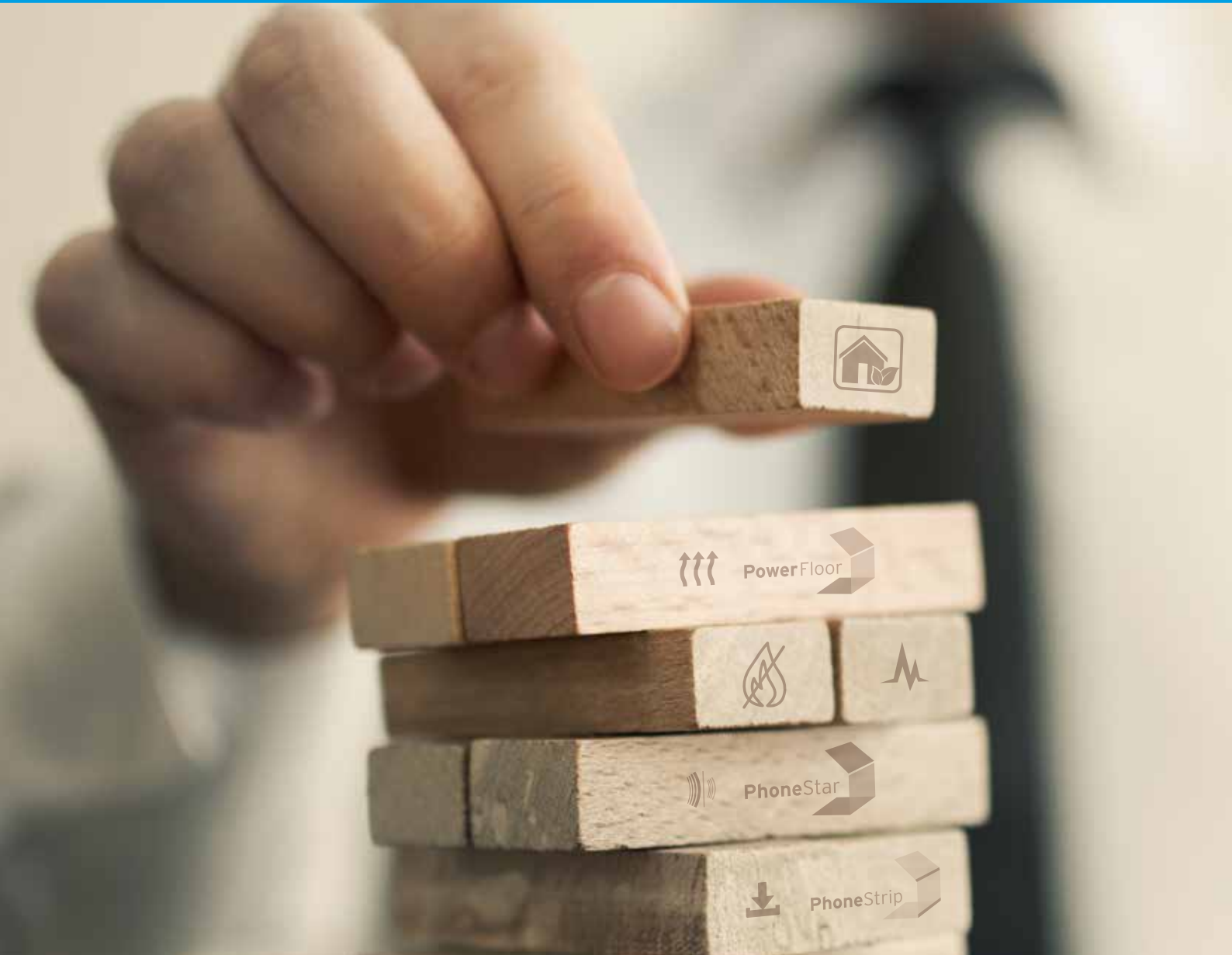


SOUND INSULATION

SURFACE HEATING

DRY SCREED



DRY SYSTEM SOLUTIONS AND DECOUPLING

Suitable for floors, walls and ceilings
in new builds and renovations



Wolf Bavaria Executive Board:
CEO Michael Wolf (left) and Richard Wolf



Since 2004, Wolf Bavaria GmbH has been offering efficient dry system solutions for timber, solid and lightweight construction.

The idea of a sustainable, continuous material cycle back to the source is deeply rooted in our company philosophy and determines our actions at all levels. The use of natural, sustainable raw materials of regional origin and the development of recyclable systems form the basis of all our activities.

At the same time, we are committed to ensuring that sufficient, high-quality living space remains affordable and is utilised efficiently.

With this in mind, we are constantly optimising the use of our products to reduce construction costs and minimise the consumption of valuable living space by building materials, because living space should offer space for quality of life and not be obstructed by the unnecessary use of materials. We have taken on this task, which challenges our innovative spirit and our resources, and can therefore respond even more precisely to the requirements and wishes of our customers.

As experts, we advise and support hundreds of construction projects worldwide every year for a wide range of customer groups. We offer simple and efficient solutions for sound insulation, underfloor heating and dry screed as well as for sound-insulating and load-bearing constructions.



Wolf Bavaria headquarter:
91560 Heilsbronn / Germany

Product range

PhoneStar

PhoneStar Sound Insulation Boards	4-6
PhoneStar 25 Floor Weight Improvement Boards	7
PhoneStar Schalli Floor Stabilisation	8

PhoneStrip

PhoneStrip Decoupling Strips	9-11
PhoneStrip Centering Strips	12-13

PowerFloor

PowerFloor Surface Heating	14-16
PowerFloor Packages	17
PowerFloor Cooling Power	17

Wolf Special Products and Accessories

Wolf Cell, Wolf Accessories	18-19
-----------------------------	-------

Dry System Solutions 20-21

System Solutions Wall

OneBlock-Wall Apartment Partition Wall OSB	22
OneBlock-Wall CLT	23
OneFrame-Wall	24-25
Solid Timber Interior Walls	26
Solid Brickwork Interior Walls	26
Interior Walls Metal Stud Construction	27

System Solutions: Floor / Ceiling

Solid Wood Ceiling Systems	28
Wooden Beams Ceiling Systems	29
Concrete/Mineral Ceiling Systems	30

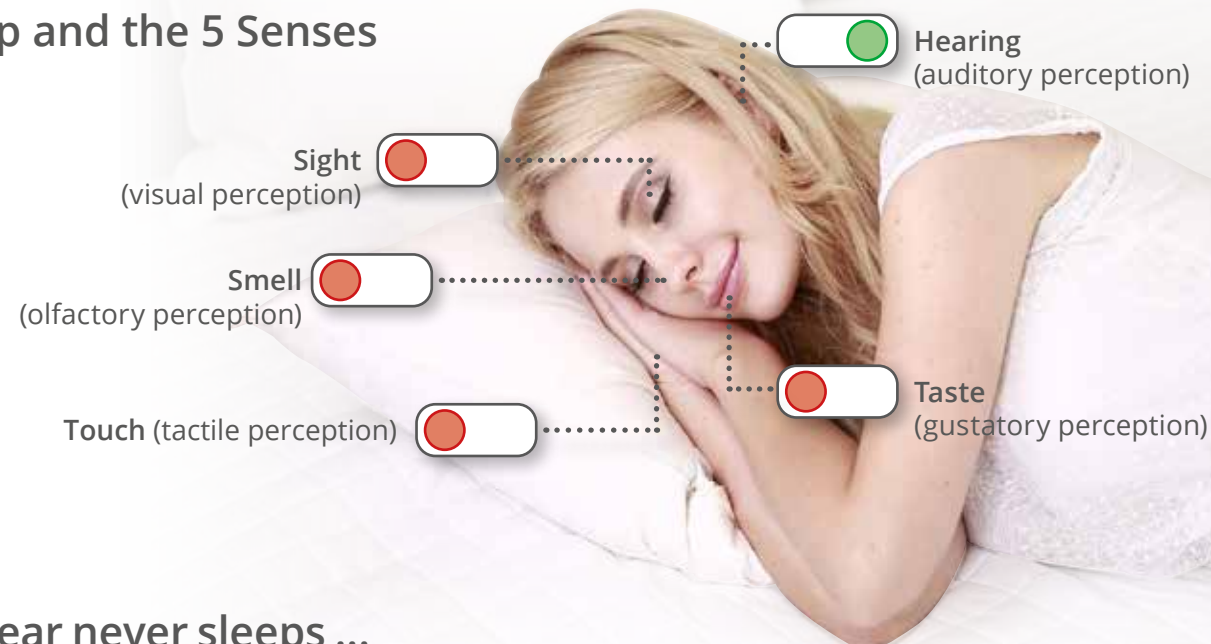
Process 31

Innovation 31



Why sound insulation is so important

Sleep and the 5 Senses



The ear never sleeps ...

because it is a very vigilant organ and is constantly aware of ambient sounds even when we are asleep. How else would you hear the alarm clock?

Environmental authorities and government institutions are increasingly concerned with the prevailing noise problem.

Excessive noise is proven to be detrimental to human health and impairs everyday life at school, at home and at work. It can lead to sleep disorders, cause cardiovascular or psychophysiological impairments, reduce performance and trigger irritability or behavioural changes in social interaction. (WHO, 2017)

Effective protection against noise damage can be achieved with PhoneStar from Wolf Bavaria.

How PhoneStar works

Sound wave before



PhoneStar



Microscopic vibrations

Sound wave after



Sound transmission line

PhoneStar has a high level of internal damping due to the loose sand filling. This minimises sound and flank transmission.

PhoneStar 3 in 1

Outstanding airborne and impact sound insulation due to three physical principles:

- ✓ Mass
- ✓ Multilayeredness
- ✓ Flexural softness

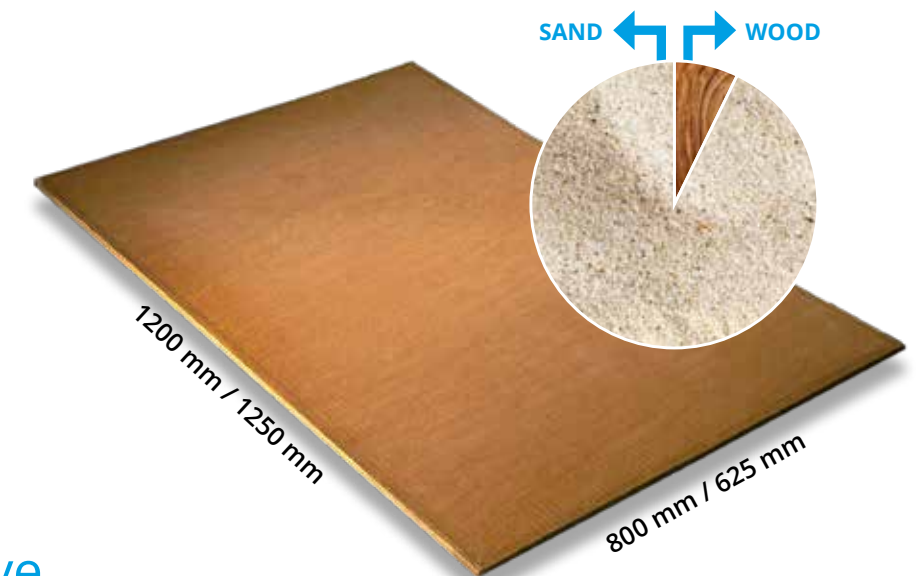
PhoneStar Our solution against noise

PhoneStar is approved as a sound insulation board for use on floors, walls, ceilings and pitched roofs in ETA 20/0371.

At the same time, PhoneStar is certified as a sound-insulating dry screed.

- + Insulates airborne and impact sound effectively
- + Ecological base materials: wood and sand

- ✓ Ecological
- ✓ effective
- ✓ cost-efficient
- ✓ CO₂-binding

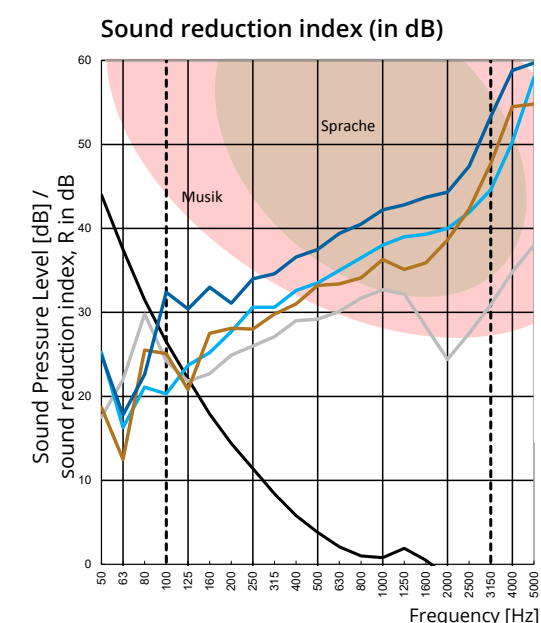


All PhoneStar measurement curves clearly show the very good airborne sound insulation properties - 40-45 dB, especially in the human hearing range.

In contrast to homogeneous building materials, PhoneStar boards have hardly any coincidence collapse.



PhoneStar boards can be installed in multiple layers to further enhance sound insulation.



PhoneStar Plus Tri 15 mm, R_w = 42 dB
Test report no. E140124/1a_rev00

PhoneStar Tri 15 mm, R_w = 38 dB
Test report no.: E170606/1a_rev00

PhoneStar ST Tri 12,5 mm, R_w = 36 dB
Test report no. E170606/2a_rev00

GKF according to DIN 18180, resp. DIN EN 520; 15 mm

Reference hearing threshold according to DIN EN ISO 389-7:2006 (diffuse field)

Frequency range corresponding to the reference curve according to EN ISO 717-1

PhoneStar Easy installation



CUTTING

Quick & easy, e.g. Use a cutter knife or circular saw for adjustments.

TAPING

Use Wolf Tape to seal cut edges.



INSTALLATION

PhoneStar boards can be laid in a brickwork formation, either floating or glued to the floor, depending on the final covering. They can be attached directly to walls or ceilings, or to a substructure.



FLOOR FINISH

With appropriate preparation, many types of end coverings can be laid on the PhoneStar panels.

WALL AND CEILING SURFACES

Any type of final floor covering can be installed over PhoneStar boards with appropriate preparation.

SOCKET DRILLING

Sockets can be drilled – seal with acrylic to avoid leakage.

 Processing instructions:
www.wolf-bavaria.com/downloads/



PhoneStar 25 - Floor Weight Improvement Board

+ Impact sound insulation up to 9 dB
+ High cost-saving potential



CE
20
ETA N° 20/0371

PhoneStar 25 consists of the ecological base materials wood and sand and is an easy-to-install ceiling weighting system.

The boards are load-bearing and ready for immediate use after installation. Allows routing of supply lines while decoupling direct sound input into timber ceilings.

✓user-friendly
✓dry ✓demountable

 PhoneStar 25 boards can be installed in multiple layers to further enhance sound insulation performance."insulation values.



PhoneStar boards are attached to wooden or metal studs using the appropriate drywall screws. ⇨

⇨ The PhoneStar boards are mounted on Wolf TPS 25, wooden moulding or directly to the wall with knock-in dowels.



PhoneStar 25
Installation

PhoneStar 25
as a floor weight

PhoneStar 25 - as a line
level / height levelling

PhoneStar Schalli

Sound decoupling strips

PhoneStar Schalli as floor stabilisation

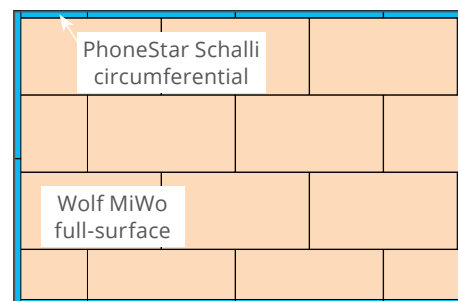
Schalli puts an end to yielding room corners, room edges and door transitions.



Test room with PhoneStar Schalli on the floor - peripheral

In the floor area:

The sound decoupling strips are used as stabilisers in the edge area, at door transitions and corners with soft impact sound insulation.

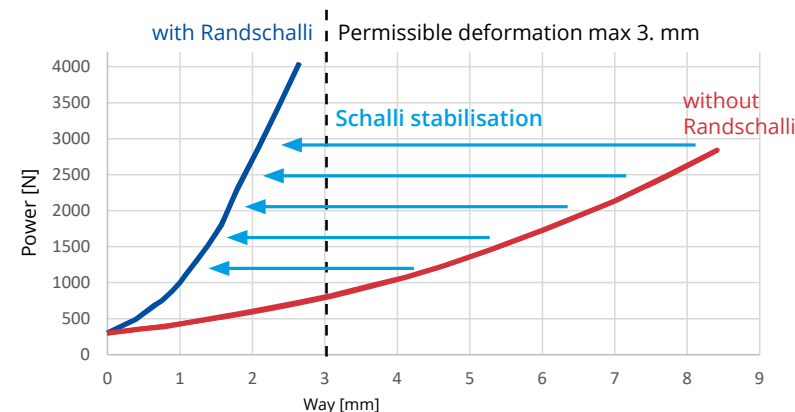


i No deterioration in airborne and impact sound

Schalli-stabilisation

- In corners and edges, the use of the edge stabiliser prevents the top layer from sinking
- A significant increase in payloads is achieved thanks to the sound stabilisation.

Graphic: Measurement at the room edge

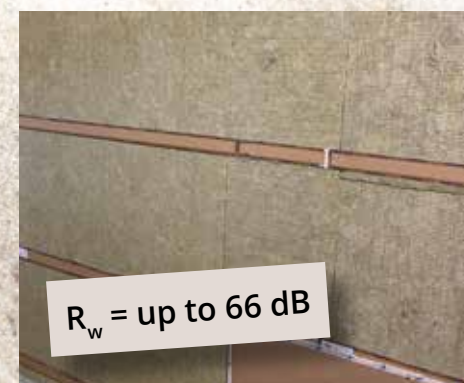


PhoneStar Schalli on the wall

In the wall area:

The PhoneStar Schalli decoupling strip is an environmentally friendly alternative to the top-hat spring rail.

i Use of PhoneStar Schalli on the wall in the chapter: Wall system solutions



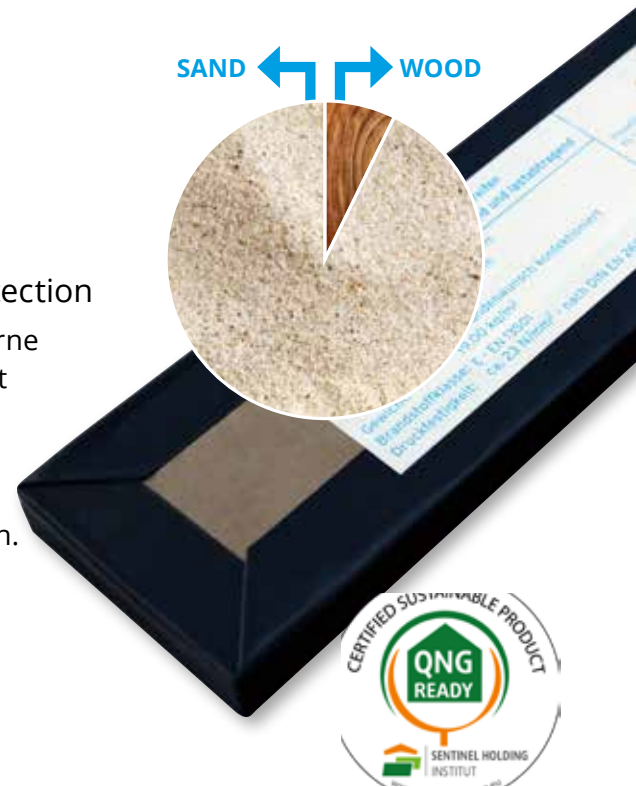
PhoneStrip

Sound decoupling

The 3in1 strip: Sound decoupling + Shadow gap + Fire protection

PhoneStrip reduces the transmission of airborne and structure-borne noise due to internal friction. This occurs during relative movement between two elements that are pressed together with a defined force.

The loose structure of the quartz sand processed within the PhoneStrip offers ideal conditions for ensuring high internal friction. This leads to a demonstrable reduction in sound transmission and flank transmission.



The operating principle



PhoneStrip decoupling strips are specially developed for use on the construction site.

All edges are sealed with a special adhesive tape. When installed, the sealant ensures water resistance, increases the impact resistance of the edge and makes the joint airtight.

The advantages

- + Ecological based materials wood and sand
- + Acoustic decoupling is independent of load
- + No risk of confusion - universally applicable
- + Simple dimensioning
- + Available in 15 mm and 30 mm thickness

- ✓ certified
- ✓ pressure-tight
- ✓ innovative



Areas of application



PhoneStrip Design values

Compressive strength

PhoneStrip has the value Characteristic $f_{c,k} = 23,00 \frac{N}{mm^2}$

and the value Design $f_{c,d} = \frac{1}{1,3} * 23,00 \frac{N}{mm^2} = 17,69 \frac{N}{mm^2}$

as strength values for the absorption of vertical loads.

The values specified in ETA 20/0371 were based on tests carried out at the MPA Bau of the Technical University of Munich. The results were adopted 1:1 in ETA 20/0371.

✓Environmentally friendly
✓effective ✓checked

i An orientation test in accordance with DIN EN 1365-2:2015-02 showed that PhoneStrip has a fire resistance duration of >> 97 min. in the joint, which would correspond to fire resistance class EI 90.

Processing



CUTTING

The lengths are cut with a knife or a jigsaw.

TAPING

The open cut edge can simply be closed again with the PhoneStrip Tape.

INSTALLATION

The decoupling strips can be nailed, glued or screwed to the structure to fix them in position, whereby the laminated side must face the weather side. Installation in the rain damages the decoupling strip according to ETA 20/0371.

SERVICE LIFE

ETA 20/0371 certifies that PhoneStrip has an unlimited service life when installed properly and in a dry environment. In terms of the service life of components (BBSR), this means ≥ 40 years.

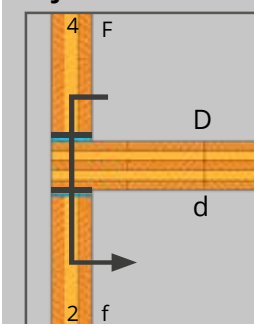


Test results PhoneStrip

Joint insulation dimensions Kij: Measurements and values

Application: Cross laminated timber (CLT) constructions

T-joint / KFf/2-4



Tested structure:

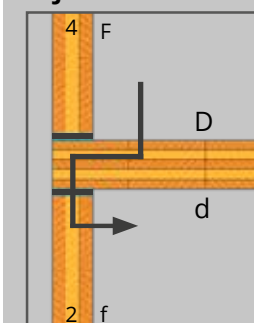
- with/without 15 mm PhoneStrip

Transmission path: Upper wall / Lower wall
- with load

$\Delta K_{ij} = \text{up to } 6,5 \text{ dB}$



T-joint / KDf/1-2



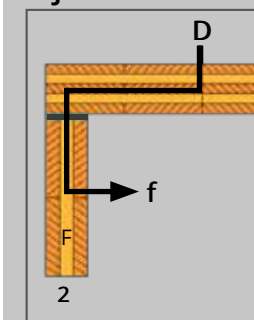
Tested structure:

Transmission path: Ceiling / Lower wall
- without load

$\Delta K_{ij} = \text{up to } 3,4 \text{ dB}$



L-joint / KDf/1-2



Tested structure:

- mit/ohne 15 mm PhoneStrip

Transmission path: Ceiling / Lower wall
- without load

$\Delta K_{ij} = \text{up to } 2,3 \text{ dB}$



Measurement protocol on request:
info@wolf-bavaria.com / Phone: +49 9872 953980
All results refer to the complete coupling length ($l_{ij} = 4.0 \text{ m}$).



Complete test certificates
are available on request.



PhoneStrip Centring strip for concrete construction

The 3in1 strip: Sound decoupling + Shadow gap + Fire protection

PhoneStrip as ceiling centring strip

is a high load-bearing decoupling bearing for classic solid construction. PhoneStrip can absorb the ceiling deformation (ceiling deflection) that is dangerous for the masonry.

PhoneStrip - as an unreinforced component bearing, consists of environmentally friendly corrugated cardboard, which is filled with compacted quartz sand and is therefore highly resilient with a characteristic compressive strength $f_{c,kw}$ of 23.0 N/mm². In the edge area, the cardboard allows deformations of up to 4 mm.

The PhoneStrip centring strip is available in a thickness of 15 mm.



- ✓environmentally friendly
- ✓effective ✓certified
- ✓long service life



The PhoneStrip centring strips are available in the widths :
50/60/80/100/120/140/160/180/200/220/240 mm.

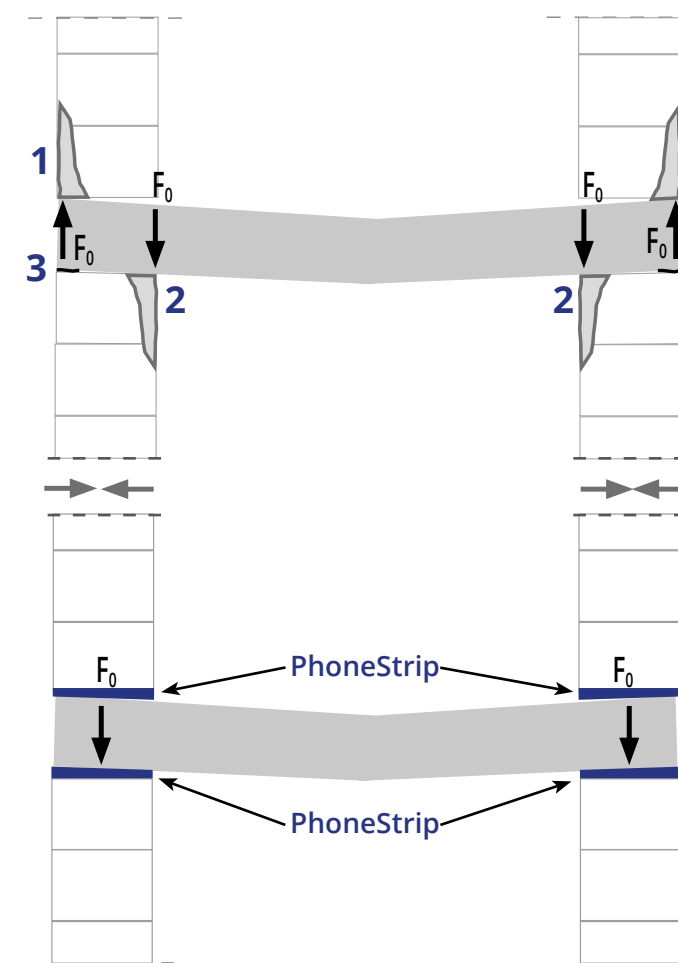


CERTIFICATION

PhoneStrip is CE certified as a decoupling strip for absorbing vertical loads. Based on ETA-20/0371, all properties and applications as a decoupling bearing are regulated and approved for use in Europe.



PhoneStrip centring strips - The operating principle



Schematische Darstellung:
Zentrische und Exzentrische Lasteintragung

Wall/ceiling joint without PhoneStrip

Due to the support rotation angle, stress peaks occur at the support edge, which can cause cracks / damage to the load-bearing walls

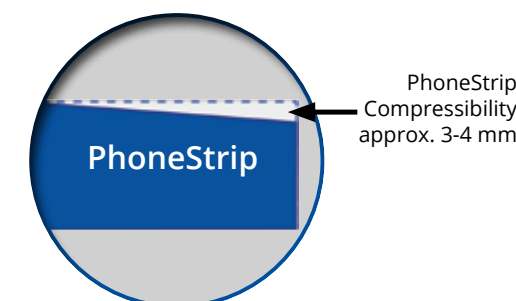
Three problem and risk areas:

1. Cracks / spalling on the upper wall possible
2. Cracks / spalling on the lower wall possible
3. Horizontal cracks in the wall-ceiling transition possible

The use of PhoneStrip shifts the eccentric load application towards the centre of the wall.

Wall/ceiling joint with PhoneStrip

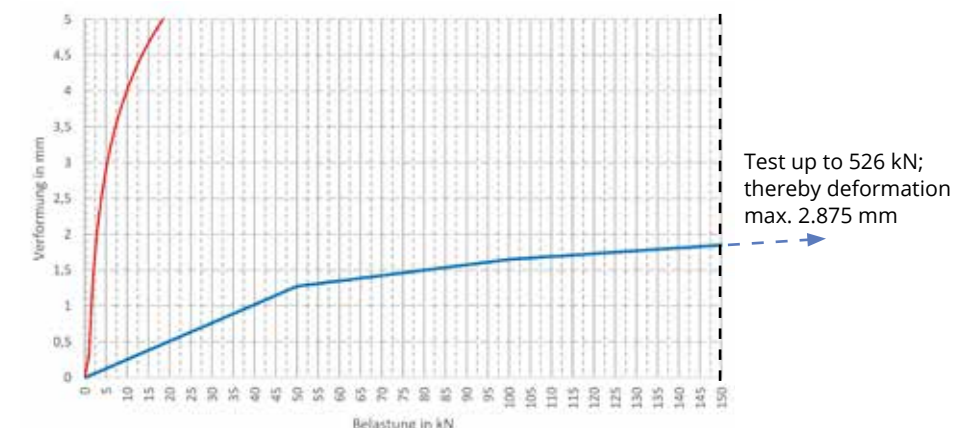
Reduction of eccentricity due to deformability of the PhoneStrip at the edge



Deformation / load diagram of PhoneStrip

Deformation in the edge area:
3.5 mm at a load of 7 kN.

- Edge deformation PhoneStrip
- Full-surface load PhoneStrip



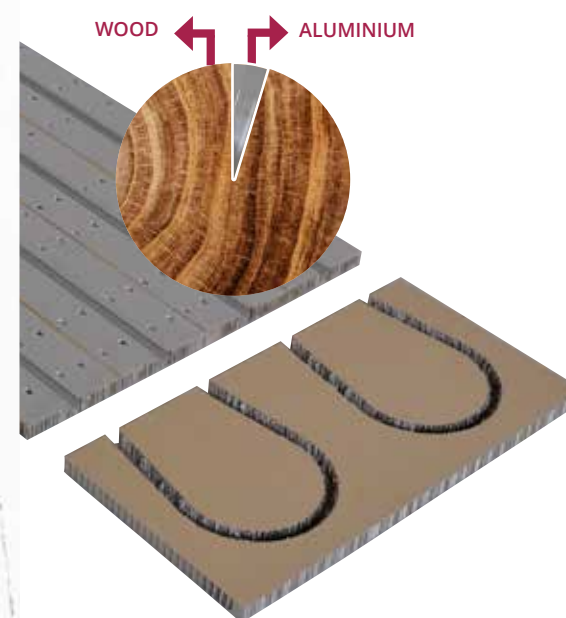
Advantages:

- + High load-bearing capacity
- + Allows deformations in the critical edge area without any problems
- + Prevents eccentric load introduction into the wall, prevents the plaster layer from bursting away
- + Sound-absorbing effect
- + No additional bitumen sheeting required

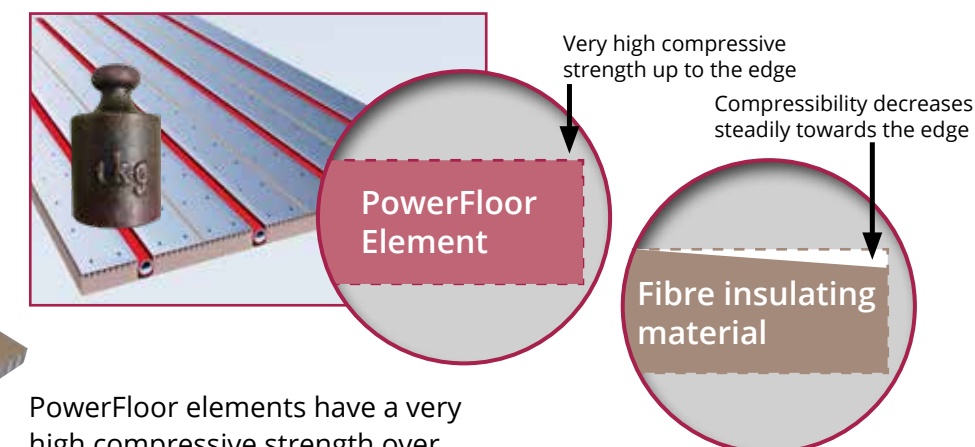


PowerFloor Surface heating / surface cooling

PowerFloor is ideal for low-temperature heating systems.
Connection to existing heating systems is also possible with a fixed value control set.



Full-surface compressive strength



PowerFloor elements have a very high compressive strength over the entire surface. This prevents subsequent deformation of the end coverings.

For multi-layer dry screed structures, the compressive strength of fibre insulation materials decreases steadily towards the edge.



PowerFloor surface heating: a convincing system product

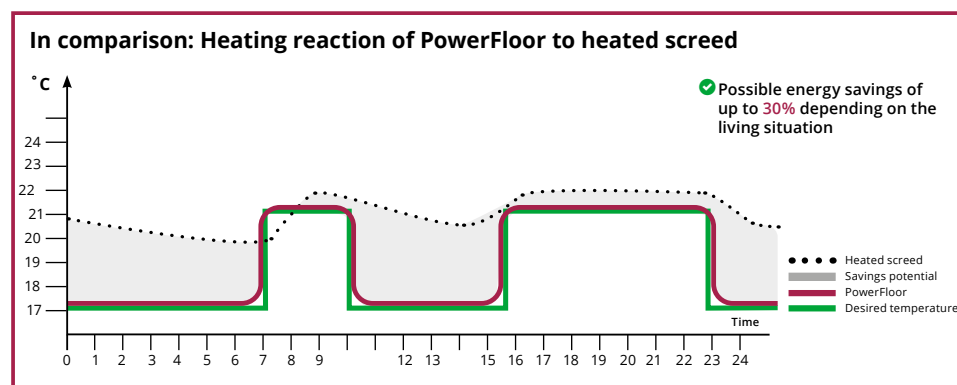


- ✓ superslim
- ✓ easy to install
- ✓ ultralight
- ✓ resource-saving

Advantages

5 advantages that inspire!

- + Free design planning
- + Full surface heat
- + Pleasant radiant heat
- + Low flow temperature
- + Suitable for solar and heat pumps

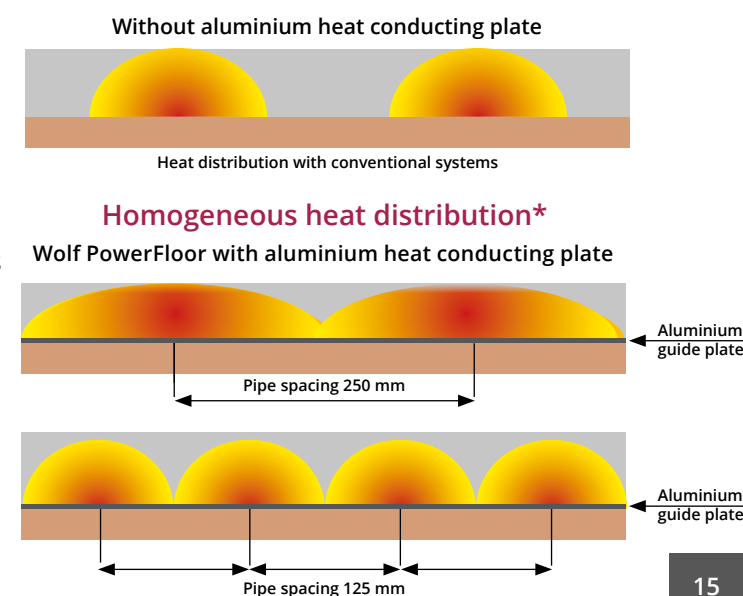


PowerFloor adapts to the desired temperature more quickly and can therefore help to reduce operating costs.
Those: Arge Stiba

The system for individual requirements

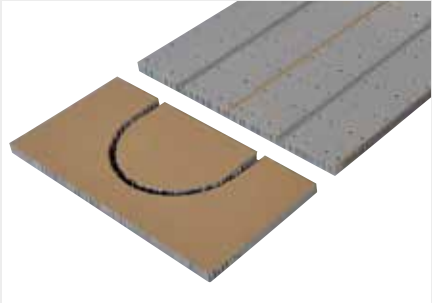
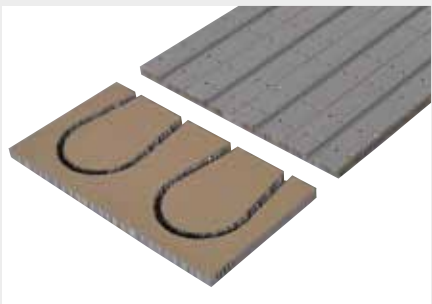
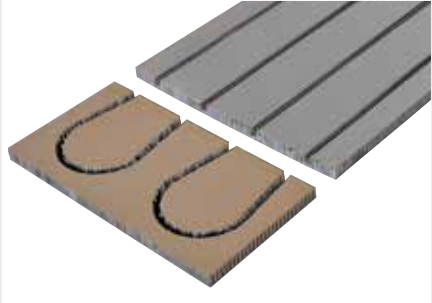
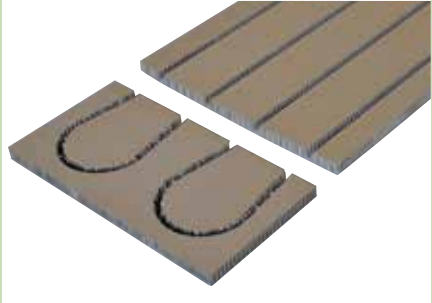
- + Fast Installation and immediately usable
- + Immediately ready for final floor covering
- + No drying time
- + No heating costs during floor construction
- + Construction height 2 - 2.4 cm
- + The underfloor heating reacts promptly to changes in temperature
- + High energy efficiency, saves heating costs
- + System only weighs 3 - 6 kg/m² approx.

* The task of underfloor heating is to heat the room. With dry systems, inhomogeneous heat distribution can occur in the floor area due to differently arranged floor areas (aluminium distribution) and low pipe coverage. However, this does not restrict the room heating function.



PowerFloor Product range

The Wolf Bavaria PowerFloor product line is suitable for a wide range of applications. The right choice depends on the heating medium and the subsequent final floor covering.

Light	Slim	Nature
PowerFloor Light LBH: Straight element: 1000 x 500 x 20 mm Redirection: 250 x 500 x 20 mm Material: Honeycomb cardboard with aluminium strips on the straight elements. Aluminium not included on curved elements Sheet thickness: 0,4 mm Compressive strength: 500 kPa Weight: ca. 2,1 kg/m ² Heating capacity tables: www.wolf-bavaria.com/downloads/	PowerFloor Slim LBH: Straight element: 1000 x 500 x 30 mm Redirection: 250 x 500 x 30 mm Material: Honeycomb panel with aluminium foil (Deflection cut out) Thick film: 0,15 mm Compressive strength: 500 kPa Weight: ca. 2,6 kg/m ² Heating capacity tables: www.wolf-bavaria.com/downloads/	PowerFloor Nature For floor temperature control LBH: Straight element: 1000 x 500 x 30 mm Redirection: 250 x 500 x 30 mm Material: Honeycomb panel without aluminium heat conducting plate Compressive strength: 500 kPa Weight: ca. 2,5 kg/m ² Heating capacity tables: www.wolf-bavaria.com/downloads/
 Pipe distance: 250 mm  Pipe distance: 125 mm	 Pipe distance: 125 mm Our slimline version: - Reduced heat output - Ideal for properties with gas heating or heat pumps	 Pipe distance: 125 mm Our ecological variant: - For room temperature control in passive houses

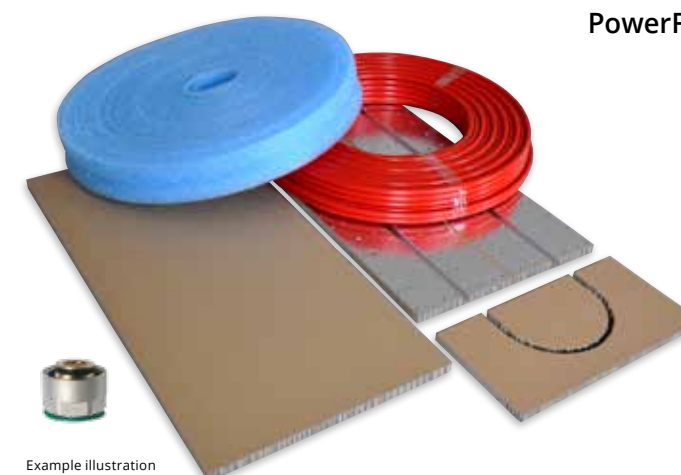
Wolf Bavaria products are QNG Ready certified

✓ checked



As a manufacturer that has its products tested for product-specific QNG criteria by the Sentinel Haus Institute, we are an active part of the DBU research project, which aims to make healthier and more sustainable products digitally discoverable and to make sustainability data available for building products. In this way, we are helping to make the topic of sustainability in the construction industry more visible and, above all, more practical.

PowerFloor Packages



Example illustration

Planning and installation

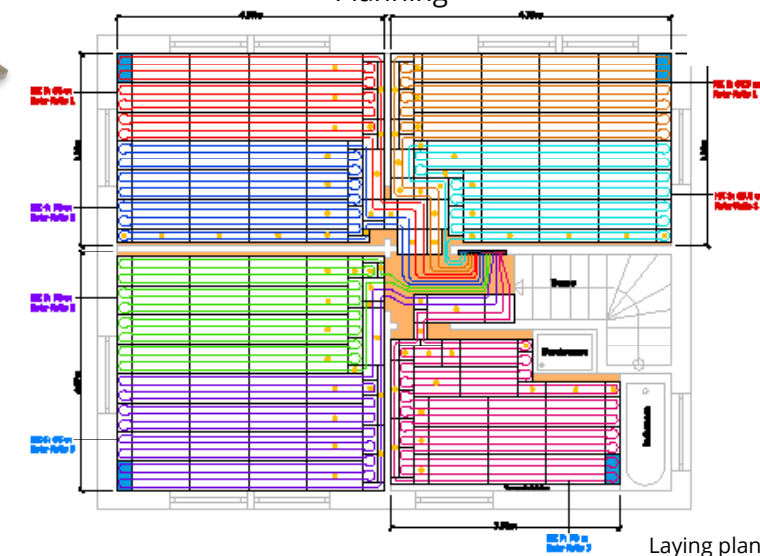
The PowerFloor elements will be installed according to a plan generated by Wolf Bavaria.



Detailed installation instructions of the PowerFloor systems can be found in the installation instructions:
www.wolf-bavaria.com/Downloads/

PowerFloor packages include:

- Floor heating elements
- Perimeter filling elements
- Perimeter flanking strips
- Plastic and metal composite pipes ø 16 mm
- Planning



Laying plan

✓ complete ✓ individual
 ✓ exclusive

PowerFloor Cooling capacity

Cooling capacity on the floor



up to 31 W/m² *

Cooling capacity on the wall



up to 41 W/m² *

Cooling capacity on the ceiling

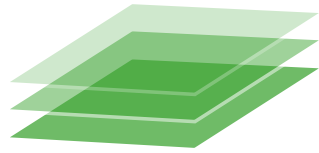


up to 37 W/m² *



* With 8 °C spread

Wolf Cell

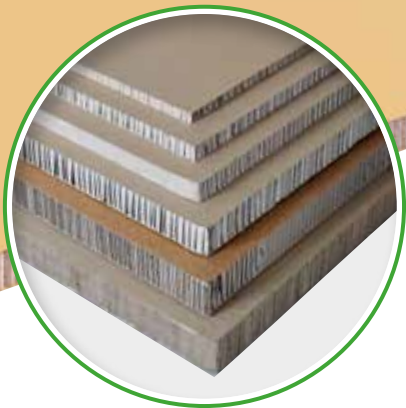


The pressure-resistant height compensation

Wolf Cell - The ecological, pressure-resistant panel for height compensation.
Art. no. 6001 to 6006.



- ✓ easy processing
- ✓ pressure-resistant
- ✓ recyclable



WASTE DISPOSAL

Wolf Cell residues can be safely disposed of as waste paper.



CUTTING

Wolf Cell can be easily & quickly processed with a cutter knife.

Accessories *

Wolf Hugo N & F: Gypsum fiber dry screed with tongue & groove connection. Simple installation with Wolf system glue - without screws.
Art. no. 3085

Wolf Decoupling board: For creating a decoupling layer on PhoneStar for laying tiles and natural stone, as well as an alternative decoupling layer for parquet.
Art. no. 3091



Decoupling fleece:

An adhesive, stress-relieving carpet underlay for glued parquet on PhoneStar sound insulation boards. Art. no. 3050



Wolf Separating track:

Use as a base for the Wolf Hugo N+F gypsum fibreboard for floating installation. Art. no. 3070

- ✓ dry
- ✓ time-saving
- ✓ effective

Reach your destination quickly - with the right accessories *



Art. no. 1100

Wolf Tape: Environmentally friendly adhesive tape with natural rubber adhesive. For masking the cut edges of PhoneStar panels.



Art. no. 1110

Wolf Roll Adhesive: For gluing PhoneStar boards and PowerFloor underfloor heating.
Art. no. 4085



Wolf Parquet Adhesive: For gluing PhoneStar onto solid substrates and parquets.
Art. no. 4080



Wolf joint filler: For sealing joints on walls, floors and ceilings
Art. no. 4095



Wolf System glue: For use with Wolf Hugo in the tongue-and-groove area, and with PhoneStar and PowerFloor panels on board, chipboard or OSB substrates.
Art. no. 4070

* Extract from our range of accessories. Further products can be found in our price list.

Fasteners



Wolf System Dowels: For mounting PhoneStar directly onto a solid wall.
Art. no. 4200 / 4201 / 4207 / 4205

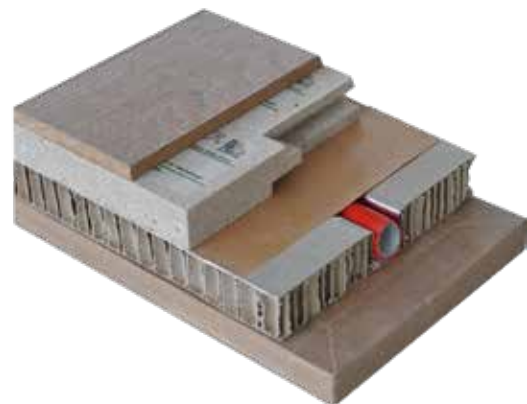


Drywall screw for plasterboard on PhoneStar - with an existing substructure.
Art. no. 4202 / 4208

Drywall screw Fine thread - For PhoneStar on wooden constructions.
Art. no. 4251

Drywall screw Coarse thread - For PhoneStar on wooden constructions.
Art. no. 4253

The modular system



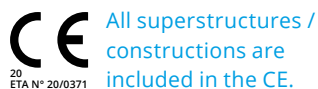
- ≡ Everything from a single source
- ≡ According to your needs

The completely dry system solution of Wolf Bavaria:

- + Dry screed (PhoneStar / Wolf Hugo)
- + Underfloor heating (PowerFloor)
- + Sound insulation (PhoneStar)
- + Comprehensive range of accessories

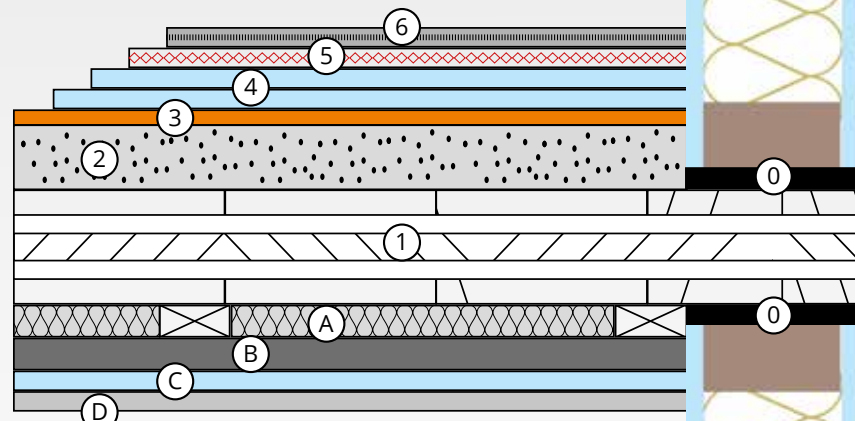
The advantages:

- + Fast, easy and clean installation
- + Ecological and economical
- + No additional moisture
- + Natural raw materials
- + Completely removable



Sophisticated design

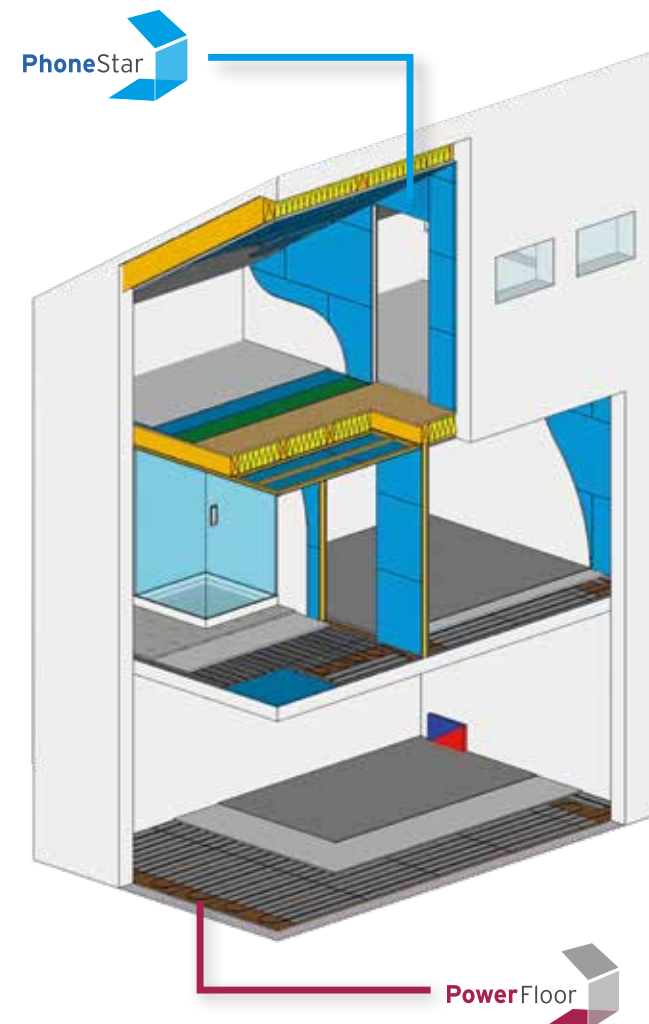
- ④ **PhoneStar Soundinsultion boards**
 - Sound insulation
 - Dry screed
 - Load distribution
- ⑤ **PowerFloor Underfloor heating**
 - Underfloor heating in dry construction
- ⑥ **Wolf Hugo N & F or Wolf decoupling board**
 - Load distribution
 - Even heat distribution
- ③ **Insulation level, e.g. Wolf MiWo**
 - Impact sound insulation
 - Airborne sound insulation
 - Thermal insulation
- ② **Backfill**
 - PhoneStar 25 Weighting plate
 - Leveling
- ① **Ceiling**
 - Wood (open, closed)
 - Solid / concrete
- ⑦ **PhoneStrip Decoupling strips**
 - Flank decoupling
 - Shadow gap
- ⑧ **60/40 Battens Insulated with mineral wool**
 - Insulation layer
 - Substructure
- ⑨ **TPS 25 System**
 - Sprung suspended ceiling construction
- ⑩ **PhoneStar Sound insulation boards**
 - Sound insulation
- ⑪ **Plasterboard**
 - Panelling



✓ Soundproofing boards

✓ Underfloor heating ✓ Accessories

Advantages that inspire: Dry screed systems compared to wet screed



+ Wolf Bavaria Dry screed systems

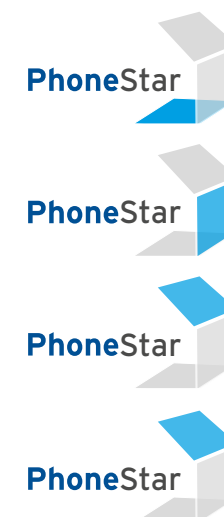
- HANDLING**
 - Quick and easy installation
 - Modular system elements
 - Everything from a single source
- CONSTRUCTION PERIOD**
 - Shortened construction time since there is no drying time
 - No moisture entry
 - Fast covering maturity of the top covering
- SOUND PROTECTION**
 - Improvement of impact sound insulation with PhoneStar
- STRUCTURE HEIGHT / WEIGHT**
 - Slim installation height
 - Weight reduction
- COST**
 - Reduction of coordination costs through system supplier

- Wet screed

- HANDLING**
 - Installation by specialised companies
- CONSTRUCTION PERIOD**
 - Drying time necessary
- SOUND INSULATION**
 - Increased risk of sound bridges
- STRUCTURE HEIGHT / WEIGHT / WATER**
 - Loss of space due to structure
 - Increased ceiling load and Introduction of water
- COST**
 - Possible additional costs for CM measurements and for subsequent surface treatment

Can be used in:

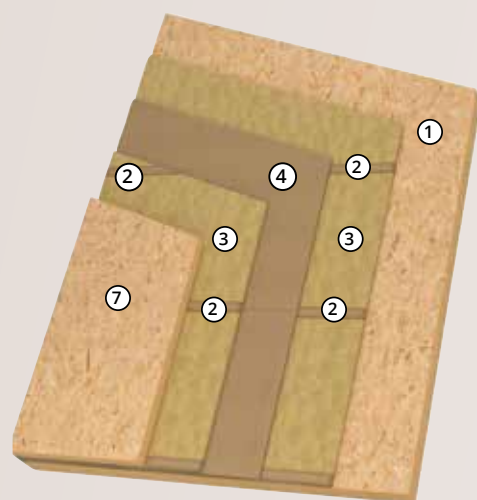
- ✓ Floor
- ✓ Wall
- ✓ Ceiling
- ✓ Sloping roof



The OneBlock-Wall MagnumBoard flat partition wall

WITH FLEXIBLE FREE-SWINGING CORE

Demountable OSB sound insulation visible wall



Measured at IFT Rosenheim

- | | |
|--|--------|
| ① Solid wood element Magnumboard | 125 mm |
| ② PhoneStar Schalli - Sound decoupling | 25 mm |
| ③ filled with 20 mm MiWo | |
| ④ PhoneStar Tri | 15 mm |
| ② PhoneStar Schalli - Sound decoupling | 25 mm |
| ③ filled with 20 mm MiWo | |
| ⑦ Solid wood element Magnumboard | 75 mm |

Total:

265 mm

$R_w = 66 \text{ dB}$

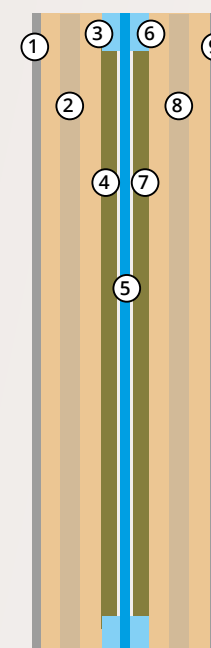
The tests at IFT Rosenheim confirm the assumption that PhoneStar's mode of action - as a centre-mounted absorber decoupled from both sides - improves the airborne sound insulation of double-skin solid walls by up to 14 dB.

OneBlock-Wall CLT

HIGHLY SOUND-INSULATING & SPACE-SAVING FLAT PARTITION WALLS

Demountable CLT sound insulation visible wall

+ Gain of living space



- | | |
|--------------------------|---------|
| ① GKF | 12,5 mm |
| ② CLT | 80 mm |
| ③ PhoneStar Schalli | 25 mm |
| ④ filled with 20 mm MiWo | |
| ⑤ Phonestar ST Tri | 12,5 mm |
| ⑥ PhoneStar Schalli | 25 mm |
| ⑦ filled with 20 mm MiWo | |
| ⑧ CLT | 80 mm |
| ⑨ GKF | 12,5 mm |

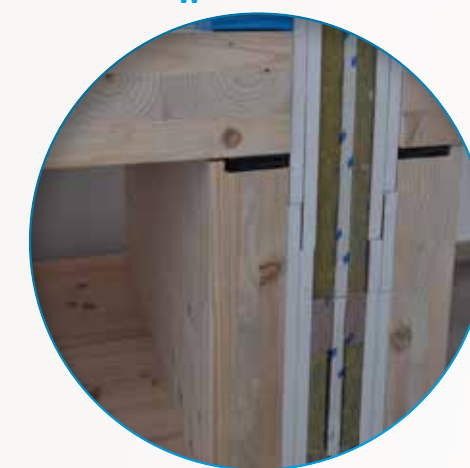
Total:

247,5 mm

$R_w = 64 \text{ dB}$

Sound insulation potential for building partition walls up to

$R_w = 74 \text{ dB}$

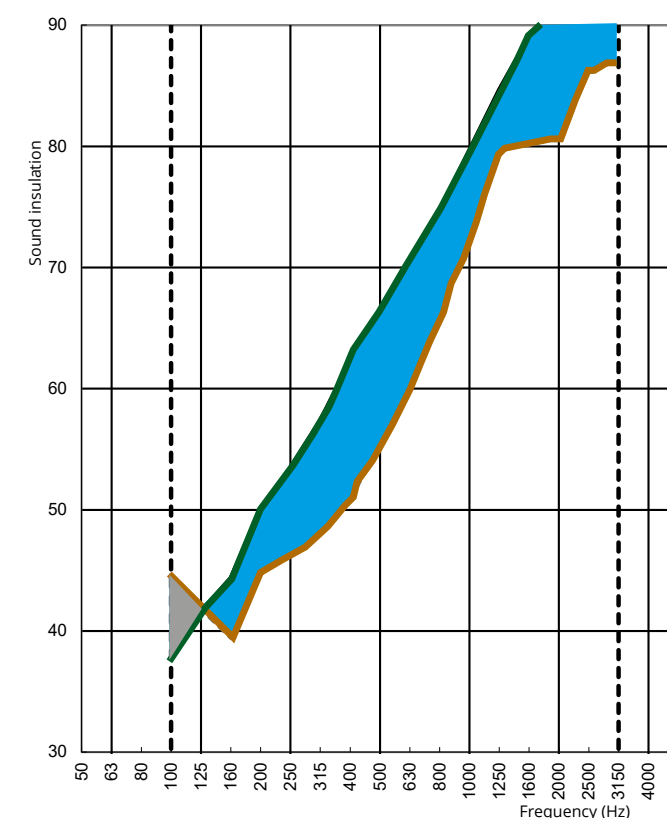


20
ETA N° 20/0371



✓Ecological ✓dry
✓effective

PhoneStar PhoneStar Schalli
PhoneStar sound insulation boards



OneBlock-Wall CLT
Save space & reduce costs

up to 20% **Material savings**

up to 15% **Space gain**

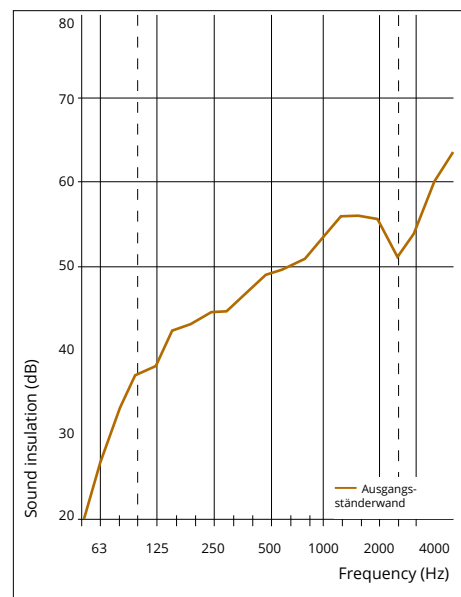
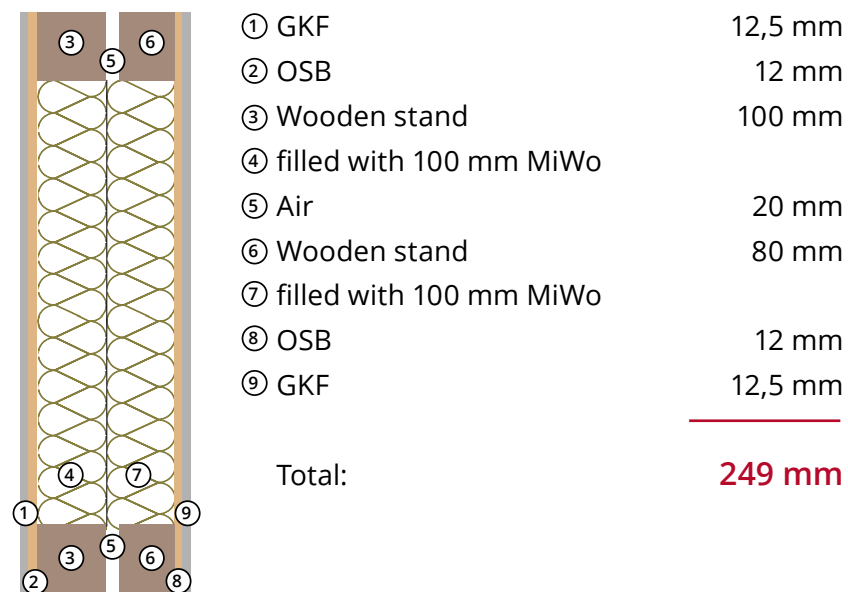
up to 30% **Reduction in installation time**
Prefabrication in the factory

up to 50% **Reduction in standard times**

Σ 25 - 30% **Savings potential**

PhoneStar on the wall - The OneFrame-Wall

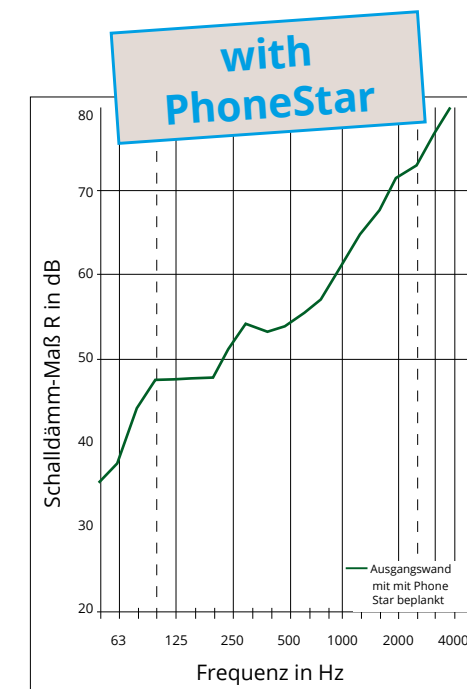
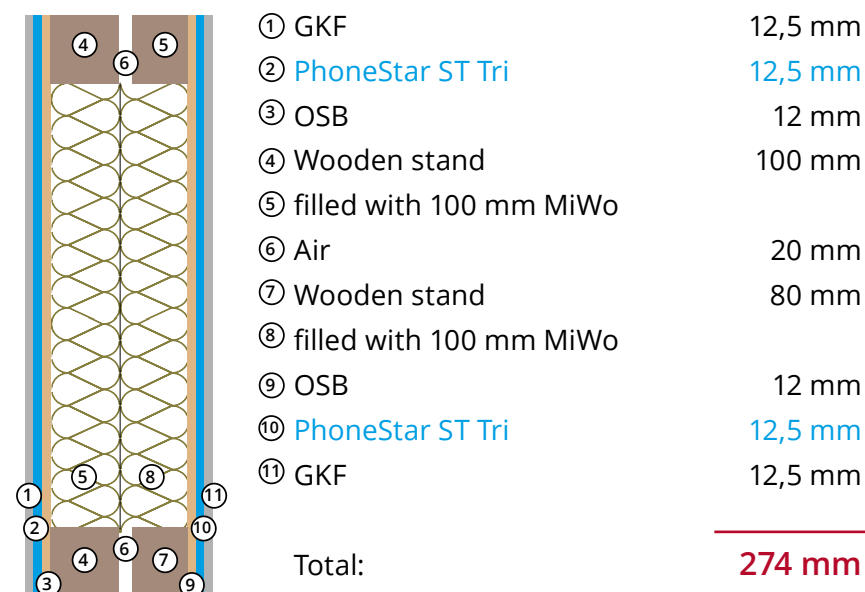
Flat partition wall in timber frame construction with two separate studs and continuous frame and sill



$R_w = 52,4 \text{ dB}$

The OneFrame-Wall with the PhoneStar effect

Flat partition wall in timber frame construction with two separate studs and continuous frame and sill



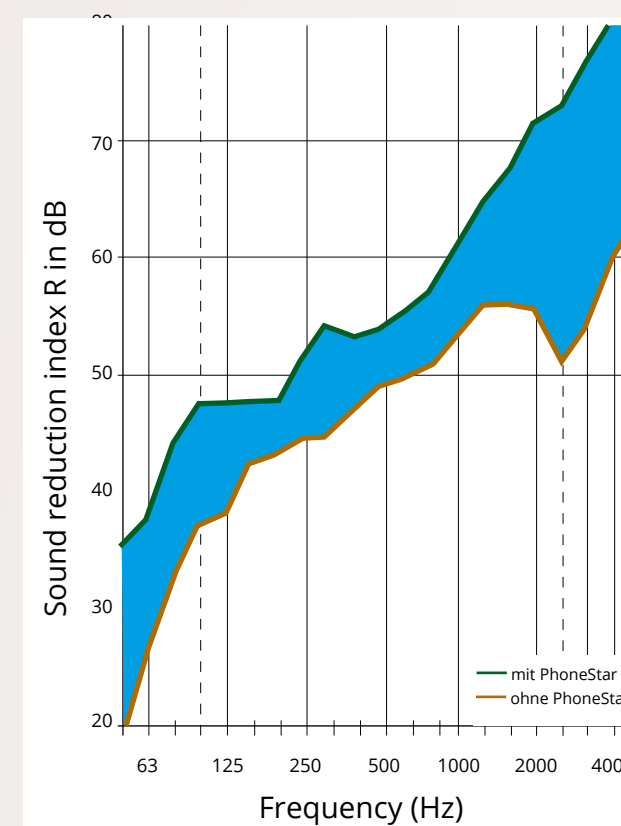
$R_w = 61,4 \text{ dB}$



Significant improvement in airborne sound insulation in the low-frequency range

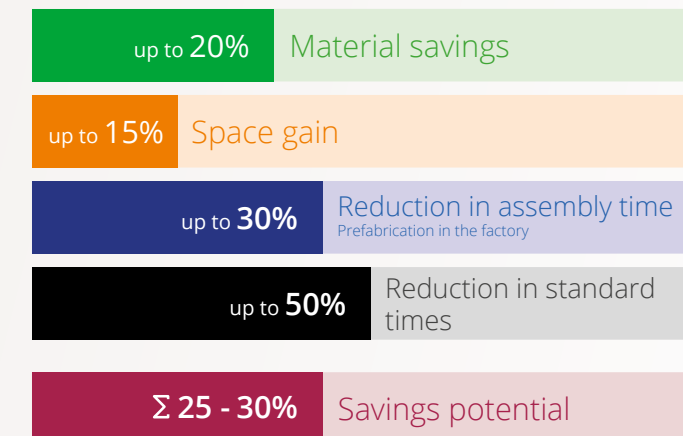
In the course of a series of tests, measurements have shown that in the case of separate timber studs, the PhoneStar sound insulation boards, mounted between the OSB board and plasterboard panelling, bring about a significant improvement in the sound insulation value.

i Filling the wall can improve airborne sound insulation by an additional 1 dB.



OneBlock-Wall CLT

Save space & reduce costs



Solid wood interior walls with sound insulation

Airborne sound reduction index R_w (C;Ctr) acc. to ISO 10140-2	Drawing	Structure	Wall construction	Installation height [mm]
33 dB			- Solid wood wall 100 mm	-
50 dB		WMH L 1.2	- Solid wood wall - Battens decoupled (60/40); 40 mm - PhoneStar Tri 15 mm - GKB 12,5 mm	67,5
56 dB		WMH H 1.1	- Solid wood wall - Direct oscillation hanger (CD 60/27); 45 mm - PhoneStar Tri 15 mm - GKB 12,5 mm	72,5

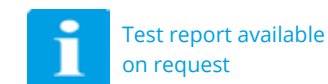
Solid masonry interior walls with sound insulation

Airborne sound reduction index R_w (C;Ctr) acc. to ISO 10140-2	Drawing	System designation	Wall construction	Installation height [mm]
42 dB			- 15 mm Plaster layer - Masonry 115 mm - 15 mm Plaster layer	-
48 dB		Structure WMZ D 1.2	- Brickwork plastered on both sides - PhoneStar Tri 15 mm - GKB 12,5 mm	27,5
50 dB		Structure WMZ W 1.2	- Brickwork plastered on both sides - Soft wood fibre 12 mm - PhoneStar Tri 15 mm - GKB 12,5 mm	39,5
54 dB		Structure WMZ W 1.2.2	- Brickwork plastered on both sides - Soft wood fibre 12 mm - PhoneStar Tri 15 mm - PhoneStar Tri 15 mm - GKB 12,5 mm	54,5
59 dB		Structure WMZ L 1.2	- Brickwork plastered on both sides - Battens decoupled 60/40 - PhoneStar Tri 15 mm - GKB 12,5 mm	67,5
59 dB		Structure WMZ L 1.2 OSB	- Brickwork plastered on both sides - Battens decoupled 60/40 - OSB 20 mm - PhoneStar Tri 15 mm - GKB 12,5 mm	87,5
66 dB		Structure WMZ V 1.2	- Brickwork plastered on both sides - Air gap 10 mm - facing shell CW 50 with cavity insulation - PhoneStar Tri 15 mm - GKB 12,5 mm	87,5

Interior walls metal stud construction with sound insulation

Airborne sound reduction index R_w (C;Ctr) acc. to ISO 10140-2	Drawing	Structure	Wall construction	Installation height [mm]
39 dB			- Plasterboard 12,5 mm - Metal stud wall 50 mm* - Plasterboard 12,5 mm	75
49 dB		WSM 1.1	- Plasterboard 12,5 mm - Metal stud wall 50 mm* - PhoneStar Twin 10 mm - Plasterboard 12,5 mm	85
51 dB		WSM 1.2	- Plasterboard 12,5 mm - Metal stud wall 50 mm* - PhoneStar Tri 15 mm - Plasterboard 12,5 mm	90
54 dB		WSM 1.2 - 2 x 15 one-sided	- Plasterboard 12,5 mm - Metal stud wall 50 mm* - PhoneStar Tri 15 mm - PhoneStar Tri 15 mm - Plasterboard 12,5 mm	105
55 dB		WSM 2.1	- Plasterboard 12,5 mm - PhoneStar Twin 10 mm - Metal stud wall 50 mm* - PhoneStar Twin 10 mm - Plasterboard 12,5 mm	95
59 dB		WSM 2.2	- Plasterboard 12,5 mm - PhoneStar Tri 15 mm - Metal stud wall 50 mm* - PhoneStar Tri 15 mm - Plasterboard 12,5 mm	105

* Metal stud wall according to DIN 4109 Bbl 1/A1:2003:09 Tab. 23, line 1 / minimum insulation thickness 40 mm.



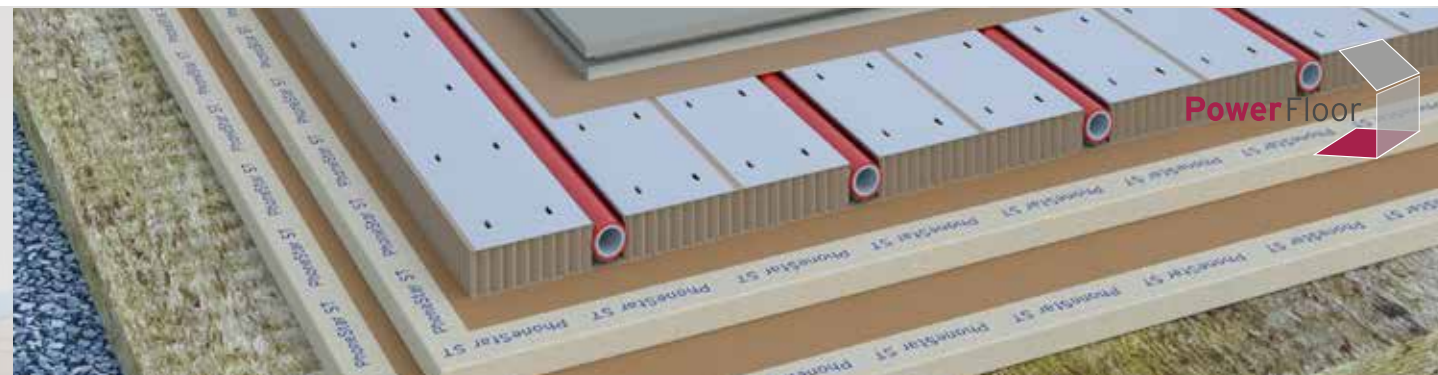
Lightweight walls with sound insulation

Tested solutions for sound-insulating non-load-bearing metal stud walls

Airborne sound reduction index R_w (C;Ctr) acc. to ISO 10140-2	Drawing	Wall construction	Installation height [mm]
56 dB		- Plasterboard* 15 mm - EGGER Ergo Board - OSB 12 mm - Metal stand with MiWo* 40 kg/m3 100 mm - EGGER Ergo Board - OSB 12 mm - Plasterboard* 15 mm	154
61 dB (-2/-6)		- Plasterboard* 15 mm - EGGER Ergo Board - OSB 12 mm - Metal stand with MiWo* 40 kg/m3 100 mm - EGGER Ergo Board - OSB 12 mm - PhoneStar Tri 15 mm - Plasterboard* 15 mm	169
65 dB (-2/-6)		- Plasterboard* 15 mm - PhoneStar Tri 15 mm - EGGER Ergo Board - OSB 12 mm - Metal stand with MiWo* 40 kg/m3 100 mm - EGGER Ergo Board - OSB 12 mm - PhoneStar Tri 15 mm - Plasterboard* 15 mm	184

*Plasterboard according to EN 520 - type DF. / mineral wool to EN 13162A1, melting temperature 1000°C / metal stud frame profiles: max. spacing 625 mm.

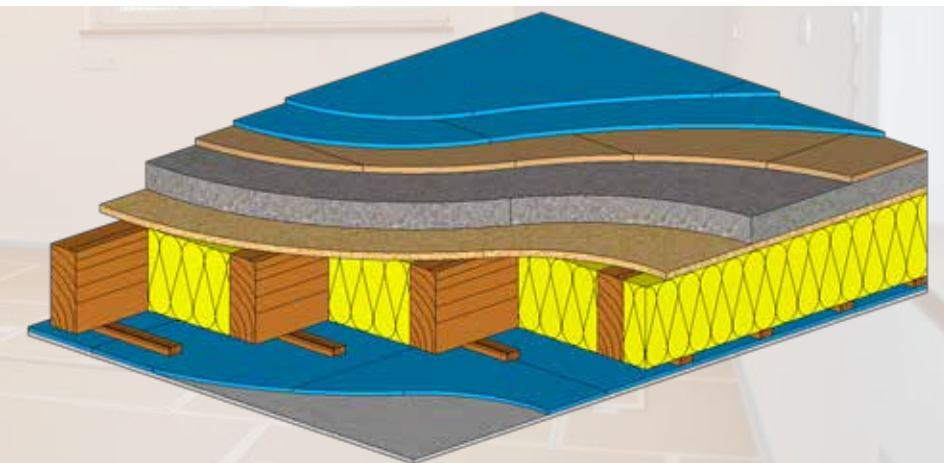
Floor systems with sound insulation and surface heating



Solid wood ceilings tested.

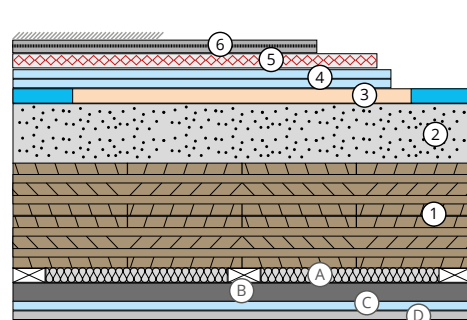


Tested Wooden beam ceilings



i Test report available on request

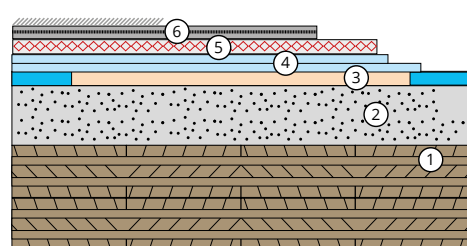
SOLID WOOD CEILING WITH VIBRATION ABSORBER



- ⑥ 18 mm Wolf Hugo GF Prefabricated screed
- ⑤ 20 mm Wolf PowerFloor Light
- ④ 2 x 12,5 mm mm PhoneStar ST Tri
- ③ 20 mm Wolf MiWo 20-2 mit PhoneStar Schalli edge-running
- ② 80 mm Cementitious bonded chippings
- ① 140 mm Solid wood ceiling
- A 60/40 Battens insulated with mineral wool
- B 25 mm TPS Vibration hanger
- C 12,5 mm PhoneStar ST Tri
- D 12,5 mm Plasterboard

Total thickness:
393 mm
Airborne sound insulation:
 $R_w = 75 \text{ dB}$
Impact sound insulation:
 $L_w = 28 \text{ dB}$
Utilisation category:
A1 - B1

SOLID WOOD CEILING



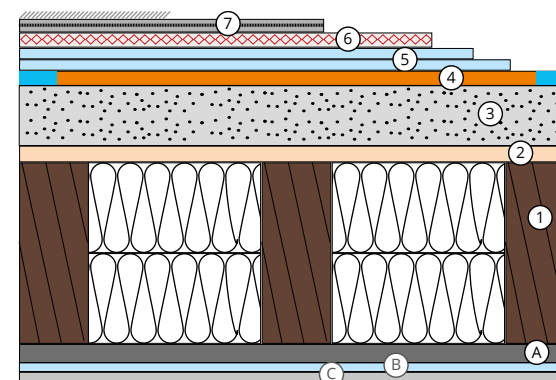
- ⑥ 18 mm Wolf Hugo GF Prefabricated screed
- ⑤ 20 mm Wolf PowerFloor Light
- ④ 2 x 12,5 mm mm PhoneStar ST Tri
- ③ 20 mm Wolf MiWo 20-2 mit PhoneStar Schalli edge-running
- ② 80 mm Cementitious bonded chippings
- ① 140 mm Solid wood ceiling



Test reports on request: info@wolf-bavaria.com
Many other construction variants possible (also without gypsum fibre dry screed).
Please coordinate with Wolf Bavaria!

Total thickness:
323 mm
Airborne sound insulation:
 $R_w = 66 \text{ dB}$
Impact sound insulation:
 $L_w = 43 \text{ dB}$
Utilisation category:
A1 - B1

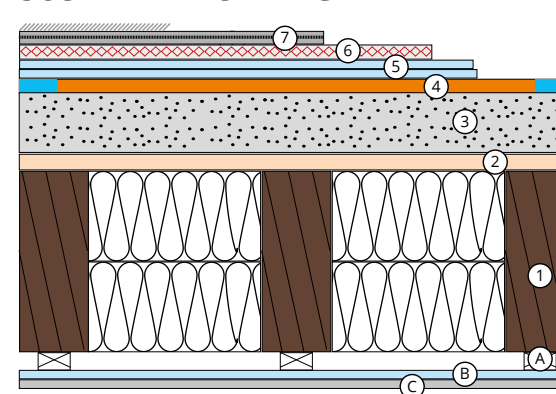
SUSPENDED CEILING WITH VIBRATION ABSORBER



- ⑦ 18 mm Wolf Hugo GF Prefabricated screed
- ⑥ 20 mm Wolf PowerFloor Light
- ⑤ 2 x 15 mm PhoneStar TRI
- ④ 20 mm Soft wood fibre ($\geq 100 \text{ kPa}$) PhoneStar Schalli edge-running
- ③ 80 mm Cementitious bonded grit
- ② 22 mm Wood-based panel
- ① 240 mm Solid structural timber with 2 x 120 mm mineral wool insulation
- A 25 mm TPS Protektor Vibration hanger
- B 12,5 mm PhoneStar ST TRI
- C 12,5 mm Plasterboard

Total thickness:
480 mm
Airborne sound insulation:
 $R_w = 84 \text{ dB}$
Impact sound insulation:
 $L_{nw} = 30 \text{ dB}$
Utilisation category:
A1 - B2

SUSPENDED CEILING WITH BATTENS



- ⑦ 18 mm Wolf Hugo GF Prefabricated screed
- ⑥ 20 mm Wolf PowerFloor Light
- ⑤ 2 x 12,5 mm PhoneStar ST TRI
- ④ 20 mm Soft wood fibre ($\geq 100 \text{ kPa}$) PhoneStar Schalli edge-running
- ③ 80 mm Cementitious bonded grit
- ② 22 mm Wood-based panel
- ① 240 mm Solid structural timber with 2 x 120 mm mineral wool insulation
- A 24 mm Battens
- B 12,5 mm PhoneStar ST TRI
- C 12,5 mm Plasterboard

Total thickness:
479 mm
Airborne sound insulation:
 $R_w > 70 \text{ dB}$
Impact sound insulation:
 $L_{nw} = 40 \text{ dB}$
Utilisation category:
A1 - B2

The thickness and the type of impact sound insulation influence the level of sound insulation



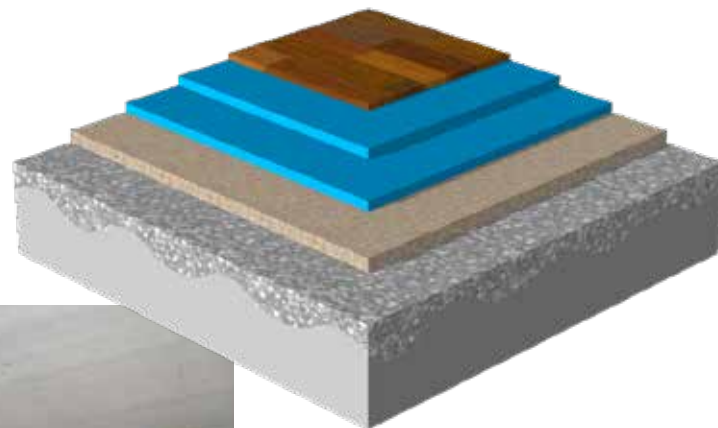
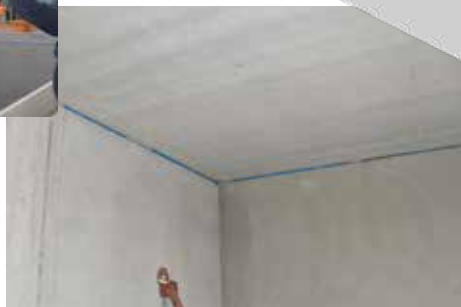
REFURBISHMENT:
POWERFLOOR ON PHONESTAR



The tested ceiling constructions can be found on our website:
<https://www.wolf-bavaria.com/wolf-systemloesungen/> as well as in the "Compendium for the mathematical sound insulation verification for solid wood beam ceilings".

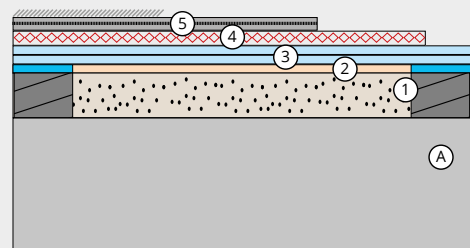
✓ Existing building
✓ New building ✓ checked

Tested concrete/mineral ceiling systems with sound insulation



i Additional sound insulation improvement is achieved through the use of the PhoneStrip centring strip

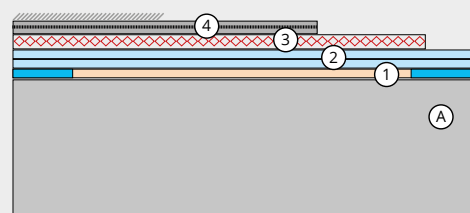
PHONESTAR AND POWERFLOOR ON BACKFILL AND MIWO



- ⑤ 18 mm Wolf HUGO GF Prefabricated screed
- ④ 20 mm WPF Light RA 125 mm/250 mm
- ③ 2 x 12,5 mm PhoneStar ST TRI
- ② 12 mm Wolf-MiWo 12-2 with sound insulation around the edge
- ① 60 mm CemWood-Backfill (mounted)
- Ⓐ 180 mm Reinforced/normal concrete

Total thickness:
315 mm
Airborne sound insulation:
 $R_w = 72 \text{ dB}$
Impact sound insulation:
 $\Delta L_{n,w} = 37 \text{ dB}$
Utilisation category:
A1 - A3

PHONESTAR AND POWERFLOOR ON MIWO



- ④ 18 mm Wolf HUGO GF Prefabricated screed
- ③ 20 mm WPF-Light RA 125 mm/250 mm
- ② 2 x 12,5 mm PhoneStar ST TRI
- ① 12 mm Wolf-MiWo 12-2 with sound insulation around the edge
- Ⓐ 180 mm Reinforced/normal concrete

Total thickness:
255 mm
Airborne sound insulation:
 $R_w = 66 \text{ dB}$
Impact sound insulation:
 $\Delta L_{n,w} = 27 \text{ dB}$
Utilisation category:
A1 - B1

i Test reports on request: info@wolf-bavaria.com
Many other construction variants possible (also without gypsum fibre dry screed). Please coordinate with Wolf Bavaria!

✓ For the new building ✓ checked
✓ For the refurbishment

The process: three steps to the optimum result



i Ask your local acoustician for more information on sound insulation regulations, measured values and sound tests.



Innovation in the spirit of sustainability

We always keep thinking one step ahead

We are continuously expanding in all areas in order to realise our vision of dry, ecologically sound construction. As sustainable management and ecology play an important role in our company philosophy, we focus on short distances and regionality. In order to achieve this, we have invested in a large SELF centre (training, development, logistics and research centre) directly at our company headquarters in Heilsbronn. There is plenty of space here for research & development, training, but also for optimising warehouse management and efficient order picking.



Federal Prize for outstanding innovative achievements for the skilled crafts sector



Construma Innovation Award 2019

Test centres/institutes:
ift Rosenheim • MPA Leipzig
IBB • Kit Karlsruhe • Kiwa
Fraunhofer Institut • TU München



The information in this brochure is based on our current knowledge and experience to the best of our knowledge. The data listed are approximate values and not contractual data. These guide values may vary depending on the type of structure. We pass them on without obligation. We reserve the right to make changes in the context of technical progress and operational development. Our information merely describes the nature of our products and services and does not constitute a guarantee. The customer is not released from the obligation to have the functions and possible applications of the products carefully tested by qualified personnel.

Everything from a single source



System solutions for solid construction,
timber construction and renovation of old buildings

Your Wolf Bavaria dealer



Wolf Bavaria GmbH
Gutenbergstraße 8
91560 Heilsbronn
Germany

Phone.: +49 (0) 9872 953 98 0
Fax: +49 (0) 9872 953 98 - 11
Mail: info@wolf-bavaria.com
www.wolf-bavaria.com

