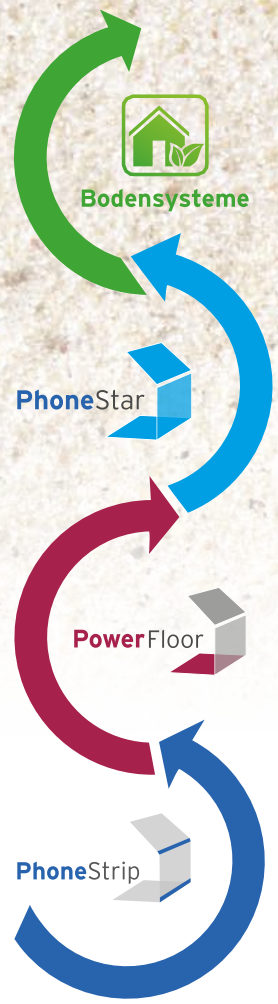
WOLF® Bavaria

SOUND INSULATION PANEL HEATING DRY SCREED

INSTRUCTION MANUAL

Wolf system solutions - for floor, wall and ceiling

PhoneStar PowerFloor PhoneStrip



Wolf Bavaria GmbH, founded in 2004, is a successful, innovative and expanding company offering system solutions for timber, solid and dry mortarless construction.
The concept of a sustainable, continuous reusable material cycle back to the origin is deeply anchored in our company philosophy and determines our actions at all levels. The use of natural, sustainable raw materials from local sources as well as the development of dismantlable systems form the basis of all our activities.
As experts, we advise and support hundreds of construction projects for a wide range of customer groups every year. We offer simple and efficient solutions for sound insulation, radiant heating, dry screed and, since 2019, for sound-insulating and load-dissipating decoupling strips.

Contents

General processing guidelines

The general processing guidelines must be followed before and during the processing of the Wolf Bavaria systems. Familiarise yourself in detail with these instructions before commencing with the processing.

ENVIRONMENTAL CONDITIONS

PhoneStar and PowerFloor boards may only be processed in closed and frost-free rooms under constant climatic conditions. The building site must be clean, dry and clean swept, and the windows must be installed and glazed.

Environmental conditions	
Room temperature	min. 10 °C
Rel. humidity	30 – 60 %

STORAGE

PowerFloor / PhoneStar products are to be stored exclusively indoors, lying flat in a dry and frost-free place protected against sunlight.

TIP: Wolf Bavaria products and systems are to be protected against increased humidity, e.g. during the drying of plaster and screed

ACCLIMATISATION

Due to the materials, PhoneStar and PowerFloor products require a sufficiently long acclimatisation phase in the respective processing room in order to adjust to the prevailing environmental conditions before processing so as to avoid warping or expansion/ shrinkage.

Acclimatisation times	
PhoneStar boards	24 hours
PowerFloor elements	24 hours

TIP: Divide PhoneStar into small piles – this shortens the acclimatisation time.

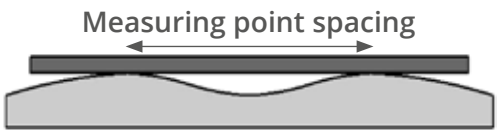
REQUIREMENTS FOR THE SUBSTRATE PRIOR TO INSTALLATION

Dry systems place special demands on the substrate with regard to evenness, load capacity and humidity. The requirements must be checked before the installation.

EVENNESS

The floor must be completely even into all corners of the room. PowerFloor / PhoneStar systems cannot compensate any unevenness in the substrate and require flat, full-surface support. The room must also be horizontal.
Expansion and construction joints in the substrate must be accepted.

Evenness tolerance	
Measuring point spacing	2 m
Max. tolerance	3 mm



LOAD CAPACITY

The load capacity and strength of the substrate must be checked with regard to the static requirements for the planned floor structure, the live loads and the strength.
Particular attention must be paid to this in the case of wooden beam ceilings when renovating/rebuilding.

RESILIENCE IN TERMS OF USABILITY

The floor construction must be matched to the planned use in order to determine the correct choice of insulating materials and levelling layers. The possible point distributed load must be observed for the insulating materials.

HUMIDITY

The substrate must be dry in all places.
In the case of mineral substrates, a humidity measurement (CM measurement) must be carried out; the values listed must not be exceeded.

Maximum floor humidity	
Concrete / cement screed	2.0 %
Concrete / cement screed Incl. underfloor heating	1.5 %
Anhydrite / calcium sulphate screed	0.5 %
Anhydrite / calcium sulphate screed Incl. underfloor heating	0.3 %

JOINTS

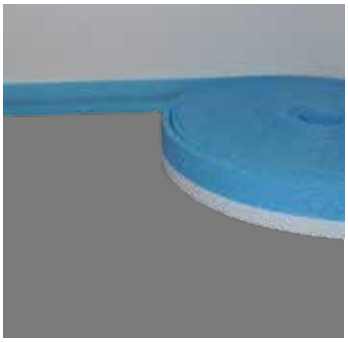
Joints are necessary in order to absorb expansion of the floor and to avoid acoustic bridges. The purpose of an expansion joint is to interrupt components and to prevent stress cracks. Joints are to be specified by the building planner or structural engineer. In the case of heated screeds, the joint plan must be coordinated with the heating installation company.

WALL CONNECTION / EDGE INSULATION STRIPS

An edge insulation strip is to be attached with a sufficient height (above the final covering) to all rising building parts. The self-adhesive edge insulation strip must be butt-jointed in the corner and masked in the case of wet screeds.

	Edge insulation strip: Art. no.: 4300

ATTENTION!
The protruding part of the edge insulation strip must only be removed after installation of the final top covering.



Butt-joint the edge insulation strip in the corners

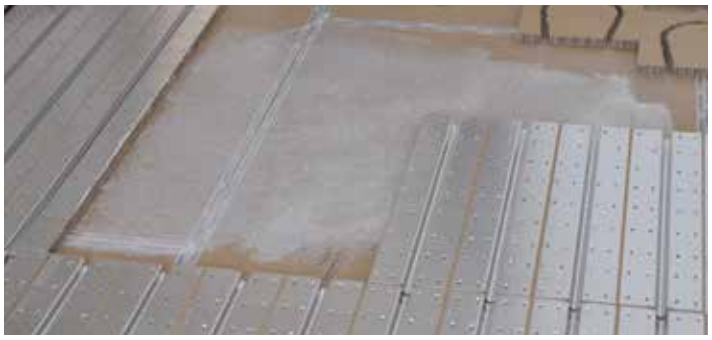
BONDING

When bonding PhoneStar / PowerFloor systems to the substrate, the latter must be generally suitable for permanent bonding.
If a substrate is unsuitable for bonding, it will be necessary to install an additional load-bearing layer between the substrate and PhoneStar / PowerFloor that enables bonding (e.g. a layer of PhoneStar, wood-based panel, dry screed, etc.).

Design basis for the drying time of the adhesive: + 23 °C and 50 % rel. humidity.

NOTE: the floating or bonded installation of PhoneStar / PowerFloor systems depends on the type of final covering.

ATTENTION: BUILDING SITE TRAFFIC!
Building site traffic is not permitted on installed PhoneStar boards / Power-Floor elements and the decoupling layer without suitable protection or covering measures (e.g. wood-based panels).



GENERAL NOTE:
The products described in these installation instructions relate to the current price list.

MEASURES ON THE SUBSTRATE TO PREVENT RISING MOISTURE

If additional measures are necessary to prevent rising moisture in the floor structure, the following points must be observed / prepared depending on the type of measure (e.g. grinding or levelling).

VAPOUR BARRIER

If necessary, a vapour barrier must be applied to the raw floor. This prevents possible vapour diffusion from storeys located below or prevents the escape of moisture from the raw floor (e.g. PE foil, laid overlapping and bonded). This must be determined on-site by the building planner.

In the case of mineral substrates, a damp proofing membrane (DPM) must generally be installed under PhoneStar / PowerFloor systems.

A vapour barrier may make an additional covering layer necessary if the elements have to be installed by bonding. (e.g. suitable wood-based panels, dry screed or PhoneStar boards with Power-Floor).

MOISTURE BARRIER

Mineral floors or foundation slabs under which there is no basement, or components adjoining the soil must be protected in the floor and wall areas against the penetration of moisture. The execution guidelines of the appropriate DIN standards must be followed when sealing buildings against soil moisture. The type of moisture barrier must be determined by the building planner.

In the case of a dry floor structure, a moisture barrier generally necessitates additional compensation in order to establish the required evenness for the installation of PhoneStar / PowerFloor systems. For all mineral substrates, a damp proofing membrane to prevent rising damp from the substrate must be installed in accordance with the state of the art. In the individual case, suitable measures must be taken and the boundary conditions checked by an expert.

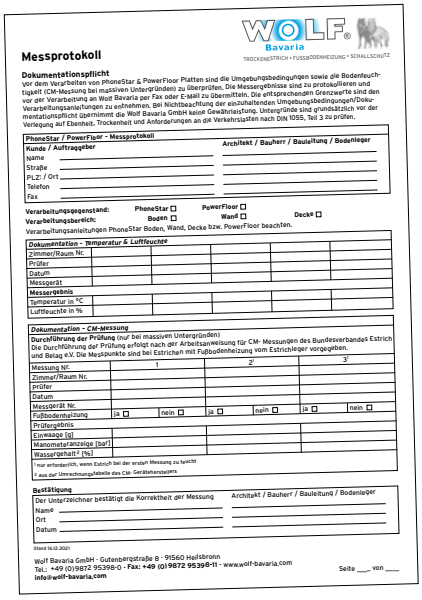
Floors subject to moisture loads:
In areas with high moisture loads (e.g. bathrooms), full-surface sealing will be necessary in accordance with DIN 18534 "Waterproofing for indoor applications".

DOCUMENTATION OBLIGATION

Prior to the processing of PhoneStar / PowerFloor it is necessary to check the ambient conditions (room temperature and air humidity) and, in the case of installation on mineral substrates, the moisture level in the floor. The measurement results are to be documented in the appropriate record and sent by mail or fax to Wolf Bavaria.

Email: info@wolf-bavaria.com
Fax: +49 (0) 9872-95398-11
Record: www.wolf-bavaria.com/

Wolf Bavaria GmbH will not give any guarantee if the specified limit values and the documentation obligation are not complied with.



WOLF Bavaria
TROCKENESTRICH • FUSSBODENHEIZUNG • SCHALLSCHUTZ

Messprotokoll

Dokumentationspflicht
vor dem Verarbeiten von PhoneStar & PowerFloor Platten sind die Umgebungsbedingungen sowie die Bodenfeuchtigkeit (CM-Messung bei massiven Untergründen) zu überprüfen. Die Messergebnisse sind zu protokollieren und vor der Verarbeitung an Wolf Bavaria per Fax oder E-Mail zu übermitteln. Die entsprechenden Grenzwerte sind den Verarbeitungsanleitungen zu entnehmen. Bei Nichtbeachtung der einzuhaltenden Umgebungsbedingungen/Dokumentationspflicht übernimmt die Wolf Bavaria GmbH keine Gewährleistung. Untergründe sind grundsätzlich vor der Verlegung auf Ebenbeit, Trockenheit und Anforderungen an die Verkehrslasten nach DIN 1055, Teil 3 zu prüfen.

PhoneStar / PowerFloor - Messprotokoll

Kunde / Auftraggeber	Architekt / Bauherr / Bauleitung / Bodenleger
Name	
Straße	
PLZ / Ort	
Telefon	
Fax	

Verarbeitungsgegenstand: PhoneStar ☐ PowerFloor ☐
Verarbeitungsbereich: Boden ☐ Wand ☐ Decke ☐
Verarbeitungsanleitungen PhoneStar Boden, Wand, Decke bzw. PowerFloor beachten.

Dokumentation - Temperatur & Luftfeuchte

Zimmer/Raum Nr.					
Prüfer					
Datum					
Messgerät					
Messergebnis					
Temperatur in °C					
Luftfeuchte in %					

Dokumentation - CM-Messung
Durchführung der Prüfung (nur bei massiven Untergründen)
Die Durchführung der Prüfung erfolgt nach der Arbeitsanweisung für CM- Messungen des Bundesverbandes Estrich und Belag e.V. Die Messpunkte sind bei Estrichen mit Fußbodenheizung vom Estrichleger vorgegeben.

Messung Nr.	1	2	3
Zimmer/Raum Nr.			
Prüfer			
Datum			
Messgerät Nr.			
Fußbodenheizung	ja ☐ nein ☐	ja ☐ nein ☐	ja ☐ nein ☐
Prüfergebnis			
Einwaage [g]			
Manometeranzeige [bar]			
Wassergehalt[2] [%]			

[1] nur erforderlich, wenn Estrich bei der erstmal Messung zu feucht
[2] aus der Umrechnungstabelle des CM -Gerätehersteller[in]

Bestätigung
Der Unterzeichner bestätigt die Korrektheit der Messung

	Architekt / Bauherr / Bauleitung / Bodenleger
Name	
Ort	
Datum	

Stand 16.12.2021
Wolf Bavaria GmbH · Gutenbergstraße 8 · 91560 Heilsbronn
Tel.: +49 (0)9872 95398-0 · Fax: +49 (0)9872 95398-11 · www.wolf-bavaria.com
info@wolf-bavaria.com
Seite ___ von ___

Measurement record
in the download centre:
www.wolf-bavaria.com

INSULATING LAYERS

The properties of the insulation, the filling and the load-distribution layer in terms of building physics must be matched to the complete structure.
Full-surface contact of the insulation to the substrate must be ensured.

COMPRESSIVE STRENGTH OF INSULATING LAYERS IN FLOOR STRUCTURES

Floor structures may contain additional insulating layers underneath PhoneStar / PowerFloor systems, e.g. EPS, XPS, soft wood fibre. Depending on the thickness and type of the final covering, these layers must have a corresponding compressive strength (in kPa) and be in contact over the entire surface.

Minimum compressive strength with EPS, XPS and soft wood fibre		
Thickness in mm	**Compressive strength in kPa**	**Final covering**
< 20	100	All final coverings (except tile)
< 20	150	Tile
20 - 60	150	All final coverings (except tile)
20 - 60	200	Tile

Wolf MiWo 20-2 Art. no.: 3076	
Wolf MiWo 12-2 Art. no.: 3075	

ATTENTION! When using mineral insulating materials, these must have a corresponding approval for dry screed (e.g. Wolf MiWo). All other insulating materials require approval by Wolf Bavaria.

Technical data sheets in the download centre:
www.wolf-bavaria.com

Levelling fillings

REQUIREMENTS FOR THE FILLING:

Following installation, the filling must form a level, pressure-resistant and load-bearing surface.

It may be necessary to install an appropriate covering layer on top of fillings in order to install the Wolf floor systems on top. **This requires approval by Wolf Bavaria.**
Non-cementitious bonded fillings must first be approved by Wolf Bavaria before use.

In the case of loose fillings, the settling behaviour and possible re-compaction according to the manufacturer's specifications must be taken into account.

Further layers above the filling must be protected against possible moisture emanating from the filling.

TYPES OF FILLING

1. **Bonded fillings not requiring approval:**
   - Mineral-bonded fillings, e.g. with Sopro Rapidur. Installation recommendation according to the manufacturer on:
     www.wolf-bavaria.com
   - Coated bonded fillings, e.g. StoPrefa Coll
   - Elastically bonded fillings, e.g. Köhnke K102
   - Cemwood CW 1000 or CW 2000 – also regarded by Wolf Bavaria as a bonded filling

NOTE:
Cementitious bonded EPS fillings require approval by Wolf Bavaria

2. **Loose contained fillings not requiring approval:**
   - Loose gravel – contained at distances of 70 cm between wooden battens – without load distribution layer
   - Filling material contained in honeycomb – without load distribution layer

3. **Loose fillings with load distribution layer and all others:**
   - require approval by Wolf Bavaria

NOTE:
Observe the minimum and maximum height of the filling! Observe drying times!

Processing times

When processing Wolf Bavaria systems, the following processing times can be taken as the calculation basis. The specified times are guiding values that may vary depending on routine, room geometry and installation conditions.

PhoneStar	PhoneStar sound insulating boards		
Installation variants	**Floating** on wooden or mineral substrate	**Bonded** to substrate	
		Wood	Mineral
single-layer: min / m²	1 – 4	2 - 5 Wolf Roll-On Adhesive / Wolf system adhesive	3 - 8 Parquet adhesive
two-layer: min / m²	2 – 8	4 – 10 Wolf Roll-On Adhesive / Wolf system adhesive	5 – 12 Parquet adhesive / PhoneStar to one another: Wolf Roll-On Adhesive, Wolf system adhesive

The specified processing times are related to **one** person and include: installation of the edge insulation strip and the PhoneStar boards incl. board processing

PowerFloor		PowerFloor radiant heating		
Installation variants		**Floating** on wooden or mineral substrate	**Bonded** to substrate	
			Wood	Mineral
min / m²	without pipe	10 – 20	12 – 22 Wolf Roll-On Adhesive / Wolf system adhesive	12 – 24 parquet adhesive / PhoneStar with PowerFloor: Wolf Roll-On Adhesive, Wolf system adhesive
	Pipe installation	2 – 4 (with flushing device)		

The specified processing times are related to **one** person and include: Installation of the edge insulation strip and the PowerFloor elements incl. cutting to size.

PhoneStrip	PhoneStrip decoupling strips
Installation variants	**Screwed, nailed or bonded** on wooden or mineral substrate
min / m.	0.5 - 1

The specified processing times are related to **one** person and include: Installation and fixing of the PhoneStrip incl. cutting to size.

Processing of the Wolf accessory products

Wolf accessories	Wolf Separating web	Wolf decoupling fleece Wolf decoupling board	Wolf Hugo N & F
Installation variants	**Floating**	**Full-surface bonded** with Wolf parquet adhesive	**Floating installation** Installation with tongue and groove with Wolf Hugo adhesive
min / m²	0.5	2 - 5	3 - 6

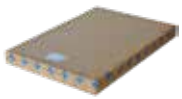
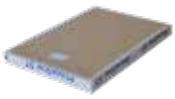
The specified processing times are related to **one** person and include: installation incl. cutting to size.

Not taken into account:

installation of moisture or vapour barriers / installation of additional insulation / filling.
Installation of reinforcement layers and final coverings / transport of materials into the installation room / grouting, grinding or priming / manifold installation / test heating and adjustment of the heating circuits.

NOTE: allow for approx. 3 % waste when calculating the material requirement.
Approx. 5% waste in the case of Wolf Hugo N & F and Wolf PowerFloor radiant heating.

PhoneStar Sound insulating boards

PhoneStar Plus Tri	PhoneStar Tri	PhoneStar Twin	PhoneStar ST Tri	PhoneStar 25
1250 x 625 mm / art. no.: 1015	1200 x 800 mm / art. no.: 1010 1250 x 625 mm / art. no.: 1008	1200 x 800 mm / art. no.: 1009 1250 x 625 mm / art. no.: 1012	1200 x 800 mm / art. no.: 1017 1250 x 625 mm / art. no.: 1019	800 x 600 / art. no.: 1011
				

PhoneStar and PhoneStar 25 – Cutting to size and bonding

1

MEASURING AND MARKING THE CUTTING LINE

ATTENTION!
Process on a stable work surface. Consider work safety!

2

CUTTING THE BOARD TO SIZE

Hand-held circular saw with widia blade & extraction, jigsaw with wood/ metal saw blade, cutter.

3

MASK BOARDS

Mask the cut edge only with Wolf tape.
Allow the tape to overlap by at least 2 cm at the corners.

4

FOLD OVER THE CORNERS AND LONGITUDINAL SIDE

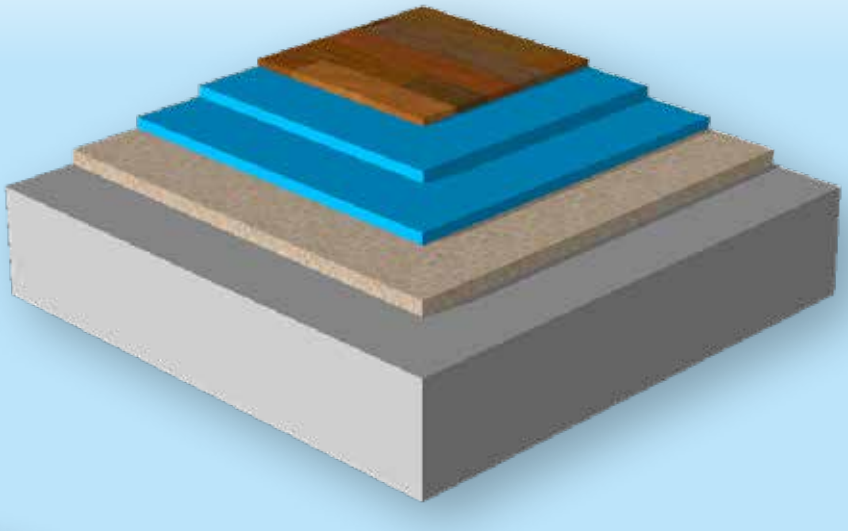
Fold the overlap at the corners downward and press the lateral overlap against the board surface.

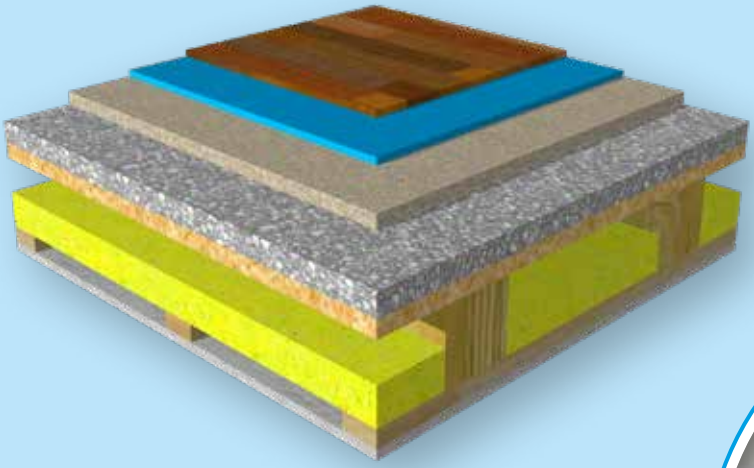
5

DONE

Product videos
www.wolf-bavaria.com:

NOTE: PhoneStar boards and Wolf tape are a matched system.
Use of a different adhesive tape will invalidate the architectonic properties, e.g. building material class E (EN 13501), leading to the exclusion of liability.





PhoneStar

Sound insulating boards

Processing on the floor

Processing of PhoneStar on the floor

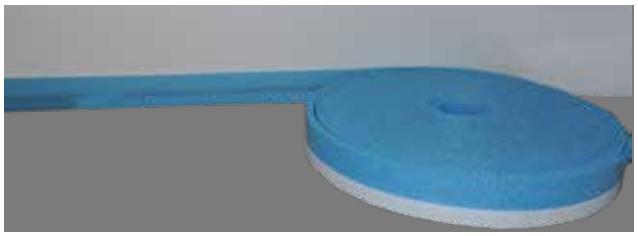
CHECKING THE SUBSTRATE

Before commencing with the PhoneStar installation, the evenness, load capacity and moisture content of the substrate must be checked. The corresponding requirements are to be taken from the chapter ***General processing instructions***.

ATTACHING THE EDGE INSULATION STRIPS

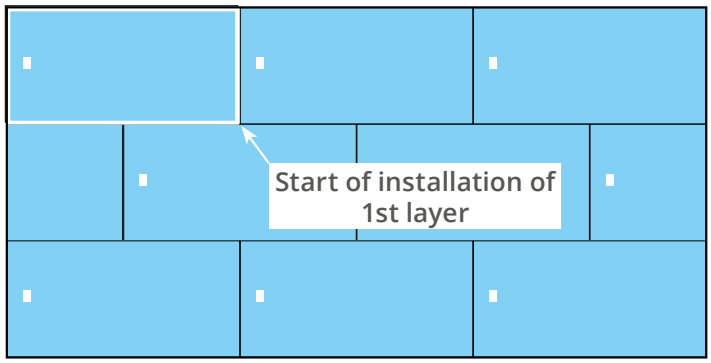
Butt the corners; further details in the chapter ***General processing instructions***.

	Edge insulation strip: Art. no.: 4300



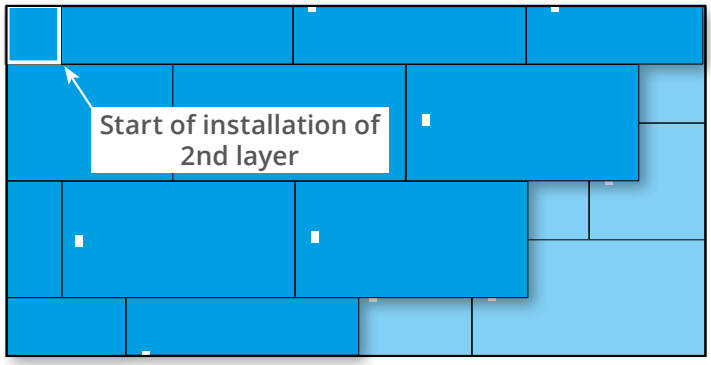
INSTALLING PHONESTAR

- Install the PhoneStar boards in a stretcher bond.
- Maintain an offset from row to row of at least 10 cm. Avoid cross joints.
- Install the PhoneStar boards with the visible side facing upwards (label must be visible).
- Make sure when installing that the PhoneStar boards contact the substrate over their entire surface.



INSTALLING MULTIPLE LAYERS OF PHONESTAR

When installing multiple layers of PhoneStar boards, ensure that the joints of the first layer are fully covered.
Begin the first row of the second PhoneStar layer with half a PhoneStar board or with a board rotated by 90° in relation to the first layer. Then complete the row with PhoneStar boards halved in length or continue to install the boards rotated by 90° accordingly. Continue with the further installation with whole PhoneStar boards.



ATTENTION: VISIBLE SIDE!
The upper or visible side is marked with a label or imprint and must be visible after the installation.

INSTALLATION OF FINAL COVERING
Depending on the type of final covering, install it floating or bonded to PhoneStar (see General installation instructions). Instructions for installing the different final coverings can be found in the chapter Final coverings.

Bonding PhoneStar boards to a wooden substrate or to one another

Depending on the floor structure and the type of installation of the final covering, it may be necessary to bond the PhoneStar boards.

- In the case of installation of a *floating final covering*, the PhoneStar board can be installed floating or bonded.
- In the case of a *bonded installation* of the final covering, the PhoneStar board must also be bonded.

INSTALLATION WITH WOLF ROLL-ON ADHESIVE

Apply rolled adhesive over the entire surface of the board using the Wolf adhesive roller.

After applying the adhesive (min. 200 g/m²), press the PhoneStar boards firmly onto the substrate.

The installation can start in the "wet phase" or the "semi-wet phase".

The area can be walked on immediately and reaches final strength after about 72 hours.

Processing or substrate temperature of Wolf Roll-On Adhesive: not below 13 °C.

Stir well before use!

Wolf Roll-On Adhesive Art. no.: 4085	Wolf adhesive roller Art. no. 4092	Telescopic handle Art. no. 4093
		

After bonding with Wolf Roll-On Adhesive, you can continue with the installation of the additional layers after about 60 min. (design principle +23 °C and 50% rel. humidity).

BONDING WITH WOLF SYSTEM ADHESIVE

Apply Wolf system adhesive as a bead.

After a drying time of approx. 2 hours (depending on the ambient temperature) you can continue to work on the PhoneStar layer.

	Wolf system adhesive: Art. no.: 4070

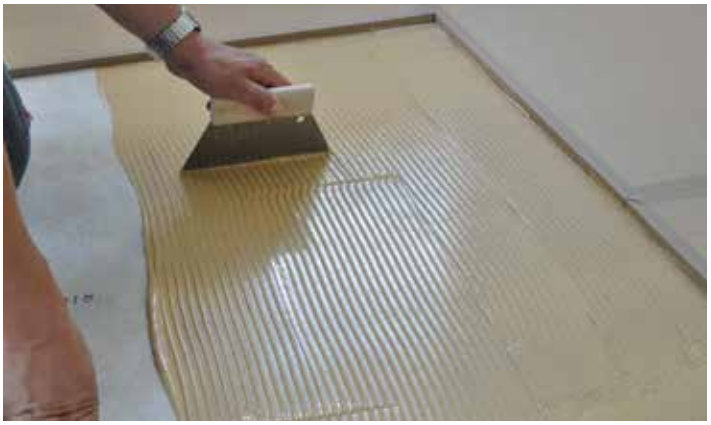
Bonding PhoneStar to a mineral substrate

PhoneStar boards are bonded to mineral substrates with Wolf 1-component parquet adhesive. Further parquet adhesives can be found on our homepage: www.wolf-bavaria.com.

The substrate must be clean, dry and dust-free for bonding.

The parquet adhesive is applied to the entire surface of the substrate. Apply parquet adhesive only in the area currently being processed.

- Use a notched trowel with B11 toothing



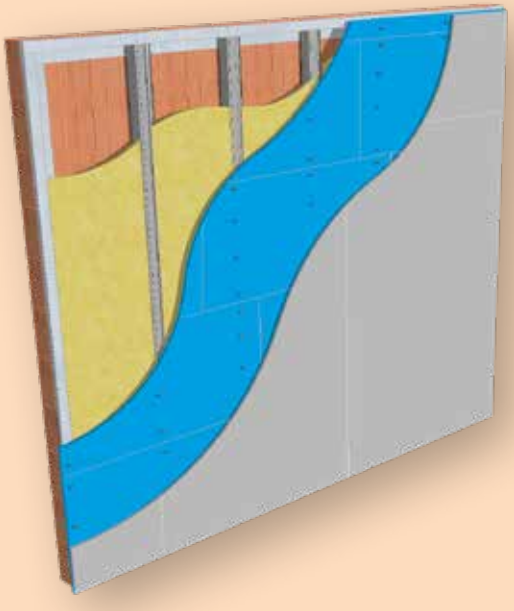
Wolf 1-component parquet adhesive: Art. no.: 4080	Wolf notched trowel: B11 toothing Art. no.: 4090
	

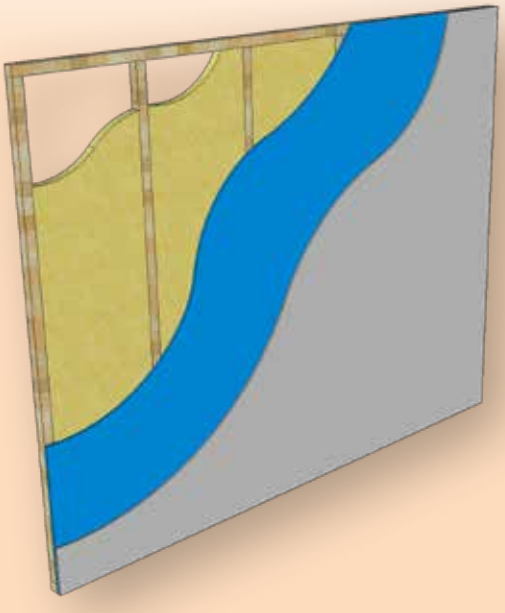
Lay the PhoneStar board in the adhesive bed with a slight pushing movement and press it down over the entire surface.

After a drying time of about 12 hours at an ambient or substrate temperature of 13 °C, you can continue work on the PhoneStar layer.

NOTE:
The bonding of PhoneStar to other substrates requires approval by Wolf Bavaria.

Technical data sheets in the download centre:
www.wolf-bavaria.com





PhoneStar

Sound insulating boards

Processing on the wall

General installation instructions

GENERAL PROCESSING GUIDELINES

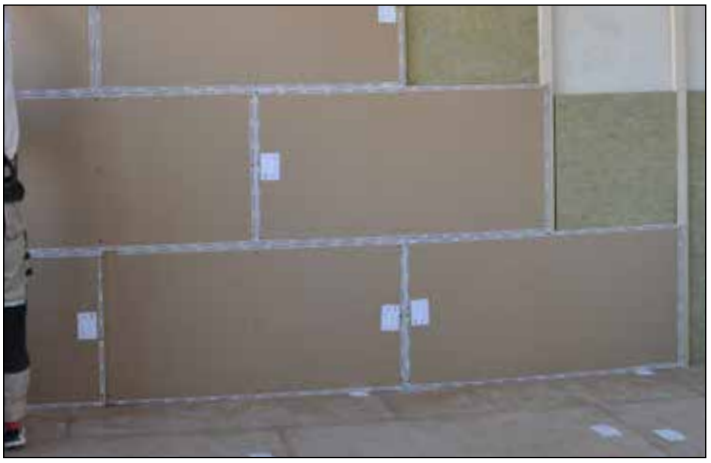
The general processing guidelines must be followed before and during the processing of the PhoneStar system. Observe the chapter: *General guidelines*.

BOUNDARY PARAMETERS RELATING TO BUILDING PHYSICS

When using PhoneStar products and/or Wolf Bavaria systems on outside walls in indoor areas, the boundary parameters relating to building physics (condensation formation, airtightness, etc.) must be assessed on site. If necessary, the condensation formation and damage-free drying must be proven.

BOARD ALIGNMENT

PhoneStar boards are installed on all walls, with or without substructure, horizontal, with the long side parallel to the floor.



TIP:
Align the upper edge of the first layer to the horizontal using a laser or spirit level.
Re-cut the lower edge if necessary.

ATTENTION: VISIBLE SIDE!
The upper or visible side is marked with a label or imprint and must be visible after the installation.

INSTALL PHONESTAR

Install the PhoneStar boards in a stretcher bond, offset by at least 10 cm, end-to-end from row to row. Avoid cross joints in the PhoneStar layer.

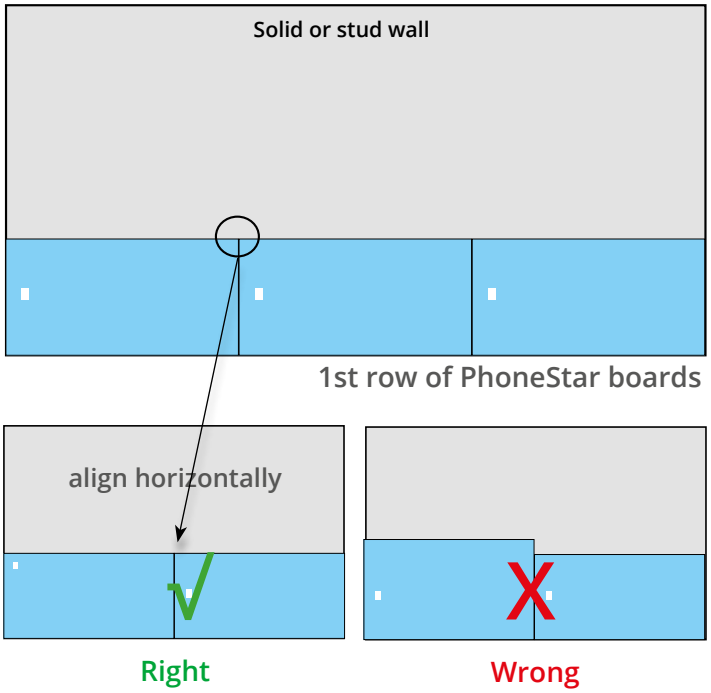
- Begin with the installation of the 1st row in the bottom left or right corner.
- The visible side of the board (side with label) faces the room when installed.

DECOUPLING

Prior to the actual installation, apply a self-adhesive decoupling strip along the base of the wall (e.g. self-adhesive cellular rubber or partition wall tapes).

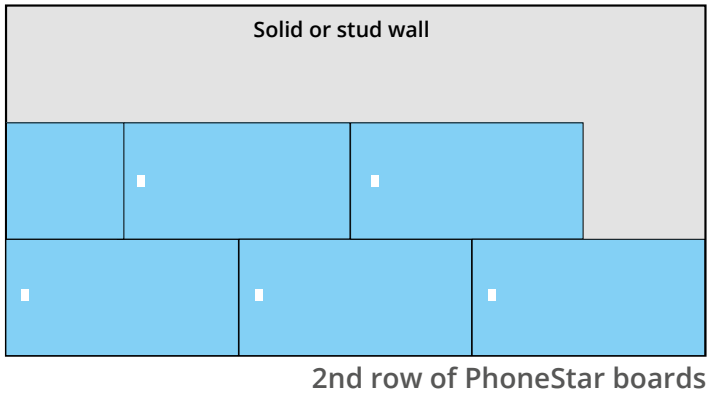
The decoupling strip serves to isolate the PhoneStar layer and the subsequent cladding.

Maintain an edge gap of approx. 4 mm to the adjoining wall and ceiling components.



INSTALL 2ND PHONESTAR ROW

Install all subsequent rows of PhoneStar boards with an offset of half a board length (or at least 10 cm) to the previous row in order to avoid cross joints in the PhoneStar layer.

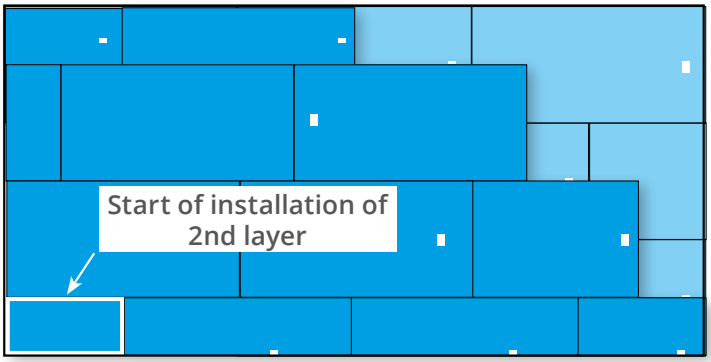


INSTALLING MULTIPLE LAYERS OF PHONESTAR

When installing multiple layers of PhoneStar boards, ensure that the butt joints of the first layer are fully covered.

In order to implement this optimally, the second layer of PhoneStar is started with a board that is halved both in length and width at the same installation starting point as the first layer. Subsequently, the first row of the second layer started in this way is completed with PhoneStar boards that are halved in width. After that, the installation can be resumed with whole PhoneStar boards.

In order to improve the sound insulating effect, we recommend that you fill the gaps at the wall and ceiling connections with Wolf joint filler.



	Wolf joint filler Art. no.: 4095

NOTE ON CLADDING:
PhoneStar sound insulating boards generally require a final cladding (e.g. plasterboard). Direct plastering, painting, wallpapering, etc. on PhoneStar is not possible.

Installations

As a matter of principle, there should be as few penetrations or installation elements as possible in acoustically effective components.

DRILLING THROUGH PHONESTAR

The hole in the board/wall must be sealed with Wolf joint filler to prevent the sand trickling out.

NOTE: Due to the horizontal installation (long side parallel to the floor) only a minimal amount of sand escapes when making holes for wall sockets or cable feed-throughs.

Suitable sound-insulating wall sockets from various manufacturers can be obtained from specialist electrical dealers. For example:

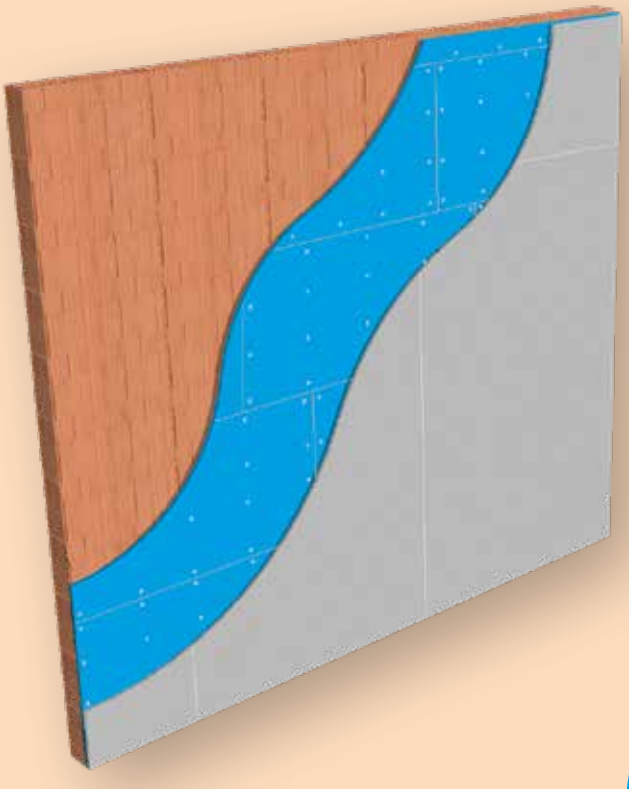
KAISER

Sound-insulating wall sockets

Electrical installation with sound-insulating wall sockets for use in walls with stricter requirements for sound insulation. The solid socket body with additional sound-insulating sheathing absorbs and reflects the sound, so that interference in neighbouring rooms is minimised and the sound insulation is maintained.

1. Junction box with lid
   Kaiser art. no. 9069-01 + 1184-69
2. Junction box, halogen-free
   Kaiser art. no.: 9069-77
3. Electronic wall socket, also usable as a double socket
   Kaiser art. no.: 9069-94
4. Electronic wall socket, also usable as a double socket / Halogen-free version
   Kaiser art. no.: 9069-74

Further information at:
www.kaiser-elektro.de



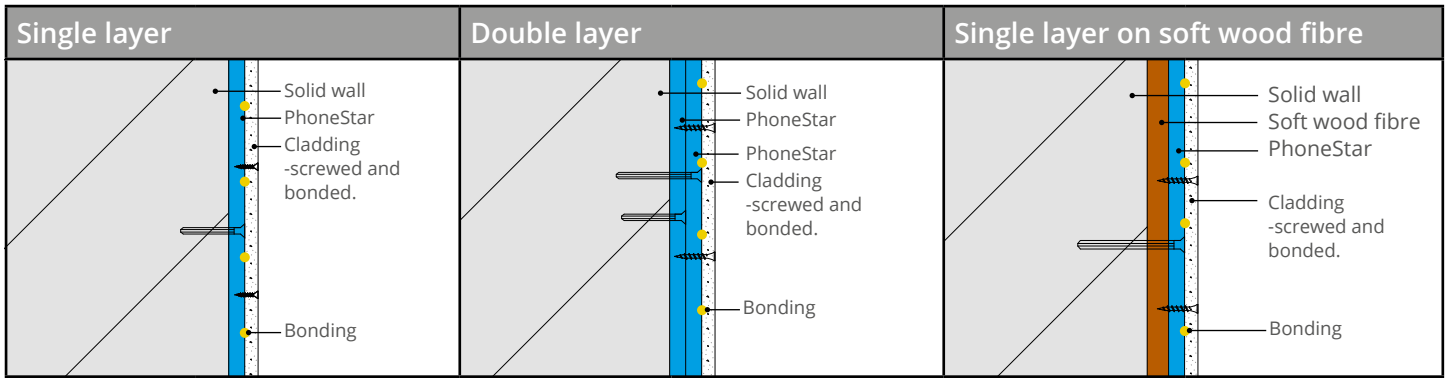
PhoneStar

Sound insulating boards

Mounting on masonry / concrete

Direct mounting on masonry

VARIANT: DIRECT MOUNTING OF THE PHONESTAR TRI 15 MM OR PHONESTAR PLUS TRI 15 MM



WALL PROPERTIES FOR DIRECT MOUNTING

Prerequisite is an even wall surface that ensures full-surface contact of the PhoneStar board.
The Wolf system dowels must be selected in such a way that an anchoring depth of at least 40 mm in the component is guaranteed.
In the case of additional layers such as soft wood fibre between the component and PhoneStar, the Wolf system dowel should be correspondingly longer.

NOTE:
Direct mounting on the wall with PhoneStar boards other than the PhoneStar Tri and the PhoneStar Plus Tri is not possible.

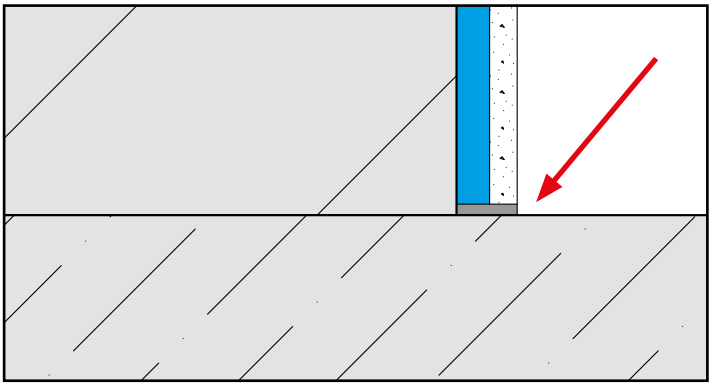
Procedure to mount on masonry and concrete

DECOUPLING

Prior to the actual installation, apply a self-adhesive decoupling strip along the base of the wall (e.g. self-adhesive cellular rubber or partition wall tapes).

The decoupling strip serves to isolate the PhoneStar layer and the subsequent cladding.

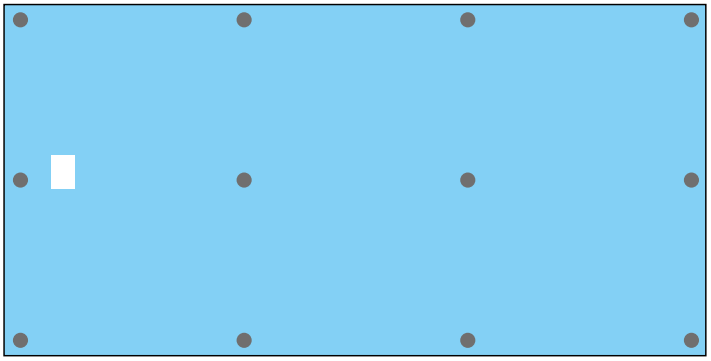
Maintain an edge gap of approx. 4 mm to the adjoining wall and ceiling components.



FIXING PHONESTAR

In the case of single-layer installation of the PhoneStar board:

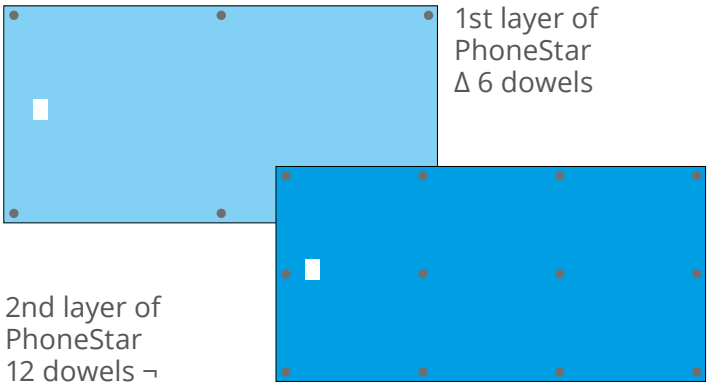
- 12 Wolf system dowels are used per PhoneStar board in a grid of 3 x 4 dowels.
  Place the Wolf system dowels on the outside 4 - 8 cm from the edge of the board.



12 Wolf system dowel / board

In the case of two-layer installation of the PhoneStar board:

- Fix the first layer with 6 dowels per board
- After that, fix the 2nd layer with 12 system dowels per board; select the length accordingly.

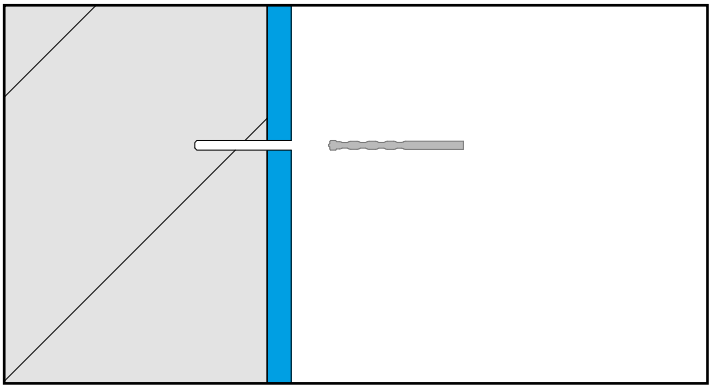


ATTENTION! Work without a percussion drill in the case of vertical-cored bricks!
Use Wolf system dowels only in walls. Mounting on the ceiling is not possible!

DRILLING DOWEL HOLES

Drill a hole in the brick/concrete wall through the PhoneStar board contacting the wall over its full surface.

Drill diameter:	
Brick	6 mm Ø
Aerated concrete	5 mm Ø
Concrete	6 mm Ø

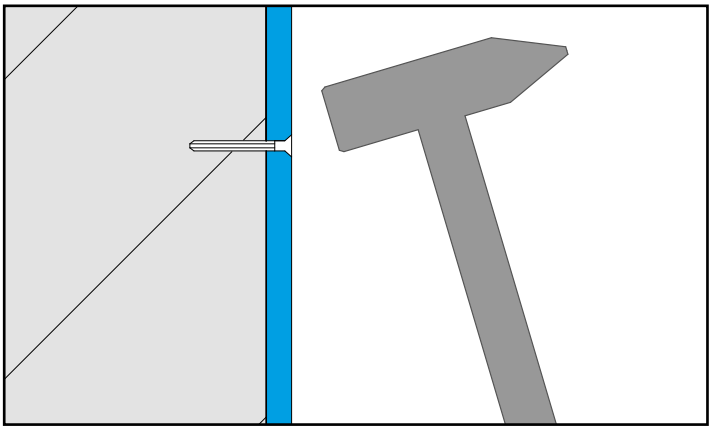


SET WOLF SOUND-INSULATING DOWEL

Using a hammer, tap the Wolf sound-insulating dowel into the hole drilled beforehand.

Lightly tap in the sound-insulating dowel so that it is flush with the board surface.

Wolf sound-insulating dowel	Length / art. no.
	60 mm / 4200 (250 pcs)
	60 mm / 4201 (50 pcs)
	100 mm / 4207 (100 pcs)
	120 mm / 4205 (120 pcs)



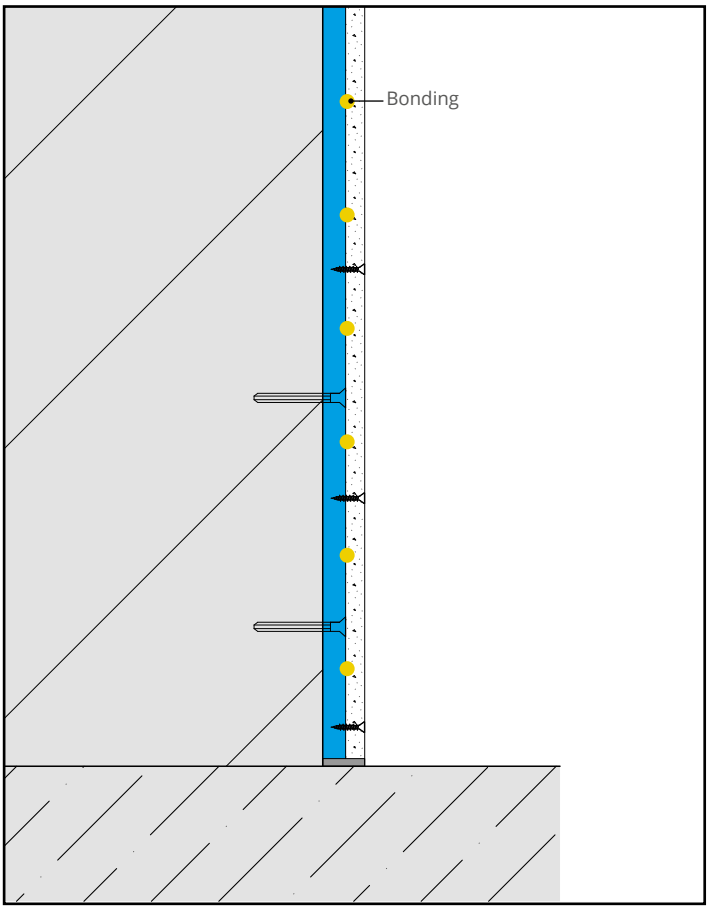
CLADDING PHONESTAR

As standard, the PhoneStar layer is clad with a layer of suitable plasterboard. The cladding must have a minimum thickness of 12.5 mm.

BONDING AND SCREWING THE CLADDING

Apply Wolf Roll-On Adhesive to the PhoneStar board using the Wolf adhesive roller. Roll the adhesive only in the area where the plasterboard to be installed. Then place the plasterboard onto the surface wetted with roll adhesive and press it on over the entire surface.

Wolf Roll-On Adhesive Art. no.: 4085	Wolf adhesive roller Art. no. 4092	Telescopic handle Art. no. 4093
		



TIP: Alternatively, Wolf system adhesive can also be used for smaller areas.

	Wolf system adhesive: Art. no.: 4070

Subsequently, the cladding is screwed to the PhoneStar layer with plasterboard screws 3.9 x 22 mm in a grid of approx. 25 cm.

ATTENTION! The bonding of the cladding must be done in the "wet phase"!
It is otherwise no longer possible to align the boards!
Cladding with gypsum fibreboards or hard gypsum boards is not possible in the case of direct mounting due to the surface hardness.

Single-layer PhoneStar installation	
Drywall screw for fixing plasterboards to the single-layer PhoneStar TRI and PhoneStar Plus Tri	
	Art. no.: 4203, 4209 22 x 3.9 mm

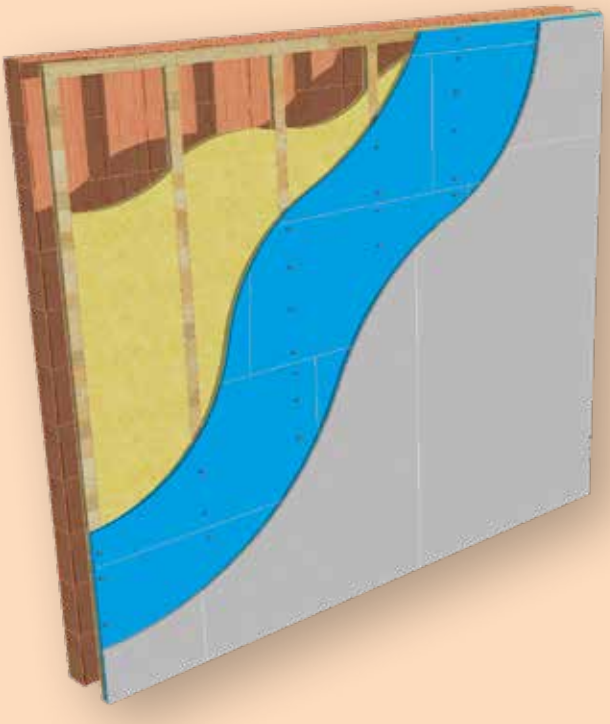
Two-layer PhoneStar installation	
Drywall screw For fixing plasterboards to multi-layer PhoneStar layers or wood fibre under the PhoneStar	
	Art. no.: 4202, 4208 38 x 5.5 mm

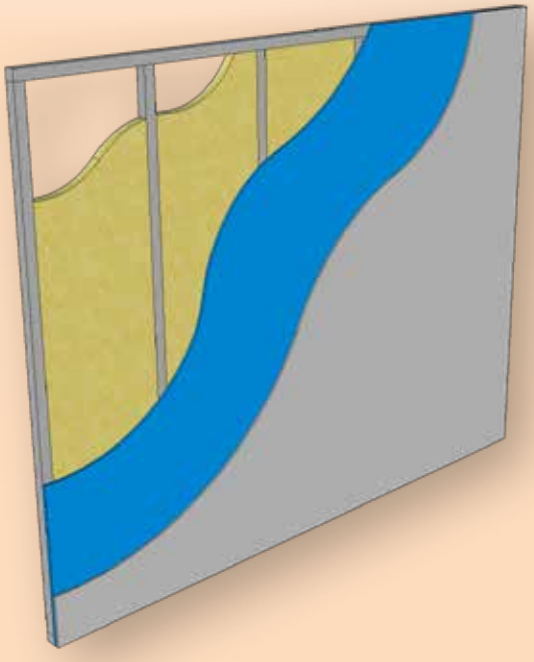
ATTENTION! Do not grout the edge joint! Otherwise, no decoupling is possible and the sound-insulation. Function is badly affected!

EDGE JOINTS

Grout the cladding layer according to the manufacturer's specifications.
Edge joints may not be more than 5 mm wide and must be closed with Wolf joint filler after installation of the cladding.

	Wolf joint filler Art. no.: 4095





PhoneStar

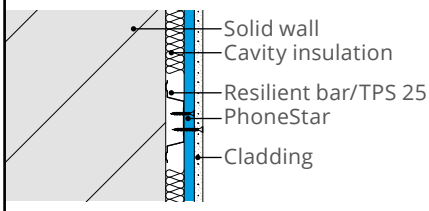
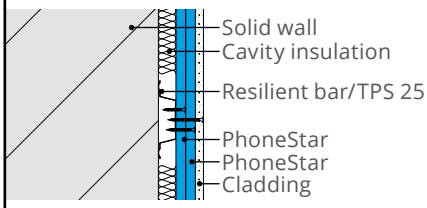
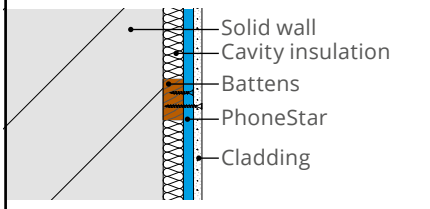
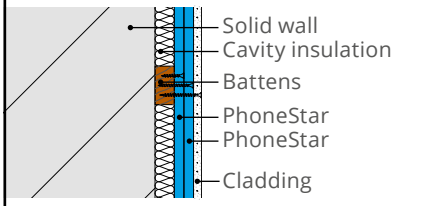
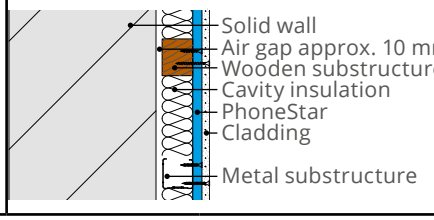
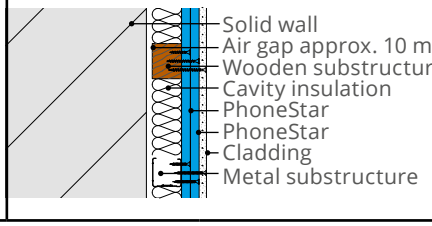
Sound insulating boards

Mounting on substructures and stud frames

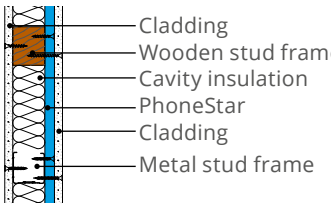
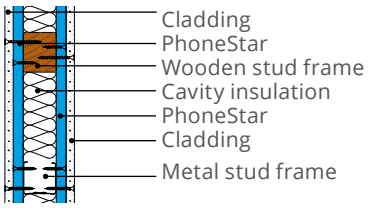
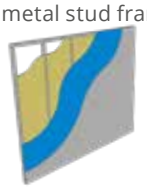
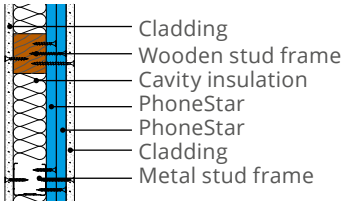
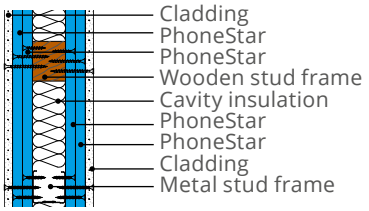
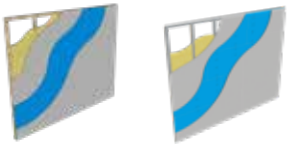
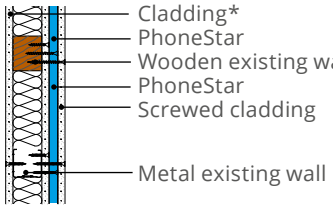
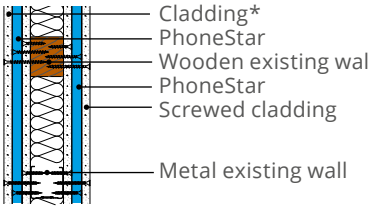
PhoneStar on substructure / stud frame

Stud walls and facing layers can be made of wood or metal stud frames. For this purpose, observe the respective processing instructions of the manufacturers for the manufacture and decoupling of the stud frame. In the case of stud walls, there is the option of single- or double-sided PhoneStar installation, in a single or double-clad design.

VARIANT I: - MOUNTING ON THE BRICK WALL / CONCRETE WALL WITH SUBSTRUCTURE

Variant	Top view – single-layer installation	Top view - Double-layer installation
Resilient bar 		
Battens 		
Facing layer  Wooden or metal stud frame		

VARIANT II: - INSTALLATION ON STUD FRAME AND EXISTING STUD FRAME

Variant	One-sided	On both sides
Stud wall Timber - stud frame 	Single-layer 	Single-layer 
or metal stud frame 	Double-layer 	Double-layer 
Existing stud wall Wood or metal 	Single-layer 	Single-layer 

REGARDING VARIANT I:

MOUNTING THE SUBSTRUCTURE ON MASONRY AND CONCRETE WALL

A substructure on masonry can take the form of wooden battens, a resilient bar or TPS 25.

ATTENTION!
Impact anchors are not suitable for the mounting of substructures

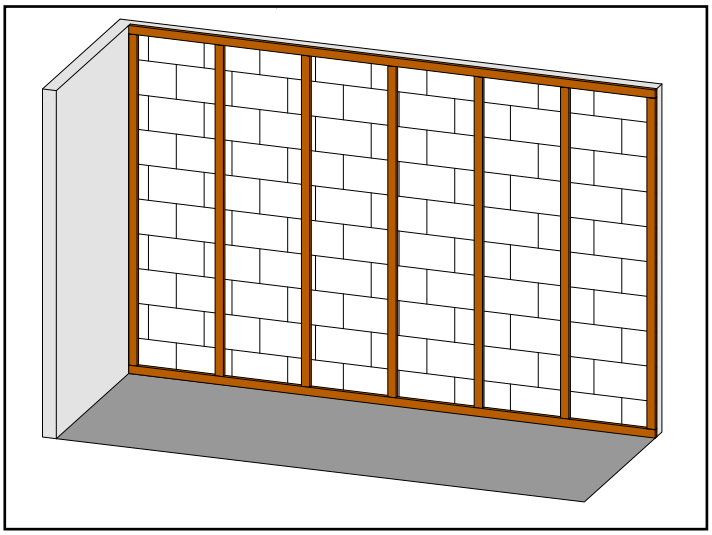
Resilient bar / TPS 25

The resilient bar or the TPS 25 system (by Protector) is mounted on the wall according to the manufacturer's specification.

Battens

Attach an edge profile to the adjoining components (floor, wall, ceiling).
Start with the first or last row of battens max. 10 cm from the adjoining wall and attach the substructure vertically to the wall at a centre-to-centre distance of 62.5 cm (board size 125 x 62.5 cm) and at a distance of 60 cm (board format 120 x 80 cm).

The precise arrangement is to be selected in accordance with the fixing guidelines of the cladding board manufacturer.



TIP: In the case of a wooden facing layer, back the wooden battens with rubber bearings (approx. 3 mm) at the screw points. In order to improve the sound-damping effect, we recommend the installation of the PhoneStar Schalli decoupling strip as non-load-dissipating sound decoupling. This serves to decouple the substructure.

PhoneStar Schalli		
	15 mm	Art. no. 1025
	25 mm	Art. no. 1026

ATTENTION!
The battens, resilient bar and TPS 25 system should not touch the floor, wall and ceiling.
Therefore, maintain a distance!

MOUNTING A FACING LAYER ON BRICK AND CONCRETE WALLS

During the installation – before screwing – the profiles of the stud frame should be provided with anti-drone coating tapes or PhoneStar Schalli decoupling strips (60 mm).
The facing layer can consist of a wooden or metal frame construction. Install in front of the wall according to the manufacturer's instructions.

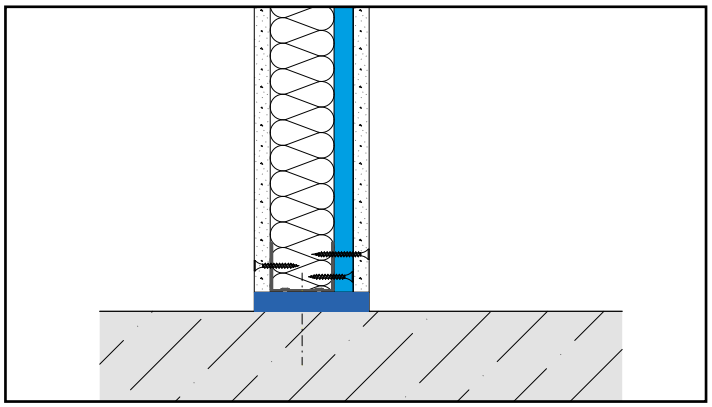
REGARDING VARIANT II:

MOUNTING ON STUD FRAME

Erect the stud frame according to the manufacturer's specifications.

In order to improve the sound insulating effect, we recommend the mounting of the PhoneStar Schalli decoupling strip on all adjoining components when installing a stud wall

- Use fixing materials that are suitable for the substrate.



PhoneStar Schalli		
	15 mm	Art. no. 1025
	25 mm	Art. no. 1026

NOTE:
existing walls require no additional substructure.

NOTE:
In the case of bracket loads, such as kitchen cabinets, appropriate cross beams must be provided in the substructure in which the corresponding components can be mounted.

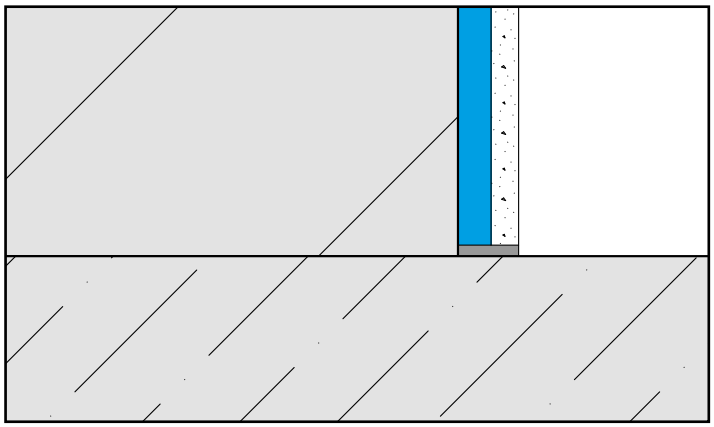
Procedure for mounting on substructure / stud frame

DECOUPLING

Prior to the actual installation, apply a self-adhesive decoupling strip along the base of the wall (e.g. self-adhesive cellular rubber or partition wall tapes).

The decoupling strip serves to isolate the PhoneStar layer and the subsequent cladding.

Maintain an edge gap of approx. 4 mm to the adjoining wall and ceiling components.



CAVITY INSULATION

Cavities in the wall structure create resonating bodies and have a detrimental effect on sound insulation. To avoid this, cavities such as those created by substructures between the individual studs in the stud frame must be lined with an insulating material.

Insulating materials:	
Suitable	Mineral, rock wool, soft wood fibre, hemp or cellulose boards.
Not suitable	XPS, EPS, PU or similar hard insulating materials as well as injected insulating materials!

TIP:
For stud walls and facing layers, use board materials instead of rolled goods for better retention of the insulating material in the stud frame.

NOTE:
The cavities should be filled at least 60% with an insulating material.

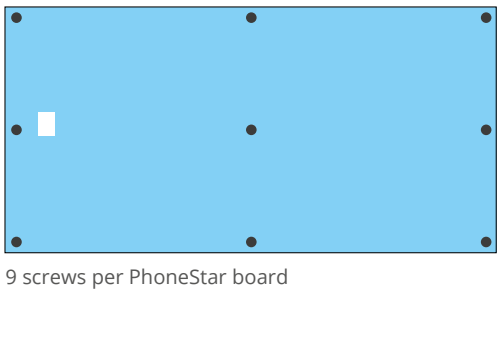
FIXING THE PHONESTAR BOARDS IN THE SUBSTRUCTURE

The PhoneStar boards are fixed in the substructure (UK) with drywall screws. They are fixed by screwing with 9 screws.

The length of the screws is to be selected according to the thickness of the cladding.

When installing a double layer of PhoneStar, fixing also takes place with 9 screws directly into the substructure.

Drywall screws	
Wooden substructure 	**Metal substructure** 
PhoneStar, single layer 35 x 3.9 mm • Art. no.: 4253	PhoneStar, single layer 35 x 3.9 mm • Art. no.: 4251
PhoneStar, double layer 55 x 3.9 mm	PhoneStar, double layer 45 x 3.9 mm



9 screws per PhoneStar board

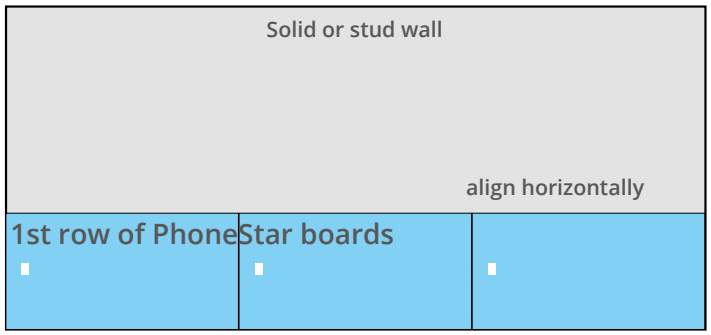
TIP: Align the upper edge of the first layer to the horizontal using a laser or spirit level. Re-cut the lower edge if necessary.

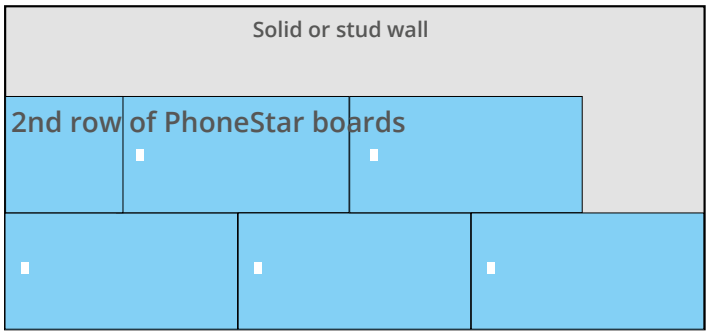
INSTALL PHONESTAR

Install the PhoneStar boards in a stretcher bond, offset by at least 10 cm, end-to-end from row to row.

- Begin with the installation of the 1st row in the bottom left or right corner.
- The visible side of the board (side with label) faces the room when installed.
- Maintain an edge gap of approx. 4 mm to the adjoining wall and ceiling components.

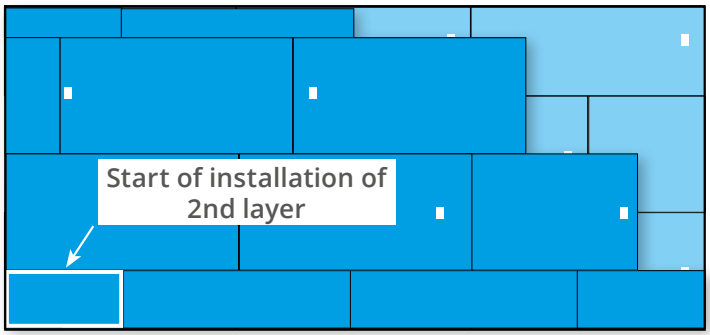
Install all subsequent PhoneStar board rows with an offset of at least 10 cm.
Avoid cross joints in the PhoneStar layer.





INSTALLING MULTIPLE LAYERS OF PHONESTAR

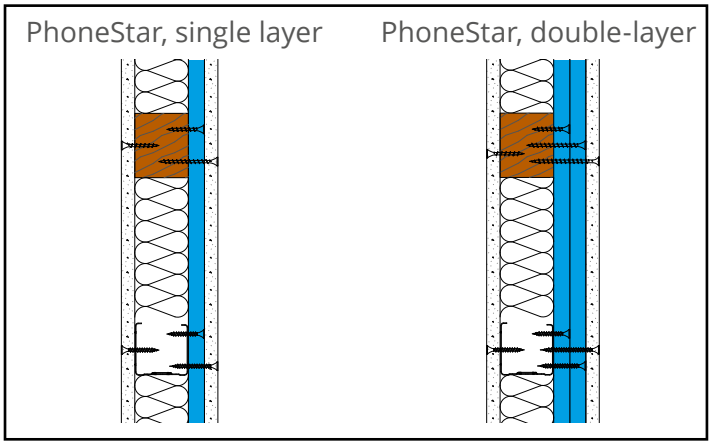
When installing multiple layers of PhoneStar boards, ensure that the butt joints of the first layer are fully covered.
In order to implement this optimally, the second layer of PhoneStar is started with a board that is halved both in length and width at the same installation starting point as the first layer. Subsequently, the first row of the second layer started in this way is completed with PhoneStar boards that are halved in width. After that, the installation can be resumed with whole PhoneStar boards.



CLADDING PHONESTAR

All plasterboards and gypsum fibreboards are suitable for the final cladding of the PhoneStar layer. The suitability of other claddings must be approved by Wolf Bavaria. The cladding layer requires a minimum thickness of 12.5 mm.

The final, mandatory cladding on PhoneStar is fixed according to the board manufacturer's specifications with appropriate drywall screws for plasterboard through the PhoneStar board layer into the substructure.



EDGE JOINTS

Grout the cladding layer according to the manufacturer's specifications.
Edge joints may not be more than 5 mm wide and must be closed with Wolf joint filler after installation of the cladding.

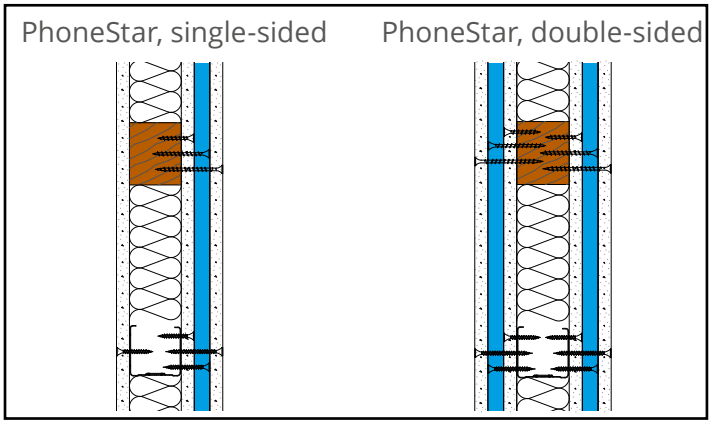
	Wolf joint filler Art. no.: 4095

ATTENTION!
Do not grout the edge joint! Otherwise, no decoupling is possible and the sound-insulation is badly impaired!

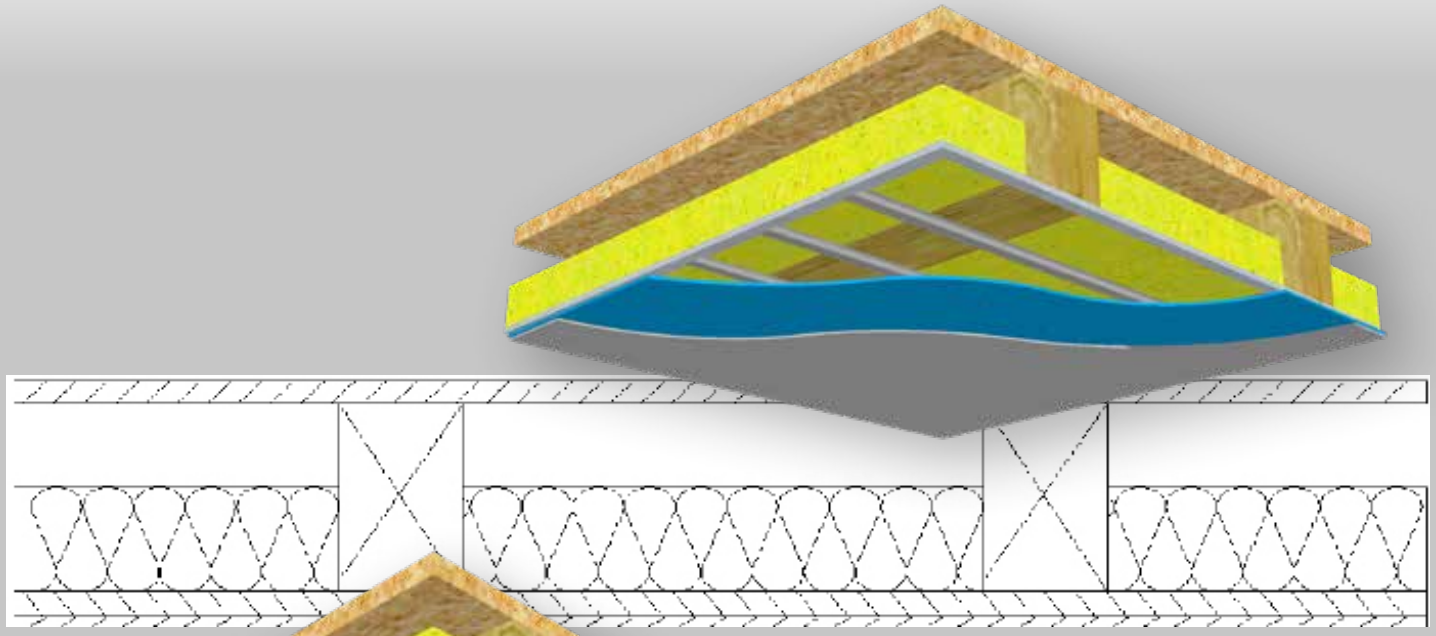
Mounting PhoneStar on an existing stud wall

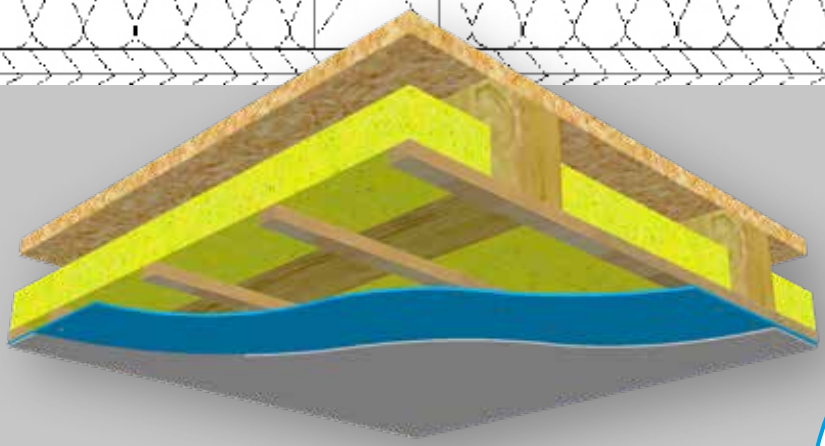
Existing stud walls can be retrofitted with PhoneStar boards on one or both sides.

The procedure is the same as when mounting the PhoneStar boards on the stud wall or on a facing layer.



NOTE ON CLADDING:
PhoneStar sound insulating boards generally require a final cladding (e.g. plasterboard). Direct plastering, painting, wallpapering, etc. on PhoneStar is not possible.





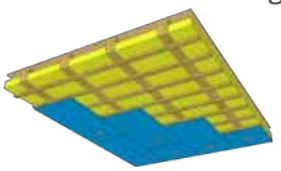
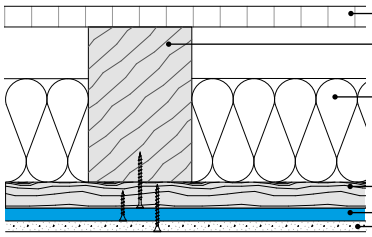
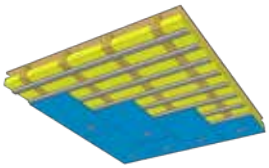
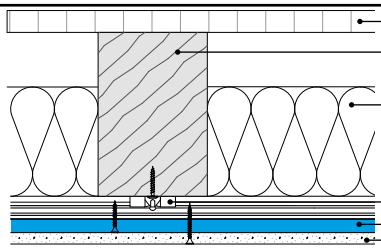
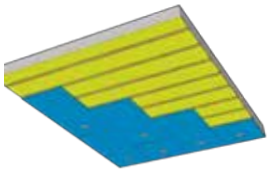
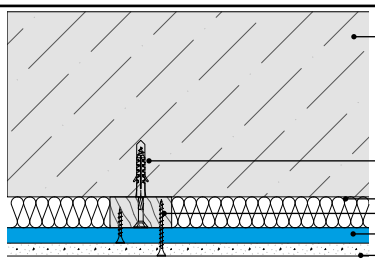
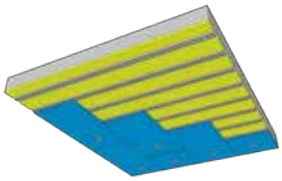
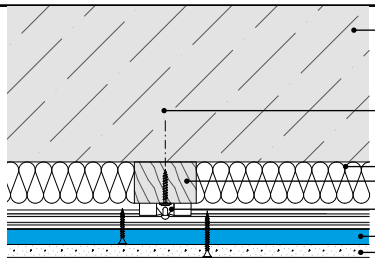
PhoneStar

Sound insulating boards

Processing on the ceiling

General notes

CEILING INSTALLATION VARIANTS

Variant	Sectional view	Description
Wooden beam ceiling  Battens		Floorboard Wooden beam Insulation Battens PhoneStar Cladding
 TPS 25		Floorboard Wooden beam Insulation TPS 25 PhoneStar Cladding
Mineral ceiling  Battens		Mineral ceiling Fixing materials suitable for the substrate Insulation Battens PhoneStar Cladding
 TPS 25		Mineral ceiling Fixing materials suitable for the substrate Insulation Battens TPS 25 PhoneStar Cladding

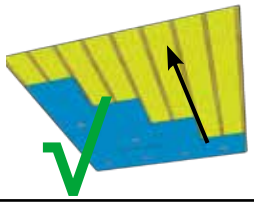
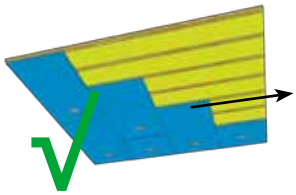
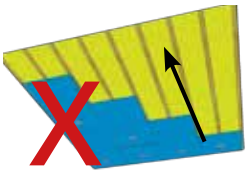
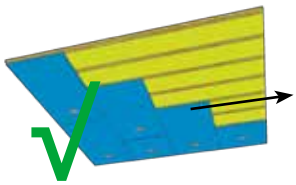
BOUNDARY PARAMETERS RELATING TO BUILDING PHYSICS

In order to demarcate the ceiling from unheated rooms, the structural boundary conditions (condensation formation, airtightness, etc.) must be evaluated on site. If necessary, the condensation formation and damage-free drying must be proven.

ATTENTION!
In the case of fire classes, requirements for the suspended ceiling and in the case of cladding, the technical standards or DIN 4102 must be observed in the design of the edge area.

BOARD ALIGNMENT AND CENTRE-TO-CENTRE DISTANCES

Depending on the board format, PhoneStar boards can be installed in the direction of the substructure or rotated by 90 degrees with respect to the substructure. Mounting on battens or metal rails is possible.

Size:	Parallel to substructure	Rotated 90° with respect to substructure
PhoneStar board: 125 x 62.5 cm Substructure in centre-to-centre distance 31.25 cm		
PhoneStar board: 120 x 80 cm Substructure in centre-to-centre distance 30 cm	 No installation parallel to the substructure	

Mounting on a rigid substructure

Battens

Start with the first row of battens max. 10 cm from the adjoining wall and attach the substructure vertically to the ceiling at a centre-to-centre distance of 31.25 cm (board size 125 x 62.5 cm) and at a distance of 30 cm (board format 120 x 80 cm).

The precise arrangement is to be selected in accordance with the fixing guidelines of the cladding board manufacturer.

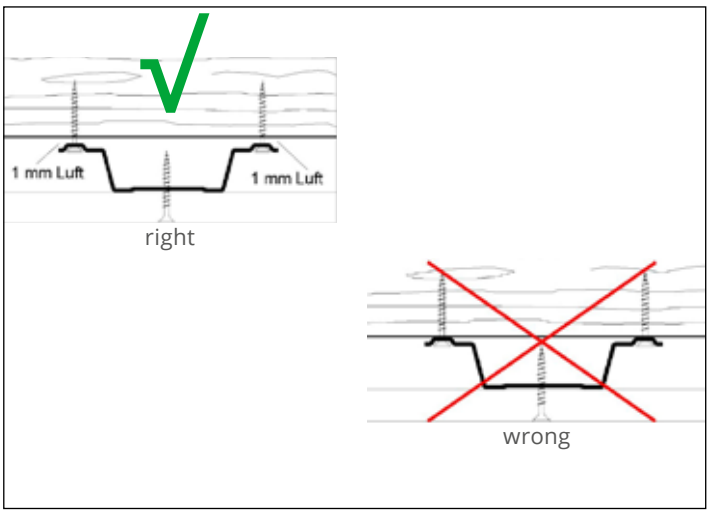
Mounting on a resilient bar

MOUNTING ON A METAL RESILIENT BAR

PhoneStar is mounted on metal resilient bars or other decoupled vibration suspenders according to the manufacturer's specification.

The fixing screws must not be fully tightened!

Install resilient bars with a play of 1 mm in the ceiling or additionally attached substructure.



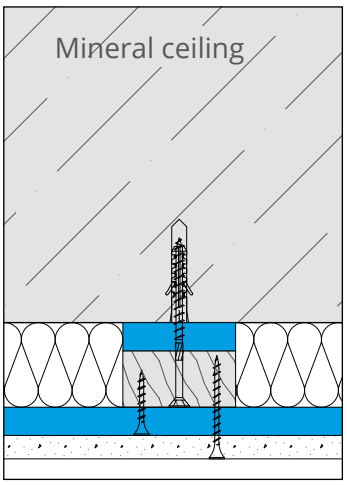
NOTE: The use of other sound-decoupling suspenders is also possible if uneven ceilings are levelled in the process.

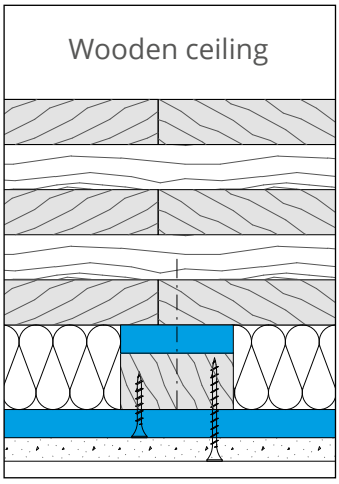
Mounting on a sound-decoupled wooden or metal substructure

MOUNTING ON PHONESTAR SCHALLI

Fix PhoneStar Schalli to the ceiling using suitable mounting materials.
Start with the first row of PhoneStar Schalli max. 10 cm from the adjoining wall and attach the sound decoupling vertically to the ceiling at a centre-to-centre distance of 31.25 cm (board size 126 x 62.5 cm) and at a distance of 30 cm (board format 120 x 80 cm).
The precise arrangement is to be selected in accordance with the fixing guidelines of the cladding board manufacturer.

After attaching the PhoneStar Schalli, the substructure (wood or metal) on the PhoneStar Schalli is fixed in the existing ceiling with suitable mounting material.





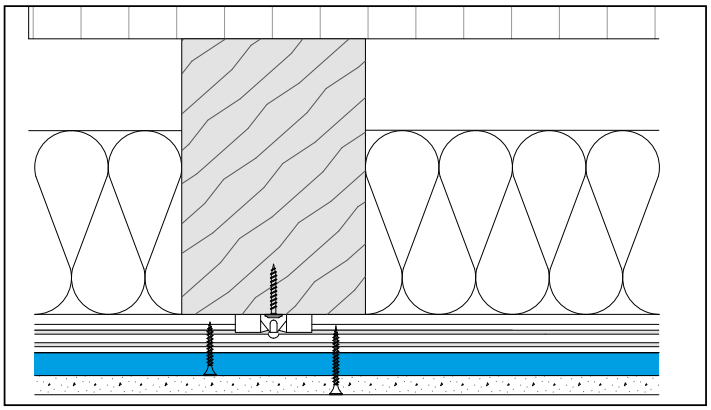
PhoneStar Schalli		
	15 mm	Art. no. 1025
	25 mm	Art. no. 1026

Mounting on a resilient suspended ceiling construction

MOUNTING ON A TPS 25 SYSTEM

The centre-to-centre distance is based on the table below.
The profiles are divided into mounting distances depending on the type of cladding.
Always install the first and last profile as close as possible to the wall and transverse to the beams.

If necessary (if the last beam is too far away from the walls), the U-connection profile can be provided as a mounting aid at the wall connection.



DETERMINATION OF MATERIAL REQUIREMENTS FOR TPS 25 SYSTEM

With max. 30 kg/m² cladding weight. / Cladding: PhoneStar ST Tri with 17.5 kg/m² + GKF approx. 10.5 kg/m²

Cladding weight in kg/m²	Profile centre-to-centre distance in m	Beam centre-to-centre distance in m	Load per spring clip in kN	TPS spring clip qty/m²	CD profile m/m²	CD connector qty/m²
30	0.331 0.313 0.300	0.7	0.07 0.066 0.063	4.32 4.56 4.76	3.0 3.2 3.33	0.56 0.65 0.70
30	0.331	0.6	0.06	5.0	3.0	0.58

For reasons of serviceability, the deformation is limited to 2 mm (l/500), which, for a linear force deformation curve, results in a permissible load FG of 0.08 kN/per spring clip. Approx. material requirement without waste.

NOTE:
A second substructure layer is necessary with larger beam distances.

CAVITY INSULATION

Cavities in the ceiling create resonating bodies and have a detrimental effect on sound insulation. To avoid this, cavities such as those created by substructures between the individual beams must be lined with an insulating material.

Insulating materials:	
Suitable	Mineral, rock wool, soft wood fibre, hemp or cellulose boards.
Not suitable	XPS, EPS, PU or similar hard insulating materials as well as injected insulating materials!

NOTE:
The cavities should be filled at least 60% with an insulating material.

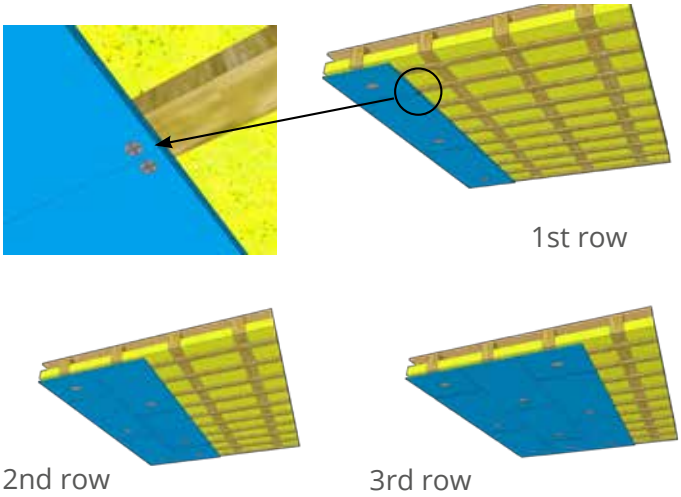
INSTALLING THE PHONESTAR LAYER

Install the PhoneStar boards without gaps and in a stretcher bond, butt-jointed and offset from row to row.

When mounting the first row, be sure to mount it without a lateral offset under the individual PhoneStar boards so that all subsequent rows can be built on it cleanly and without forming gaps.

Mount the second row and all further rows offset by half a PhoneStar board (or at least 10 cm) in order to avoid cross joints.

Maintain an edge gap of approx. 4 mm to the adjoining components.



ATTENTION: VISIBLE SIDE!
The top or visible side is marked with a label and must always be visible after installing the PhoneStar boards.

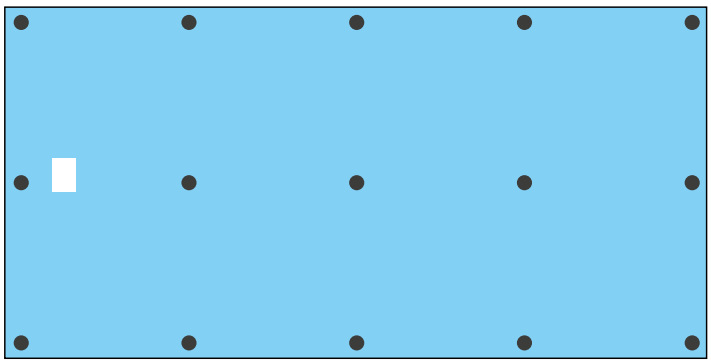
SCREWING THE PHONESTAR BOARDS TO THE SUBSTRUCTURE

PhoneStar boards are screwed to the respective substructure with drywall screws.

The screw connection is done with 15 screws per PhoneStar board, e.g. 3.9 x 35 mm in a grid of 5 x 3 screws.

Metal substructures require fine-threaded screws, while wooden substructures require coarse-threaded screws.

Drywall screws for standard plasterboard	
Wooden substructure Art. no.: 4253	Metal substructure Art. no.: 4251
	



15 screws per PhoneStar board

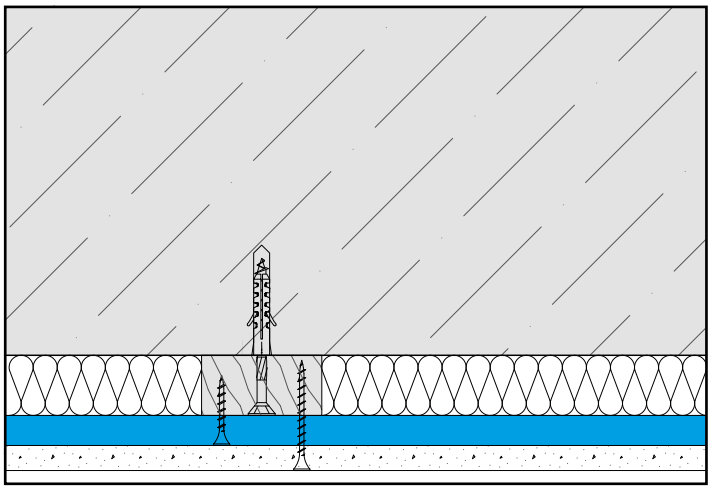
In order to improve the sound insulating effect, we recommend that you fill the gaps at the wall and ceiling connections with Wolf joint filler.

	Wolf joint filler Art. no.: 4095

PHONESTAR CLADDING

All plasterboards and gypsum fibreboards are suitable for the final cladding of the PhoneStar layer.
The suitability of other claddings must be approved by Wolf Bavaria.
The final, mandatory cladding of PhoneStar is fixed according to the board manufacturer's specifications with appropriate drywall screws through the PhoneStar board layer directly into the substructure.

The minimum thickness of plasterboard must be 12.5 mm and that of gypsum fibreboard at least 10 mm.



EDGE JOINTS

Grout the cladding layer according to the manufacturer's specification, then cut off the expansion joint tape flush.
Edge joints may not be more than 5 mm wide and must be closed with Wolf joint filler after installation of the cladding.

	Wolf joint filler Art. no.: 4095

ATTENTION! Do not grout the edge joint! Otherwise, no decoupling is possible and the sound-insulation is badly impaired!

NOTE:
silicone must not be used.

NOTE ON CLADDING:
PhoneStar sound insulating boards generally require a final cladding (e.g. plasterboard).
Direct plastering, painting, wallpapering, etc. on PhoneStar is not possible.

PhoneStrip Decoupling strips

Processing

PhoneStrip – cutting to size & masking

1

MEASURING AND MARKING THE CUTTING LINE

ATTENTION! Process on a stable work surface
- Consider work safety!

2

CUT THE DECOUPLING STRIP TO SIZE

Hand-held circular saw with Widia blade & extraction
Jigsaw with wood or metal saw blade, Cutter

3

MASK THE DECOUPLING STRIPS

Mask the cut edge only with Wolf tape. Allow the PhoneStrip tape to protrude by at least 2 cm at the corners.

The colour of the adhesive tape may vary.

4

FOLD OVER THE CORNERS

Fold the overlap at the corners downward and press the lateral overlap against the board surface.

5

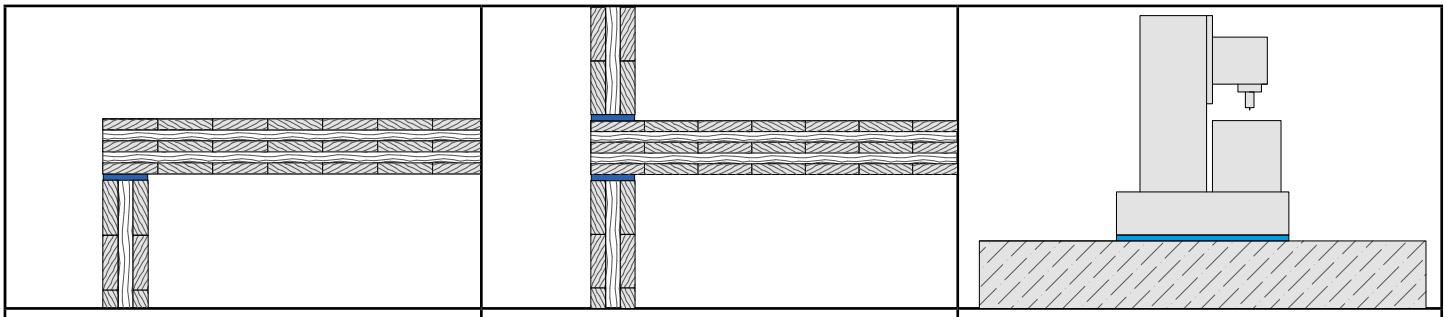
DONE

Product videos:
www.wolf-bavaria.com/

NOTE: PhoneStrip strips and Wolf tape are a matched system.
Use of a different adhesive tape will invalidate the architectonic properties, e.g. building material class E (EN 13501), leading to the exclusion of liability.

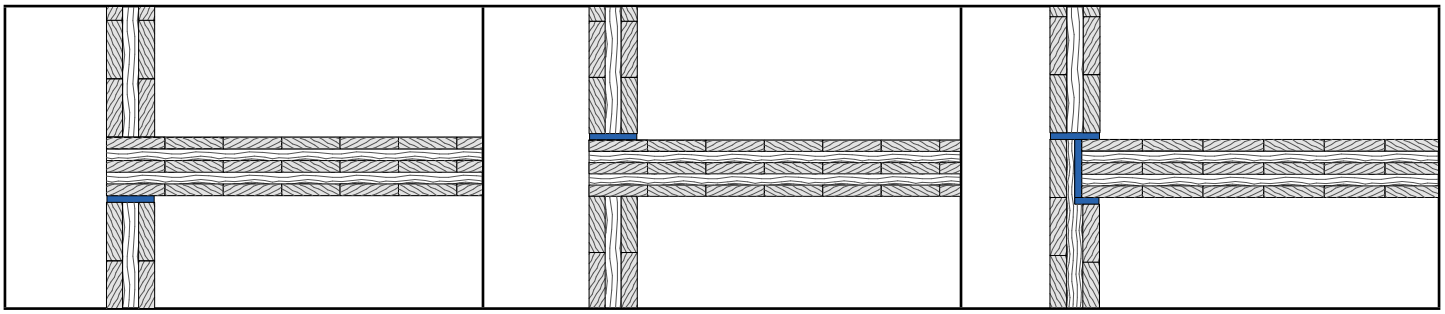
Application options

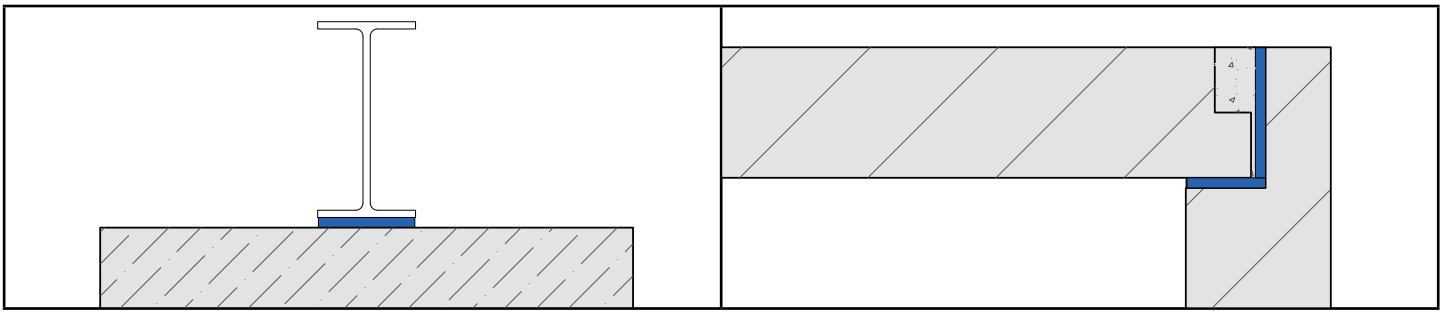
PhoneStrip can be used with wooden, metal and concrete precast construction methods due to its high vertical load capacity.

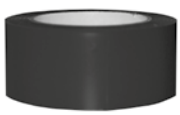


L-joint	T-joint	PhoneStrip under machines

WAYS TO POSITION PHONESTRIP





PhoneStrip shadow joint Art. no.: 1050 to 1061	PhoneStrip shadow joint tape Art. no. 1140
	

All further technical information can be found in ETA 20/0371, which is available for download on our website: www.wolf-bavaria.com

PhoneStrip processing example

INSTALLATION

Place the PhoneStrip decoupling strip on the surface to be isolated, laminated side up, in the required width.

FIXING

The decoupling strips can be nailed, bonded, stapled or screwed to the structure in order to fix the position.

NOTE:
Countersink the screw head at least one millimetre in the PhoneStrip.

ATTENTION!
PhoneStrip strips have a laminated side. This is marked with a label and must be visible after the installation of the strips.

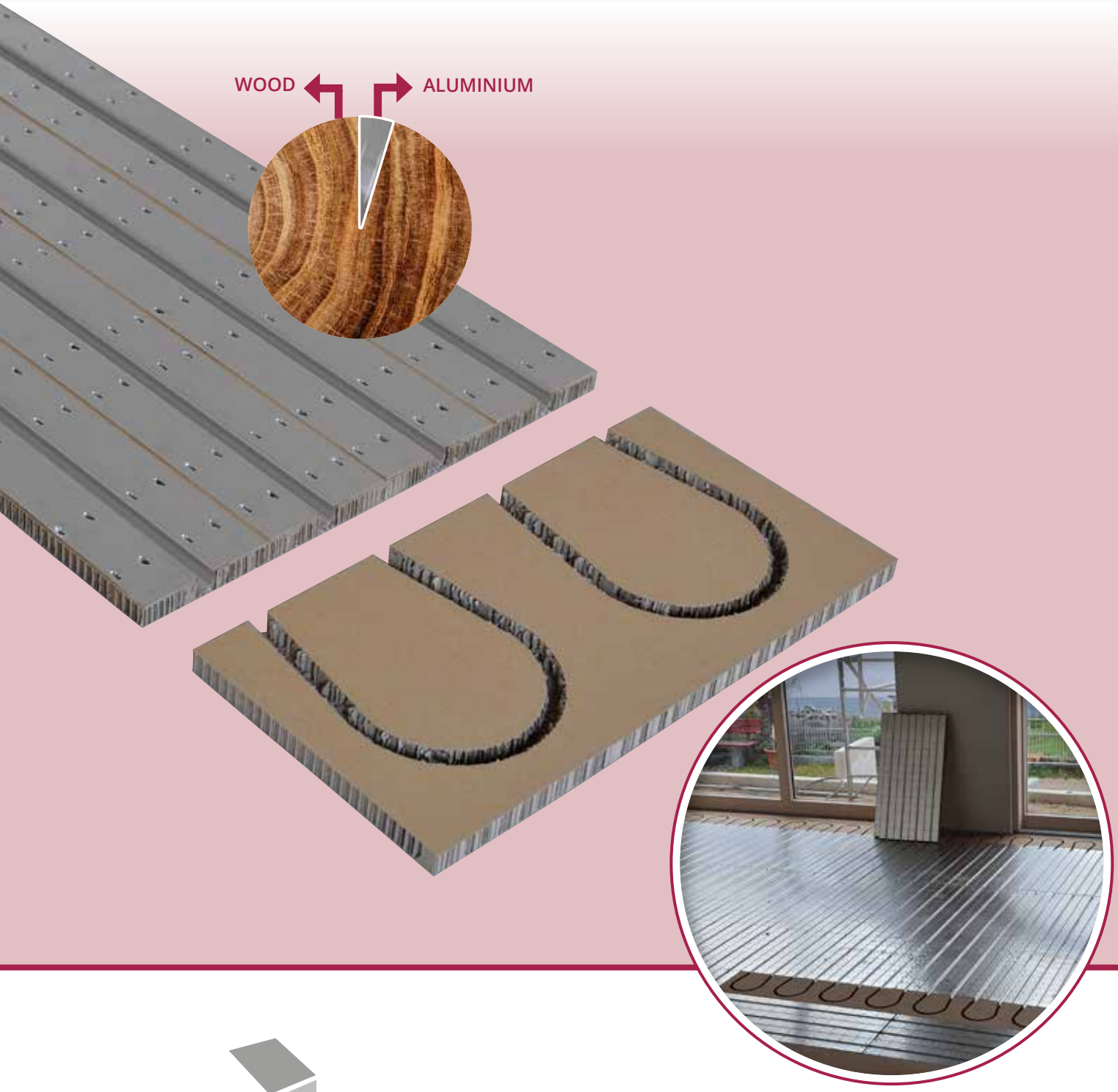
CONNECTORS

No decoupling connectors are required to install the PhoneStrip decoupling strips.

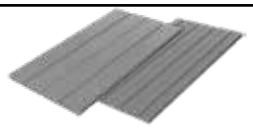
FIRE RESISTANCE

On the basis of the fire resistance test based on EN 1365-2:2015-02, it is possible for specialist planners to use PhoneStrip in building class 5.
The test report proves that PhoneStrip decoupling strips of building material class E according to EN 13501 have a high fire resistance duration. The necessary requirements for the flank decoupling of timber constructions are now covered in terms of fire and sound.

The test report can be found in the download centre on our website: www.wolf-bavaria.com



PowerFloor Radiant heating systems

PowerFloor Light straight elements 1000 x 500 mm Art. no.: 6450, 6460	PowerFloor Light return loop 250 x 500 mm Art. no.: 6451, 6425	PowerFloor Slim straight element 1000 x 500 mm Art. no.: 6410	PowerFloor Nature straight element 1000 x 500 mm Art. no.: 6313	PowerFloor Slim/ Nature return loop 250 x 500 mm Art. no.: 6411
				

Processing PowerFloor elements

MEASURING AND MARKING THE CUTTING LINE

Measuring and marking the cutting line on the rear side of the element.

ATTENTION: Process on a stable work surface. Consider work safety!

CUTTING THE ELEMENT TO SIZE

Cut the element on the **rear side**.

Use a table saw or hand-held circular saw (with extraction and guide rail) to cut to size.

Hand-held circular saw with hollow-tooth/ alternating-tooth saw blade.

TIP:
Slim and Nature elements without an aluminium sheet can be cut to size with a cutter.

PowerFloor Light elements with an aluminium sheet can also be divided in the longitudinal direction with the aid of a cutter.

DEBURRING METAL CUT EDGES

After cutting the panel to size, the metal cut edges must be deburred. Pipe channels in particular must be deburred to protect the heating pipe.

ATTENTION: Risk of injury due to non-deburred metal parts!

RETURN LOOP AND EDGE FINISHING ELEMENTS

PowerFloor Light, Nature and Slim return loop and edge finishing elements can also be cut with a cutter on the front side.

CUTTING A SPECIAL ELEMENT TO SIZE

The 90° large special element (4 circuits) can easily be cut to a size of 375 mm x 375 mm (3 circuits) – see broken red line.

Processing videos:
www.wolf-bavaria.com/

Principles of radiant heating systems

PLANNING PRINCIPLES FOR UNDERFLOOR HEATING AND UNDERFLOOR COOLING SYSTEMS

Heated floor structures are manufactured by several different trades in cooperation. This necessitates professional planning and execution of the individual systems, taking into account specific requirements. In addition, the published interface protocols of the Bundesverband für Flächenheizungen und Flächenkühlungen e.V. (BVF - Federal Radiant Heating and Cooling Association) with detailed work steps and specifications for the responsible trades must be observed. These can be found on the BVF website: *www.Flaechenheizungen.de*

PREREQUISITES

- The heating load calculation serves as the basis for the design of the underfloor heating system.
- The professional planning must be completed before the construction of the heated floor structure.
- The maximum permissible surface temperature of floor coverings (e.g. parquet flooring) on underfloor heating must be adhered to.

HEATING LOAD CALCULATION

The heating load must be calculated according to EN 12831 on the basis of the building design. The calculation is carried out by the heating planner or building planner. It serves as the basis for the dimensioning of heating systems and for the design of radiant heating systems.

If the required heating power is not achieved due to an insufficient underfloor heating surface, the lacking heating power must be provided by further measures, e.g. wall heating or another heat source.

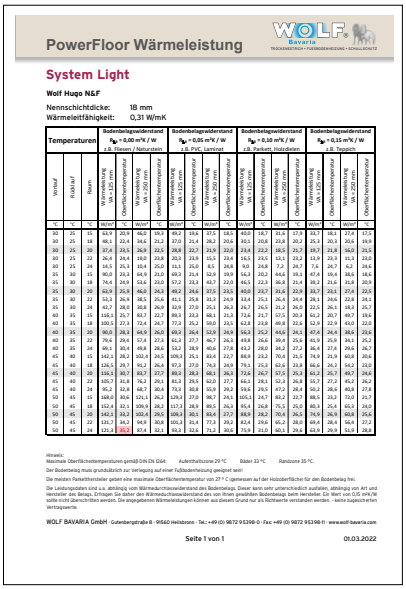
SURFACE TEMPERATURE

The surface temperature of radiant heating systems should not exceed 29 °C in common areas and 35 °C in peripheral areas. The floor covering manufacturer may specify a maximum permissible surface temperature, which must be taken into account when designing the underfloor heating system.

HEATING POWER / COOLING POWER

The heating power and cooling power are specified in Watts per square metre (W/m²). Depending on the flow and return temperature, the type of floor covering and the desired room temperature, the possible power in W/m² can be determined. Suitable measuring and control instruments must be used to prevent the formation of condensation during the cooling function.

Tables for heating power on: www.wolf-bavaria.com.



PowerFloor Wärmeleistung

WOLF Bavaria

TROCKENESTRICH • FUSSBODENHEIZUNG • SCHALLSCHUTZ

System Light

Wolf Hugo N&F

Nennschichtdicke: 18 mm
Wärmeleitfähigkeit: 0,31 W/mK

Temperaturen			Bodenbelagwiderstand $R_{\lambda b}$ = 0,00 m²K / W z.B. Klinker / Naturstein				Bodenbelagwiderstand $R_{\lambda b}$ = 0,05 m²K / W z.B. PVC, Laminat				Bodenbelagwiderstand $R_{\lambda b}$ = 0,10 m²K / W z.B. Parkett, Holzdielen				Bodenbelagwiderstand $R_{\lambda b}$ = 0,15 m²K / W z.B. Teppich			
Vorlauf	Rücklauf	Raum	Wärmeleistung VA = 125 mm	Oberflächentemperatur	Wärmeleistung VA = 250 mm	Oberflächentemperatur	Wärmeleistung VA = 125 mm	Oberflächentemperatur	Wärmeleistung VA = 250 mm	Oberflächentemperatur	Wärmeleistung VA = 125 mm	Oberflächentemperatur	Wärmeleistung VA = 250 mm	Oberflächentemperatur	Wärmeleistung VA = 125 mm	Oberflächentemperatur	Wärmeleistung VA = 250 mm	Oberflächentemperatur
°C	°C	°C	W/m²	°C	W/m²	°C	W/m²	°C	W/m²	°C	W/m²	°C	W/m²	°C	W/m²	°C	W/m²	°C
30	25	18	63,9	20,9	66,0	19,9	49,2	19,6	37,5	18,9	40,0	18,7	31,6	17,8	33,7	18,1	27,6	17,5
30	25	18	48,1	22,4	34,6	21,2	37,0	21,4	26,2	20,6	30,1	20,8	23,8	20,2	25,3	20,3	20,6	19,9
30	25	20	97,6	26,5	26,0	23,0	68,8	22,7	25,9	22,8	23,6	22,2	18,5	21,2	18,7	21,8	16,0	21,1
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35	30	18	90,0	23,3	64,9	21,0	69,3	21,4	52,9	19,9	54,3	20,2	44,6	19,3	47,4	19,4	38,6	18,6
35	30	20	74,4	24,9	53,1	23,0	57,3	23,3	43,7	22,0	46,1	22,3	36,8	21,4	38,2	21,6	31,8	20,9
35	30	20	52,9	26,9	46,0	24,8	46,2	24,6	37,5	23,6	40,0	23,7	31,6	22,8	33,7	23,1	27,4	22,5
35	30	22	53,3	26,9	38,5	25,6	41,5	25,8	31,9	24,9	33,4	25,1	26,4	24,6	28,1	24,6	22,8	24,1
35	30	24	62,7	28,0	30,8	26,9	32,9	27,0	25,1	26,4	26,7	26,5	21,2	26,0	22,5	26,1	18,3	25,7
40	35	15	116,1	25,7	69,7	22,7	89,3	23,3	68,1	21,9	72,6	21,7	57,5	20,9	61,2	20,7	49,7	19,8
40	35	18	100,5	27,3	72,4	24,7	77,3	25,2	59,0	24,5	62,8	23,8	49,8	22,6	52,9	22,9	43,0	22,0
40	35	20	90,0	28,3	64,9	26,0	69,3	26,4	52,9	26,0	54,3	25,2	44,6	24,2	47,4	24,4	38,6	23,6
40	35	22	76,4	29,4	57,4	27,2	61,3	27,7	46,7	26,3	49,8	26,6	39,4	25,6	41,9	25,9	34,1	25,2
40	35	24	66,1	30,4	49,8	28,4	51,2	28,9	40,6	27,8	41,2	28,0	34,2	27,2	36,4	27,0	29,6	26,7
45	40	15	142,1	28,2	102,4	24,3	109,3	25,1	81,6	23,7	88,9	23,2	70,4	21,5	74,9	21,9	60,8	20,6
45	40	18	126,5	29,7	91,2	26,4	97,3	27,0	76,3	26,0	79,1	25,3	62,6	23,8	66,6	24,2	54,2	23,0
45	40	20	116,1	30,7	83,7	27,7	89,3	28,3	68,1	26,3	72,6	26,7	57,5	25,3	61,2	25,7	49,7	24,6
45	40	22	105,7	31,8	76,2	29,1	81,3	29,5	62,0	27,7	66,3	28,1	52,3	26,8	55,7	27,3	45,2	26,2
45	40	24	95,2	32,8	68,7	30,4	73,3	30,8	55,9	29,2	59,9	29,6	47,2	28,4	50,2	28,6	40,8	27,6
50	45	15	168,0	30,6	121,1	26,2	129,3	27,0	96,7	24,5	105,1	24,7	83,2	22,7	88,5	23,2	72,0	21,7
50	45	18	152,4	32,1	109,9	28,2	117,3	28,9	89,0	26,5	95,4	26,8	75,5	24,8	80,3	25,4	65,3	24,0
50	45	20	142,1	33,2	102,4	29,5	109,3	30,1	83,6	27,7	88,9	28,2	70,4	26,5	74,9	26,9	60,8	25,6
50	45	22	131,7	34,2	94,9	30,8	101,3	31,4	77,3	29,2	82,4	29,6	65,2	28,0	69,4	28,4	56,4	27,2
50	45	24	121,3	35,3	87,4	32,1	93,3	32,6	71,2	30,6	75,9	31,0	60,1	29,4	63,9	29,8	51,9	28,8

Hinweis:
Maximale Oberflächentemperaturen gemäß DIN EN 1264: Aufenthaltszone 29 °C Bäder 33 °C Randzone 35 °C.

Der Bodenbelag muss grundsätzlich zur Verlegung auf einer Fußbodenheizung geeignet sein!

Die meisten Parketthersteller geben eine maximale Oberflächentemperatur von 27 ° C (gemessen auf der Holzoberfläche) für den Bodenbelag frei.

Die Leistungsdaten sind u.a. abhängig vom Wärmedurchlasswiderstand des Bodenbelags. Dieser kann sehr unterschiedlich ausfallen, abhängig von Art und Hersteller des Belags. Erfragen Sie daher den Wärmedurchlasswiderstand des von Ihnen gewählten Bodenbelags beim Hersteller. Ein Wert von 0,15 m²K/W sollte nicht überschritten werden. Die angegebenen Wärmeleistungen können aus diesem Grund nur als Richtwerte verstanden werden. - keine zugesicherten Vertragswerte.

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Seite 1 von 1 01.03.2022

MANIFOLD

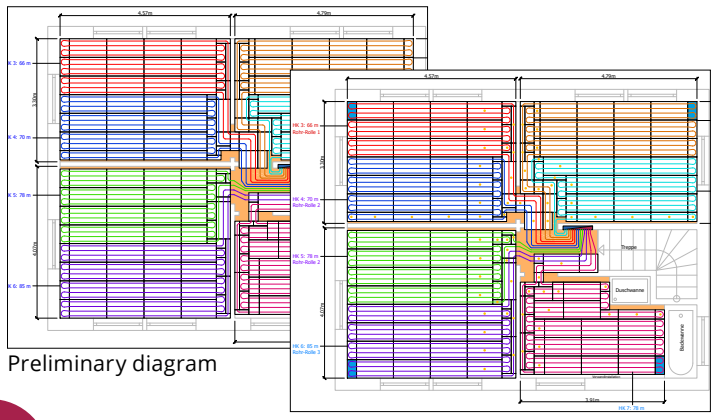
The routing of the pipes to the individual rooms is determined by the location of the manifold. A central location of the manifold, e.g. in the corridor, enables homogeneous pipe routing to the individual heating circuits in the rooms. It must be taken into account here that rooms, e.g. corridors, cannot be controlled at all or only partially due to the pipe routing at these heating circuits. By laying the heating pipe from the manifold to the heating circuits, indirect heating of the areas through which the heating pipe passes is possible.

PowerFloor packages – what's included:

PLANNING

The preliminary diagram with location of the heating circuit manifold is used to check the construction measure and represents the flow schematic.

The installation diagram is final. It defines the recommended order of installation and is used to determine:
- the material requirements
- the pipe rolls
- the hydraulic balancing



Preliminary diagram

Installation diagram

POWERFLOOR ELEMENTS

The elements of the selected radiant heating systems with the corresponding pipe spacing (RA 250 or 125 mm)

Systems:
- PowerFloor Light: RA 250 mm and RA 125 mm
- PowerFloor Slim: RA 125 mm
- PowerFloor Nature: RA 125 mm
- PowerFloor Öko Plus: RA 125 mm

EDGE INSULATION STRIP

See general section for installation notes

OPTIONAL

HEATING PIPE AND COMPRESSION FITTING

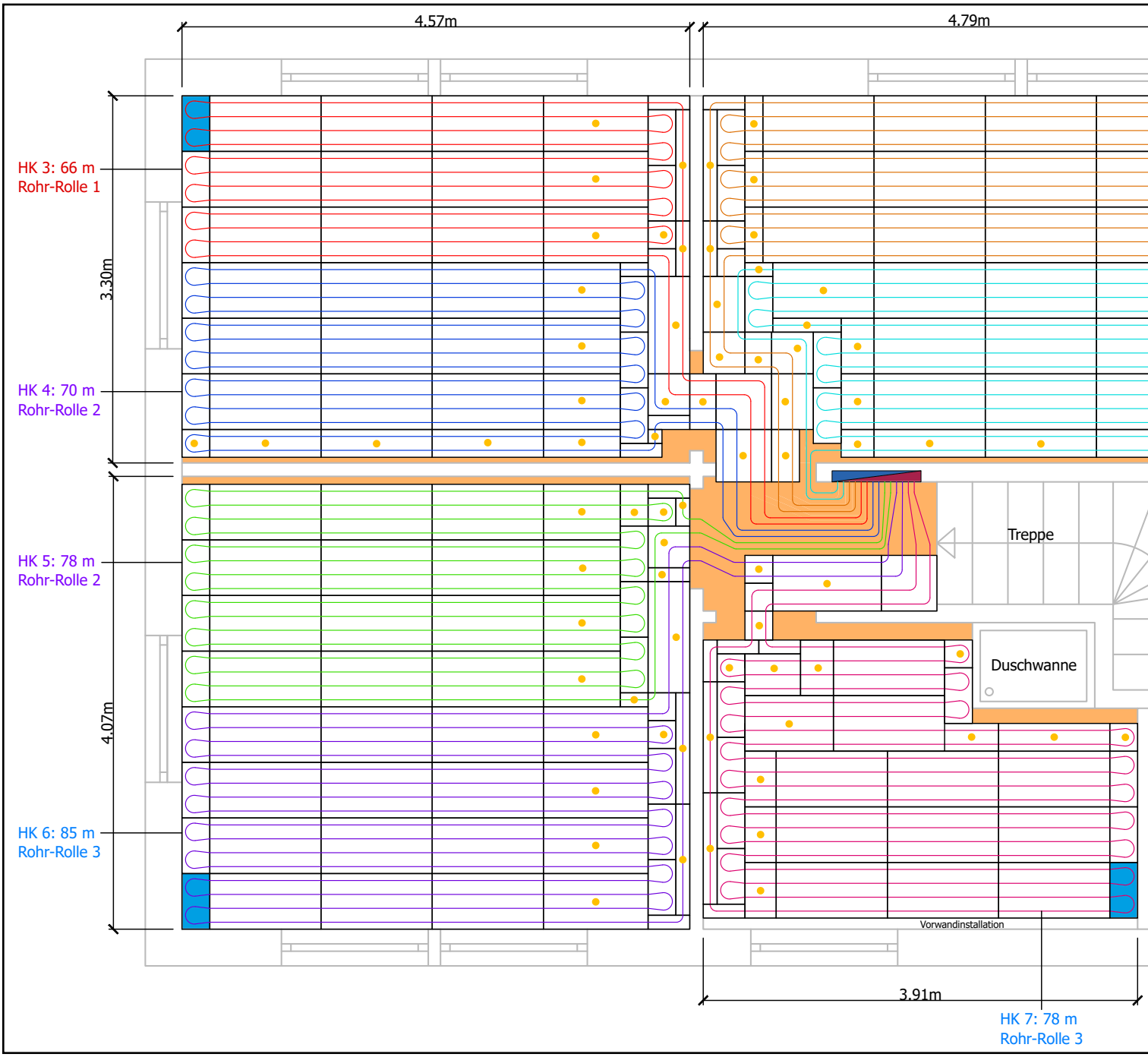
Plastic/aluminium composite pipe 16 x 2.0 mm
Variants: length = 500 m, 200 m or 100 m

Compression fitting

Edge finishing panel 1000 x 500 mm	Special element 90° small 250 x 250 mm RA 250 mm	Special element 90° large 500 x 500 mm RA 250	Special element 90° small 250 x 250 mm RA 125 mm	Special element 90° large 250 x 250 mm RA 125	Special element 90° long 375 x 125 mm RA 125
					

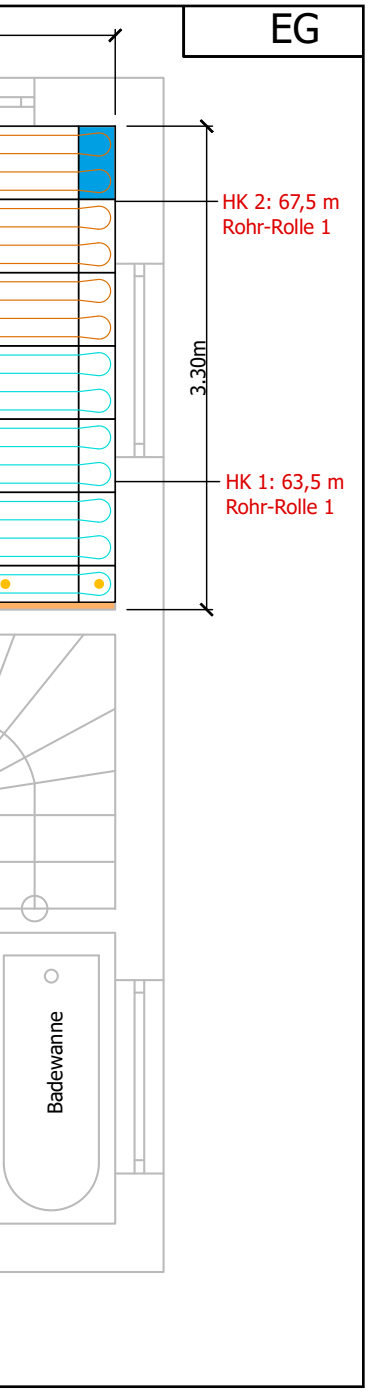
PowerFloor – Installation diagram

FAMILIARISE YOURSELF WITH THE INSTALLATION DIAGRAM BEFORE COMMENCING WITH THE INSTALLATION



INSTALLATION OF THE ELEMENTS IN 11 STEPS

Orient yourself to the next double page for the order of the individual work steps.



EXAMPLE DIAGRAM: - with seven heating circuits

NOTE ON PIPE ROLL: One heating circuit (HC) is always assigned to one pipe roll.
Pipe roll 1 = 200 m roll [HC 1, HC 2, HC 3]
Pipe roll 2 = 200 m roll [HC 4, HC 5]
Pipe roll 3 = 200 m roll [HC 6, HC 7]
Distribute the pipe rolls to the individual heating circuits as specified.

INSTALLATION NOTE:
Begin with the installation at the blue coloured elements in the respective room.

The components marked with orange dots require cutting to size.
Adaptation work may also be necessary at other points.

Areas marked in brown are filled with elements without slot and aluminium sheet.

If heating pipes run through these elements, additional slots must be milled into them using a hand-held miller.
Light / Slim / Nature system: - 14 mm milling bit diameter
Öko Plus system: - 16 mm milling bit diameter

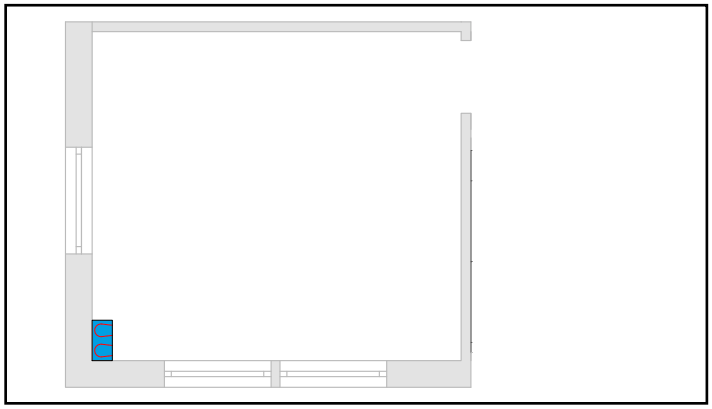
NOTE:
Cut the feed pipes and cut blanks (elements marked in yellow) from whole panels accordingly.

TIP: Before commencing with the bonded installation, lay out the PowerFloor elements loosely to check the angular accuracy of the rooms; align the PowerFloor elements accordingly if necessary.
INSTALLATION TIP: Strike through the already installed elements on the diagram. This allows you to track the current status of the installation at any time.

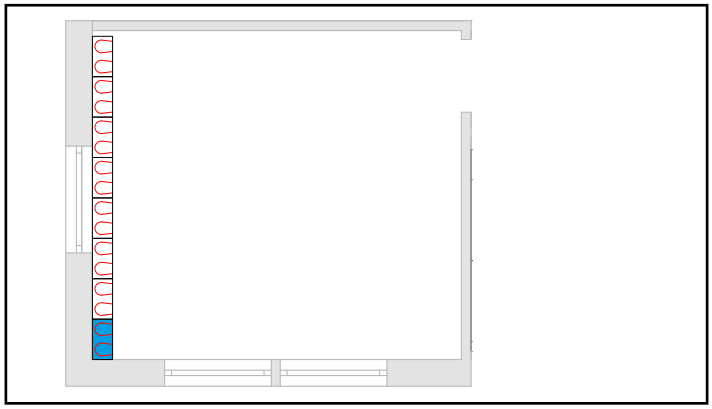
ATTENTION: Please pay attention to the technical data sheets, top covering and product approvals, as well as the installation manual and installation instructions from Wolf Bavaria and the floor covering manufacturers.

Installation of the elements in 11 steps

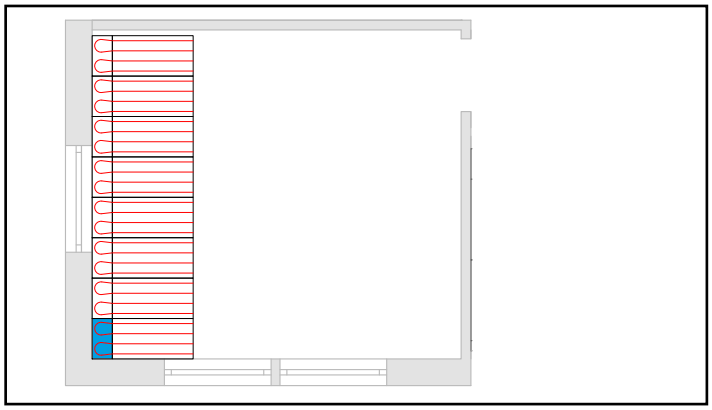
STEP 1:
Begin with the return loop element marked in blue



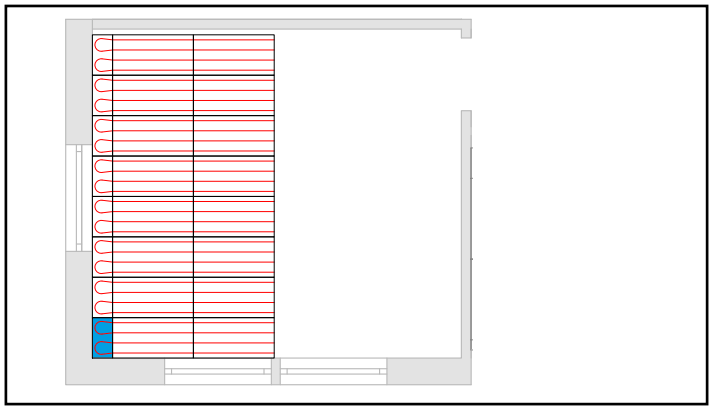
STEP 2:
Install the first row of return loop elements



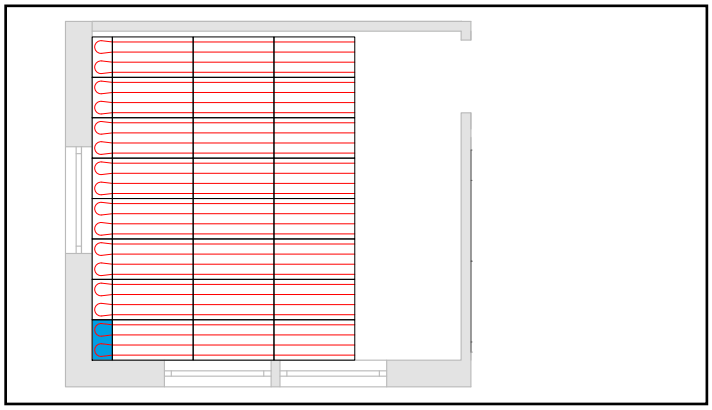
STEP 3:
Install the first row of straight elements



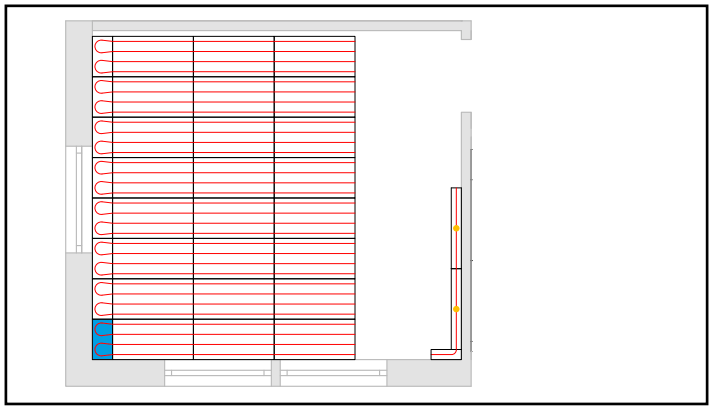
STEP 4:
Install the second row of straight elements



STEP 5:
Install the third row of straight elements, and so on

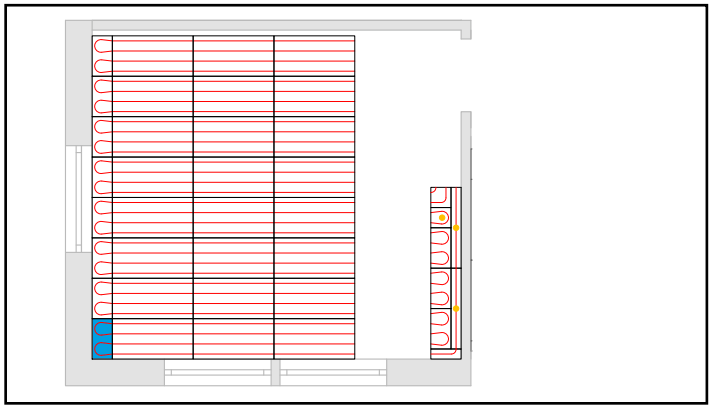


STEP 6:
Install the edge elements for the feed pipe to the manifold



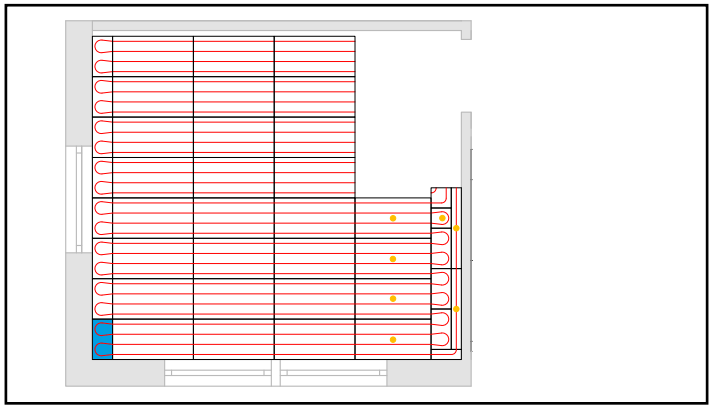
STEP 7:

Install the return loop elements along the feed pipe



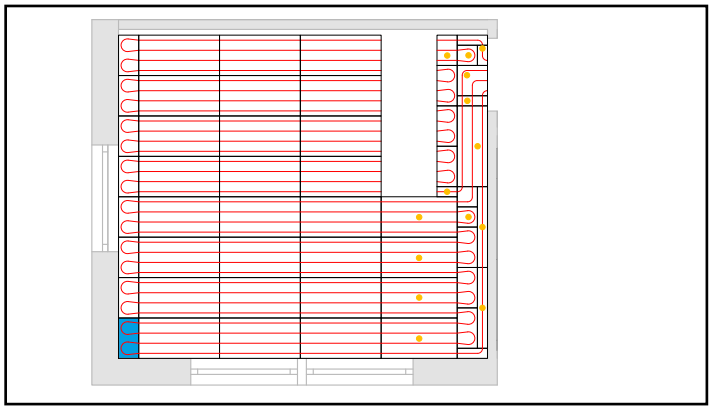
STEP 8:

Cut the supplementary straight elements to size and fit them



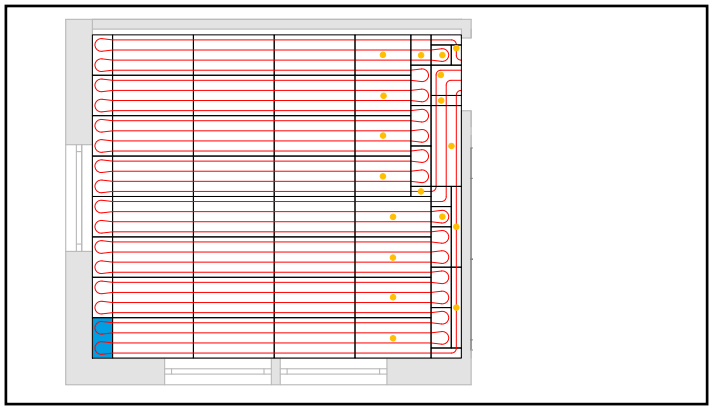
STEP 9:

Install the remaining edge elements and add the return loop elements



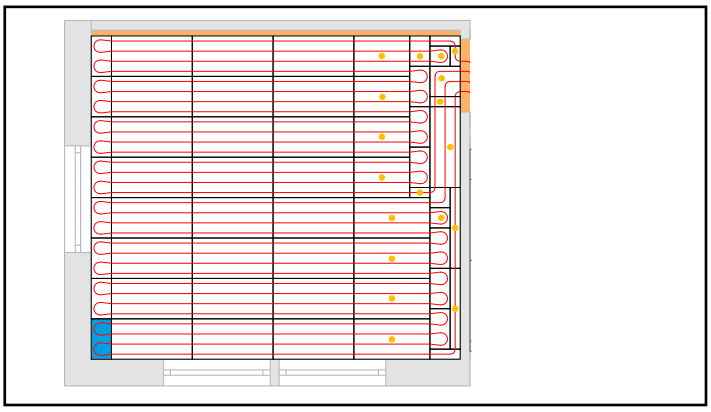
STEP 10:

Cut the still missing straight elements to size and fit them



STEP 11:

Fill the unoccupied areas at the edges as well as the areas in front of the heating circuit manifold with edge finishing panels

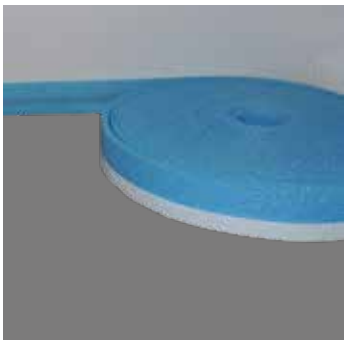


CHECKING THE SUBSTRATE

Before commencing with the PowerFloor installation, the evenness, load capacity and moisture content of the substrate must be checked. The corresponding requirements are to be taken from the chapter ***General processing guidelines***.

ATTACHING THE EDGE INSULATION STRIPS

As described in the chapter ***General processing guidelines***.
This step is omitted if an edge insulation strip has already been installed along the wall and there is still sufficient height for the further floor construction.



ATTENTION:
Edge insulation strips must contact the wall in the corners.

	Edge insulation strip: Art. no.: 4300

Bonding PowerFloor

Depending on the system structure, bonding of the system components may be necessary.
The PowerFloor elements are bonded in different ways depending on the type of substrate. For bonding, the substrate must be clean, dry and free from separating layers of all kinds.

TIP: Even in the case of floating installation of the PowerFloor underfloor heating system, we recommend bonding the return loop and special elements to the substrate to fix the position.

INSTALLATION WITH WOLF ROLL-ON ADHESIVE

Apply the rolled adhesive to the entire surface of the wooden substrate or the PhoneStar board using the Wolf adhesive roller.

Wolf Roll-On Adhesive Art. no.: 4085	Wolf adhesive roller Art. no. 4092	Telescopic handle Art. no. 4093
		

After applying the adhesive, place the PowerFloor panels on the substrate and press them down firmly.
Following a drying time of about 60 minutes*, you can continue to work on the PowerFloor layer. The drying time may be longer depending on the ambient conditions.

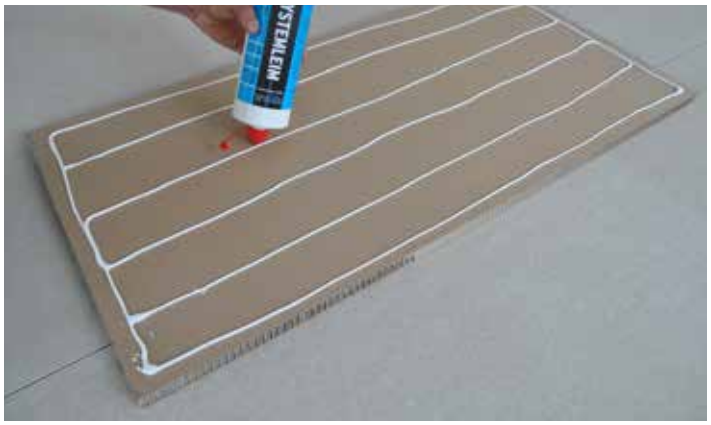
*Based on + 23 °C and 50 % relative humidity.

BONDING WITH WOLF SYSTEM ADHESIVE

Alternatively, the PowerFloor elements can also be bonded to wood-based substrates or PhoneStar boards with Wolf system adhesive (applied using the glue bead method).

Following a drying time of approx. 2 hours, depending on the ambient conditions, you can continue to work on the PowerFloor layer.

	Wolf system adhesive: Art. no.: 4070



BONDING WITH PARQUET ADHESIVE

Bond the PowerFloor elements to mineral substrates using parquet adhesive.

The parquet adhesive is applied to the entire surface of the substrate. Apply the adhesive only to the area being processed - use a TKB B11 notched trowel.

Wolf 1-component parquet adhesive: Art. no.: 4080	Wolf notched trowel: B11 toothing Art. no.: 4090
	

ATTENTION:
Do not use parquet adhesive in conjunction with EPS.

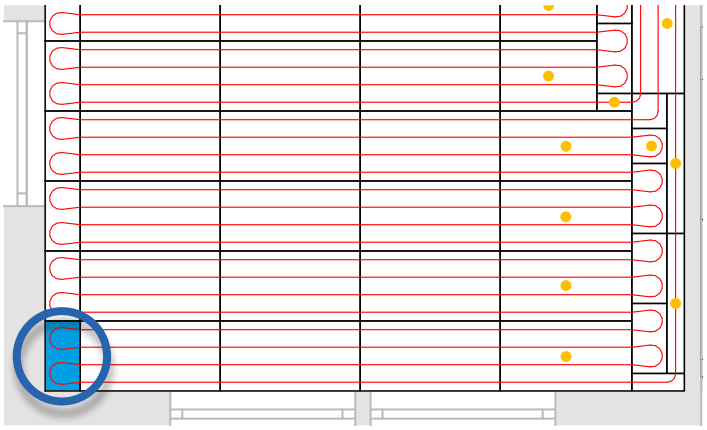
Installing PowerFloor

START OF THE INSTALLATION

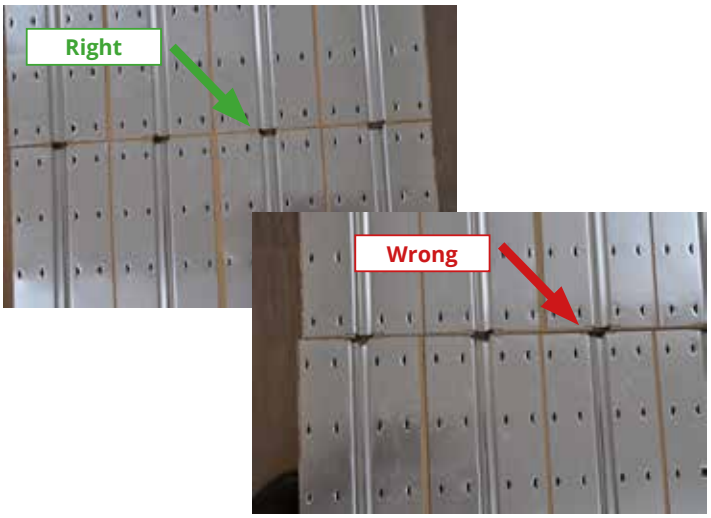
Start with the PowerFloor Element marked in blue on the installation diagram and carry out the 11 steps described on pages 46 and 47.

The PowerFloor elements must be in contact with the substrate over their entire surface.

TIP: Before commencing with the bonded installation, lay out the PowerFloor elements loosely to check the angular accuracy of the rooms; align the PowerFloor elements accordingly if necessary.



ATTENTION!
When installing, pay attention to the flush arrangement of the PowerFloor elements.



INSTALLING THE ELEMENTS

Lay out the elements according to the installation diagram.
In the case of the cut elements marked with an orange dot, first position the opposite side in order to be able to measure the exact cutting dimension.

TIP: Check the flow and return circuits after completion of the installation in a room! Avoid "dead" heating circuits!

TIP
We recommend the use of a spiral spring for laying the pipe to heating circuit manifolds.

EDGE FINISHING AREAS

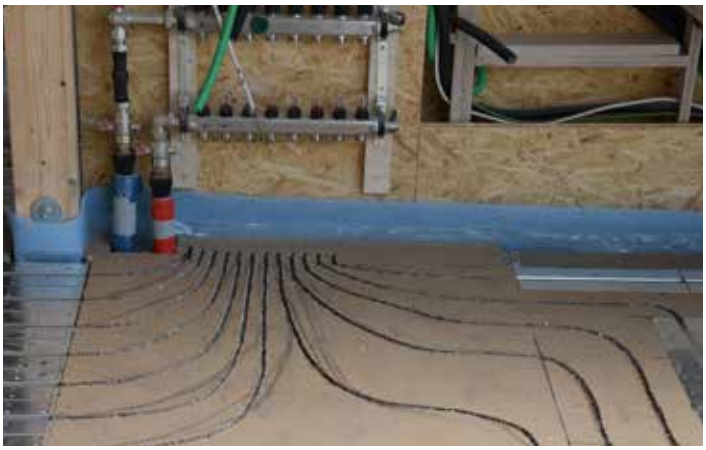
These are the areas marked in brown on the installation diagram. In some cases these areas have to be subsequently provided with channels for the pipe routing, e.g. in front of the heating circuit manifold. Necessary pipe channels are milled into the edge finishing panels with a router.
Before milling, mark the route of all required channels on the elements.
Clean out the channels with a vacuum cleaner after milling.

ATTENTION! For bends, observe a minimum radius of 8 cm in order to avoid the heating pipe kinking during the installation.

TIP: At points that are difficult to reach, such as wall bases or supply pipes in front of the heating circuit manifold, first lay the elements loosely in place, mark the channel route, remove the elements and mill the channel. Subsequently, insert the processed element again and bond it.

Miller type	Cylindrical milling head	
	Ø = 14 mm	PowerFloor Light / Slim / Nature
	Ø = 16 mm	PowerFloor Öko Plus
Milling depth: 18.5 mm		

TIP - WALL OPENING:
If the pipe runs through a wall, it is advisable to protect the heating pipe with sleeves at these points.



1. Mark the pipe channels

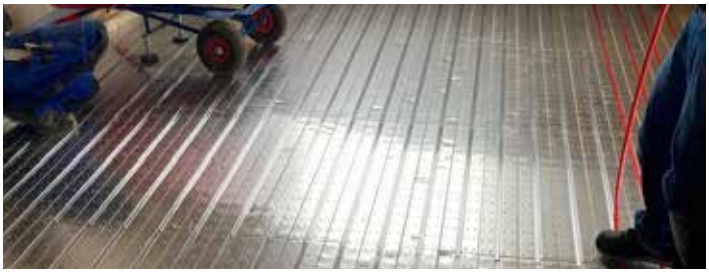
2. Mill

3. Vacuum out

INSTALL HEATING PIPE

Clean all areas thoroughly with a vacuum cleaner before installing the heating pipe.
The installation of the heating pipe at the manifold must begin with a sufficient overlap. To do this, unroll the heating pipe from the pipe bundle via a pipe reel or with the help of a second person and press it into the channels in the PowerFloor elements.

Refer to the installation diagram for the distribution of the heating rolls to the corresponding heating circuits.



TIP: Label the pipe with the number of the respective heating circuit.

ATTENTION!
Do not kink the heating pipe!

Heating pipe	Art. no.:
	100 m - 6811
	200 m - 6810
	500 m - 6812

Connecting the radiant heating to the heating system

ATTENTION: The connection to the heating circuit manifold as well as the leak and pressure test must be carried out by a specialist. It is imperative to pressure test the heating system before the subsequent decoupling layer is installed!

The radiant heating is connected to the heating system itself via a heating circuit manifold. The following boundary conditions must be observed here:

Boundary conditions	
Wolf radiant heating pipe	16 mm x 2.0 mm
Compression fitting	16 mm x 2.0 mm x ¾"
Max. system flow temperature When setting the flow temperature, the maximum surface temperatures on the top coverings as well as the respective living areas must be taken into account.	50 °C

CONNECTION TO HIGH-TEMPERATURE HEATING SYSTEMS

In addition to low-temperature heating systems, the PowerFloor system can also be connected to high-temperature heating systems that significantly exceed the recommended flow temperature range. In this case, an additional fixed value control set (mixer) mounted on the heating circuit manifold is necessary in order to regulate the flow temperature to the recommended low temperature range.

Fixed value control set
Art. no.: 6912

TIP: After installation, the heating pipe must be checked to ensure that it is correctly seated in the channels. If necessary, press down on the heating pipe accordingly so that it does not protrude above the PowerFloor surface.
In return loops, it can be helpful to bend the arc-shaped pipe slightly downwards and then press it into the channel for the optimal seating of the heating pipe in the channel.

PowerFloor on the wall, roof slope or ceiling

ATTENTION! When installing on the roof slope, the structure must be verified by a building physicist with regard to condensation, etc.

For fixing, the substrate must be pressure-resistant, clean, dry and free from dirt (e.g. OSB board).
For installation, refer to PowerFloor on the floor

INSTALLING THE ELEMENTS

Screw the battens to the substrate. Place the PowerFloor elements between the battens on the wall. The distance between the battens is 50 cm. The battens must be of the same thickness as the PowerFloor elements used.

The elements are fixed depending on the chosen structure and the building site situation.

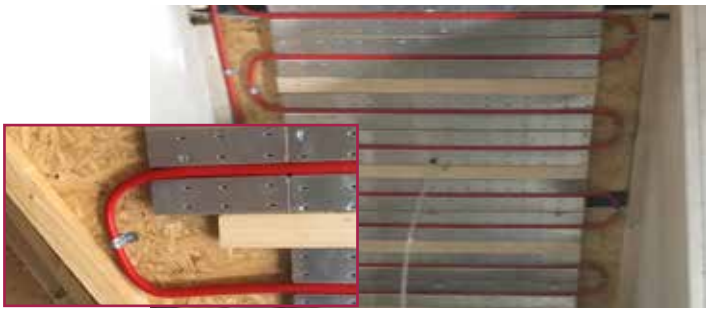
Bonding PowerFloor on			
Substrate	**Wooden substrate**	**Mineral substrate**	**PhoneStar**
Adhesive	Wolf Roll-On Adhesive or Wolf system adhesive (using glue bead method)	Assembly adhesive	Wolf Roll-On Adhesive or Wolf system adhesive (using glue bead method)

PRESSING IN THE PIPE

Begin with the installation of the heating pipe at the manifold. To do this, unroll the heating pipe from the pipe bundle via a pipe reel or with the help of a second person and press it into the channels in the PowerFloor elements.

Do not kink the heating pipe!

Fasten the bent part of the pipe, e.g. with a pipe clip.



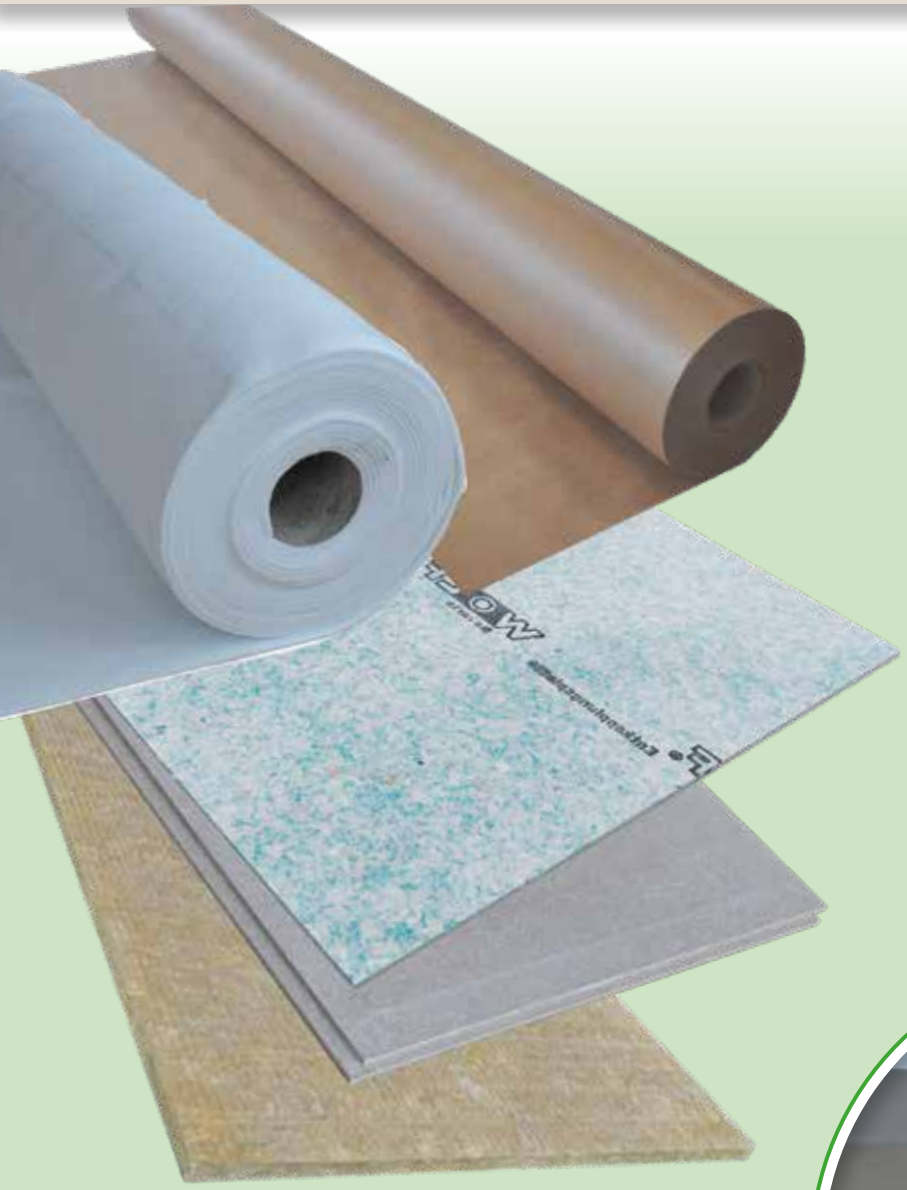
FINAL CLADDING

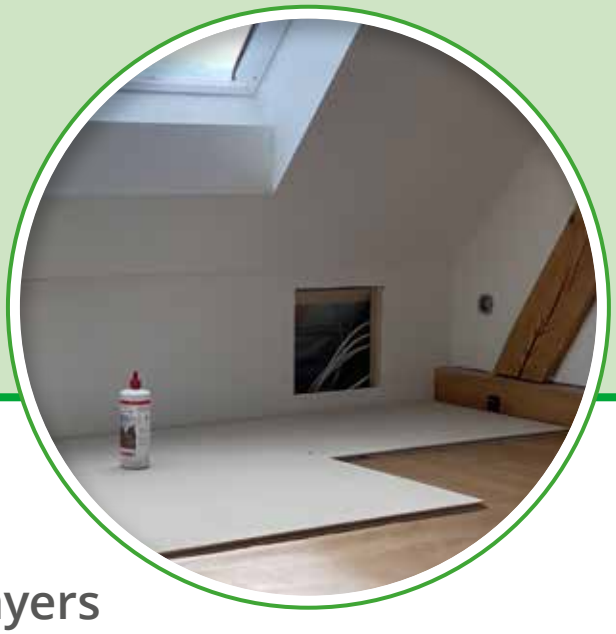
Finally, clad with plasterboard with a minimum thickness of 15 mm.

Screw on according to the manufacturer's specifications.

NOTE:
Only the straight radiant heating elements are included in the scope of delivery.

As described on page 48, the radiant heating is connected to the heating system itself via a heating circuit manifold.





Wolf accessories / decoupling layers

STRUCTURE LAYERS / DECOUPLING

Depending on the selected system structure, structure layers are necessary for further processing. The following materials are available in the Wolf Bavaria system:

Wolf fleece / separating web					
	Product illustration	Length x width [m]	Thickness [in mm]	Weight [in g/m²]	Article number
Wolf decoupling fleece Decoupling layer for multi-layer bonded parquet.		50 x 1.0 per roll	approx. 1	0.250	3050
Wolf separating web Coated paper as an underlay for Wolf Hugo N & F gypsum fibreboard in case of floating installation or as trickle protection.		100 x 1.30 per roll	approx. 0.1	130	3070
Wolf fleece Additional insulating layer underneath the Phone-Star boards to improve sound insulation properties.		1.00 x 10	3	400	3041

Wolf decoupling boards					
	Product illustration	Length x width [m]	Thickness [in mm]	Weight [in kg/m²]	Article number
Wolf decoupling board For the manufacture of a decoupling layer on PhoneStar and PowerFloor for the laying of tiles and natural stone, as well as an alternative decoupling layer for parquet.		1.0 x 0.6	4	3.8	3091
Wolf Hugo N + F gypsum fibre-board For the manufacture of a decoupling layer on PhoneStar and PowerFloor for the further laying of soft final coverings, tiles, natural stone and parquet (prefabricated and mosaic parquet).		1.2 x 0.6	18	23.4	3082
Wolf MiWo An impact sound insulation board made of highly compressed rock wool for impact sound / airborne sound and heat insulation of floors and ceilings.		1.20 x 0.625	12	approx. 1.56	3075
			20	approx. 2.60	3076

NOTE: Wolf Bavaria system products are matched to one another.
Liability is excluded if other products are used without the approval of Wolf Bavaria.
The decoupling layers suitable for the corresponding systems are listed in the chapter "System solutions".

Laying Wolf decoupling fleece

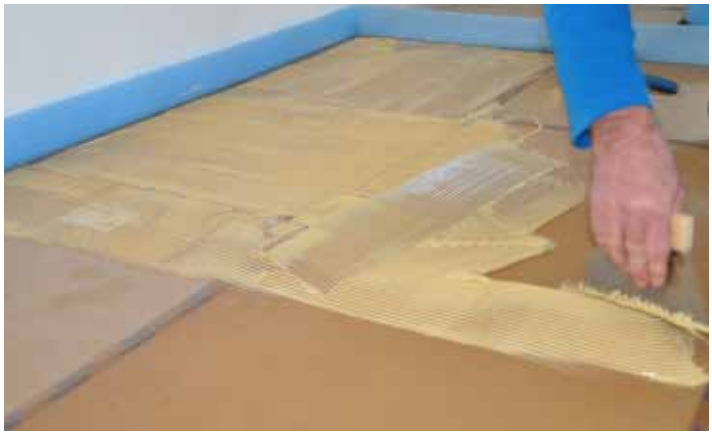
The 1 mm-thick Wolf decoupling fleece is laid by means of full-surface bonding to PhoneStar.

For laying, the PhoneStar surface must be clean, dry and free from separating layers of all kinds.

Wolf decoupling fleece Art. no.: 3050	Wolf 1-component parquet adhesive Art. no.: 4080	Wolf notched trowel B6 toothing, Art. no.: 4091
		

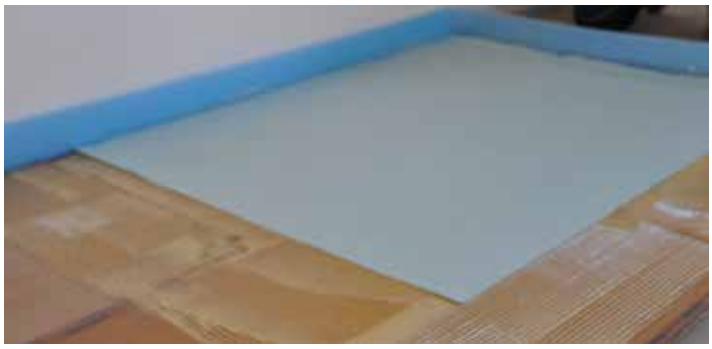
PROCESSING WOLF DECOUPLING FLEECE

Apply Wolf 1-component parquet adhesive to the entire surface of the PhoneStar boards using the Wolf notched trowel (toothing TKB B6), or apply according to the adhesive manufacturer's instructions. Apply adhesive only to the area being processed.



ATTENTION! For laying the Wolf decoupling fleece on PhoneStar, the PhoneStar layer must be bonded to the substrate or to a suitable carrier layer. Not suitable for laying on PowerFloor underfloor heating.

Wolf decoupling fleece is laid rotated by 90° to the installation direction of the top covering.



Cut the Wolf decoupling fleece to the appropriate length and insert it web by web into the applied adhesive bed and then press down over the entire surface.

Each subsequent web is butted against the previously laid web (edge to edge). Gaps between the webs are to be avoided. The webs must not overlap.

Following a drying time of 24 hours*, you can continue to work on the Wolf decoupling fleece.

*(at +23 °C and 50 % rel. humidity) The drying time may be longer depending on the ambient conditions.

Laying Wolf separating web

Roll out the Wolf separating web on the PowerFloor surface. Make sure the webs overlap by at least 10 cm. Lay the separating web up to the edge insulation strips.

	Wolf separating web Art. no.: 3070

ATTENTION:
Following laying, the decoupling layer must be protected against construction site traffic and dirt until the final covering is installed.

Laying Wolf fleece

The Wolf fleece is laid floating on the substrate.
For laying, the substrate must be clean, dry and free from separating layers of all kinds.

	Wolf fleece Art. no.: 3041

PROCESSING WOLF FLEECE

Cut the Wolf fleece to the appropriate length and lay it floating on the substrate.

Each subsequent web is butted against the previously laid web (edge to edge). Gaps between the webs are to be avoided. The webs must not overlap.
Avoid cross joints.
Maintain an offset of at least 10 cm.

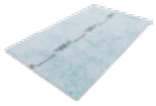
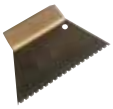
Installing the Wolf decoupling board

The 4 mm-thick Wolf decoupling board is installed by means of full-surface bonding to PhoneStar or PowerFloor Light / Slim systems. For the installation, the surface must be clean, dry and free from separating layers of all kinds.

Apply the Wolf 1-component parquet adhesive to the complete surface of the PowerFloor systems (toothing TKB B6).

Apply adhesive only to the area being processed.

ATTENTION! The layer under the decoupling board must also be bonded.

Wolf decoupling board Art. no.: 3091	Wolf 1-component parquet adhesive Art. no.: 4080	Wolf notched trowel B6 toothing, Art. no.: 4091
		

NOTE: The parquet adhesive is applied over the full surface. When bonding to the PowerFloor elements, the pipes do not have to be completely filled with parquet adhesive.

Subsequently, insert the Wolf decoupling board into the adhesive bed with a slight pushing movement and press down over the entire surface.

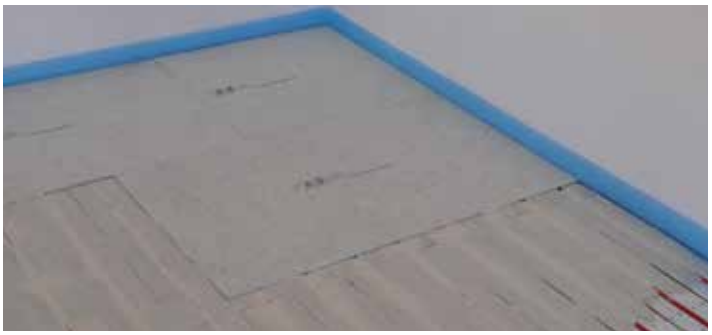
Butt the Wolf decoupling boards against one another and offset them in half drop from row to row in order to avoid cross joints.

Following a drying time of 24 hours*, you can work further on the Wolf decoupling board.

The Wolf decoupling boards are cut to size using a hand-held circular saw or a jigsaw.

When installing the Wolf decoupling board, care must be taken to ensure that the butt edges are not directly above the butt edges of the PhoneStar layer or the PowerFloor Light / Slim systems.
The butt edges must be offset by at least 10 cm.

ATTENTION: Following laying, the decoupling layer must be protected against construction site traffic and dirt until the final covering is installed.



*(at +23 °C and 50 % rel. humidity) The drying time may be longer depending on the ambient conditions.

Installing Wolf Hugo gypsum fibreboards

ATTACHING THE EDGE INSULATION STRIPS

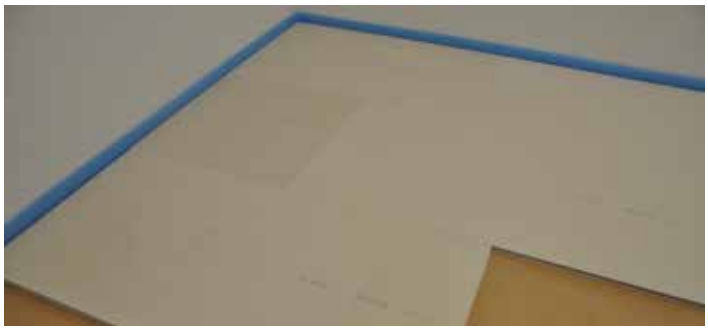
Butt the corners; further details in the chapter ***General processing instructions***.

	Edge insulation strip: Art. no.: 4300

SUBSTRATE

It is particularly important that the substrate is load-bearing and non-elastic and that the dry screed elements are contacting with their entire surface. Depending on the substrate, waterproofing (underneath the insulation) may need to be installed.

NOTE: The gypsum fibre elements are provided with a marking (imprint) on the top side. This must always be visible after the installation of the Wolf Hugo N & F.

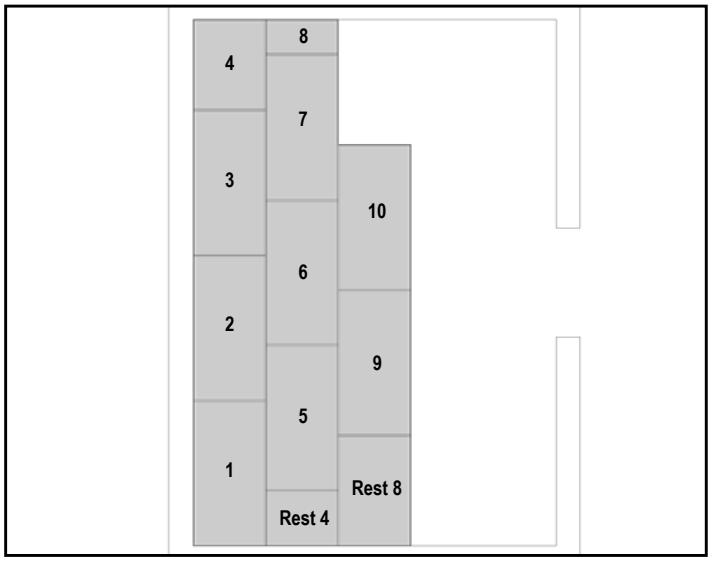


The 18 mm Wolf Hugo gypsum fibre elements are installed floating on the Wolf separating web. For the installation, the surface of the Wolf separating web must be clean, dry and free from dirt of all kinds.

Wolf Hugo N + F Art. no.: 3082	Wolf separating web Art. no.: 3070
	

INSTALLATION

Begin with the installation at the wall opposite the door, from left to right (see labelling on the boards). Install Wolf Hugo continuously without joints in the door area. A longitudinal arrangement is recommended in narrow rooms or corridors. In the first row, the tongue is sawn off on the wall side. The groove side with the tongue at the bottom for installing the next element faces into the room. Wedges can be used to ensure the edge distance. Remnants of one row can be reused as the first element in the next row (length at least 300 mm). The dry screed elements are laid in a stretcher bond, resulting in T-joints. A minimum offset of 200 mm must be maintained.



CUTTING TO SIZE

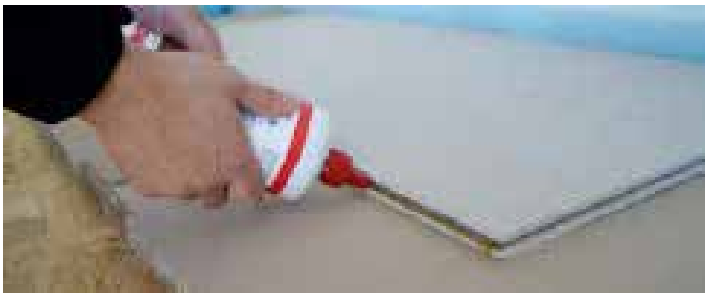
Hand-held circular saw incl. extraction – gypsum fibre blade or carbide alternating-tooth blade.

INSTALLATION CONDITIONS

- Average relative humidity ≤ 70%
- Store the board for 2 days at the place of installation to acclimatise
- Room temperature ≥ 10 °C

BONDING THE ELEMENTS

The connecting surfaces must be dry, free from dust and grease and must not be damaged.
The adhesive is applied to the tongue of the installed element. The bottle can be guided along the upper edge of the board so that the adhesive (consumption approx. 18 g/m²) is applied in the groove. Escaping adhesive indicates that the amount is sufficient. Following a drying time of 24 hours (at + 20 °C and 50% rel. humidity) – the drying time may vary depending on the ambient conditions – you can continue working on Wolf Hugo. Scrape or knock surplus Wolf Hugo adhesive off the board surface after drying.



	Wolf Hugo adhesive Art. no.: 4075

INSTALLING THE ELEMENTS

The dry screed elements are placed at an angle and then pushed against the already installed board with light pressure. Ensure that there is a closed longitudinal joint during the further installation.

NOTE: Expansion joints are only to be provided from a room length of 20 m (from 10 m in the case of underfloor heating with a flow temperature of up to 50 °C).

INSERTING THE EDGE BOARDS

The edge boards can be inserted easily with the help of a claw bar or pinch bar. Any wedges that were set must be removed upon completion of the work.

FURTHER PROCESSING

Basically, it should be noted that the Wolf Hugo is not hydrophobized in the factory. The adhesive manufacturer will determine whether the floor needs to be filled and/or primed before the top floor covering is applied.

The Wolf Hugo dry screed is suitable for almost all types of covering. Bonding must be carried out with an adhesive system recommended for gypsum fibreboard. Adhesive recommendations from various manufacturers can be found on our website: *www.wolf-bavaria.com.*

CLEANLINESS GRINDING

According to the guidelines for floor adhesives and floor layers, cleanliness grinding is always necessary to remove components that reduce adhesion. Commercially available grinding machines and abrasives are to be used here.

Installing Wolf MiWo

The 12 or 20 mm-thick Wolf MiWo is installed in a stretcher bond on the substrate. For the installation, the surface must be clean, dry and free from dirt of all kinds.

	Wolf MiWo 20-2 Art. no.: 3076
	Wolf MiWo 12-2 Art. no.: 3075

ATTENTION! After the installation, the MiWo layer must not be loaded by treading on it or by building site traffic (point load), as otherwise the mineral structure will be destroyed and the function badly impaired!
It is essential to lay out load-distributing boards if walking on the layer is necessary!
Protect against damage of any kind!
The installation has to be done in progress with the next layer!

Notes

Final coverings
On Wolf floor systems

Final coverings on Wolf floor systems

The Wolf floor systems follow a modular construction kit principle. Wolf Bavaria products are optimised for the combination of two different construction goals:

1. individually fulfilling various requirements such as sound insulation, fire protection or radiant heating.
2. complying with limiting conditions such as weight per unit area or construction height.

This means that some layers are then mandatory for functional reasons, while others can be optionally included.

Furthermore, each final covering with its type of installation necessitates specific prerequisites. On the following pages, we will show you how you can combine requirements, conditions and prerequisites in a professional and permanent construction with Wolf flooring systems.

POINTS TO BE GENERALLY OBSERVED DURING THE PLANNING PHASE:

- match any field boundary joints of the floor construction to the top covering.
- adopt building joints into the overall construction.
- seal expansion joints in the final covering tightly with suitable material.
- plan for any necessary seals in damp rooms.
- observe the specifications of the adhesive manufacturers (e.g. for tiles, parquet, etc.).
- the maximum deflection of the overall structure must be matched to the top covering.
- the guidelines of the respective trades must be observed.
- in the case of the installation of underfloor heating, the top coverings must be suitable for it.

The constructions mentioned on the following pages are the most commonly used. However, different solutions are often possible. If you cannot find your chosen final covering, installation method or other criteria on the following pages, it does not mean that this is not possible. In this case, please contact our Field Service or Application Technology department.

THE FOLLOWING GENERALLY APPLIES:
When installing final coverings, the manufacturers' installation instructions must be observed.

Floating installation of click systems

FLOATING INSTALLATION OF THE FINAL COVERING

Lay the floor made of laminate, ready-made parquet, cork, linoleum, vinyl and PVC with click system on the PhoneStar layer according to the manufacturer's instructions.

The click system can be laid on PhoneStar without an additional intermediate layer, and on PowerFloor with a parquet and laminate underlay. The minimum thicknesses of the final covering must be observed.

THICKNESS OF THE FINAL COVERING

Final coverings such as laminate, cork, ready-made parquet, linoleum, PVC and vinyl must have a **minimum thickness of 7 mm.**

Click connection

ATTENTION:
In case of floating installation on PowerFloor underfloor heating, we recommend bonding the underfloor heating to the substrate.

PhoneStar — Floating installation – possible on PhoneStar without additional intermediate layer.

PowerFloor — Floating installation – with a suitable parquet and laminate underlay between PowerFloor and final covering.

FLOATING FINAL COVERING

No warranty can be given in the case of a floating installation of the PowerFloor underfloor heating and a floating end covering.

PRODUCT APPROVAL FOR PHONESTAR TRI, PHONESTAR ST TRI, PHONE STAR TWIN

SWISS KRONO

Swiss Krono confirms that PhoneStar is suitable as an underlay material for laminate flooring (collection-dependent).
The prerequisite for safe use of the products is the minimum evenness of the substrate specified by us.

Bonded installation of ready-made parquet

BONDED INSTALLATION:

It is possible to bond ready-made parquet to PhoneStar, Wolf Hugo and the decoupling board. Ready-made parquet cannot be bonded directly to the underfloor heating.
Due to different shrinkage and swelling behaviour, it is necessary to match the flooring and adhesive manufacturers.

Installing strip planks, solid wood parquet and solid floorboards without tongue and groove

For the installation of parquets and timbers, please refer to the manufacturer's instructions.

Processing instructions from the adhesive manufacturers can be downloaded from our website: www.wolf-bavaria.com

NOTE: If there is an increased need for clarification, please consult your responsible regional manager or Wolf Bavaria Application Technology.

Solid floorboards

NOTE:
The success of a parquet installation depends to a large extent on the appropriate preparation of the substrate. According to VOB DIN 18356 "Parquet work", the installer must check in particular the dryness, evenness and strength of the substrate. The parquet work must be carried out in accordance with the generally accepted rules of the trade.
In addition, the current technical data sheets and instructions of parquet and adhesive manufacturers must be observed.
Constant indoor climate conditions must be maintained before and during the installation – the corresponding TKB data sheets must be observed for this purpose. See: www.klebstoffe.com.

Laying natural stone and tiles

Tiles and natural stone can only be laid on PhoneStar boards and PowerFloor radiant heating with the inclusion of a decoupling layer.

In the case of large-format tiles, the overall construction must be considered in terms of compressive strength and deformation as early as the planning stage.

Large-format tiles, stoneware and natural stone should only be laid in a combined process (buttering-floating) according to the specifications of the tile manufacturer and with a suitable, approved quick-setting adhesive.

Tiles

Decoupling layers			
The processing instructions of the adhesive system manufacturers for the covering formats used, in particular for the specified minimum thickness of the adhesive bed and joint widths, must be complied with – adhesive recommendations at: www.wolf-bavaria.com. When laying the final covering, the instructions of the covering manufacturer must be observed.			
Laying method		Thick-ness [in mm]	Surface pretreatment
PhoneStar / PowerFloor	Decoupling layer		
Bonded to the substrate	**Wolf decoupling board** bonded to PhoneStar or PowerFloor with Wolf 1-component parquet adhesive	4	When laying tiles, pre-coat the adhesive according to the system. Tiles require a minimum size of 200 cm², natural stone a minimum thickness of 10 mm. Ceramics and natural stone can be laid with all conventional, plastic-coated, approved, suitable installation materials. Maximum tile size 60 x 60 cm.
Floating or bonded to the substrate	**Wolf Hugo** (with PowerFloor incl. separating web) **laid floating**	18	Suitable adhesives and the necessary pretreatment of the substrate must be selected according to the technical guidelines of the tile manufacturer or adhesive manufacturer. Maximum stoneware tile size: 60 x 60 cm.

TIP: Even in the case of floating installation of the PowerFloor underfloor heating system, we recommend bonding the return loop and special elements to the substrate to fix the position.

NOTE:
The tiling work must be carried out in accordance with the generally accepted rules of the trade. See: www.klebstoffe.com.

Processing instructions from the adhesive manufacturers can be downloaded from our website: www.wolf-bavaria.com

PVC, vinyl, carpet, linoleum, coconut coverings

Thin elastic coverings can only be laid on PhoneStar and PowerFloor elements with the inclusion of a decoupling layer.

Vinyl covering

Decoupling layers				
When laying the final covering, the instructions of the covering manufacturer must be observed.				
Laying method			Thick-ness [in mm]	Surface preparation
PhoneStar	PowerFloor	Decoupling layer		
Bonded to the substrate	Bonded to the substrate	**Wolf decoupling board** bonded to PhoneStar or PowerFloor with Wolf 1-component parquet adhesive	4	Preparation of the substrate according to the instructions of the adhesive or covering manufacturer.
Floating installation	Floating or bonded to the substrate	**Wolf Hugo** laid floating with PowerFloor incl. separating web	18	Preparation of the substrate according to the instructions of the adhesive or covering manufacturer.

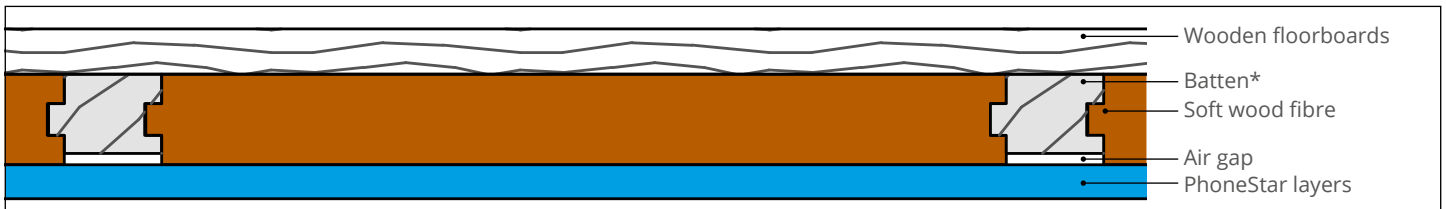
TIP: Even in the case of floating installation of the PowerFloor underfloor heating system, we recommend bonding the return loop and special elements to the substrate to fix the position.

NOTE:
The laying of the final covering must be carried out in accordance with the generally accepted rules of the trade.
See: www.klebstoffe.com.

Processing instructions from the adhesive manufacturers can be downloaded from our website: www.wolf-bavaria.com

Screwed wooden floorboards

In the case of screwed wooden floorboards, a distinction must be made as to whether underfloor heating is installed underneath or not. Screwed wooden floorboards are fastened to a flooring system laid by screwing or bonding, e.g. a combination of battens and soft wood fibre. Wooden floorboards are screwed accordingly in such flooring systems.



*Battens: no contact with the layer situated underneath

WOODEN FLOORBOARDS IN CONJUNCTION WITH POWERFLOOR RADIANT HEATING

The PowerFloor radiant heating and the battens are bonded or screwed to a suitable substrate.

RECOMMENDED STRUCTURE

from top to bottom:

- 20 mm floorboards, screwed
- 30 mm PowerFloor Slim bonded with rolled adhesive
- 30 x 50 mm battens – bonded to the substrate
- PhoneStar layer - optional
- Substrate: capable of bonding, load-bearing, clean, dry and free from separating layers of all kinds

NOTE:
All layers must be bonded if PhoneStar is additionally used.

ATTENTION!
The procedure to lay wooden floorboards on PhoneStar sound insulating boards or PowerFloor radiant heating requires approval by Wolf Bavaria.
Knowledge of the **laying direction** of the wooden floorboards is **mandatory** for the planning.

Further adhesive recommendations in the download centre:
www.wolf-bavaria.com

Floor structure examples

Substrate – wood-based panel or solid wood					
Construction method	Substrate	Sound insulation (optional)	Radiant heating (optional)	Decoupling	Final covering
Bonded construction	Wood-based material (OSB, chipboard, etc.) or solid wood	PhoneStar (floating or bonded with Wolf Roll-On Adhesive or system adhesive)	PowerFloor Light / Slim/Nature bonded with Wolf Roll-On Adhesive or Wolf system adhesive	Wolf decoupling board bonded with Wolf 1-component parquet adhesive	Tile, parquet, vinyl, click system [1], etc. [2]
				Parquet and laminate underlay	Click system [1], e.g. laminate
Floating construction	Wood-based material (OSB, chipboard, etc.) or solid wood	PhoneStar	PowerFloor Light / Slim / Nature / Eco Plus	Wolf separating web + Wolf Hugo N + F gypsum fibreboard	Tile, parquet, vinyl, carpet click system [1], etc. [2]

[1] Minimum thickness 7 mm
[2] see adhesive recommendations at: www.wolf-bavaria.com/Downloads

Mineral substrate					
Construction method	Substrate	Sound insulation (optional)	Radiant heating (optional)	Decoupling	Final covering
Bonded construction	Mineral substrate (screed, concrete, etc.*)	PhoneStar (floating or bonded with Wolf 1-component parquet adhesive)	PowerFloor Light / Slim / Nature with Wolf parquet adhesive (mineral) or Wolf Roll-On Adhesive (PhoneStar) or Wolf system adhesive (PhoneStar)	Wolf decoupling board bonded with Wolf 1-component parquet adhesive	Tile, parquet, vinyl, click system [1], etc.[2]
				Parquet and laminate underlay	Click system [1], e.g. laminate
Floating construction	Mineral substrate (screed, concrete, etc.*)	PhoneStar	PowerFloor Light / Slim / Nature / Eco Plus	Wolf separating web + Wolf Hugo N + F gypsum fibreboard	Tile, parquet, vinyl, click system [1], etc.[2]

[1] Minimum thickness 7 mm
[2] see adhesive recommendations at: www.wolf-bavaria.com/Downloads
* incl. damp proofing membrane to prevent rising moisture

NOTE:
Please refer to the corresponding Wolf Bavaria processing instructions as well as details on formats and materials!

Floor structure examples

Substrate – bonded filling						
Construction method	Substrate	Cover layer	Sound insulation (optional)	Radiant heating (optional)	Decoupling	Final covering
Floating and bonded construction	Bonded filling *	Pressure-resistant softwood fibreboard (floating)	PhoneStar (floating)	PowerFloor Light / Slim / Nature / Eco Plus (floating)	Wolf separating web + Wolf Hugo N + F gypsum fibreboard	Tile, parquet, vinyl, click system [1], etc. [2]
Floating and bonded construction	Bonded filling *	Wolf MiWo 20-2 or Wolf MiWo 12-2 (floating)	2 layers of PhoneStar Tri / ST Tri bonded together with Wolf Roll-On Adhesive or Wolf system adhesive	PowerFloor Light / Slim / Nature / Eco Plus bonded with Wolf Roll-On Adhesive or Wolf system adhesive	Wolf separating web + Wolf Hugo N + F gypsum fibreboard	Tile, parquet, vinyl, click system [1], etc. [2]

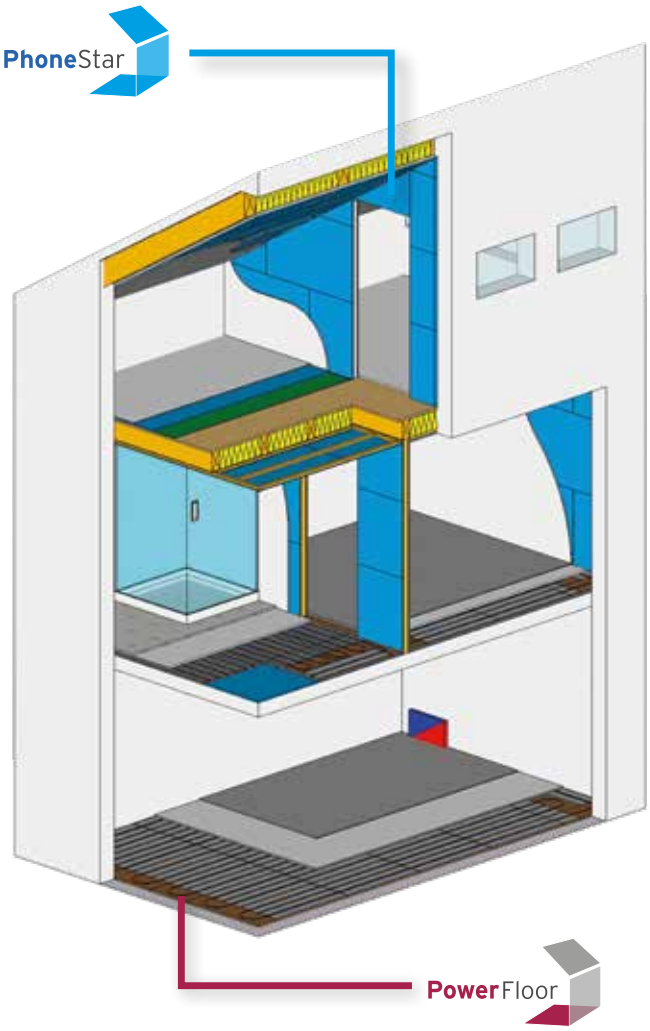
[1] Minimum thickness 7 mm
[2] see adhesive recommendations at: www.wolf-bavaria.com/Downloads
* Filling bonded by binder, e.g. cement
Further layers above the filling must be protected in the individual case against possible rising damp

Substrate – loose contained gravel filling between bars						
Construction method	Substrate	Insulating layer	Sound insulation (optional)	Radiant heating (optional)	Decoupling	Final covering
Floating and bonded construction	Loose contained gravel filling between bars (incl. trickle protection)	Pressure-resistant softwood fibreboard (floating)	PhoneStar (floating)	PowerFloor Light / Slim / Nature / Eco Plus (floating)	Wolf separating web + Wolf Hugo N + F gypsum fibreboard	Tile, parquet, vinyl, click system [1], etc. [2]
Floating and bonded construction	Loose contained gravel filling between bars (incl. trickle protection)	Wolf MiWo 20-2 or Wolf MiWo 12-2 (floating)	2 layers of PhoneStar Tri / ST Tri bonded together with Wolf Roll-On Adhesive or Wolf system adhesive	PowerFloor Light / Slim / Nature / Eco Plus bonded with Wolf Roll-On Adhesive or Wolf system adhesive	Wolf separating web + Wolf Hugo N + F gypsum fibreboard	Tile, parquet, vinyl, click system [1], etc. [2]

[1] Minimum thickness 7 mm
[2] see adhesive recommendations at: www.wolf-bavaria.com/Downloads
Further layers above the filling must be protected in the individual case against possible rising damp

NOTE:
Please refer to the corresponding Wolf Bavaria processing instructions as well as details on formats and materials!

Advantages that delight:
Dry screed system versus wet screed



Usable
in floor, wall & ceiling

✓New building
✓Renovation
✓Timber construction
✓Solid construction

Wolf Bavaria dry screed systems

HANDLING
Simple and quick installation
Modular system elements
Everything from a single source

CONSTRUCTION TIME
No drying time means shorter construction time
No introduction of moisture
Rapid maturity of the top covering

SOUND INSULATION
Improvement in impact sound insulation thanks to PhoneStar

CONSTRUCTION HEIGHT / WEIGHT
Lean construction height
Weight reduction

COSTS
Reduction of the coordination costs due to system supplier

Wet screed

HANDLING
Installation by professional companies

CONSTRUCTION TIME
Drying time necessary

SOUND INSULATION
Increased risk of acoustic bridges

CONSTRUCTION HEIGHT / WEIGHT / WATER
Loss of space due to construction
Increased ceiling load and introduction of water

COSTS
Possible additional costs for CM measurements as well as for subsequent surface treatment

Notes

IMPORTANT NOTE:
the current installation instructions apply, see download area at www.wolf-bavaria.com.
Older versions automatically lose their validity.
The warranty given by Wolf Bavaria GmbH relates only to the flawless properties of our material when the respective current processing instructions are followed.

Everything from a single source

Processing instructions for Wolf systems

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