finish coat **BASWA Fine**

BASWA Natural **Classic Top**

Base coat BASWA Base

Finish coat **BASWA Top**

BASWA Natural acoustic systems – the most sustainable, ecological choice of acoustic systems

The green (R) evolution of seamless acoustic surfaces.

The use of BASWA Natural acoustic systems makes a lasting contribution to minimizing the ecological footprint and also binds large quantities of CO_2. In addition, the BASWA Natural system also meets the highest demands for design freedom, well-being, reduction of reverberation time and thus noise in buildings of all kinds.

Wherever people spend time in rooms, they speak and sing, work and produce. People seek relaxation as well as recreation and should find peace and rest. In this context, the architecture and consequently the design, but also the health, the comfort and especially the coziness in buildings are decisive factors, which have to do with the room acoustics and its quality. Room quality is thus decisively defined by room sound, speech intelligibility, noise, reverberation time and sound distribution as well as noise reduction. The result of a reverberation time that is optimally adjusted to the needs of a room is thus reflected in many areas of daily life.

A large number of independent investigations and studies confirm that poor room acoustics at the workplace, at home or in public areas with too much noise and poor speech intelligibility can demonstrably lead to increased stress, high blood pressure, concentration problems, reduced productivity, increased pulse and fatigue, and even trigger various diseases. Adapted and optimised room acoustics by BASWA acoustic systems create peace, comfort and coziness, thus contributing significantly to the prevention of the above-mentioned possible consequences and massively increasing the quality of life.

The BASWA Natural acoustic systems

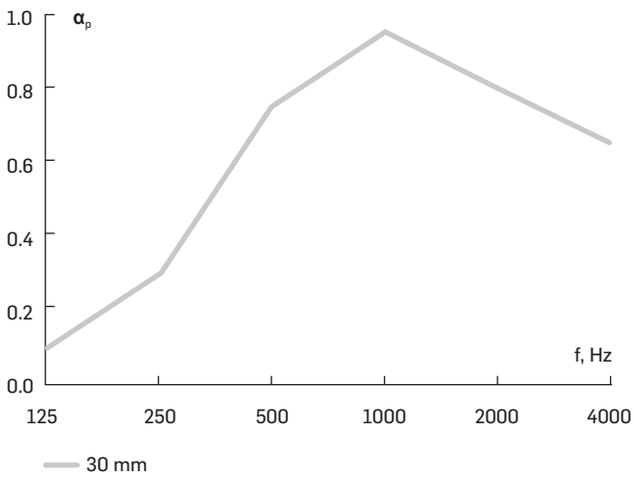
BASWA Natural Base

System profile

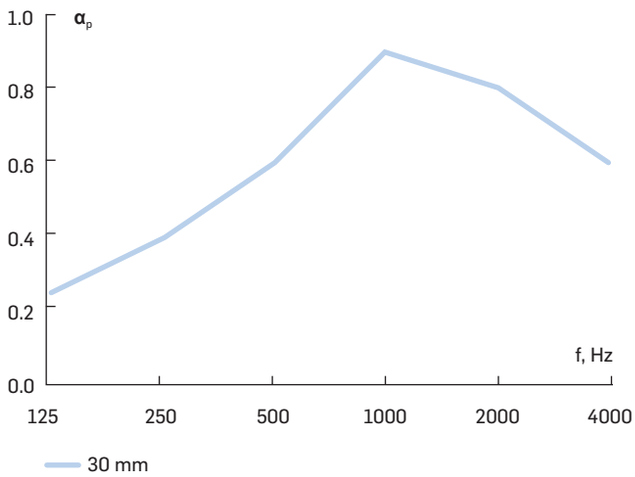
- 1 layer system
- Grain size of the final layer 0.7 mm
- System thickness 30/40 mm
- Smooth, seamless
- Thermal conductivity λ10: 0.042 [W/(m·K)]
- Resistant surface
- Standard colour ~ NCS S 0500-N
- Whiteness/L-Wert: up to 90 %
- Surface finish <up to Q3>
- System weight: 30 mm: approx. 7.8 kg/m²
  40 mm: approx. 8.6 kg/m²

Sound absorption coefficients α_p (practical) according to ISO standard DIN EN ISO 11654

Solid ceilings (on concrete)



Suspension 200 mm



	EN ISO 11654		ASTM E 1264
Thickness	α_w	Class	NRC
30 mm	0.60 (M)	C	0.70

	EN ISO 11654		ASTM E 1264
Thickness	α_w	Class	NRC
30 mm	0.65 (M)	C	0.70

For complete acoustic measurement data, please refer to the current test reports.
Attention! When using coloured BASWA acoustic coatings and decorative designs (e.g BASWA Textures), the specified sound absorption values may change slightly in individual cases.

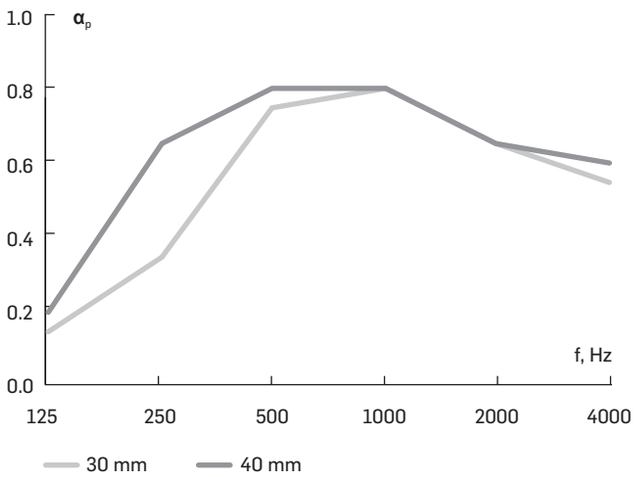
BASWA Natural Fine

System profile

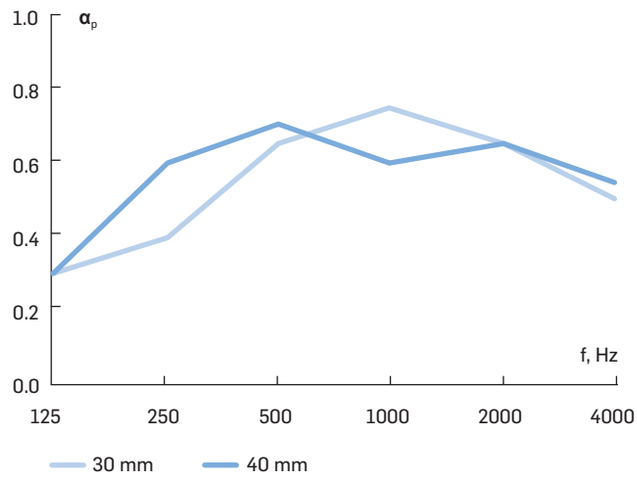
- 1 Layer system
- Grain size of the final layer 0.5 mm
- Thermal conductivityt λ10: 0.042 [W/(m·K)]
- System thickness 30/40 mm
- Smooth, seamless
- Fine, smooth surface structure
- Standard colour ~ NCS S 0500-N
- Whiteness/L-value: up to 91%
- Surface finish <up to Q3>
- System weight: : 30 mm: approx. 7.2 kg/m²
  40 mm: approx. 8.0 kg/m²

Sound absorption coefficients α_p (practical) according to ISO standard DIN EN ISO 11654

Solid ceilings (on concrete)



Suspension 200 mm



	EN ISO 11654	ASTM E 1264
Thickness	α_w Class	NRC
30 mm	0.65 C	0.65
40 mm	0.70 C	0.70

	EN ISO 11654	ASTM E 1264
Thickness	α_w Class	NRC
30 mm	0.65 C	0.60
40 mm	0.70 C	0.65

For complete acoustic measurement data, please refer to the current test reports.
Attention! When using coloured BASWA acoustic coatings and decorative designs (e.g BASWA Textures), the specified sound absorption values may change slightly in individual cases.

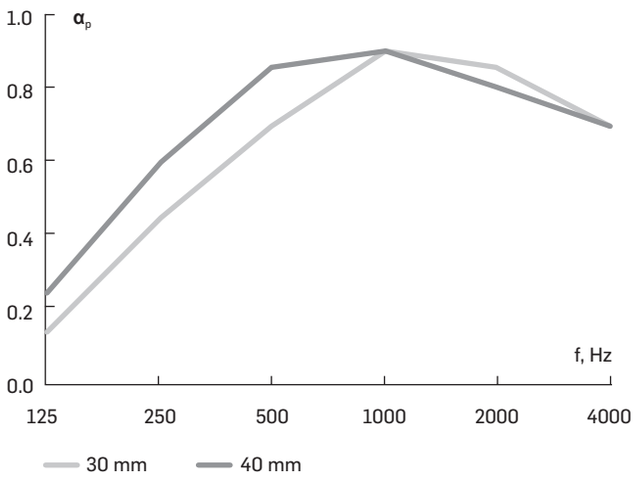
BASWA Natural Classic Fine

System profilel

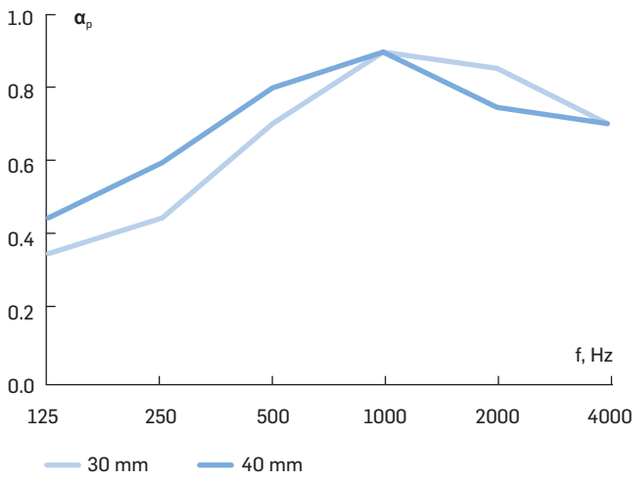
- 2 layer system
- Grain size of the final layer 0.5 mm
- Thermal conductivity λ10: 0.042 [W/(m·K)]
- System thickness 30/40 mm
- Smooth, seamless
- Fine, smooth surface structure
- Standard colour ~ NCS S 0500-N
- Whiteness/L-value: up to 91 %
- Surface finish <up to Q3>
- System weight: 30 mm: approx. 8.9 kg/m²
  40 mm: approx. 9.7 kg/m²

Sound absorption coefficients α_p (practical) according to ISO standard DIN EN ISO 11654

Solid ceilings (on concrete)



Suspension 200 mm



	EN ISO 11654	ASTM E 1264
Thickness	α_w Class	NRC
30 mm	0.70 C	0.75
40 mm	0.80 B	0.80

	EN ISO 11654	ASTM E 1264
Thickness	α_w Class	NRC
30 mm	0.70 C	0.70
40 mm	0.80 B	0.75

For complete acoustic measurement data, please refer to the current test reports.
Attention! When using coloured BASWA acoustic coatings and decorative designs (e.g BASWA Textures), the specified sound absorption values may change slightly in individual cases.

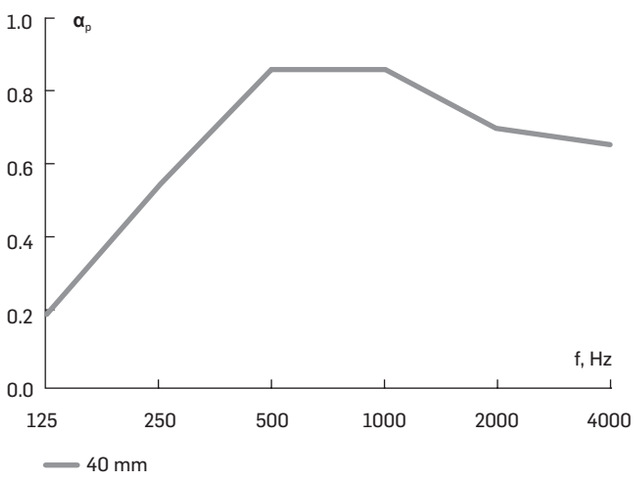
BASWA Natural Classic Top

System profile

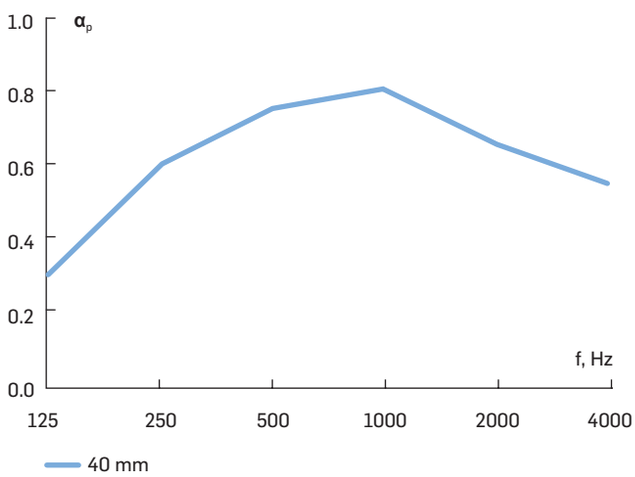
- 2 layer system
- Grain size of the final layer 0.3 mm
- Thermal conductivity λ10: 0.042 [W/(m·K)]
- System thickness 30/40 mm
- Smooth, seamless
- Finest, smooth surface
- Standard colour ~ NCS S 0500-N
- Whiteness/L-value: up to 92 %
- Surface finish <up to Q3>
- System weight : 30 mm: approx. 8.7 kg/m²
  40 mm: approx. 9.4 kg/m²

Sound absorption coefficients α_p (practical) according to ISO standard DIN EN ISO 11654

Solid ceilings (on concrete)



Suspension 200 mm



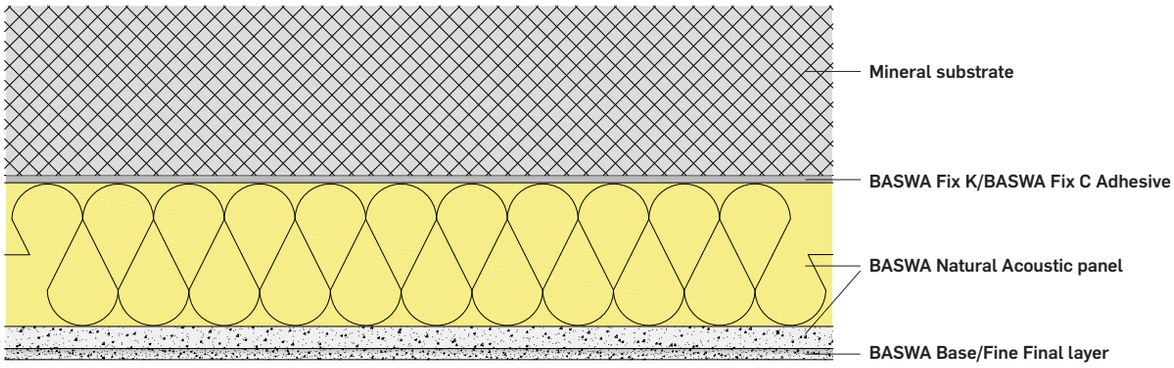
	EN ISO 11654		ASTM E 1264
Thickness	α_w	Class	NRC
40 mm	0.75	C	0.75

	EN ISO 11654		ASTM E 1264
Thickness	α_w	Class	NRC
40 mm	0.70	C	0.65

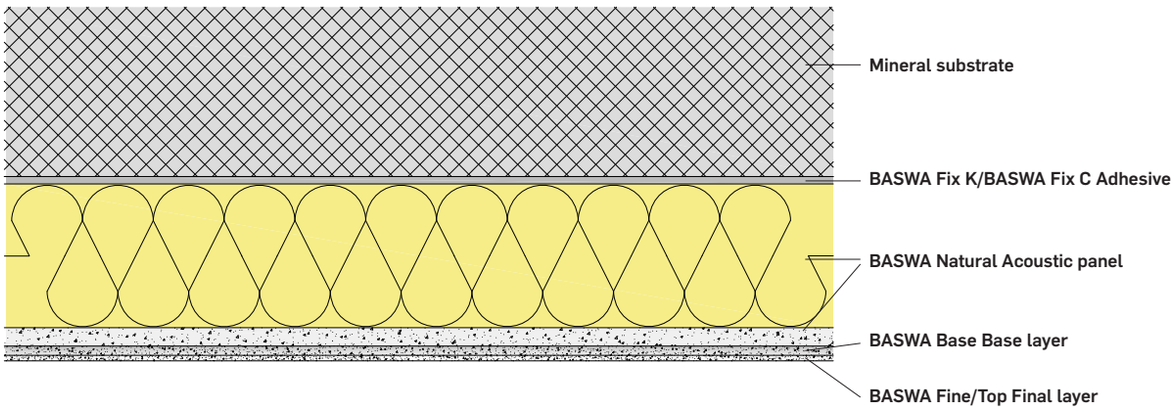
For complete acoustic measurement data, please refer to the current test reports.
Attention! When using coloured BASWA acoustic coatings and decorative designs (e.g BASWA Textures), the specified sound absorption values may change slightly in individual cases.

System structure BASWA Natural Systems

1 Layer systems



2 Layer systems



Installation times BASWA Natural Systems

Installation times

The specified installation times assume a working group of 3 to 4 people and an area of 80–100 m². The drying times refer to the room climatic conditions: 20 °C room temperature/50 % relative humidity.

Allow each work step to dry completely.

1 Layer systems

Days	1	2	3	4	5	6	7	8	9
BASWA Natural acoustic panels gluing	●	drying	drying		drying	drying			
BASWA Natural acoustic panels jointing	●								
BASWA Natural acoustic panels flat grinding				●					
BASWA Base/Fine apply final layer				●					
Follow up work							●		

2 Layer systems

Days	1	2	3	4	5	6	7	8	9
BASWA Natural acoustic panels gluing	●	drying	drying		drying	drying		drying	
BASWA Natural acoustic panels jointing	●								
BASWA Natural acoustic panels flat grinding				●					
BASWA Base apply base coat				●					
BASWA Base control base layer							●		
BASWA Fine/Top apply final layer							●		
Follow up work									●

Preparation and planning

Requirements and conditions

General

Proper planning, careful site preparation and execution of the work under optimal processing conditions are necessary to ensure the surface quality and durability of a BASWA acoustic system.

To ensure the acoustic and aesthetic quality as well as the longevity of BASWA surfaces, BASWA systems are processed exclusively by trained, certified companies. The experience of the team carrying out the work, a suitable framework and compliance with the Installation Guidelines are essential prerequisites for the installation of the BASWA system.

Standards and recommendations

The current guidelines of the company BASWA acoustic AG must be observed for both types of work. The agreed terms and conditions as outlined in the planning documents, installation guidelines, and the general terms and conditions of BASWA acoustic AG take effect on the date of the contract.

Certification of installing companies

In order to qualify for the installation of BASWA acoustic systems, it is necessary to attend a certification course. BASWA acoustic AG products can only be purchased from certified companies.

Companies that are about to carry out a project with BASWA acoustic systems should attend a installation course at the respective BASWA company location 4–6 weeks before the start of the project. Information about the courses on offer can be obtained from the regional contact person at BASWA acoustic AG. Upon completion of the training, the course participants and the company receive a certificate which identifies them as a certified BASWA installer. On request, BASWA provides architects and planners with a list of certified and experienced companies.

Companies that do not carry out any projects for two years lose certification. However, the company is free to attend another certification course.

Planning of installation

The installation of BASWA acoustic systems, in particular the application of the final coating, should, if possible, be carried out in the final phase of interior finishing.

Building and room conditions

Installation

- Temperatures of at least 15 °C to max. 30 °C must be maintained during installation until complete drying
- Avoid draughts during installation
- During the drying time no temperature gradient of more than 10 °C may occur!
- The drying time is considerably longer with high humidity in the building

Building use

- Up to 80 % relative humidity

Room air:
Due to the natural fibers in the BASWA Natural Acoustic Panel, odors reminiscent of the smell of freshly harvested hay may occasionally occur during the first few days. With sufficient ventilation of the rooms, this is no longer noticeable after a few days.

Dew point

- If there are strong fluctuations in temperature and relative humidity, care must be taken to ensure that the dew point is not located on the surface or within the BASWA acoustic system
- The design of the building insulation and the commissioning of air conditioning systems must be planned and controlled accordingly
- The moisture caused by condensation in the room air can cause damage to the BASWA acoustic system

Drying times, time planning and finish dates

The minimum drying times between the individual installation steps must be observed. These minimum drying times refer to ideal indoor climatic conditions: 20 °C room temperature and 50 % relative humidity. Cold and humidity extend the drying times considerably. Fans, with or without heating, favour drying times to ensure compliance with the construction program. Before each working step, a complete drying of the previous coating masses must be ensured.

Jointlessness

BASWA acoustic systems do not require joints as a system, but the specific properties of the ceiling or wall surface, as well as the shape of the construction, material expansion, possible subsidence or deformation of the shell must be taken into account. Joints in the subfloor caused by the construction must be taken over in the BASWA system structure.

The guidelines of the product suppliers of the selected underneath material must be observed according to their set regulations.

Application in damp rooms and weather-protected outdoor areas

The use of BASWA Natural acoustic systems in damp rooms and weather-protected outdoor areas can be realized project spitfire under certain conditions.

- Maximum humidity up to 80 %

Substructure
The substructure must meet the requirements for damp rooms indoors (cf. DIN 18 168 T1 and T2, and DIN EN 13964-2014 D at least stress class C). The substructure must be mineral or consist of a suspended mineral-based ceiling system with corrosion protection. BASWA acoustic AG categorically rejects any liability for the substructure.

Installation note
The acoustic system must be installed with mineral (cement-bound) adhesive (BASWA Fix C).

Additional surface protection
Furthermore, a subsequent surface hydrophobic treatment with BASWA Protect is recommended.

Climatic conditions/dew point
See Climatic building and room conditions page 15.

Chemical exposure
The vapors and gases (chlorine, ozone, brine, etc.) that usually occur in such damp rooms (e.g. swimming pools) are compatible with the BASWA Natural acoustic system. Care must be taken to ensure that no solid or liquid precipitation or deposits form on the ceiling. These can lead to discolouration on the surface. Direct contact by splash water must be prevented.

Installations:
Fixtures, adjacent components and superstructures must meet the requirements prevailing in corresponding wet rooms (corrosion resistance, cf. cited standards). No thermal bridges may be created by installations, extensions or superstructures, as these can lead to corrosion-related damage.

Side light conditions

It is not advisable to plan lateral illumination of the BASWA surfaces with LED luminaires. Under the influence of the lateral LED light, the slightest traces of installation and irregularities become highly visible. It is therefore advisable to have a surface sampled in advance under original lighting.

Quality levels

Unless otherwise agreed, the standard surface quality is always Q2. If increased requirements are placed on the evenness of surfaces, this must be expressly stated in the bill of quantities and contractually agreed.

Flatness and dimensional tolerances

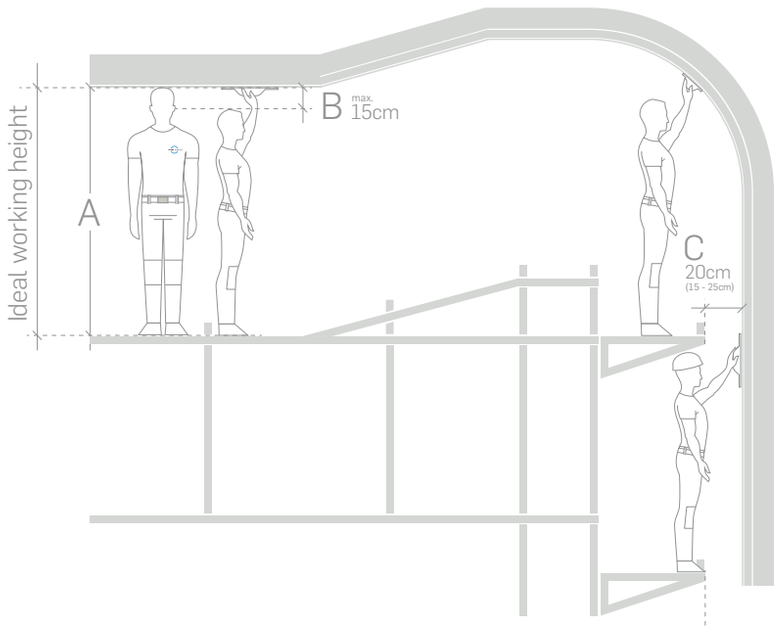
In the case of increased requirements for surface quality 3, additional flatness tolerances must be contractually agreed. These already apply to the preparatory work on the substrate to which the BASWA acoustic systems are applied.

Scaffolds

In order to achieve the best possible surface quality, the coating installation are to be carried out with the aid of surface frameworks. This ensures an unhindered, continuous workflow, especially during the smoothing of the final layer.

height difference between ceiling and surface scaffold must be adjusted to the body size of the installation team (optimum difference between scaffold and ceiling between 185 and 195 cm).

Watch your step! Wearing headgear during coating work can damage the freshly created surface!



Wall scaffolds

When applying coating compounds to vertical surfaces, it is advisable to work on facade scaffolding constructions using scaffolding brackets. A settling in the middle of the surface leads to visible traces of installation. The distance between the surface and the scaffold bracket should be at least 15 cm, optimally 20–25 cm. The national safety regulations regarding maximum distances must be observed.

Temporary safety anchors in the wall construction should be avoided wherever possible.

Subsequent work

Subsequent installation work by other trades on BASWA system surfaces (e.g. installation of luminaires) must be carried out carefully and with clean gloves. All planners and craftsmen involved in the construction must be made aware of the consequential costs arising from subsequent damage or planning changes.

Repairs

BASWA surfaces are only partially repairable (depending on the size and illumination of the repair areas). The repaired area usually has a slightly different structure and becomes visible under unfavorable incidence of light. In the case of major damage, it is recommended to recoat the entire surface of the surface segment. Furthermore, it is advantageous to divide the surfaces into smaller areas by means of separating joints.

Storage

The BASWA products are delivered on pallets in EU format and should be stored correctly on the construction site or in the material warehouse until installation.

- Protect from weather and frost (air-conditioned containers if necessary)
- Acoustic panels must also be protected against dew formation (wetness)
- Temperature in storage room min. 5 °C max. 30 °C
- Products must be protected from direct sunlight

The expiry date of coating compounds and joint fillers is 12 months from production. BASWA products are provided with a batch number:

production date
= 12.04.2024

Substrate for BASWA Natural acoustic Systems

General information

Basically, the substrates to be coated must always be tested for the following requirements:

- If the substrate is mineral
- Flatness or evenness of the substrate according to the requirements for the evenness of component surfaces according to DIN 18202 Table 3
- Free of sintered layers and form release agents etc.
- Free of dust, impurities and harmful efflorescence
- Load-bearing, solid and sufficiently dimensionally stable
- Adhesive tensile strength > 25 kg/ m^2
- Airtight
- Crack-free
- Guarantee of dew point prevention
- Dry (residual moisture ≤ 3 mass %), not water repellent

Additive substrate preparation:

To ensure the service life and surface quality of a BASWA Natural acoustic system and to prevent long-term damage, the substrate on which the system is bonded must be checked for 5 points of essential basic requirements.

1. Adapt the substrate to the required final shape

Flat, parallel or exactly curved: With the adhesive and coating masses as well as the grinding of the acoustic panels, unevenness of max. 4 mm can be levelled out. Increased requirements for flatness (Q3), dimensional tolerances and dimensional accuracy must be met with the substrate.

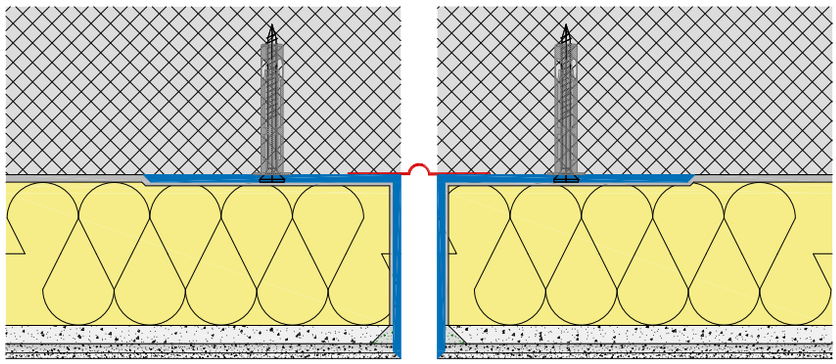
Prior to use, treat strong formwork offsets and burrs on concrete surfaces (>3 mm) (peel off, partially level or apply full surface levelling layer). Please note: The levelling layer must dry completely before the acoustic panels are bonded (lead time of at least one to two weeks/or one day drying time per millimeter of levelling plaster).

2. Substrate stability

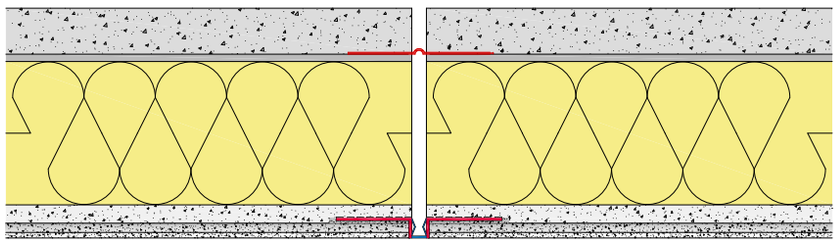
No cracking or movement:
Taking into account the specific properties of the ceiling or wall surface such as the shape of the structure, material expansion, possible subsidence and/or deformation of the shell, surfaces can be designed up to the maximum size of the respective substructure.

The guidelines of the product suppliers of the selected substructure must be strictly observed. In order to prevent the formation of cracks, expansion joints caused by design must be incorporated into the BASWA acoustic systems. No warranty for non-mineral substrates such as OSB, MDF, metal plates, etc.

Formation of expansion or separation joints: For large areas, depending on the specific properties of the building structure or the construction process, the formation of separation joints is necessary. The following principle shows how air circulation to the cavity can be avoided, thus excluding partial contamination.



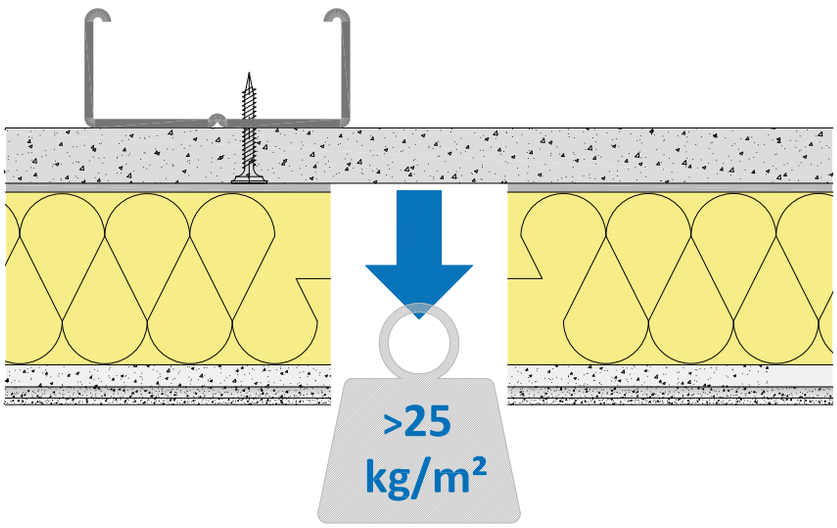
DD_053



DD_099

3. Adhesive tensile strength > 25 kg/m²

The substrate to be coated must have an adhesive tensile strength of at least 25 kg/m². If this is not guaranteed, measures must be taken to achieve the required adhesive tensile strength. In the case of suspended ceilings, the spacing of the support structure must be selected so that the entire ceiling structure can absorb the additional load of the BASWA acoustic system. Gypsum boards should preferably be pretreated with deep primer due to the adhesive tensile strength.

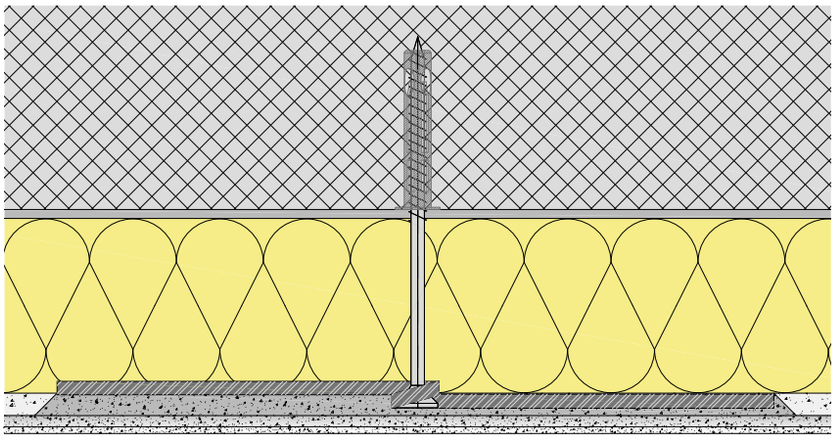


Detail drawing adhesive tensile strength

Additional mechanical fastening

For existing ceilings (plaster, paint), the adhesive tensile strength and moisture sensitivity must be checked beforehand. If the adhesive tensile strength is less than 25kg/m² the defective substrate must be removed accordingly or strengthened by means of a depth substrate matched to the existing coating.

Additional mechanical fastening of the bonded acoustic panels with the BASWA fastening rod can only have a supporting effect to prevent third-party damage.

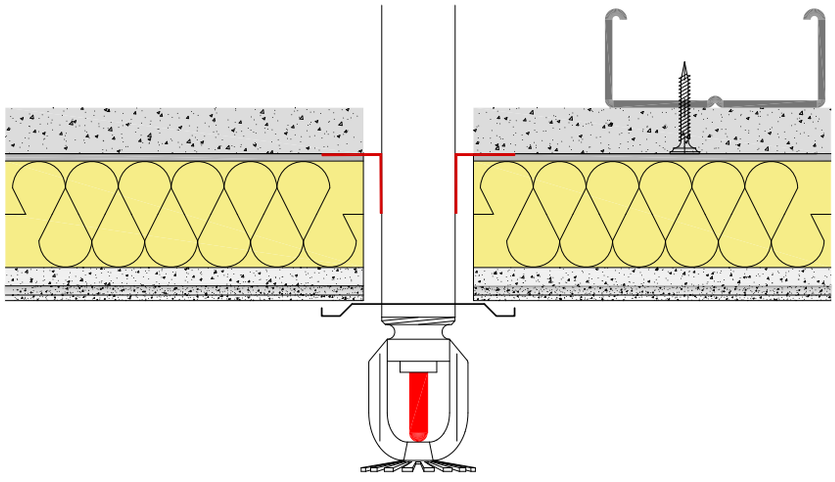


DD_ 003 > 25 kg/m²

BASWA mechanical fastening rod

4. The substrate must be airtight

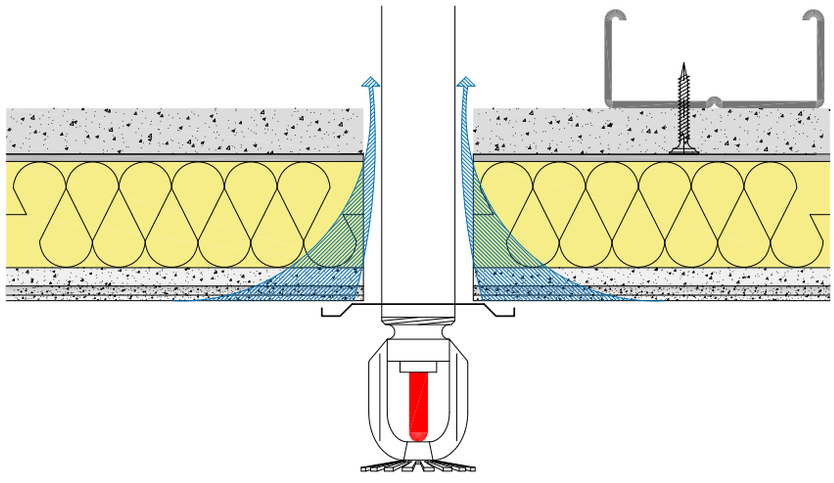
In the case of suspended ceilings, all panel joints must be filled and reinforced in such a way that a level, stable and closed substrate is created (airtightness!). All installation penetrations and gaps to connections to components must be sealed airtight with vapor barrier tape before the acoustic panels are bonded. These seals prevent air circulation through the open-pore acoustic system (prevention of partial dust deposits in the final coating). In order to ensure airtightness over the entire service life of the installation, an adhesive tape should be selected which ensures a corresponding long-term adhesion (e.g. vapor barrier adhesive tape).



DD_ 074

Ageing process with air flows

In the event of leaking connections to suspended surfaces, the air circulates through the open-pored acoustic system. The dust carried along is filtered in the final coating and leads to strong partial discolourations over the course of the service life.

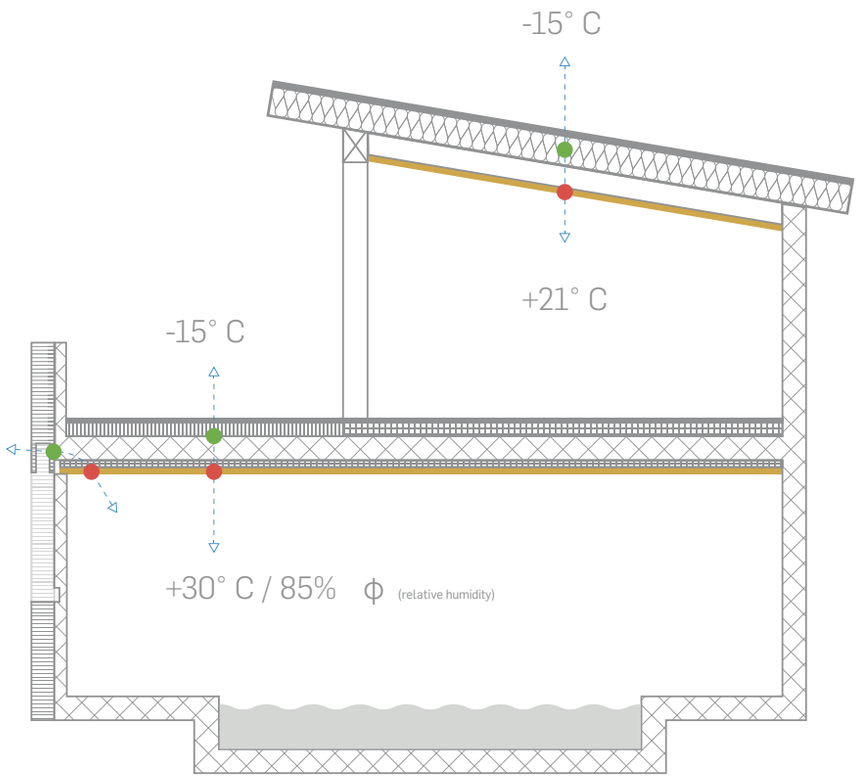


Air permeable without vapour barrier tape – red

5. Calculation and prevention of the dew point

When planning a BASWA acoustic system adjacent to the outer shell of the building, the dew point must be calculated and checked in advance by a specialist planner (e.g. at the top floor/outside walls/balcony, terrace undersides/cold rooms, etc.).

If the dew point is within the BASWA acoustic system, the surface will change colour irregularly within a very short time due to condensation (increased dust adhesion to the moist coating surface).

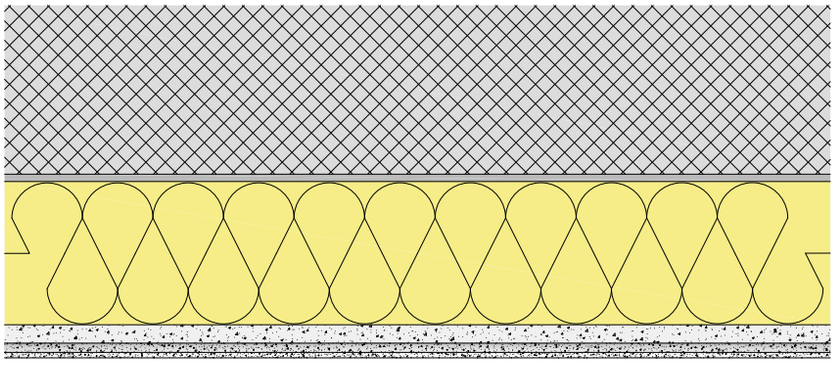


Dew point calculation
Dew point prevention

BASWA Natural System	**λ** Lambda-value (W/m K)
30 mm	**approx. 0.043**
40 mm	**approx. 0.041**

Ceiling structure

Solid ceilings



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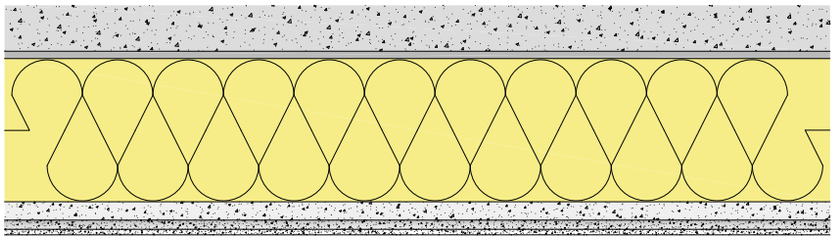
Suspended ceilings

In order to prevent partial contamination of the surface, the system requires a stable, absolutely airtight ceiling substructure. Commercially available suspension systems made of metal rails can be used for the substructure. Wooden constructions are not recommended for this purpose. These may form cracks due to long-term deformation.

A 12.5 mm thick plasterboard or gypsum fiberboard ceiling is suitable as a suspended base for the BASWA Natural system structure. Gypsum plasterboards should preferably be pre-treated with a deep primer due to their tensile strength.

In damp rooms, such as swimming pools, wellness areas and adjacent areas, the substructure must be selected on the basis of structural-physical investigations. All components of the suspension structure must be corrosion-resistant. Cement fiber boards or water-repellent dry construction boards, cementitious levelling plasters intended for this application must be used. The BASWA Natural acoustic panels must be bonded with BASWA fix C cement adhesive. See application data sheet for installation of BASWA acoustic systems in damp rooms.



DD_002

Acoustic reflection areas/ jointless hybrid systems

For reasons of acoustic design, sound-reflecting surfaces (reflection areas) can be planned into the ceiling or wall surfaces. Direct coating of concrete or gypsum substrates with the BASWA coating dimensions has practically no acoustic effect.

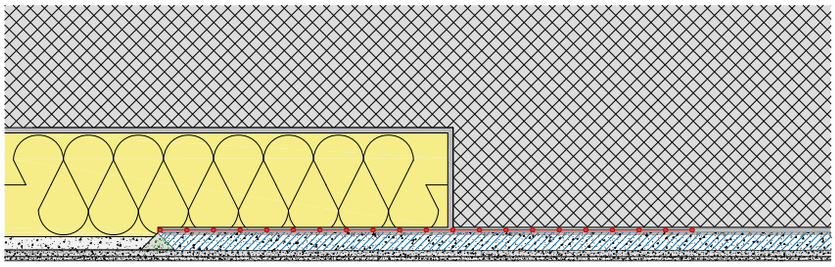
Due to the different flow resistances of the reflecting gypsum or concrete surfaces as well as the sound-absorbing acoustic panel surfaces, an irregularly occurring aging (contamination) cannot be excluded in the course of the service life. The colour differences of the surfaces resulting from this construction-physical process can therefore not be objected to.

BASWA Hybrid panel

The BASWA Hybrid panel was developed to prevent different ageing of reflection areas and the adjacent absorption surfaces. The approx. 10 mm open-pore pre-coating – identical to the pre-coating of the BASWA Natural acoustic panel – creates an open-pore, breathable substrate which ensures even ageing over the entire coated surface.

Sound reflection areas with BASWA Hybrid on solid ceilings

To prevent cracks, the BASWA Hybrid panel must overlap the BASWA Natural acoustic panel by at least 10 cm. To compensate for the height, the BASWA Natural panel is cut back to the required level at least 10 cm wide. Then embed the reinforcing fabric and glue the BASWA Hybrid panel to the same height as the BASWA Natural panel.

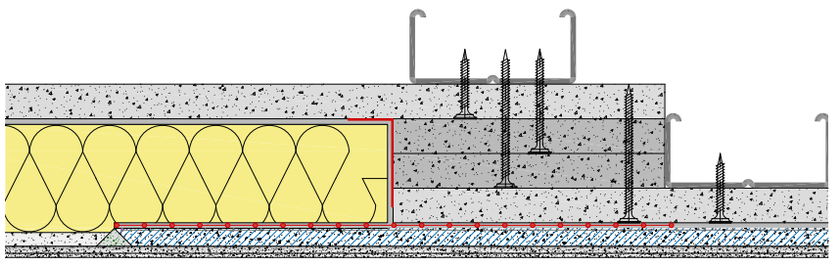


DD_079

Suspended hybrid systems

Sound reflection areas (hybrid systems) can also be used in suspended systems for acoustic reasons. The above points also apply to this application.

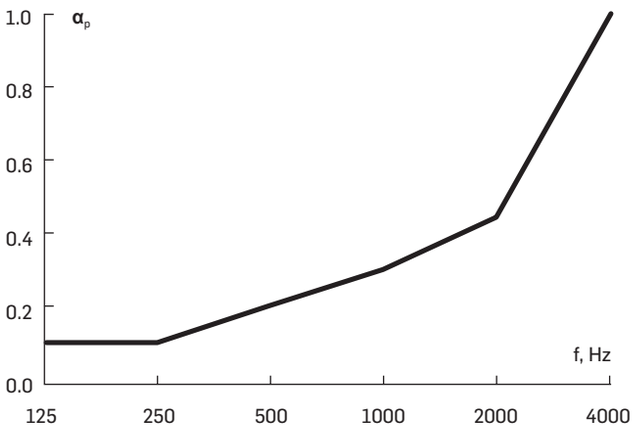
The construction of the ceiling offset must be airtight and stable in movement!



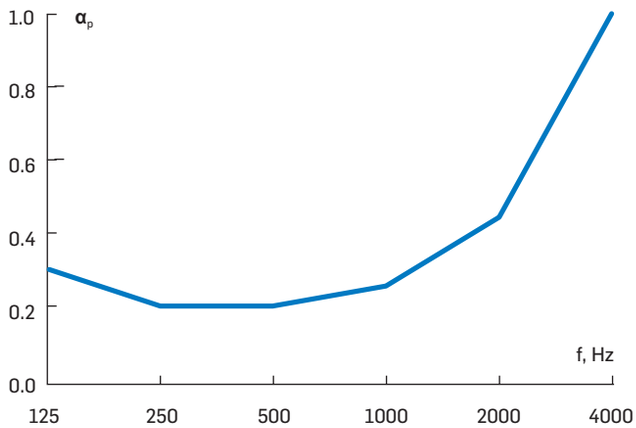
DD_080

Sound absorption BASWA Hybrid Base

Solid ceilings (on concrete)



Suspension 200 mm



Curved surfaces

In order to produce curved surfaces, the substrate must already correspond to the final shape.

Acoustic panels are specially scored on the back surface and are adapted to the substrate on site, glued and grouted. After complete drying, the surface is sanded to the desired final shape. In the BASWA Natural Classic System (two-layer system), curved surfaces are always complete with a base and final layer.

For radii > 20 m, convex and concave surfaces can also be planned with a single layer system, provided they are not exposed to stray light. Smoothed surfaces are possible from radii > = 0.5 meters.

Radii < 0.5 meters, e.g. for hollow grooves, are extremely difficult to smooth and require special tools. We will be happy to advise you on the planning of appropriate technical details.

BASWA Colours

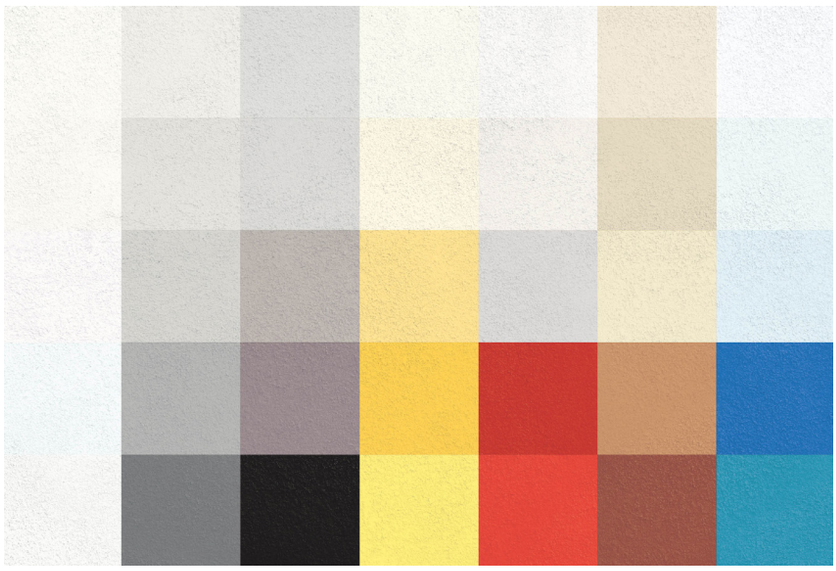
The choice of colours for the BASWA coating compounds is almost unlimited. The coating compounds can be coloured in almost any desired shade. After delivery of a colour reference, a colour sample is created by BASWA. This must be confirmed by the architect or client.

In order to achieve coloured surfaces, the BASWA coating materials are dyed at the factory to order. The colour formulations are determined individually for each new colour in the BASWA acoustic AG laboratory; due to the special properties of the porous surfaces, each colour formulation is compared by eye with the original pattern.

The pigment preparations are mixed into the coating masses without further addition of additives. The coloured products are then applied on site.
Furthermore, all desired colours can be mixed on order according to references of common colour cards or physical samples.

The products are made from natural marble sand. Untreated natural products are always subject to minimal colour variations and can easily influence the basic tone of the colour. The standard white of the BASWA coating dimensions corresponds approximately to NCS S 0500-N.

Due to the porosity of the surface, finished BASWA surfaces can have very different effects depending on the incidence of light. Similar to other mineral systems, a slight cloud formation cannot be excluded with coloured surfaces.



Light reflection of BASWA acoustic coatings

Light reflection on surfaces in rooms should be as high as possible, because poor lighting conditions can lead to fatigue, headaches, poor eyesight and noticeably reduced productivity at the workplace.

The BASWA acoustic coatings with white surface have an optimal light reflection between 75–79 %. This enables a high level of light diffusion and thus an even distribution of light, which can considerably increase well-being. Artificial and natural light is also used efficiently and can also contribute to energy savings.

The following values refer to measurements carried out according to DIN EN ISO 11664-4 according to CIELAB system.

Coating	light reflection	Degree of whiteness (CIE-Y value)
BASWA Base	0,75	89.61
BASWA Fine	0.77	90.28
BASWA Top	0.79	91.30
BASWA Fresh	0.76	89.66
BASWA Casual	0.76	89.85

Surface structures and effects

BASWA Textures

The smooth finish of the BASWA Natural acoustic systems with their fine, smooth surface texture supports the design of modern, timeless architecture. Using special installation techniques, various plaster structures can be imitated, which are often used in the acoustic renovation of historic buildings.

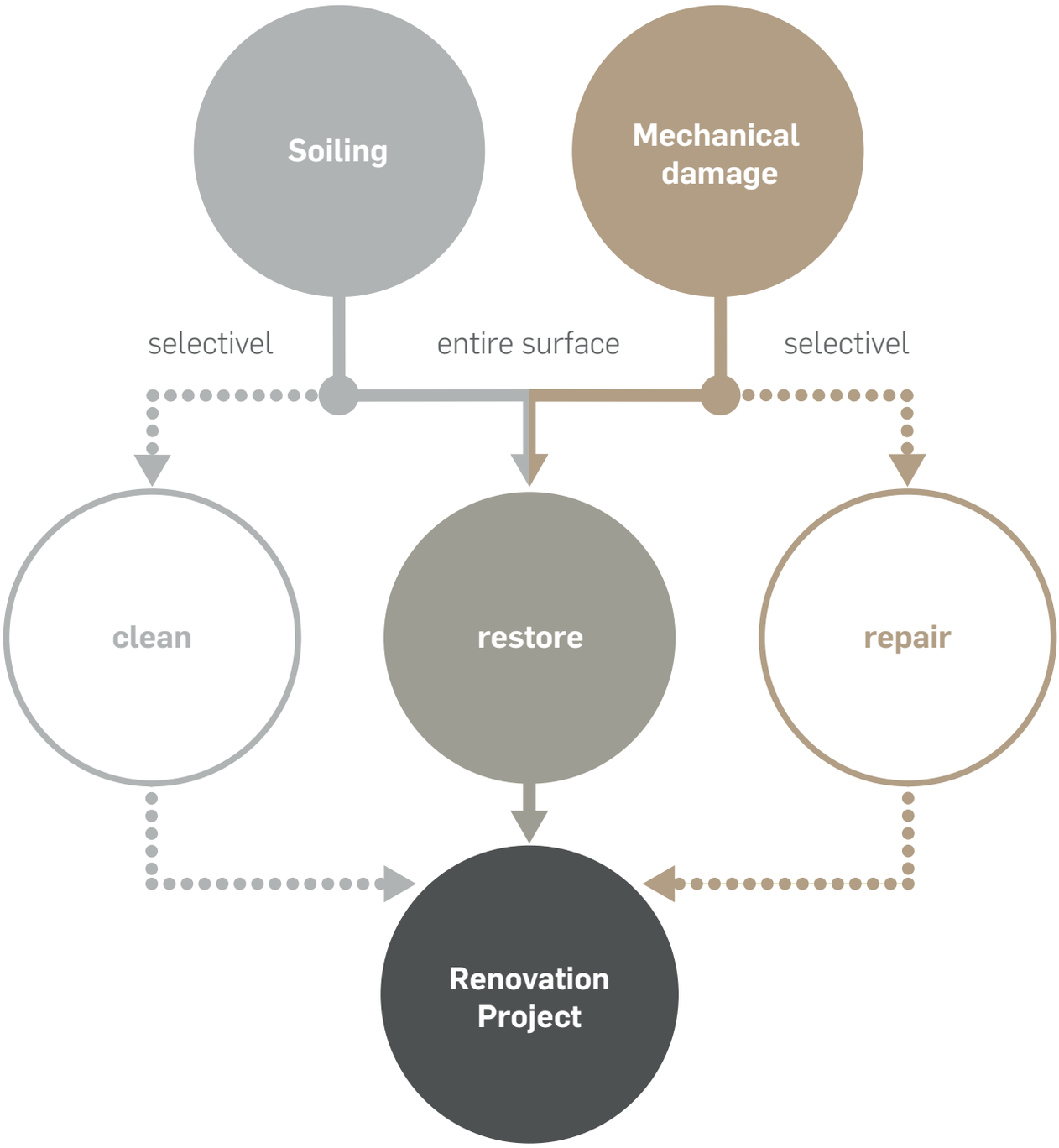
- Spray application
- Brush Texturing
- Modeling the trowel

Sparkling effects with BASWA Shine

The BASWA Shine surface refinement gives the surface a glittering effect without significantly impairing its acoustic performance. The mica dispersion BASWA Shine is used for the subsequent finishing of BASWA acoustic surfaces. It must be directly illuminated with the help of the lighting concept in order to achieve the glitter effect.

On request, BASWA acoustic AG develops special surface effects in cooperation with customers.

Protection, cleaning, maintenance and refurbishment



General information

BASWA acoustic systems are fine-pored surfaces that absorb sound energy. The pore size and the number of pores significantly determine the absorption properties of the various acoustic systems. In order to maintain the porosity of the surface and thus the effectiveness of sound absorption, BASWA surfaces must not be painted under any circumstances.

Aging of BASWA Natural acoustic systems

The open-pored BASWA surfaces act like a filter due to their permeability to changes in air pressure. Over the years, fine dust can therefore settle in the pores, which can lead to a discreet greying of the surfaces. Under normal conditions this greying is very minimal and hardly visible. Ageing has no influence on the acoustic performance of the system.

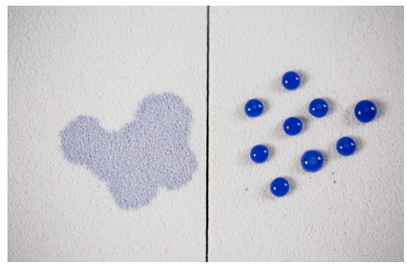
Since the BASWA Natural acoustic systems are installed exclusively on airtight, closed surfaces, an air flow through the system is excluded. As a result, aging and greying therefore take place evenly and slowly.

Furthermore, the following must be observed

- No cleaning attempts with water or other cleaning agents!
- In general, only touch the surface with clean hands or wear clean gloves.
- Always protect BASWA surfaces with masking tape during connection work.
- Do not rub superficial, partial soiling (dust, fingerprints etc.), otherwise the dirt will penetrate deeper into the pores.
- Do not paint BASWA acoustic ceilings!

Surface protection

BASWA Protect is a specially developed premium impregnation system to achieve deep water repellency with optimum protection for BASWA acoustic surfaces. The acoustic performance of the treated surface is not impaired. The deep penetration of BASWA Protect into the acoustic system results in significantly lower dirt and water absorption. This prevents the immediate ingress of liquids and thus reduces the absorption capacity of liquid type dirt and dirt particles that have combined with liquids. Furthermore, the impregnation can have a positive influence on the cleaning of BASWA surfaces and the longevity of BASWA surfaces.



BASWA Protect (right)

Cleaning

Dry dirt or dust adhering to the surface can be removed with an adhesive tape or a fine brush (attached to a suction device).

Partial organic soiling (drink stains, grease, nicotine etc.) can be removed with BASWA Blonde (bleaching agent) or BASWA Clean (special enzyme cleaner). Prior treatment of the surfaces with BASWA Protect facilitates cleaning and maintenance work.

BASWA Clean

BASWA Fresh

The mineral dispersion technology of BASWA Fresh is used to renovate age- and use-related discolourations of BASWA surfaces. BASWA Fresh is a part of the BASWA maintenance and refurbishment product line and can therefore be combined with other applications, such as surface cleaning with BASWA Clean. Treating surfaces with BASWA Fresh, however, does not replace full renovation, but can considerably extend the service life of a BASWA surface. The professional application refreshes age-related discolourations as well as faded BASWA surfaces and gives them back their new appearance. The acoustic performance is virtually unaffected. BASWA Fresh is not suitable for re-colouring existing BASWA acoustic surfaces.

BASWA Fresh

Note! With coloured BASWA acoustic surfaces treated with BASWA Fresh, colour differences in relation to the original colour cannot be ruled out. BASWA Fresh may only be used by specially trained companies (certified BASWA partners).

BASWA Fresh is supplied in as close to the original colour of the existing surface as possible.

BASWA Fresh (left)

BASWA Casual

BASWA Casual is the acoustic spray plaster, which is used for the renovation of existing BASWA acoustic surfaces.

In the event of renovation, BASWA Casual is applied to the existing acoustic system in one to two stages. The result is a slightly textured, homogeneous, jointless surface. Soiled or damaged areas or surfaces must be cleaned in advance with suitable agents (e.g. BASWA Clean) and partially repaired.

As part of a complete renewal, the BASWA coating compounds can be removed with the aid of grinding equipment and then the coating compounds can be reapplied. Depending on the BASWA System, it is also possible to apply a new final coating. In this case, however, a slight impairment of the absorption capacity must be accepted.

BASWA Casual

BASWA maintenance and renovation concept

BASWA acoustic ceilings should only be refurbished by specially trained companies. The specialized company investigates the case and decides which measures and methods are most suitable for refurbishment. Depending on the soiling, the size of the ceiling and the available time window, various measures have to be combined for a successful renovation.

Each renovation is unique and individual in needs, this is highly considered when finding a solution for your project.

Common construction details

Common construction details

For the planning of various construction details such as surface connections, edge formation, separating and expansion joints as well as various installations, a large number of schematic detail drawings are available to you on our website under the menu item “Documentation”.

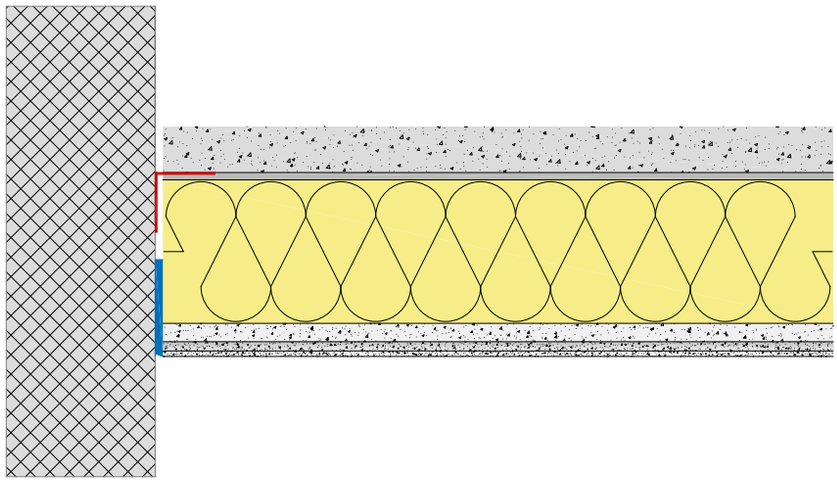
The following pages describe the most important points of the most common detailed solutions by topic.

Surface connections to vertical components

Wall connection with separating strips

In order to prevent uncontrolled cracking, the coating compounds of all BASWA acoustic systems must be separated from adjacent surfaces and/or structures (e.g. columns, wall connections, window or door frames made of metal or wood and others) with a ceiling separating strip.

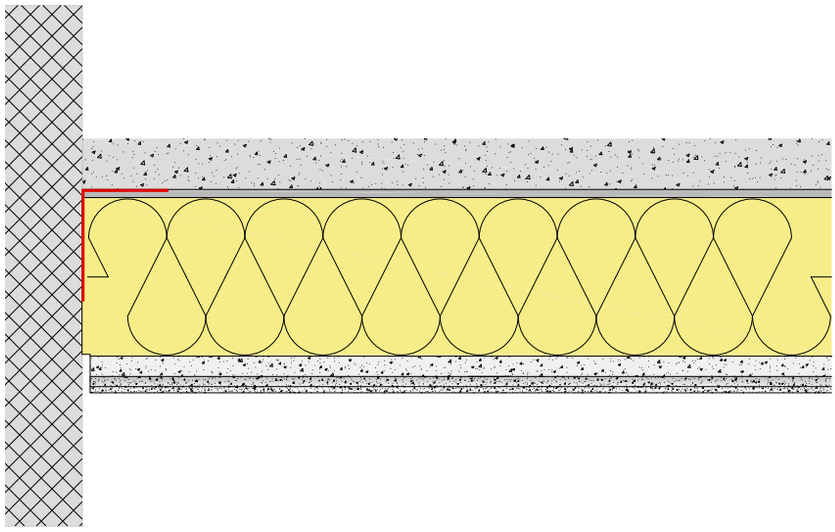
Depending on the optical or building physics requirements, this can be done with a ceiling separating paper or 3 mm thick PE foam separating strips.



DD_ 014

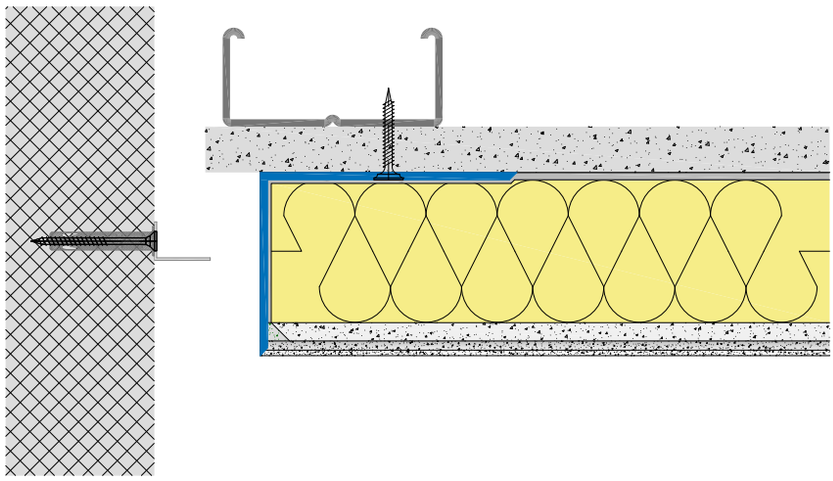
Wall connection with separating cut

For connections to drywall or wooden walls, a 2 to 3 mm wide separating cut can also be made.



DD_ 006

Wall connection with shadow gap

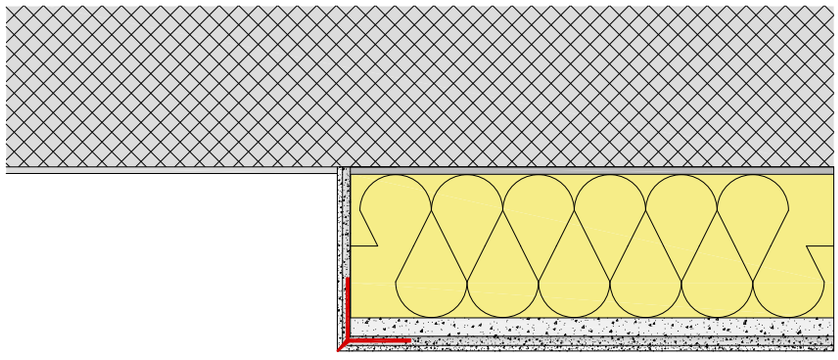


DD_018

Edge formations

Edge protection profiles

If possible, corners with edge protection profiles should be formed with BASWA PVC profiles. With untreated aluminum profiles, there is a risk of discolouration due to abrasive material wear in the area of the edge. In the case of metal profiles, the profile legs may shimmer through thinly applied coating compounds. We recommend using the special BASWA edge protection profiles.

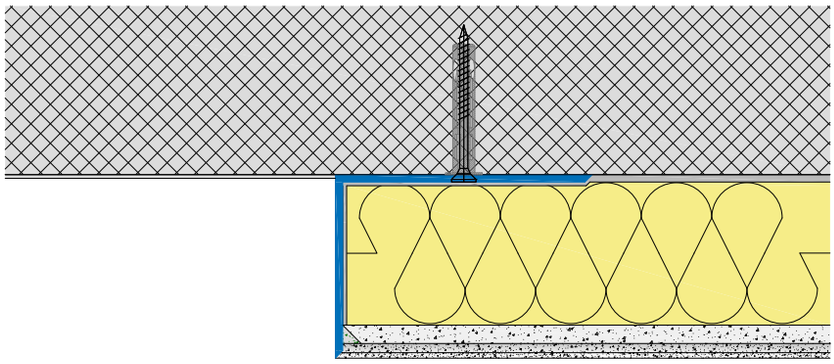


DD_025

L Angle profiles

BASWA L-angle profiles made of PVC or aluminum are used for edge formation. (BASWA Art. No. a271 and a348 are recommended).

These provide protection against mechanical damage. In the case of profiles exposed to heat radiation, there is a risk of cracks forming between the profile and the acoustic coating. (Observe the expansion coefficient of aluminum, PVC or steel).

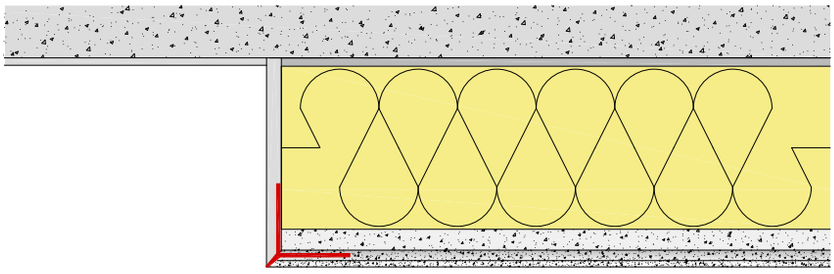


DD_027

Side finish with plaster

With light shafts, the side is often covered with gypsum plasterboard. The illustration shows how this edge can be formed without a separation. This requires a precise and stable dry construction method.

In order to prevent cracking between the fiberboard and the vertical gypsum plasterboard structure, a separation cut must otherwise be made.



DD_ 024

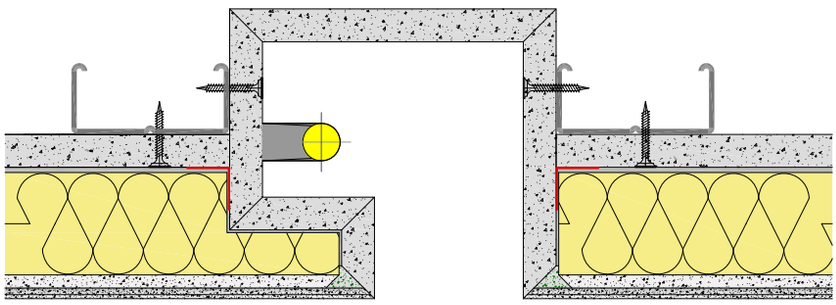
Spotlights, luminaires, tracks, pendants, etc.

Openings for installations such as recessed luminaires, surveillance cameras, motion and fire detectors, loudspeaker boxes, etc., can be carefully made after the final coating with a drill bit. All board faces of the penetrations (vertical mineral wool faces) must be sealed airtight by smoothing off an approx. 2 mm thick gypsum filler application and/or by masking with aluminum adhesive tape. This prevents partial contamination by air flow

Installation of light coves

Depending on the type of luminaire selected, the luminaire can be mounted directly on the substructure or in the suspended ceiling using light coves. The variant shown shows light bands without visible lamp bezel.

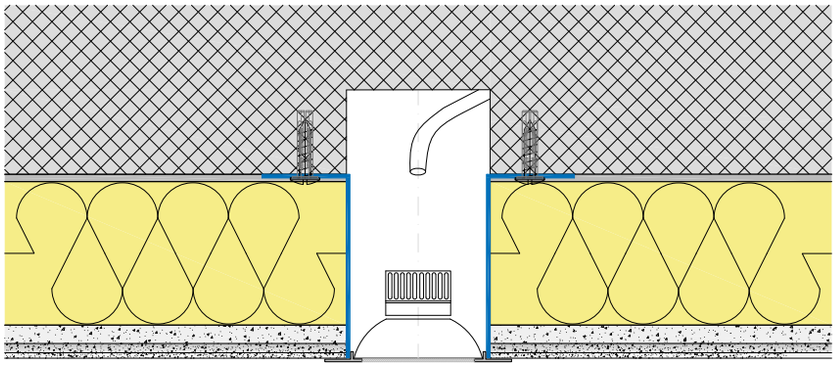
Important: Depending on the heat development and expansion of the respective material of the luminaire, cracks may form in the adjacent coating.



DD_ 076

Mounting rings

In order to prevent damage to the edge during installation or maintenance work on installation elements, the cover rings should be at least 1 cm wide. In the case of installation elements with narrow cover rings, a metal sleeve (prefabricated metal ring) in the diameter of the required ceiling cutout can instead be fitted in advance in the penetration area of the substructure.



DD_072

BASWA installation platform (BASWA IP)

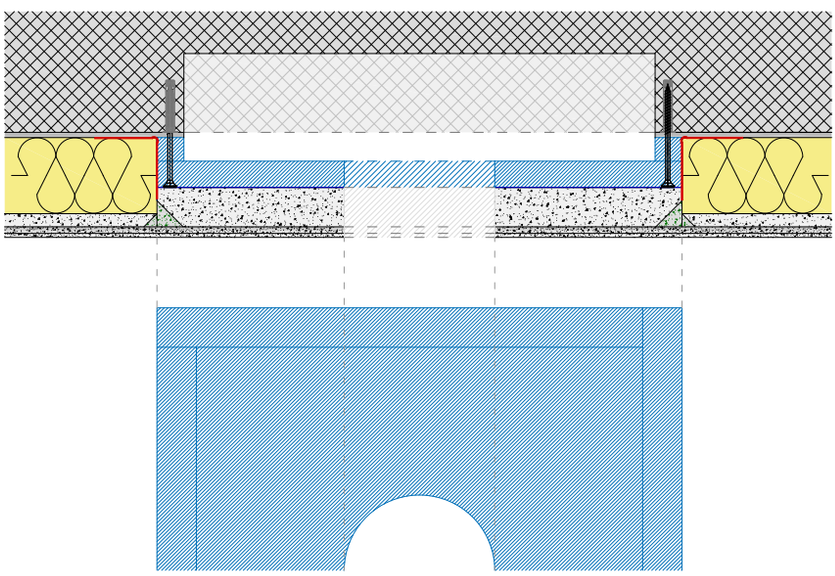
The BASWA IP is used for the partial installation of built-in elements with expansion springs, which require low construction thicknesses for fastening. The pressure-resistant nature of the IP prevents the edge of the ceiling cut-out from breaking out and reduces the need for wide cover rings.

The BASWA IP is based on a pressure-resistant, open-pored panel. The installation platform is calibrated to the respective thickness of the BASWA Natural acoustic panel and is available with or without opening cut-out.

BASWA IP Standard:

200 mm x 200 mm for d < 140 mm
300 mm x 300 mm for 90 mm < d > 220 mm
Other dimensions are available on request.

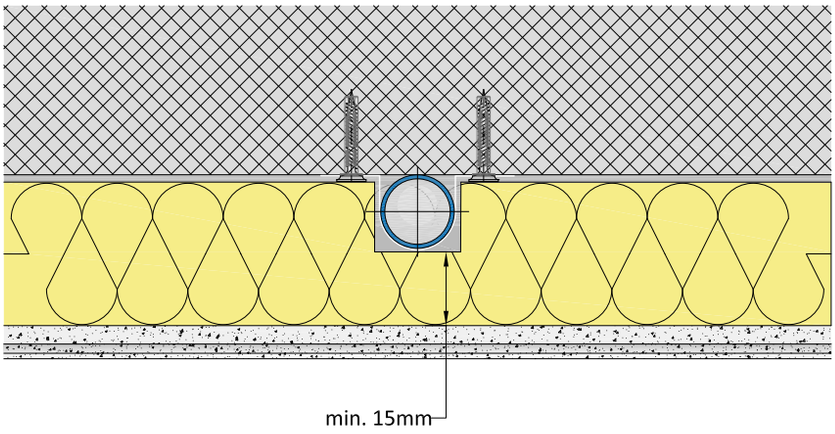
BASWA IPs are glued to the respective substrate, mechanically screwed as required screwed down as required, and taped airtight all around. The acoustic panels are then acoustic panels are then attached to the installation platform, the joints and screw holes are. The joints and screw holes are filled with BASWA Fill and sanded to the same level.



DD_070

Cuts for pipelines

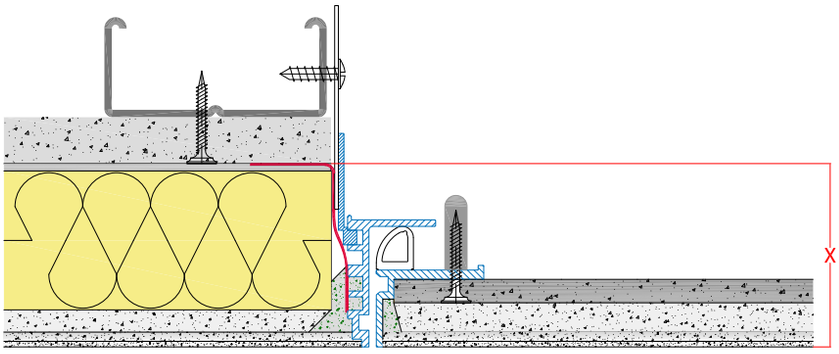
Visible pipelines (e.g. electric pipes) can be integrated on the back of the acoustic panels. This is an interesting alternative for renovations and the conversion of rooms. It should be noted that the overlap of the pipes must be at least 15 mm and that the pipes are fastened exactly to the ceiling with pipe clamps without sagging. Crossovers of the pipes are not permitted.



DD_078

Service openings

The BASWA inspection opening flaps are individually height-adjustable and already RAL 9010 PUR-coated. A special breathable acoustic inlay in the door frame prevents the surfaces from ageing differently. It is important that the side connection between the outer frame and the substrate is sealed airtight beforehand. This prevents air from flowing through the adjacent acoustic system.



DD_067

Ventilation ducts and

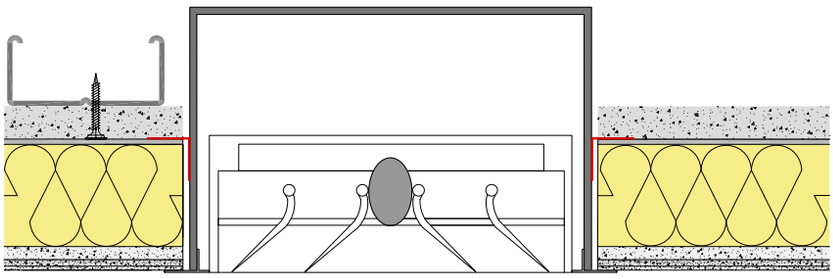
Vacuum and overpressure ceilings

In order to exclude or minimize partial soiling around ventilation slits, the supply and exhaust air should be directed sideways to the wall. If this is not possible, it is important to ensure that the air exchange is as constant and minimal as possible so that no standing air vortices result. With an air outlet angle of 45 °, contamination is greatly reduced.

Ventilation outlets

Ventilation ducts behind suspended ceilings should be sealed in such a way that no additional negative pressure is created in the ceiling cavity. Ideally, the ventilation ducts or pipes should penetrate the plasterboard constriction by the height of the BASWA acoustic system to be installed (30/40 mm).

The sheet metal channels protruding from the gypsum plasterboard construction should be sealed airtight all around (prevention of partial contamination of the acoustic system by air flow). The acoustic panels are then pushed firmly against the sheet metal channels. Remaining gaps are filled with BASWA Fill.



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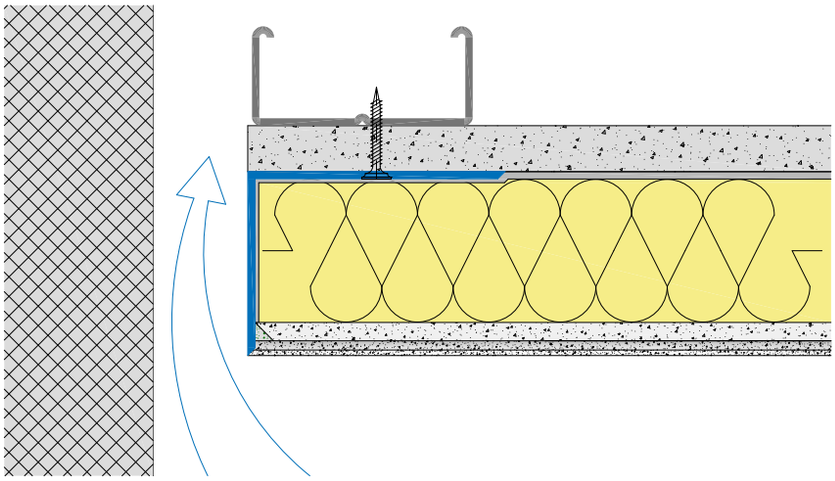
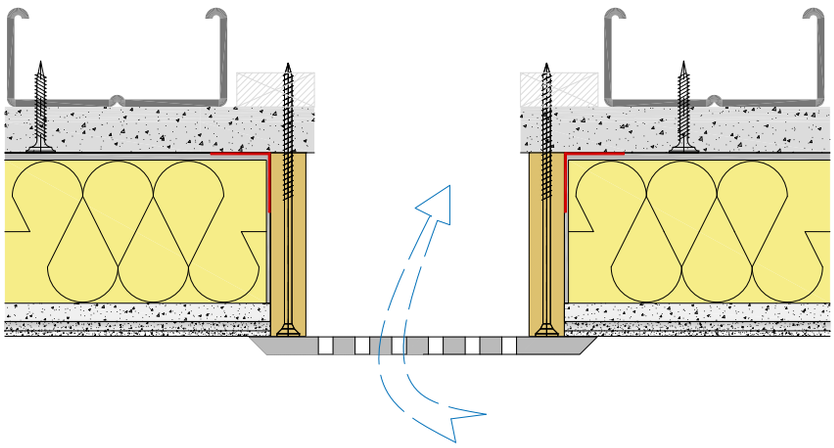


DD_021

Pressure compensation for suspended ceilings

If there is a risk of air pressure differences (installation space to the interior), unforeseen soiling can be prevented by installing a blind hole or lateral shadow joints. For this purpose, the blind hole is covered by a loudspeaker cover, for example. Specialist planners design the dimension.



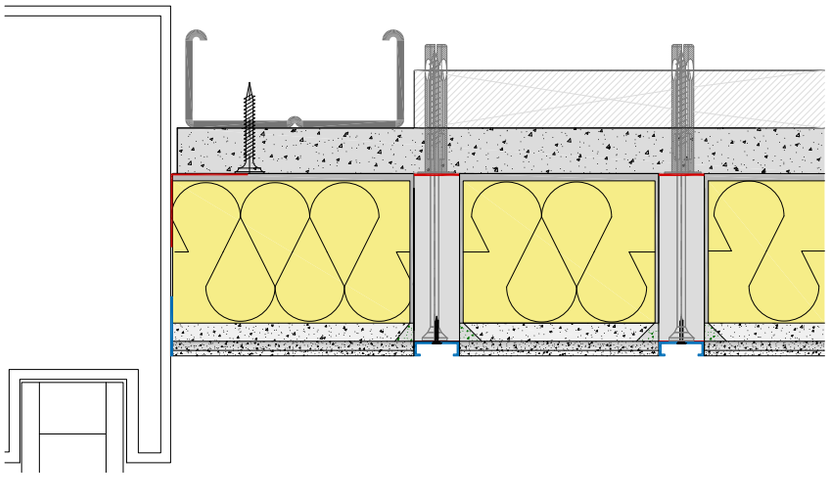
DD_077

Conductor rails, curtain rails and the like

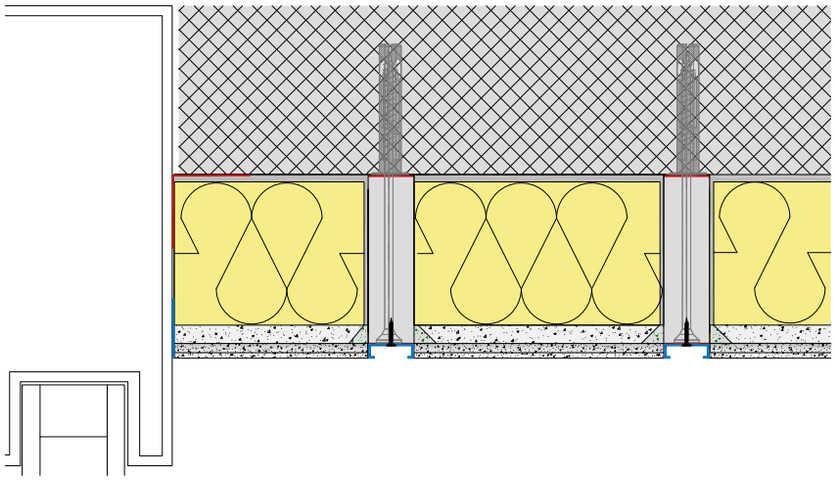
Installation of curtain rails

The types of curtain rails are numerous and, depending on the weight of the curtain, require special detailed solutions in combination with the BASWA acoustic systems. Conventional curtain rail profiles are doubled up to the acoustic system height, glued and screwed. The acoustic panels are then connected to the sides. A thermo-lacquered curtain rail profile also serves as a plaster application aid.

Important: In the connection area of BASWA acoustic ceilings to facade windows, the dew point in the concrete ceiling or the rear cavity in the case of suspended ceilings must be checked (e.g. plan frost tile inserts).



DD_059

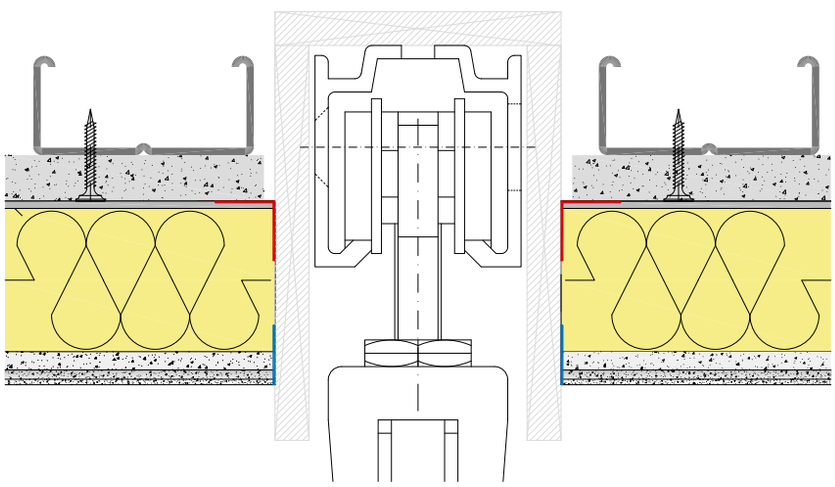


DD_058

Installation of sliding doors and the like

Massive structural elements, such as sliding doors, which generate vibrations or movements, must be separated from the substructure and fastened separately.

Here, too, the plaster must be separated by separating strips and the connection of the suspended construction must be taped off airtightly.



DD_016

Legal notice

The above information, in particular the suggestions for installation and use of our products, are based on our knowledge and experience in normal cases, provided that the products have been stored and used properly. Because of the different materials, substrates and different working conditions, a warranty of a work result or a liability, regardless of the legal relationship, cannot be based on these references or on verbal advice, unless we are guilty of intent or gross negligence in this respect. In doing so, the User must prove in writing that he has provided BASWA in a timely and complete manner with all the knowledge required for BASWA's proper and promising assessment. The user must test the products for their suitability for the intended application. Product specifications are subject to change without notice. The industrial property rights of third parties must be observed. In all other respects, our respective terms and conditions of sale and delivery shall apply. The most current product data sheet applies, which can be requested from us.

Planning documents for BASWA Natural acoustic systems.
The **latest valid version** of this document can be found on our website **www.baswa.com** under the Documentation tab.

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