

HF/NF shielding fabric (high frequency + low frequency)

Technical data sheet - Shielding fabric G-ES Special (indoor and outdoor)

Content - Possible processing

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Grounding and safety regulations

The necessary installation must be carried out by a qualified electrician. A residual current circuit breaker (FI or RCD $\leq 30\text{mA}$) must be present in the circuit. Your electrician will install this standard device for you if it is not available. All electrical work (work on electrical devices and systems) must be carried out and checked by a qualified electrician or under their direction and supervision!

The grounding must be carried out in accordance with the applicable DIN/VDE regulations.

Safety equipotential bonding:

DIN 57100/VDE 0100 Teil 410 + Teil 540
DIN/VDE 0100 Teil 410 + Teil 540
DIN/VDE 0100 Teil 610 Abschnitt 4+5
VDE 0100

Functional potential bonding:

DIN VDE 0100-100
DIN VDE 0100-410
DIN VDE 0100-540
DIN VDE 0185-305-3
DIN EN 60445 (VDE 0197)

A: Safety potential equalisation Old stock and minor renovation

This type of grounding, e.g. at a socket, is only recommended if the effort required to integrate the shielding surface into the functional potential bonding exceeds the benefit, e.g. if the shielding surfaces are located far away or if there is only one shielding surface (one room, one wall surface). The decision on where to ground is always made by your electrician, who knows the technology, your premises and the local regulations.

The grounding cable (yellow / green 2.5mm² or 16mm² for outdoor areas) is inserted into the existing socket and hard-wired. Your electrician will bring this cable with him.



B: Functional potential bonding (FPA) New construction and major renovation

This type of grounding is to be used for larger renovations or new buildings. Here, the grounding is provided in the sub-distribution or main distribution board with a separately installed and marked FPA rail. All grounding and shielding wires of the shielded areas and cables are insulated or marked in pink. Each room is to be connected separately.

Further information and an information flyer for your executing electrician can be found at www.funktionspotentialausgleich.de 



Important / Absolutely necessary !!!

Have your electrical installation checked by a specialist / electrician. Grounding is only possible in a TN-S (3-wire) or TT system. Grounding on an existing TNC system is not possible or requires replacement of some parts of the electrical system (fig. TN-S).

The processing examples listed here refer exclusively to products offered by Biologa Danell. Due to various technical peculiarities of the materials, compatibility with shielding products from other manufacturers is not given!

HF/NF shielding fabric (high frequency + low frequency)

Technical data sheet - Shielding fabric G-ES Special (indoor and outdoor)

Indoor - Grounding and safety regulations

Safety equipotential bonding:

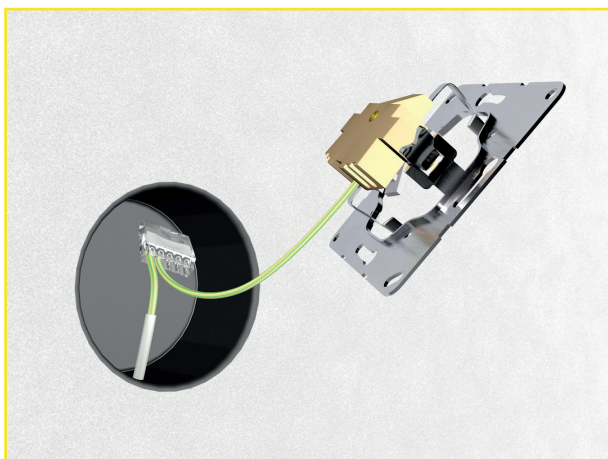


Fig. A1: Connection of the equipotential bonding conductor to the safety equipotential bonding.

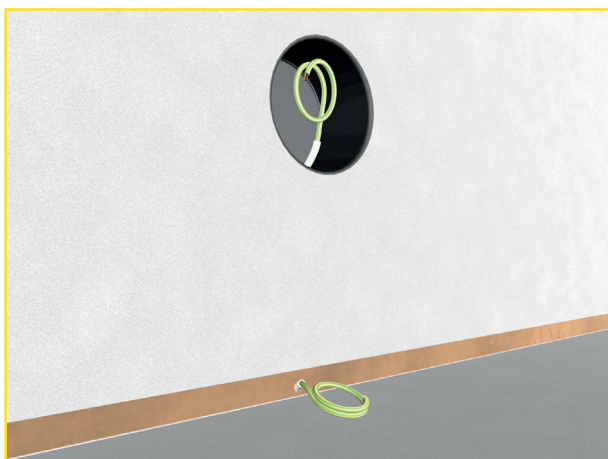
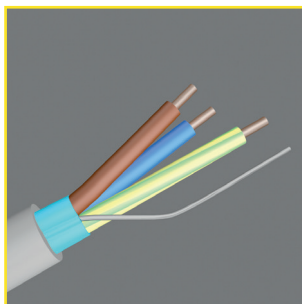


Fig. A2: Preparing the equipotential bonding conductor - slot to box terminated flat with wall



TN-S:

Usual number of cores in usual design in buildings. Three conductors phase L1 (brown or black), neutral conductor N (blue), protective conductor PE (yellow/green) - here in shielded version with shielding wire. This is not present in a conventional electrical installation.

If your electrician has any questions regarding the grounding of your screen surface, we will be happy to instruct them by e-mail at info@biologadanell.com.

Functional potential bonding:

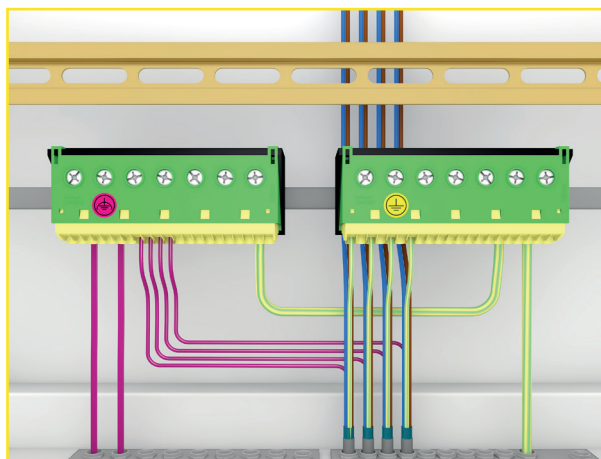


Fig. B1: Connection on the left of the functional equipotential bonding conductor in the sub-main distribution board of the power supply with the separately marked functional equipotential bonding bar.

In diesem Schaltschrank sind **geschirmte Leitungen** und/oder **elektrisch leitfähige Wandflächen** angeschlossen.

Die Schirm-Beidrähte der Leitungen sowie der Anschluss der Wandflächen sind mit der Schutzleiter-Schiene verbunden. Bei Lösen dieser Verbindung wird die Funktion der Schirmung aufgehoben.

Zur Erhöhung des Personen- und Sachschutzes sind alle geschirmten Leitungen und Wandflächen über einen Fehlerstromschutzschalter mit einem Bemessungsdifferenzstrom ≤ 30 mA geführt.

Zutreffende Normen:

DIN VDE 0100-100
DIN VDE 0100-410
DIN VDE 0100-540
DIN VDE 0185-305-3
DIN EN 60445 (VDE 0197)

www.funktionspotentialausgleich.de



Ihr ausführender Elektriker:

Ihr beratender Sachverständiger / Messtechniker:

Fig. B2: QS labelling available from Biologa

Quality labelling

A QS labelling in the distribution door signals the connection of the shielding surface to the FPA rail, warns of removal and notes the addresses of the expert involved as well as those of the responsible electrician. QS labelling - enclosed with boxes and installation cables in the form of the FPA flyer. On request individually.

For more information on functional potential bonding, see: www.funktionspotentialausgleich.de

HF/NF shielding fabric (high frequency + low frequency)

Technical data sheet - Shielding fabric G-ES Special (indoor and outdoor)

Outdoor area - Grounding and safety regulations

Potential bonding:

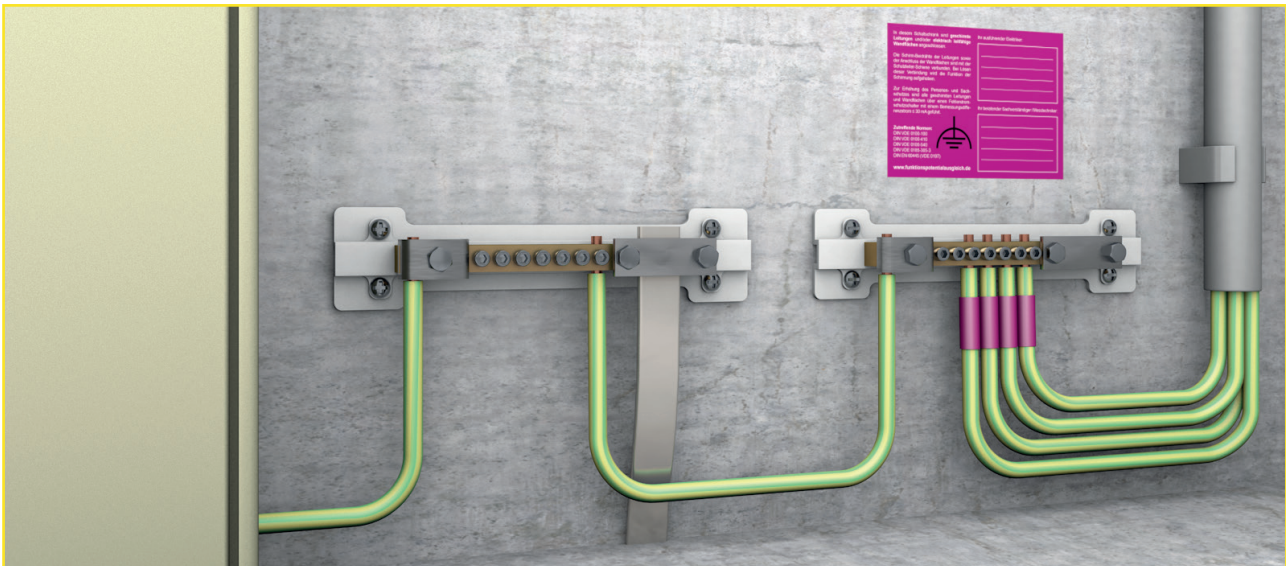


Fig. C1: Connection of equipotential bonding conductor to equipotential bonding rail with marking.



Fig. C2: Completed grounding of the façade surfaces with markings

Important / Absolutely necessary !!!

Have your electrical installation checked by a specialist / electrician. Grounding is only possible in a TN-S (3-wire) or a TT system. Grounding on an existing TN-C system is not possible or involves renewing some parts of the electrical installation (fig. TN-S). The processing examples listed here refer exclusively to products offered by Biologa Danell. Due to various technical peculiarities of the materials, compatibility with shielding products from other manufacturers is not given!

HF/NF shielding fabric (high frequency + low frequency)

Indoor - Installation under plaster 1

1. Preliminary work / measuring the area

Determine the grounding point and have the grounding checked by an electrician. Ask the electrician to bring a correspondingly long earthing wire 2.5 mm² (yellow/green protective insulation) and markings in pink/pink, depending on the distance to the earthing point.

Measure the width and height of the surface. Allow for an overlap of 5 - 10 cm (area + 10 %). (Fig. 1)

Switch off the fuses and secure them against being switched on again. Check that the room is voltage-free. Remove all socket and switch inserts.

When using the safety equipotential bonding, prepare a small slot from the socket to the floor (fig. A2). Insert the cable so that it protrudes approx. 20 cm in the socket and at the edge of the floor. Protect the two visible ends with insulating tape.

Check and, if necessary, rework the substrate (absorbency, loose parts, cracks - fill, prime, etc.). Please ask your plasterer or painter about the use of a suitable primer, embedding or filling compound and the following finishing plaster. Give him the product data sheet, the technical data sheet and, if available, the safety data sheet of the fabric.

2. Embedding the fabric

Apply the investment material with a toothed spatula z. e.g. 6 x 6 x 6 mm onto the wall and press the mesh into it from top to bottom (Fig. 2). Use a trowel or trowel to smooth out the mass on the mesh until the mesh is no longer visible. Apply the next layer, including the calculated overlap, in the same way until the surface is complete.

Leave approx. 3 - 5 cm untouched in the base area so that the EEB earthing strip can be applied later (Fig. 3). Cover the area with appropriately wide masking tape to prevent soiling.

TIP: You can also screw the tape to the floor. To do this, add about 10 cm per strip. Advantage: The wall surface can be filled down to the floor (Fig. 7).

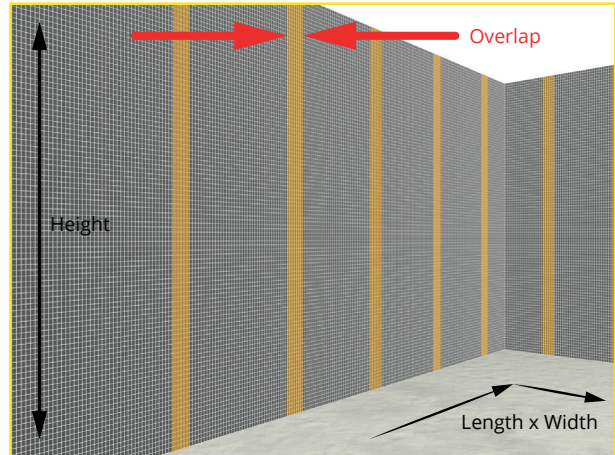


Fig. 1: Measuring the area and taking into account the overlap, after checking the electrical installation.

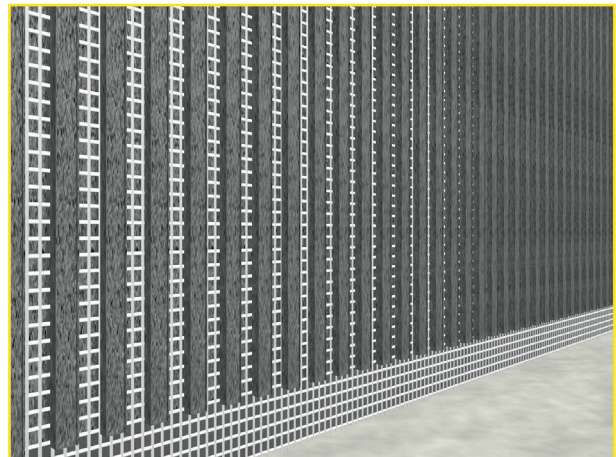


Fig. 2: Investment material, tooth spatula and mesh incorporation

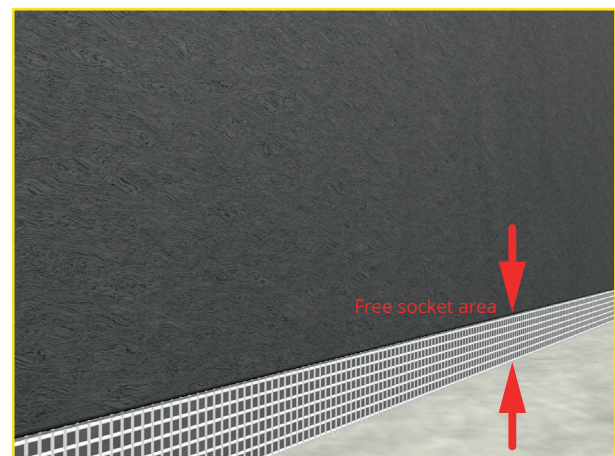


Fig. 3: Skirting area left free 3 - 5 cm

G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Indoor - Installation under plaster 2

3. Windows and doors

Pull the fabric over the reveal up to the door or window frame to make the screen surface as tight as possible. In the case of existing aluminium frames, aluminium-laminated frames or aluminium cladding, you can attach the fabric directly to the frame. In the case of wooden or plastic frames, try to push the fabric as close as possible to the frame so that there are no gaps (Fig. 4). The gap of the frame can then be further optimised with a curtain or with the help of an insect screen. In the case of a new building, there are also other possibilities for processing with windows and doors. Please contact us for this by e-mail to info@biologadanell.com.

4a. Connecting grounding / further processing

After tightening the embedding compound, screw the EEB earthing strap horizontally onto the fabric in the exposed base area so that all incorporated fabric sheets are electrically conductively connected to each other (Fig. 5). 4 x on the web and 1 x in the overlap area. Your electrician now connects the grounding strap to the socket (Fig. 6) or your electrical distributor (functional potential bonding) (Fig. B1) using the RKS pipe cable lug and the prepared grounding cable.

After the grounding has been carried out, the EEB grounding tape can be primed and filled over, if necessary, and then the normal wall construction can be carried out.

4b. Carry out grounding on floor

If you have the option of screwing the grounding strap to the floor, the wall surface can be completely filled and then the grounding can be carried out on the floor. (Fig. 7)

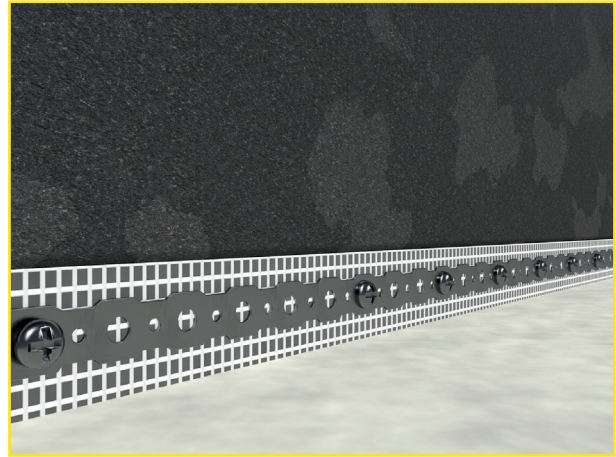


Fig. 5: Electrically conductive connection of the individual tracks to each other

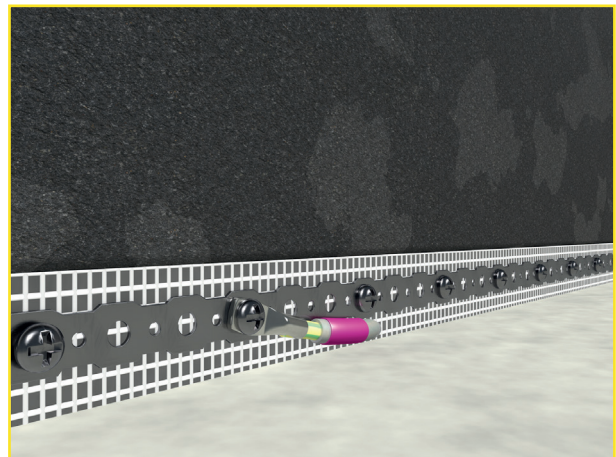


Fig. 6: Connection of the pipe cable lug RKS on the wall

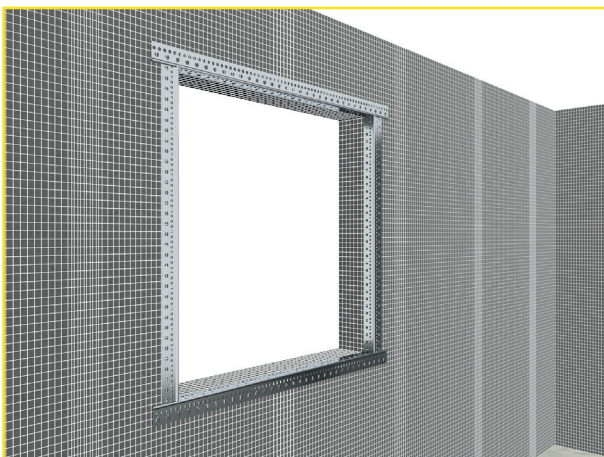


Abb. 4: Fenstern und Türen - Optional Putzwinkel aus z.B. Edelstahl

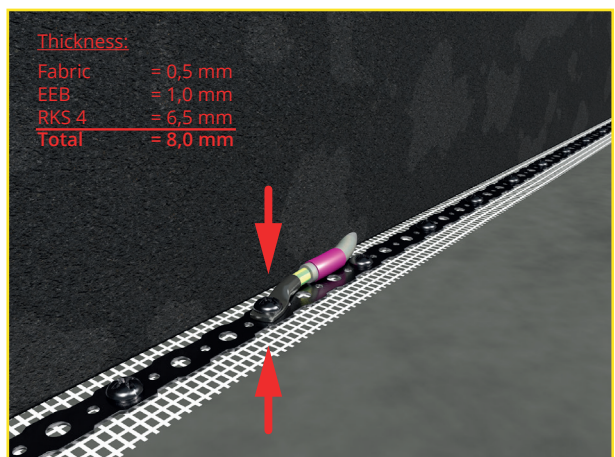


Fig. 7: Grounding the fabric on the floor Connecting the pipe cable lug RKS and grounding strap EEB on the floor

Thickness:	
Fabric	= 0,5 mm
EEB	= 1,0 mm
RKS 4	= 6,5 mm
Total	= 8,0 mm

G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Indoor - Installation of facing shell (wall)

1. Preliminary work / measuring the area

Determine the grounding point and have the grounding checked by an electrician. Ask the electrician to bring a correspondingly long earthing wire 2.5 mm² (yellow/green protective insulation), depending on the distance to the earthing point (Fig. A2).

Measure the width and height of the surface. Allow for an overlap of 5 - 10 cm (area + 10 %). (Fig. 1)

Switch off the fuses and secure them against being switched on again. Check that the room is voltage-free. Remove all socket and switch inserts in the walls to be shielded.

2. Attaching the fabric

Temporarily fix the individual panels in the upper wall area with small nails, staples or screwed wooden strips (Fig. 8).

Screw the screen material panels directly onto the wall using the battening the panels (Fig. 9)

3. Connecting grounding / further processing

Screw the EEB earthing strap flat and continuously from sheet to sheet. 4 x in the middle of the sheet and 1 x in the overlap area (Fig. 10).

Your electrician now connects the grounding strap to the intended box (Fig. A1) or your electrical distributor (functional potential bonding) (Fig. B1) using the RKS pipe cable lug and the prepared grounding cable.

Subsequently, the further wall construction of the facing layer with wood, plasterboard, panels or similar can be carried out.

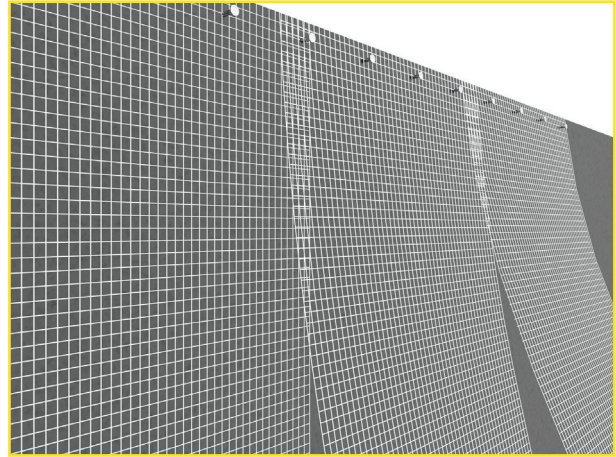


Fig. 8: Temporary attachment of the fabric sheets

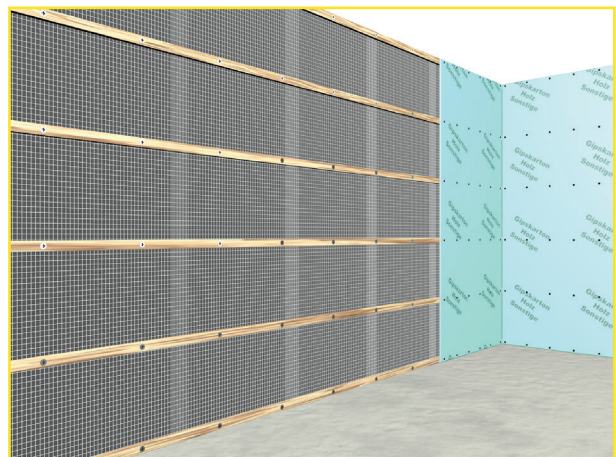


Fig. 9: Fixed fastening of the sheets with the help of the battening - Removing the auxiliary fastening

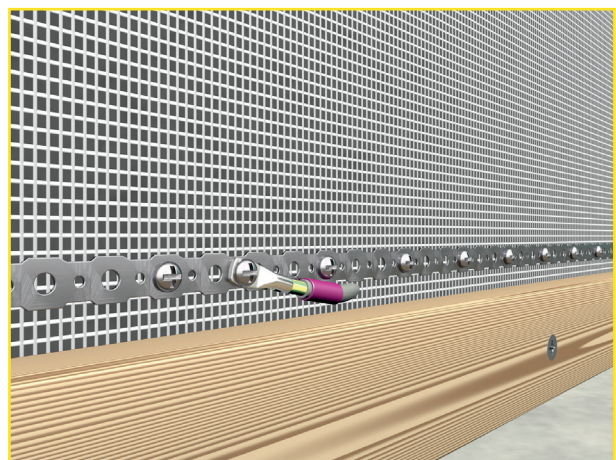


Fig. 10: Attaching the stainless steel grounding strap EEB with stainless steel screws - Grounding with RKS, with pink/pink marking

G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Indoor - Installation of facing shell (ceiling)

1. Preliminary work / measuring the area

Determine the grounding point and have the grounding checked by an electrician. Ask the electrician to bring a correspondingly long earthing wire 2.5 mm² (yellow/green protective insulation), depending on the distance to the earthing point (Fig. A2).

Measure the length and width of the area. Allow for an overlap of 5 - 10 cm (area + 10 %). (Fig. 1 + 14)

Switch off the fuses and secure them against being switched on again. Check that the room is voltage-free. Remove all lamps and lamp canopies.

2. Attaching the fabric

Temporarily fix the individual sheets to the entire ceiling surface with small nails, staples or screwed wooden strips (Fig. 11).

Screw the screen material panels onto the ceiling using the battening (Fig. 12).

When working in the ceiling area under plaster, it may be necessary to use plate anchors to better fix the screen material and secure it against loosening.

3. Connecting grounding / further processing

Screw the EEB earthing strap flat and continuously to the material webs near a luminaire outlet. 4 x in the middle of the track and 1 x in the overlap area (Fig. 13).

Your electrician now connects the earthing strap to the intended box (Fig. 13) or your electrical distributor (functional potential bonding) using the RKS pipe cable lug and the prepared grounding cable. (Fig. B1).

Subsequently, the ceiling can be built up with wood, plasterboard, wood panels or similar.

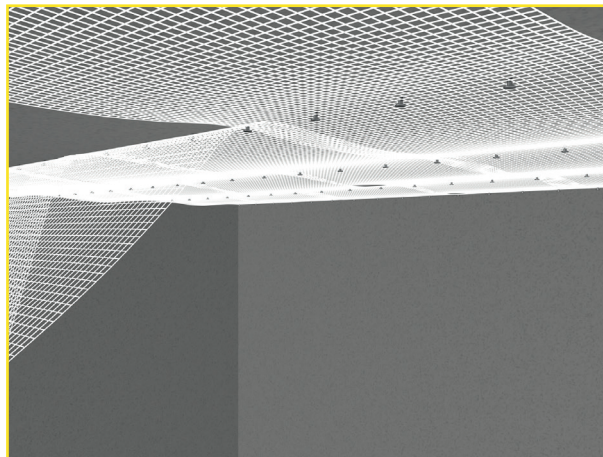


Fig. 11: Temporary fastening of the sheets

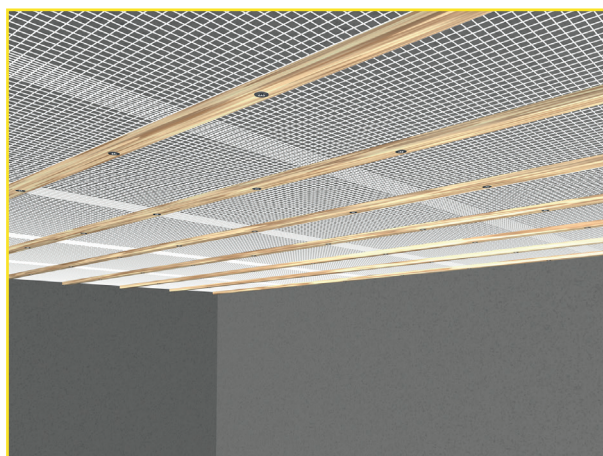


Fig. 12: Fixed fastening of the sheets with the help of the battening - Removal of the auxiliary nails

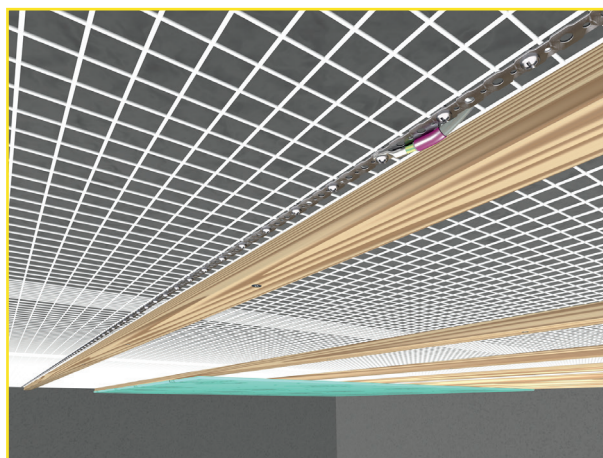


Fig. 13: Attaching the stainless steel grounding strap EEB with stainless steel screws - Grounding with RKS with pink/pink marking

G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Indoor - Installation under floor coverings 1

1. Preliminary work / measuring the area

Please clarify in advance which floor covering will be used. It is important to know whether the floor covering is to be laid floating or glued. A floating installation of the floor covering simplifies the installation of the shielding material. When working with glued floor coverings, e.g. under parquet or tiles, special measures must be taken into account. In particular, stable levelling compounds and edge reinforcements with suitable adhesives. Please ask your tradesman about this. We will also be happy to give them advice by e-mail at info@biologadanell.com.

Determine the grounding point and have the grounding checked by an electrician. Ask the electrician to bring a correspondingly long earthing wire 2.5 mm² (yellow/green protective insulation), depending on the distance to the earthing point (Fig. A2).

Measure the length and width of the area. Allow for an overlap of 5 - 10 cm (area + 10 %). (Fig. 14)

Switch off the fuses and secure them against being switched on again. Check that the room is voltage-free. If necessary, remove the socket insert for connecting the grounding.

When using the safety equipotential bonding, prepare a small slot from the socket to the floor (fig. A2). Insert the cable so that it protrudes approx. 20 cm in the socket and at the edge of the floor. Protect the two visible ends with insulating tape. The wire can also come to rest on the wall.

2. Installing the material

Clean the floor and lay the sheets preferably on the long side of the room including 5 - 10 cm overlap from sheet to sheet (Fig. 15).

The individual strips can be fixed with double-sided carpet tape, strips, screws, staples, nails or similar. Pay special attention to the overlapping areas. The individual strips should lie flat on top of each other. Staple, screw or nail lengthwise at a distance of approx. 20 - 30 cm. The individual sheets are fastened once in the middle of the sheet and once in the overlap area (Fig. 16).

Cut out heating pipes and keep a distance to the pipes of approx. 0.5 - 1.0 cm. For more information on wall penetrations of pipes, vents, chimneys, etc., see Tips and frequently asked questions at the end of this technical data sheet (Fig. 25 + 26).

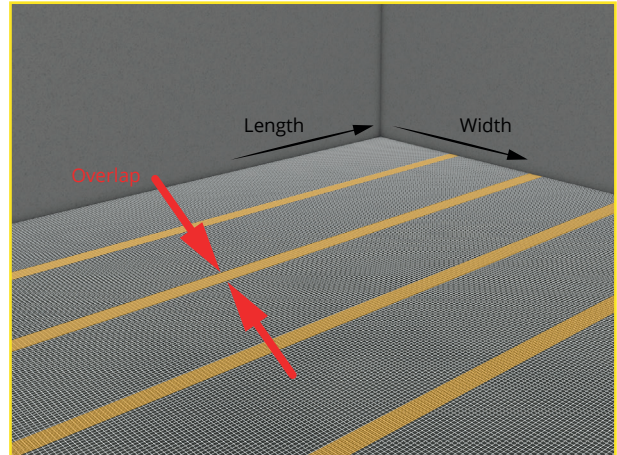


Fig. 14: Length and width of the surface / overlap

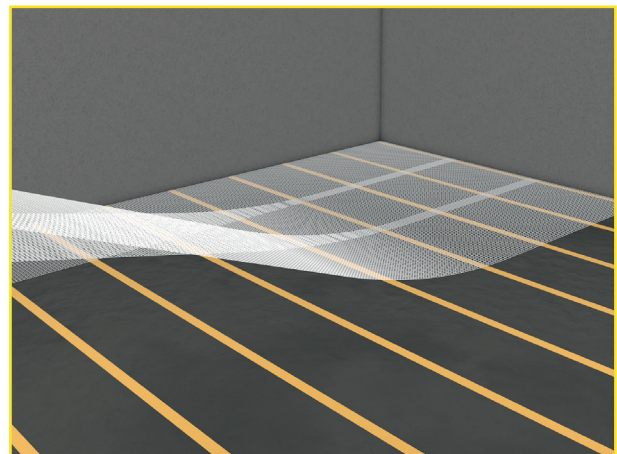


Fig. 15: Laying the screen material on the floor. Double-sided carpet tape

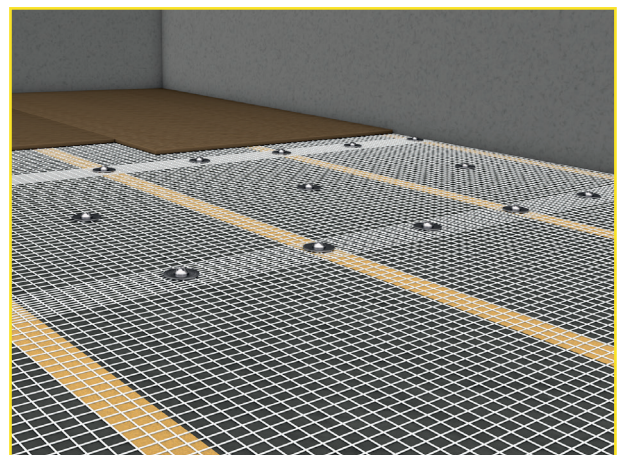


Fig. 16: Fastening the shielding sheets / overlapping areas

G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Indoor - Installation under floor coverings 2

3. Connecting grounding / further processing

Screw the grounding strap EEB flat and continuously onto the material webs. (Fig. 17)

Your electrician now connects the grounding strap to the socket (Fig. A1 + Fig. 17) or your electrical distributor (functional potential bonding) using the RKS pipe cable lug and the prepared grounding cable. (Fig. B1).

Following this, the further floor construction with impact sound insulation and floor covering can take place.

* Can also be laid under screed and underfloor heating

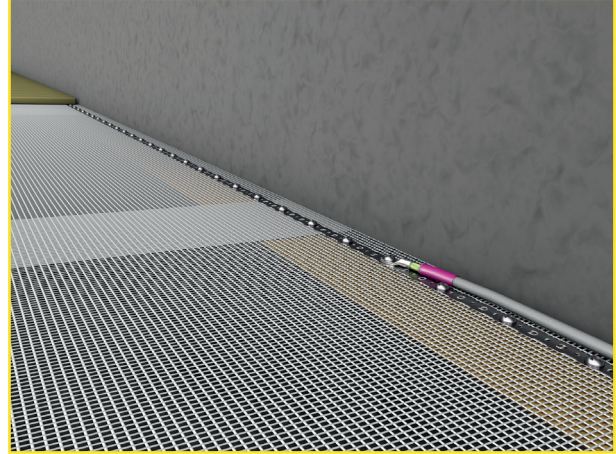


Fig. 17: Electrically conductive connection of the individual tracks to each other and connection to the equipotential bonding (RKS + EEB) with pink/ pink marking

G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Indoor - Installation under parquet flooring

1. Fabric filler

To install Adamantan 10 under a glued parquet floor, a fabric filler is usually required. (Fig. 18) Materials from the Stauff company, for example, are recommended for this. When laid in a suitable embedding compound (PU parquet adhesives, solvent-free), the conventional floor structure can be continued. (Fig. 19)

The grounding is also connected by your electrician in this type of application. With the help of the tubular cable lug RKS6 and the prepared grounding cable as well as the grounding strap with socket (Fig. A1 + Fig. 17) or your electrical distributor (functional potential bonding). (Fig. B1).

With additional wall shielding, the grounding can also be done on the wall. (see next pages)

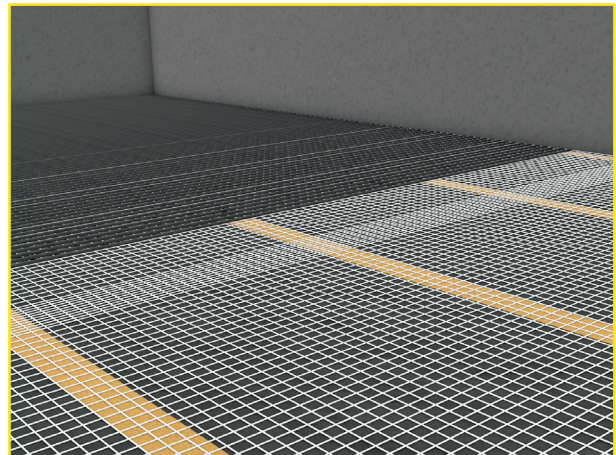


Fig. 18: Electrically conductive connection of the individual tracks to each other Tacker needles and connection to the equipotential bonding (RKS6 + EEB)

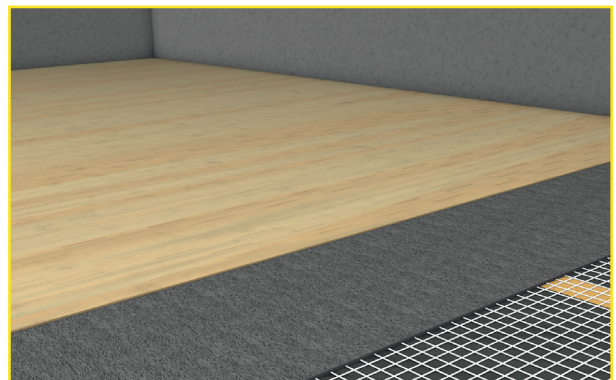


Fig. 19: Further floor construction

G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Indoor - combinations of areas 1

1a. Transition from ceiling to wall

Allow for an overlap of approx. 10 - 20 cm from ceiling to wall (Fig. 20) This must be provided for all types of installation (under plaster and behind boarding)

1b. Grounding combination ceiling to wall

Screw on another grounding strap (EEB) in the additional overlap area to connect the two surfaces. This is only done on one side. On all other sides, the overlap indicated above is sufficient (Fig. 21). The actual grounding is done in the base area or on the floor (Fig. 6 + 7 + 10). Optionally, the grounding strap in the base area can also be left out and the equipotential bonding cable can also be connected directly to the upper grounding strap.

The intended earthing point continues to be used. One earthing point per contiguous area / or room. In this case on the wall (safety potential bonding) (Fig. A1) or in the electrical distributor (functional potential bonding) (Fig. B1).

IMPORTANT!

As a rule, do not form loops. In other words, do not use a grounding strap „all around“ the room!
Only one earthing point is to be provided per room, to which all connecting surfaces are connected!

2a. Transition wall to floor

Allow for an overlap of approx. 10 - 20 cm from wall to floor (Fig. 22). This must be provided for all types of installation (under plaster, behind boarding).

2b. Grounding wall to floor

The grounding can take place in the floor area as well as in the wall area. Usually on the floor (Fig. 23), screw on the grounding strap (EEB) in the overlap area to connect the two surfaces. This is only done on one side. On all other sides, the overlap indicated above is sufficient (Fig. 22).

The designated grounding point continues to be used. One earthing point per contiguous area or room. (safety potential bonding) (Fig. A1) or in the electrical distributor (functional potential bonding) (Fig. B1).

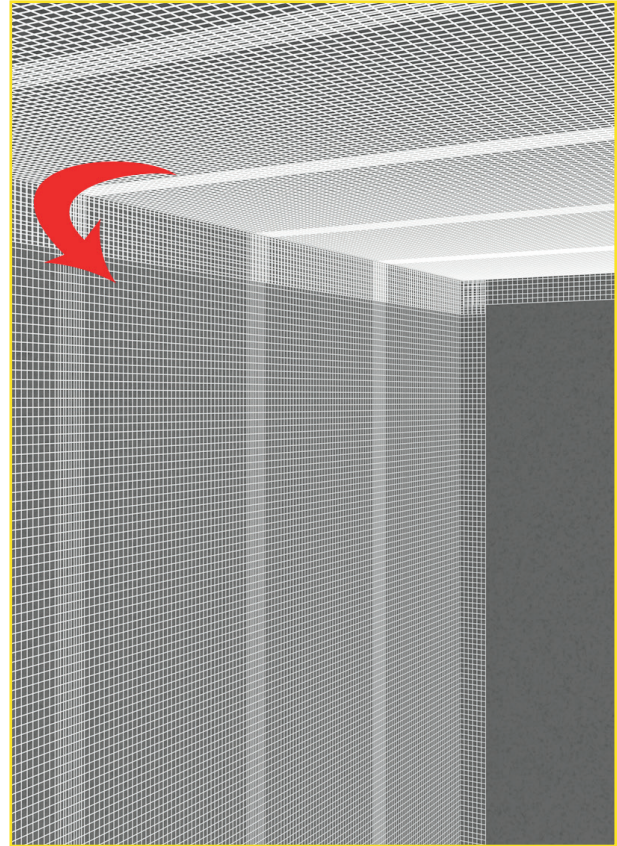


Fig. 20: Overlap from ceiling to wall

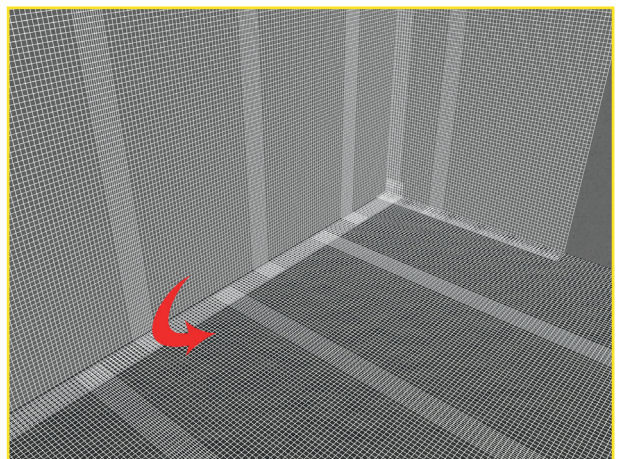


Fig. 22: Wall-to-floor overlap

G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Indoor - combinations of areas 2

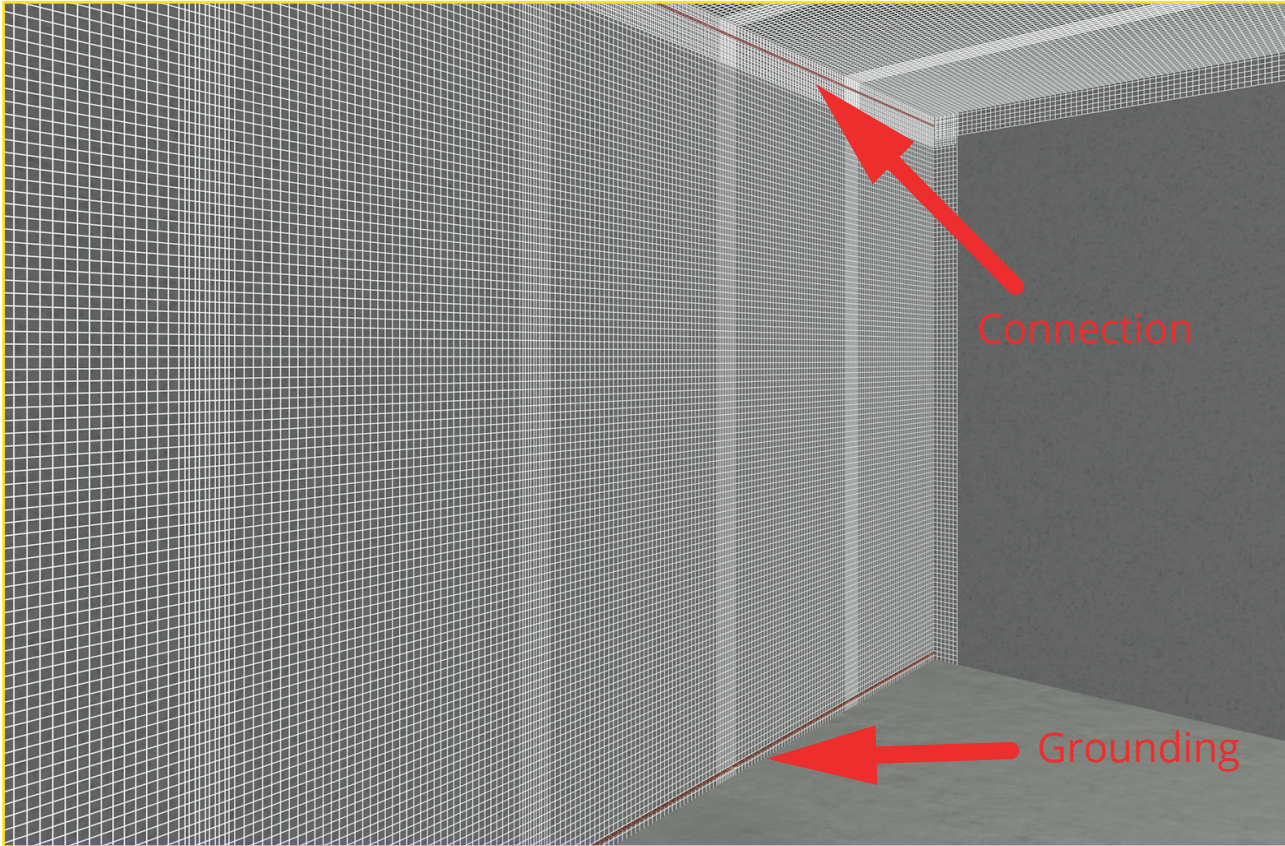


Fig. 21: Connecting the overlapping parts. Grounding in the base area with EEB.

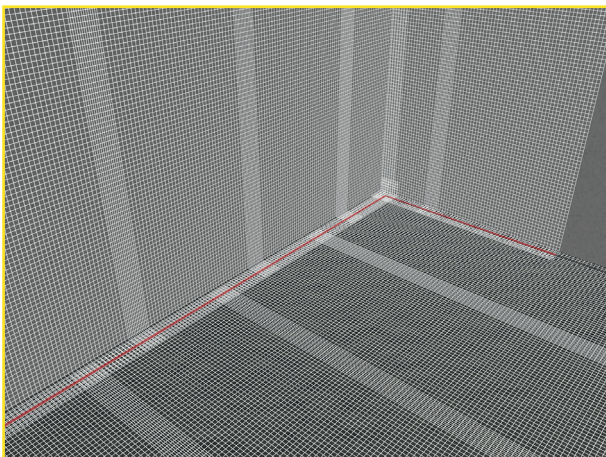


Fig. 23: Connecting the overlapping parts. Grounding on the floor with EEB.

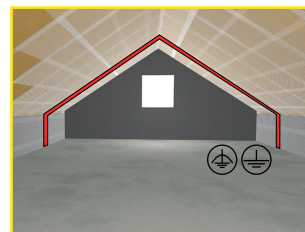


Fig. 25a: Grounding roof slope with EEB.

Different materials can be combined, e.g. HF shielding paint on walls and ceiling, Adamantan 10 on floor. We will be happy to provide you or your craftsman with further information by e-mail at info@biologadanell.com.

The above information corresponds to the current state of development. They are to be regarded as non-binding in any case, as we have no influence on the processing and the processing requirements vary locally. Claims arising from this information are therefore excluded. The same applies to the commercial and technical advice and information provided free of charge and without obligation. We therefore recommend that you carry out sufficient tests of your own to determine whether the product is suitable for the intended use. With the publication of these versions, all previous technical information (leaflets, installation recommendations and other versions intended for similar purposes) become invalid.

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G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Indoor - Overview complete room

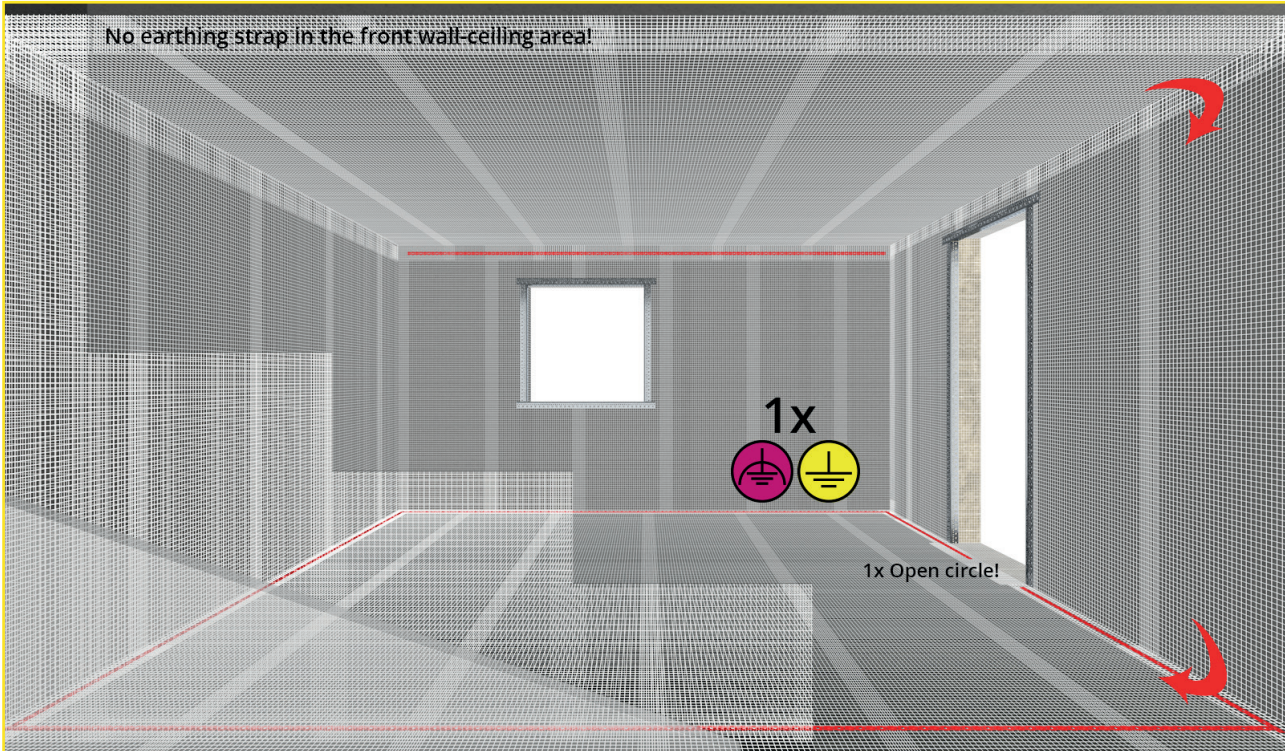


Fig. 24: Illustration of a room shielding of all sides. Attaching the grounding strap EEB.

More examples

a. Roof slopes

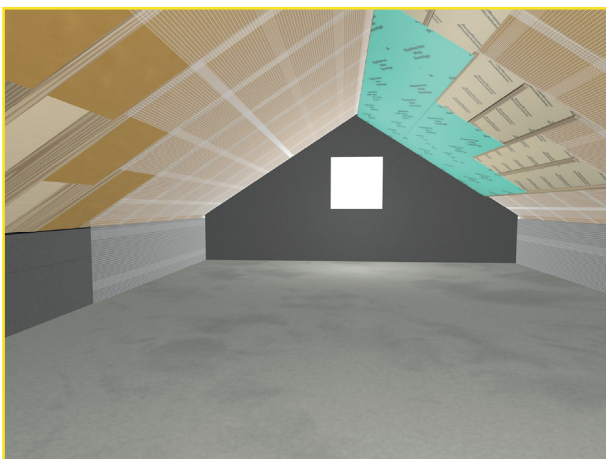


Fig. 25: Laying on rafters or between two layers of panels. For earthing diagram see Fig. 25a.

b. Gable wall to roof

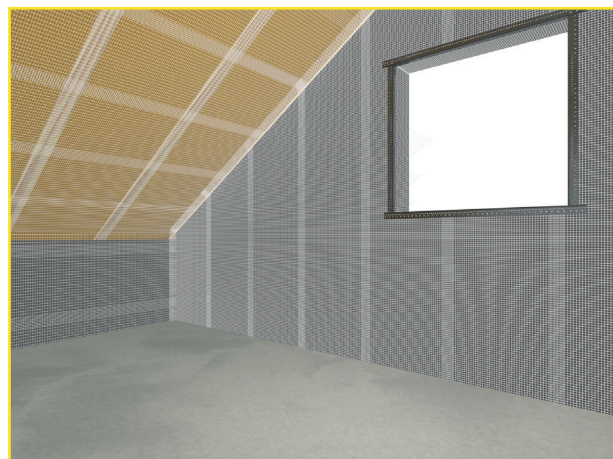


Fig. 26: Overlap of gable wall to roof slope. In this case, the grounding of the gable area is done via the ceiling area Fig. 25a.

zu a+b) Installation of Adamantan 10

Installation of Adamantan 10 can also be carried out in a vertical direction when working between e.g. double planking. In this case, the grounding is either applied horizontally over the wall and gable surface (Fig. 6 + 10) or accordingly on the floor (Fig. 17 + 23).

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G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Outdoor - House screening options

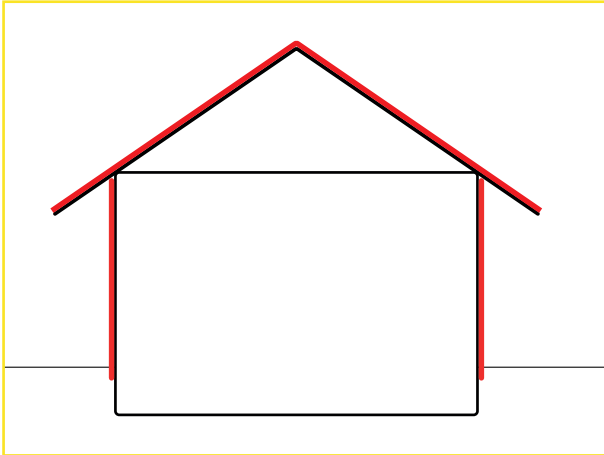


Fig. 27: Outside facade & outside roof structure.

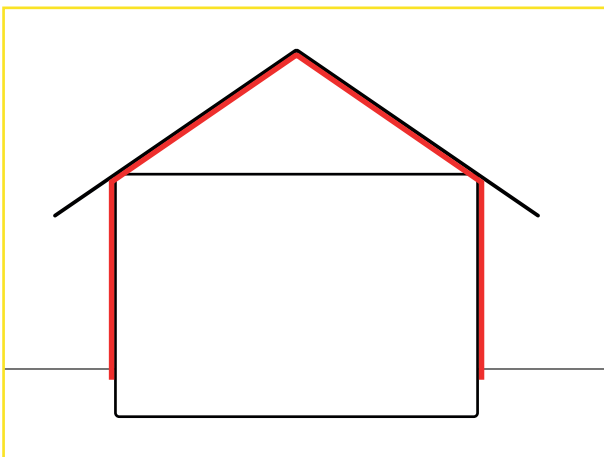


Fig. 28: Outside facade & inside roof structure.

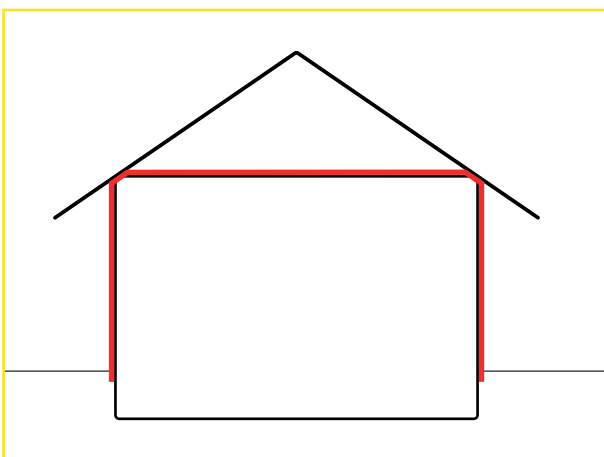


Fig. 29: Structure facade outside & roof inside (attic).

1. Facade Outside & Roof Outside

Fig. 27 - With this type of house shielding, the shielding fabric is laid and earthed separately from the roof surface. The shielding material is applied to the roof. Also used with roof-only shielding.

The shielding material of the facade surfaces is brought as close as possible to the rafters.

The same applies to the gable surfaces, whereby additional shielding of the slots and gaps towards the roof surface may be necessary. Possibly also from the inside.

2. Facade Outside & Roof Inside

Fig. 28 - With this shielding option, the Adamantan 10 fabric is laid from the facade under the roof to the indoor area. Adamantan 10 is then used indoors. Can also be used for pure roof truss screening.

The same applies to the gable ends.

This type of house shielding creates very few slits and gaps.

3. Facade Outside & Roof Inside (Attic)

Fig. 29 - In some cases, the roof area is unoccupied and does not require shielding. It is therefore possible to continue to lay the shielding material from the facade to the roof area inside in the attic.

The same applies to the gable area.

This type of shielding also produces very few slits and gaps and a closed shielding surface is created.

4. Detailed solutions

Due to the many possibilities and the individual customer wishes, it is not possible to list all possibilities here.

You are welcome to contact us by e-mail at info@biologadanell.com to work out an individual shielding solution including the details with your consultant building biologist, craftsman and architect.

Construction plans and detailed views help considerably in the development of an individual shielding concept.

G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Outdoor - Installation under plaster Facade 1

1. Preliminary work / measuring the area

Determine the grounding points. 1x per facade surface. Ask the electrician to bring a correspondingly long grounding wire 16mm² (yellow/green protective insulation), depending on the distance to the grounding point.

Always lay the grounding cables as close as possible to the shielding fabric and feed all grounding cables into the house together.

Measure the width and height of the surface. Plan for an overlap of 5 - 10 cm (area + 10 %).

Check and, if necessary, rework the substrate (absorbency, loose parts, cracks - fill, primer etc.).
For the use of a suitable primer, embedding or levelling compound (grain size < 4.0 mm) for the fabric filling and the following finishing plaster, please consult your plasterer or painter.
Give him the product data sheet, the technical data sheet and, if available, the safety data sheet of the fabric. We will also be happy to provide your craftsman with information by e-mail at info@biologadanell.com, or send him samples of a suitable size.

2. Embedding the fabric

Apply the embedding compound (exposed plaster, reinforcement layer) to the wall with a spatula or syringe and press the mesh into it from top to bottom (Fig. 31). Use a trowel or trowel to smooth the soaked compound onto the fabric until the fabric is no longer visible. Apply the next sheet incl. the calculated overlap in the same way until the surface is complete. Except for the grounding, G-ES Special is applied like and instead of a conventional reinforcing fabric (Fig. 30).

In the base area, please leave approx. 3-5 cm untouched in order to be able to apply the EEB grounding strap later (Fig. 32). Cover the area with e.g. appropriately wide masking tape to prevent soiling.

The grounding strap can then be filled and the surface sealed. (see point 4)

Important: If the fabric is laid horizontally, the grounding strap is applied vertically!

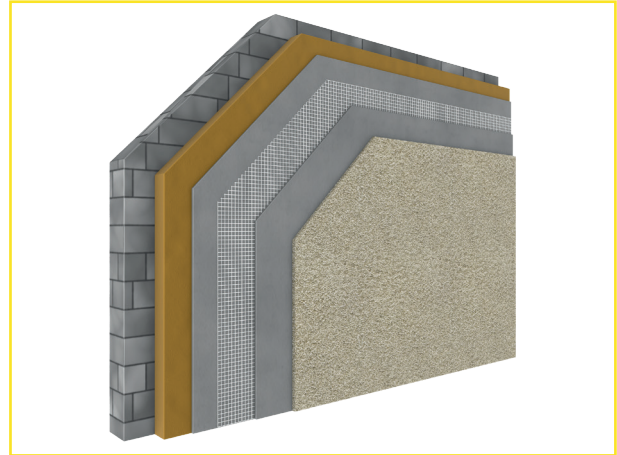


Fig. 30: Possible wall construction in the outdoor area (without additional reinforcement fabric!)

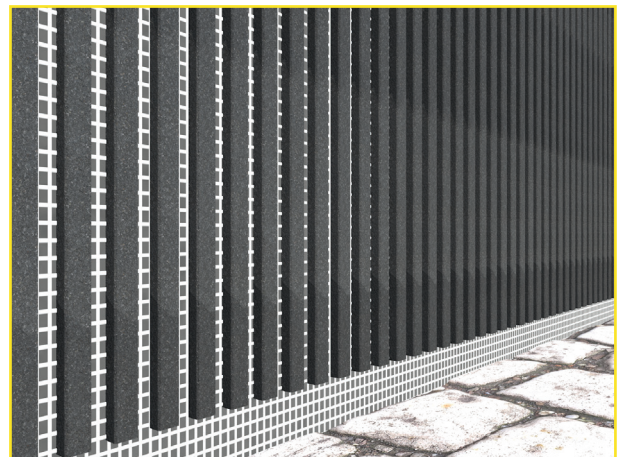


Fig. 31: Investment material (plaster), fabric incorporation

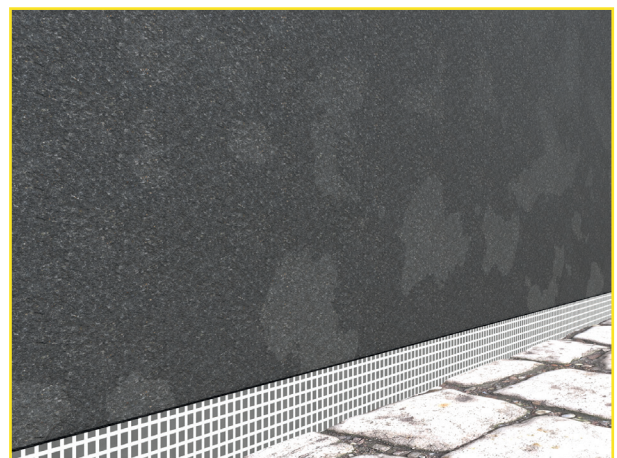


Fig. 32: Skirting area left free approx. 5 cm

G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Outdoor - Installation under plaster Facade 2

3. Windows and doors

Pull the fabric over the reveal up to the door or window frame to make the shielding surface as tight as possible. In the case of existing aluminium frames, aluminium-laminated frames or aluminium cladding, you can attach the fabric directly to the frame. In the case of wooden or plastic frames, try to push the fabric as close as possible to the frame so that there are no gaps (Fig. 38).

The gap in the frame can then be further optimised with a screen curtain or with the help of a screening insect screen.

In the case of a new building, there are also other possibilities for processing with windows and doors. Please contact us by e-mail at info@biologadanell.com.

4. Connecting grounding / further processing

After laying the shielding fabric, screw the grounding strap EEB horizontally onto the fabric in the exposed base area in such a way that all incorporated fabric sheets are electrically conductively connected to each other (Fig. 33). Your electrician now connects the grounding cables to the potential bonding (Fig. C1, C2, 11, 12) or your electrical distributor (functional potential bonding) (Fig. 3) using the RKS16 pipe cable lug.

After the grounding has been carried out, the EEB grounding strap can be primed and reworked if necessary. Afterwards, the normal wall construction takes place.

5. Windows / Doors / Soffits / House Corners

The fabric should be inserted into the reveals. To achieve a shielding surface that is as closed as possible without slits and gaps, it is advisable to use electrically conductive plaster angles (Fig. 35). This also applies to the corners of the house where the fabric is separated. For further optimisation and to prevent dragging, it is advisable to use a plastic plaster angle at one corner of the house in order to electrically separate the two sides.

In the case of planned aluminium-laminated window frames, the fabric can be pulled directly under the facing shell (Fig. 35 + 38).

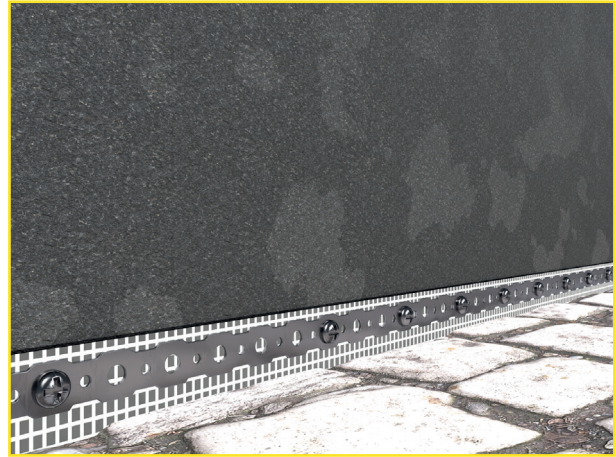


Fig. 33: Electrically conductive connection of the individual tracks to each other.

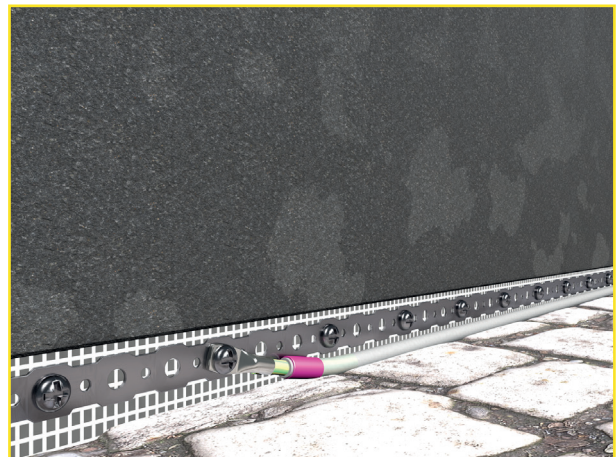


Fig. 34: Connection of the grounding conductor with RKS16.

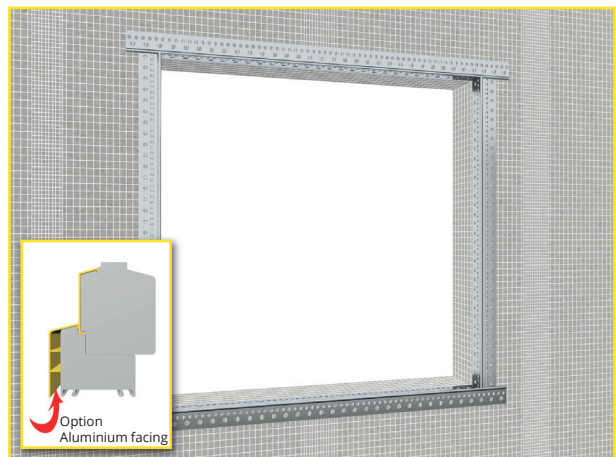


Fig. 35: Windows, doors + reveals - plaster angle made of e.g. stainless steel.

G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Outdoor - Facade facing shell

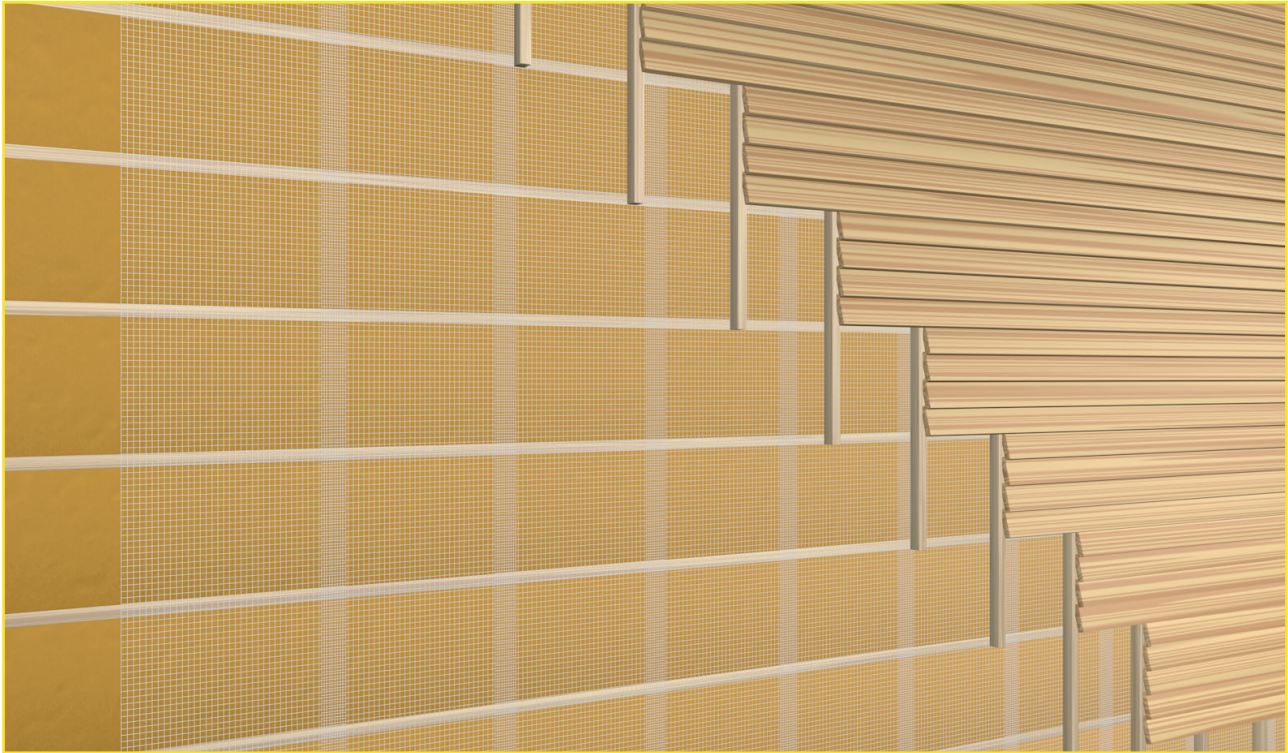


Fig. 36: Screening facade - The installation of the fabric is possible both horizontally and vertically. Depending on the type and orientation of the shading. The grounding is done with a grounding cable cross-section 16 mm² marked pink/pink.

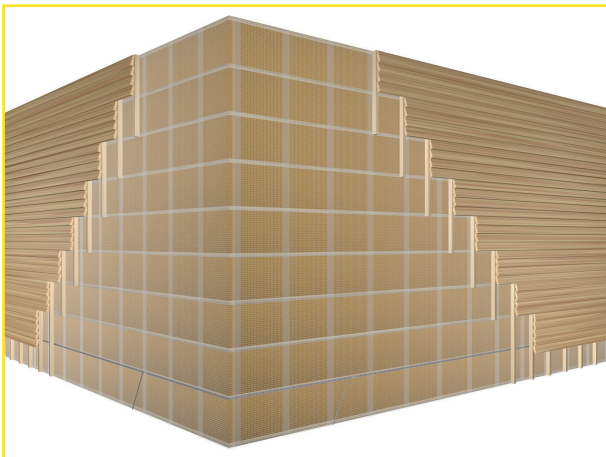


Fig. 37: House corners.

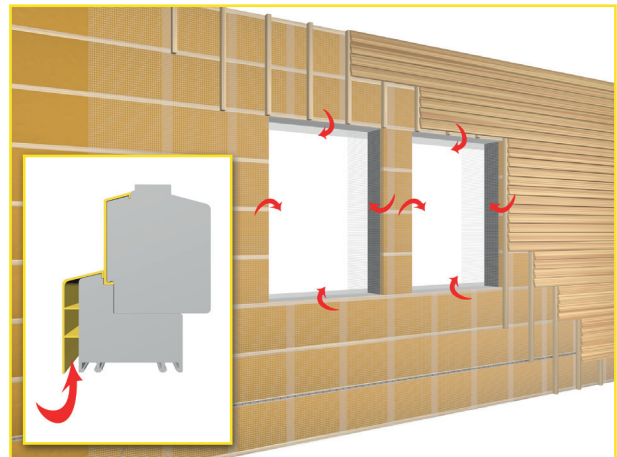


Fig. 38: Screen fabric on the window up to the reveal / aluminium facing shell.

Installation of Adamantan 10 in facades

For a good continuous shielding surface, window frames with an attached aluminium profile or made entirely of aluminium are particularly suitable. Here, the shielding material is overlapped behind the protruding profile and fixed there (Fig. 38). In combination with the appropriate window panes, this results in a continuous screen without gaps or crevices.

We are happy to work out an all-encompassing shielding measure for building owners and house construction companies in combination with a building biologist.

For individual detailed solutions such as transitions, etc., it is best if we have the detailed drawings of the house. The fabric can also be very well integrated into the pre-production of a house in factory halls, for example.

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G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Outdoor - Roof

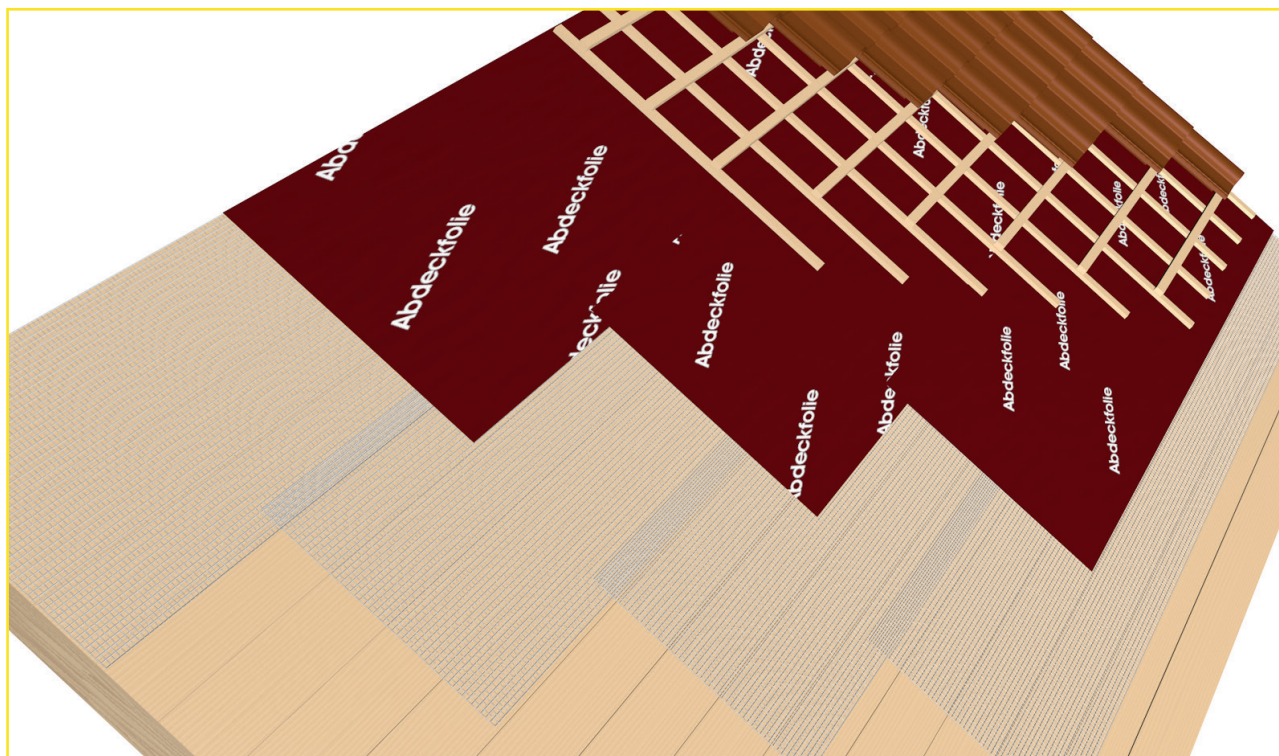


Fig. 39: Illustration of a roof screen in the outdoor area.

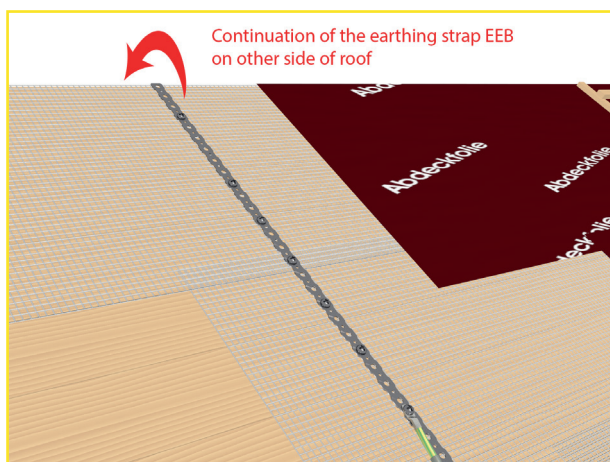


Fig. 40: Grounding of the roof surface (EEB+RKS16).

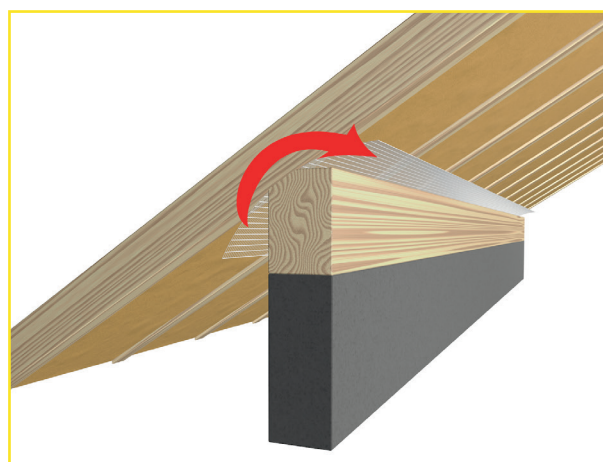


Fig. 41: Option - transition from facade to roof, outside to inside, between purlin and rafter.

Laying G-ES Special on roof surfaces

The individual panels are fastened with staples. Preferably made of stainless steel and not anodised on the inside so that a clean contact of the fabric is possible. The individual sheets must lie flat on top of each other in the overlap area. Swelling must be avoided (Fig. 39). Penetrations of e.g. chimneys must be installed upwards. The following formula [(diameter o. diagonal) * 2] of the chimney applies for upward installation (Fig. 44). This is not necessary if the chimney is sheathed with metal sheets. In this case, the screen fabric is overlapped or as close as possible to the cladding and fastened.

We are happy to work out an all-embracing shielding measure for building owners and house construction companies in combination with a supervising building biologist.
For individual detailed solutions such as transitions, etc., we require detailed drawings of the house. The fabric can also be very well integrated into the pre-production of a house in factory halls, for example.

The above information corresponds to the current state of development. They are to be regarded as non-binding in any case, as we have no influence on the processing and the processing requirements vary locally. Claims arising from this information are therefore excluded. The same applies to the commercial and technical advice and information provided free of charge and without obligation. We therefore recommend that you carry out sufficient tests of your own to determine whether the product is suitable for the intended use. With the publication of these versions, all previous technical information (leaflets, installation recommendations and other versions intended for similar purposes) become invalid.

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G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Penetrations / Tips

Penetrations / wall and roof openings

Ensure a flat installation, without gaps and slits, especially in the overlapping areas. Swelling of the fabric must be avoided.

No grounding cable is included in the scope of delivery of the grounding accessories, which must be ordered separately, in order to avoid improper connection of the components. Please inform your electrician about this and he will bring it in the appropriate length.

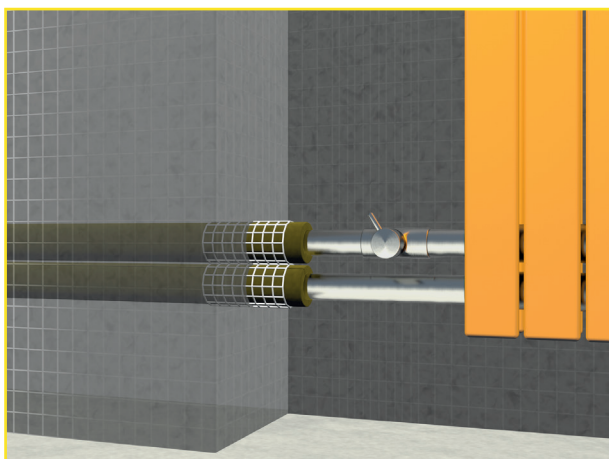


Fig. 42: Optional wall penetration of heating pipes - Ø x 2 to the outside and inside

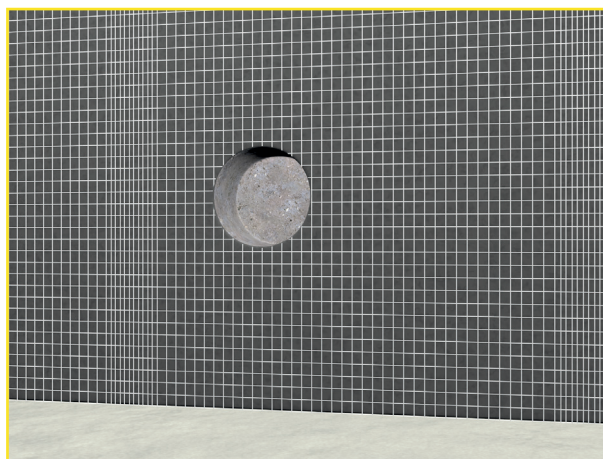


Fig. 43: Wall openings - example: switch / socket - cut flush.

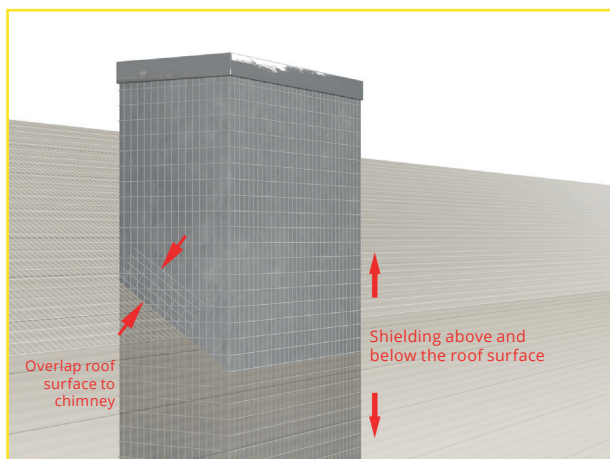


Fig. 44: Optional roof penetration chimney- Ø x 2 to the outside and inside.

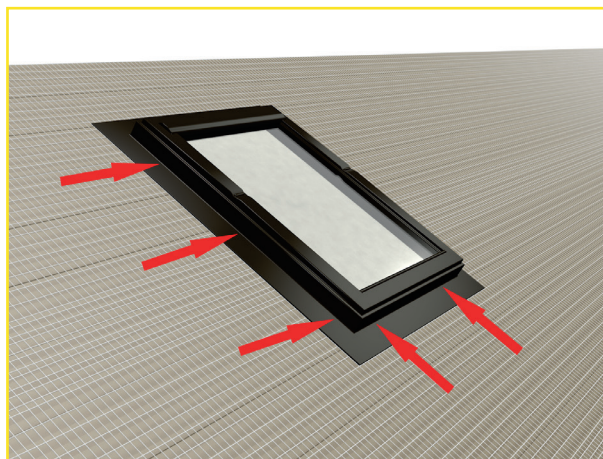


Fig. 45: Connection to skylight Laying under flashing to window.

G-ES Special - HF/NF- shielding fabric (high frequency + low frequency)

Frequently asked questions

Frequently asked questions

Which materials?

A variety of materials are available on the market for processing with the above techniques. It is not possible at this point to review the processing with each of the available products. Furthermore, the application should not be limited to certain products within the material group. Therefore, typical products have been selected and the experiences made with them form the basis for these instructions. For the above-mentioned reasons, the applicator is therefore requested to check the application technique of these instructions in consideration of the respective product descriptions and application instructions of the materials used and to adapt them to the conditions and materials. The above-mentioned application possibilities can only be examples; other application possibilities are also conceivable. In this case, the processing craftsman must assess the technical background individually with his specialist knowledge. In addition to these processing instructions, the recognised rules of technology and the processing instructions for the adhesives, paints, fillers, etc. used must be taken into account.

Can pictures or other objects be attached to the wall or ceiling after the shielding measure has been completed?

Fixing pictures or other objects is no problem and can also be done on a shielding surface. Nails or screws may be used. Please note the cable routing of your electrical installation in advance! in order not to damage existing cables in the wall. Cable finders no longer work after shielding!

Can the shielding material also be laid between two layers of plasterboard or similar boards?

Yes, the shielding material can also be laid between two panel layers. Processing is the same as on a conventional surface with regard to fastening and grounding.

Can the shielding material also be attached behind panels using an adhesive, attachment binder for panel fastening?

For use in this application, we will be happy to send you or your craftsman samples for suitability testing.