



High+low frequency



- for large-scale shielding of high-frequency electromagnetic waves, low-frequency alternating electric fields and dissipation of static charges
- finely woven, corrosion-proof wire mesh made of special steel
- breathable, tear-resistant, very durable and flexible
- Adamantan 10 is a finely woven, corrosion-proof special steel mesh for shielding from high-frequency electromagnetic waves and low-frequency electric alternating fields.

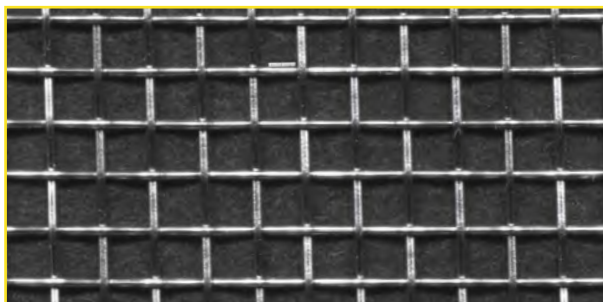
The fabric's surface activation occurs especially for the use as a shielding fabric (deoiled and degreased). This increases the contactability and leads to low transition resistance. For comparable, mostly cheaper stainless steel mesh, the oil and grease layer forms an insulating film, making the incorporation of the fabric into the function equipotential bonding more difficult.

One of our bestselling fabrics, Adamantan 10 comes into use in roof and outer wall areas, in wood stand building construction as well as full heating insulation. The fabric can be used beneath plaster and in dry construction.

Due to the missing tensile strength and tear-resistance, an additional reinforcement fabric should be used for the application beneath plaster outdoors.

Order-No.: 200184

Short-Desc.: Adamantan 10 – 100 cm



Construction fabric (HF+LF)

Adamantan 10

Type	MHz	dB	in %
DVB-T2	470 - 690	46	> 99,99
LTE / 5G wide	700 - 750	45	> 99,99
GSM, LTE	920 - 960	44	> 99,99
GSM, LTE	1800 - 1880	39	> 99,9
DECT	1880 - 1900	39	> 99,9
LTE, 5G wide	2110 - 2170	38	> 99,9
W-LAN 2400	2400 - 2500	36	> 99,9
5G fast	3400 - 3700	33	> 99,9
W-LAN 5200	5150 - 5350	29	> 99,0

Technical data

length:	by the meter (roll = 20 m / 20 m ²)
width:	100 cm
thickness:	ca. 0.35 mm
colour:	silver
grammage:	490 g/m ²
mesh gauge:	ca. 1 mm x 1 mm
electrical conductivity:	< 0.6 Ω/□
composition:	special steel, V2A, surface activated (deoiled, degreased)
features:	vapour diffusive, corrosion-resistant
fire protection classification:	A1 non-flammable building material DIN 4102:1994
basis for inspection:	IEEE Standard 299™-2006
shield attenuation:	max. 46 dB (> 99.99 %)

Required accessories



stainless steel ground strap (EEB)



tubular cable lug V2A (RKS2.5 2.5 mm²)
interior use
tubular cable lug V2A (RKS16 16mm²)
outdoor use

Scope of application

roof area exterior + interior

wall and roof area exterior + interior
(surface-mounted and flush-mounted – with additional
reinforcement)

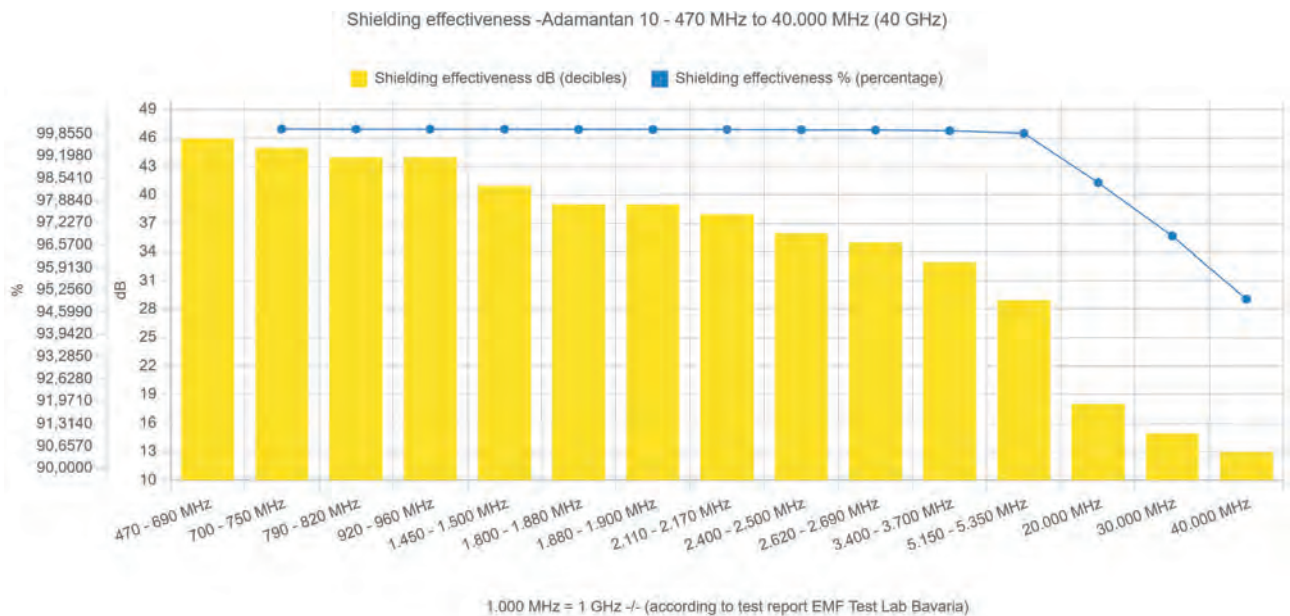
floor area (beneath floating floors, parquet, and wooden
floorboards)

window area (Insect repellent)



Type	MHz	Description
DVB-T2	470 - 690	digital video broadcasting – terrestrial, 2nd generation, TV via antenna
LTE / 5G wide	700 - 750	from 4G, now 5G NR without beamforming / MIMO
GSM, LTE	920 - 960	from 2G - D1, now 5G NR without beamforming / MIMO
GSM, LTE	1800 - 1880	from 2G - D2, E network, now 5G NR without beamforming / MIMO
DECT	1880 - 1900	wireless phone
LTE, 5G wide	2110 - 2170	from 3G, formerly UTMS, now 5G NR without beamforming / MIMO
W-LAN / WiFi 2400	2400 - 2500	wireless LAN
5G fast	3400 - 3700	5G NR - New frequency band with beamforming / MIMO
W-LAN / WiFi 5200	5150 - 5350	wireless LAN

Shielding values according to test report: EMF Test Lab Bavaria





HF/LF – Shielding fabric (high frequency+low frequency)

Shielding fabric Adamantan 10 (indoor and outdoor areas)

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Grounding and safety requirements

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

We are happy to give your trusted electrician further information at +49 7433 955 7172.

The grounding must be carried out according to the valid DIN/VDE regulations.

Security equipotential bonding:

DIN57100/VDE 0100 part 410 + part 540
DIN/VDE 0100 part 410 + part 540
DIN/VDE 0100 part 610 section 4+5
VDE 0100

Functional equipotential bonding:

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

A: Security equipotential bonding

Existing building and smaller renovation

This type of grounding, for example at an electric plug or heating pipe, is only recommended if the effort in carrying out the integration of the shielding surface into the functional equipotential bonding exceeds the use, e.g. for shielding areas that lie far away, or with only one shielding area (one room, one wall surface). The decision of where to ground is usually made by your electrician, who knows the technology, your premises, and the local regulations.

The grounding cable (yellow / green 2.5 mm² or 16 mm² for the outdoor area) is connected with the existing outlet and firmly wired. Your electrician will bring this cable.

B: Functional equipotential bonding (FPA)

New construction and larger 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.





HF/LF – Shielding fabric (high frequency+low frequency)

Technical data sheet – Shielding fabric Adamantan 10 (indoor and outdoor areas)

Interior area - Grounding and security regulations

Security equipotential bonding:

Functional equipotential bonding:

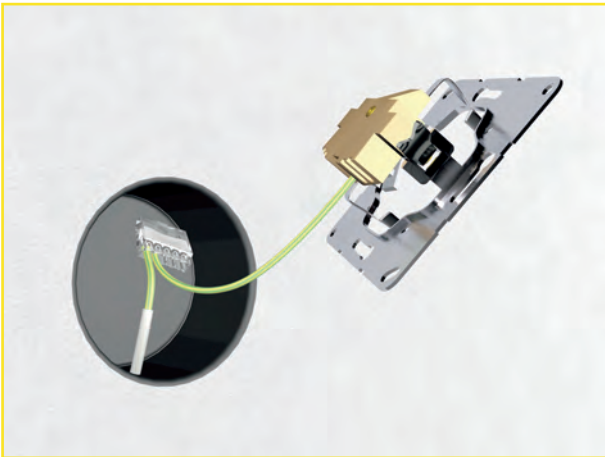


Fig. A1: Connection of the equipotential bonding conductor to the security equipotential bonding.

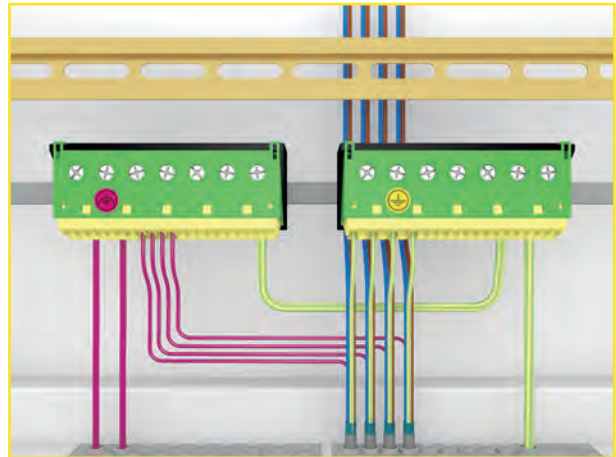


Fig. B1: Connection left of the functional equipotential bonding conductor in the lower main distributor of the power supply with the separately marked functional equipotential bonding rail.

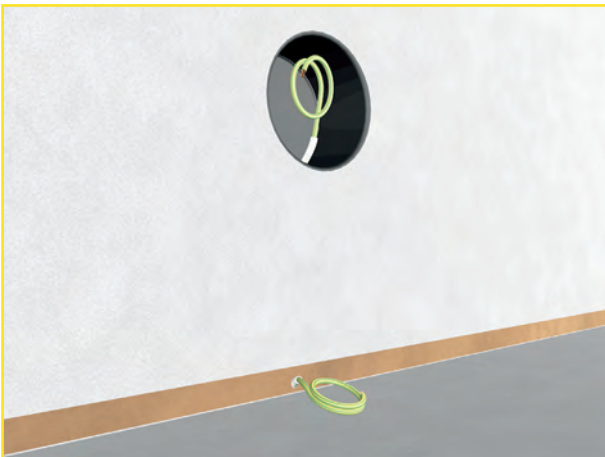


Fig. A2: Preparation of the equipotential bonding conductor – slit to outlet flatly closed with wall

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:

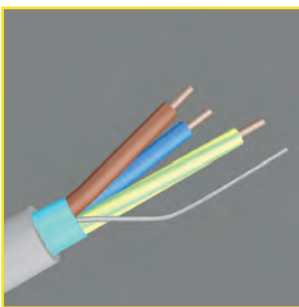
Ihr beratender Sachverständiger / Messtechniker:

QS labelling - enclosed with boxes and installation cables in the form of the FPA flyer. Individually on request.

Quality labelling

A QS label signalizes the connection of the shielding area to the functional equipotential bonding rail in the distribution panel, warns against removal, and notes the address of the involved expert as well as that of the responsible electrician. QS-label (available from Biologa).

Further information on functional equipotential bonding can also be found at: www.funktionspotentialausgleich.de.



TN-S:

General number cores in general version in buildings. Three conductors phase L1 (brown o. black), neutral conductor N (blue), protective conductor PE (yellow/green) – Here in shielded version with shielding supplementary wire. This is not present in a conventional electric installation.

Should your electrician have questions concerning the grounding of your shielding area, we are happy to instruct him by phone at +49 7433 955 7172.

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HF/LF – Shielding fabric (high frequency+low frequency)

Technical data sheet – Shielding fabric Adamantan 10 (indoor and outdoor areas)

Outdoor area – Grounding and safety regulations

Equipotential bonding:

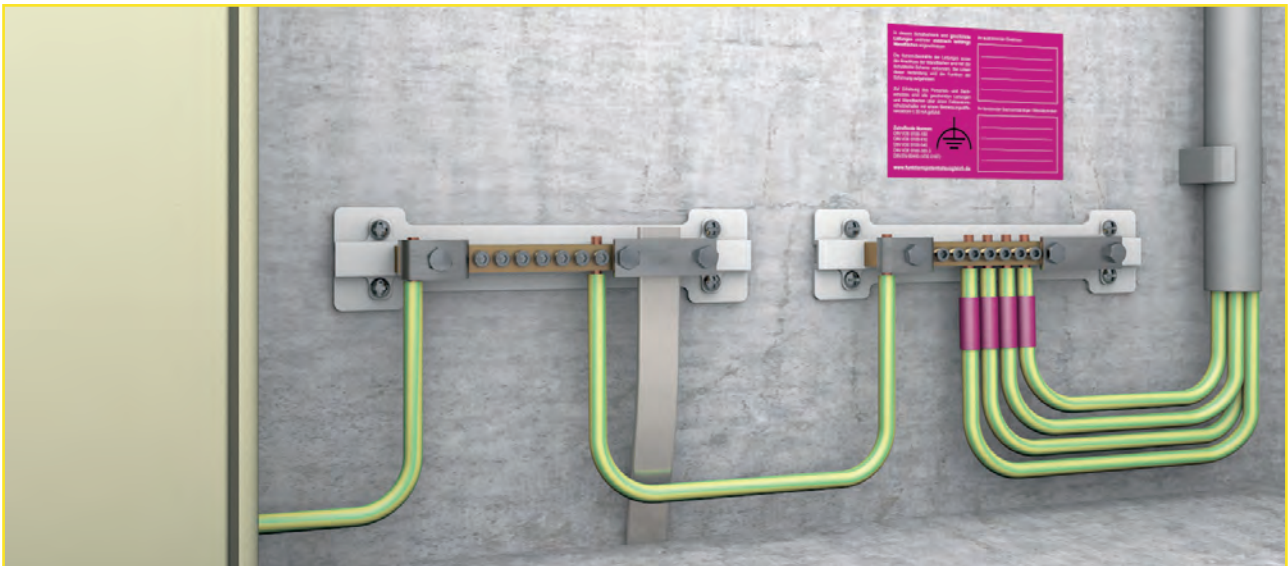


Fig. C1: Connection of the equipotential bonding conductor to the equipotential bonding rail with label.



Fig. C2: Completed grounding of facade surfaces with labels

Important / Please note!!!

Let an expert / electrician inspect your electric installation. Grounding is only possible with a TN-S (3 conductor) or a TT system. Grounding to a non-existing TNC system is not possible or would require the renewal of some parts of the electrical system (fig. TN-S).

The processing examples depicted here exclusively refer to products offered by Biologa. Through different technical singularities of the materials, compatibility with shielding products from other manufacturers is not guaranteed!

Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Interior area – installation under plaster 1

1. Preliminary work / measuring the surface

Determine the grounding point and let a qualified electrician inspect the grounding. Ask your electrician, depending on the distance to the grounding point, to bring a grounding wire of 2.5 mm² (yellow/green-insulated) of the appropriate length. In the case of functional equipotential bonding to be carried out after an inspection, you or your electrician should order the flat ground cable (EFK 4 mm²).

Measure the width and height of the surface. Plan an overlap of 5-10 cm (surface +10%) (fig.1).

Turn off the fuses and secure these to keep them from turning back on.
Check for zero voltage in the room. Remove all socket inserts and switching elements.

When using the security equipotential bonding, prepare a small slit from the outlet to the floor (fig. A2). Insert the cable so that it protrudes by about 20 cm from the outlet and the edge of the floor. Protect both visible ends with insulating tape.

Inspect and, if necessary, rework the surface (absorbency, loose parts, tears – fill, primer, etc.).
For the use of a suitable primer, embedding compound or filler, and the following visible plaster, please consult your plasterer or painter.
Give them the product data sheet, the technical data sheet, and the security data sheet, if available, of the fabric. We are happy to give your workman further information by phone at +49 7433 955 7172.

2. Embedding the fabric

Apply the embedding compound to the wall with a notched trowel, e.g. 6 x 6 x 6 mm, and press the fabric into it from top to bottom (fig.2). Straighten the mass by pulling the fabric straight with a ladle or trowel until the fabric is no longer visible. Apply the next sheet incl. the measured overlap in the same way until the surface is complete.

In the socket area, please leave about 3-5 cm untouched in order to attach the ground strap EEB at a later point (fig.3). Cover the area with appropriately wide crepe band to prevent dirtying.

TIP: You can also screw the strap onto the floor. Calculate about 10 cm more per sheet for this. Advantage: The wall surface can be filled all the way to the floor (fig.7).

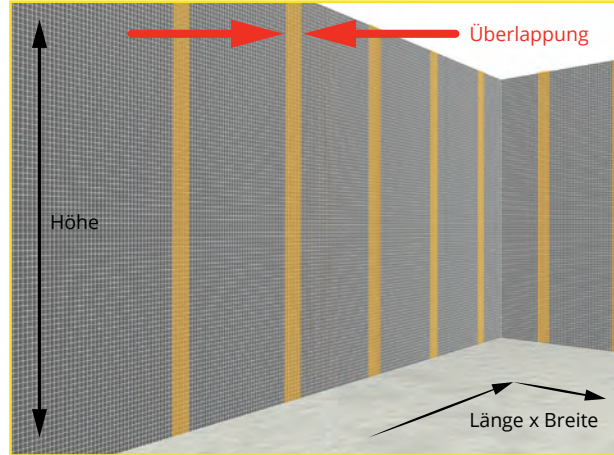


Fig.1: Measuring the surface and taking into account the overlap, after inspection of the electric installation

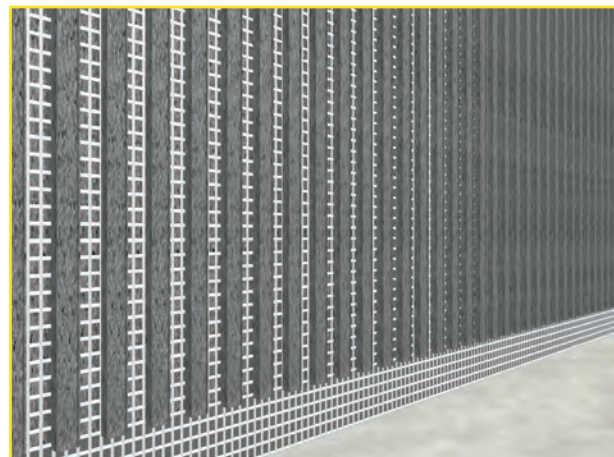


Fig.2: Embedding compound, notched trowel, and fabric incorporation

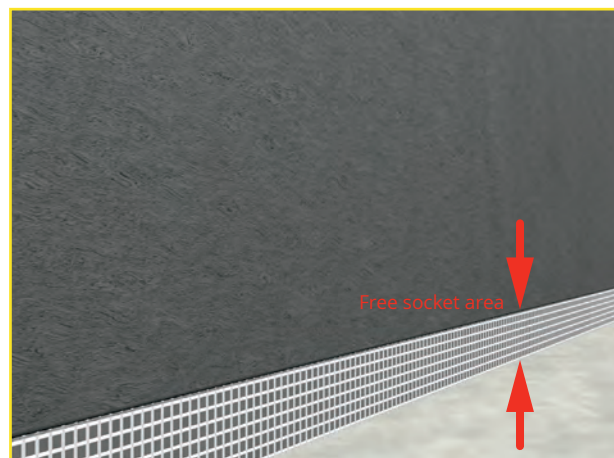


Fig.3: Socket area left free by 3-5 cm



Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Interior area – installation under plaster 2

3. Windows and doors

Pull the fabric across the reveal up to the door or window frame in order to seal the shielding area as extensively as possible. In the case of existing aluminum frames, aluminum-covered frames, or aluminum facing shells, you can attach the fabric directly to the frame. For wood or plastic frames, try to push the fabric as closely as possible to the frame so that no cracks emerge (fig.4). The gap of the frame can be further optimized with a curtain or with the help of insect protection.

In the case of a new building, there will also be additional possibilities for the installation with windows and doors. In this case, please contact us at +49 7433 955 7172 or send an email to info@biologa.de.

4a. Connect grounding / further processing

After tightening the embedding mass, bolt the ground strap EEB horizontally onto the fabric in the socket area that was left free, so that all integrated fabric sheets are connected with one another in an electrically conductive way (fig.5). 4x on the sheet and 1x in the overlap area. Your electrician will now connect the ground strap with the socket with the help of the tubular cable lug RKS and the prepared ground cable (fig.6) or your electric distributor (functional equipotential bonding) (fig.B1).

After completing the grounding, the ground strap EEB can, if necessary, be primed and filled. Then the normal wall construction follows.

4b. Carrying out grounding on the floor

Should you have the possibility of screwing the ground strap onto the floor, the wall surface can be completely filled and the grounding then completed on the floor. (Fig.7)

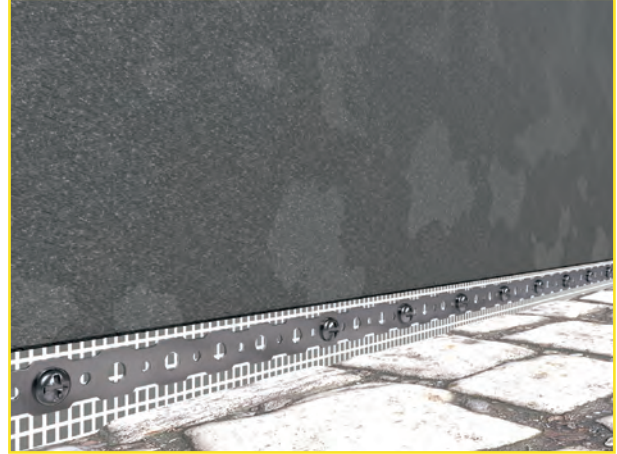


Fig.5: Electrically interconnecting contacts of the individual sheets with one another.

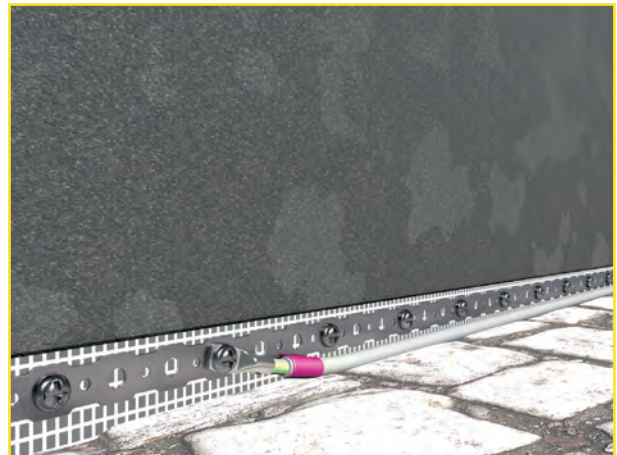


Fig.6: Connection of the tubular cable lug RKS – wall

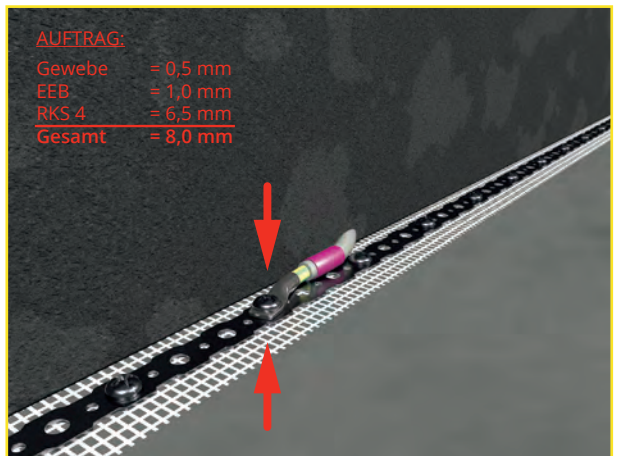


Fig.7: Grounding of the fabric on the floor, connection of the tubular cable lug RKS and ground strap EEB - floor

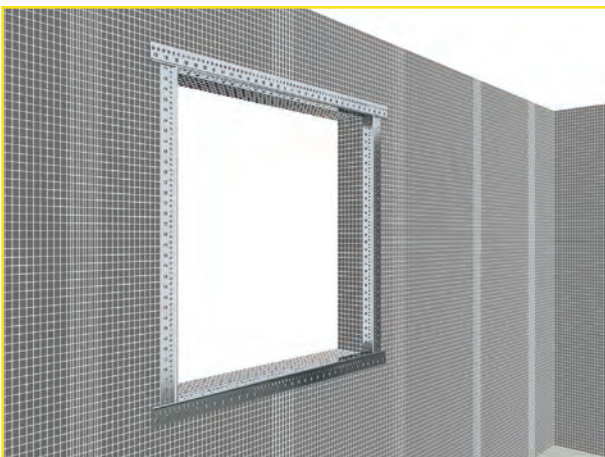
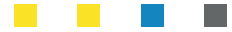


Fig.4: Windows and doors – optional plaster angles, e.g. out of stainless steel

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Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Interior area – installation facing shell (wall)

1. Preliminary work / measuring the surface

Determine the grounding point and let a qualified electrician inspect the grounding. Ask your electrician, depending on the distance to the grounding point, to bring a 2.5 mm² grounding wire (yellow/green-insulated) of the appropriate length (fig.A2). In the case of functional equipotential bonding to be carried out after an inspection, you or your electrician should order the flat grounding cable (EFK).

Measure the width and height of the surface. Plan an overlap of 5-10 cm (surface +10%) (fig.1).

Turn off the fuses and secure these to keep them from turning back on.
Check for zero voltage in the room. Remove all socket inserts and switching elements in the walls that will be shielded.

2. Attaching the fabric

Provisionally attach the individual sheets in the upper wall area with small nails, staples, or screwed wooden strips (fig.8).

Directly screw the shielding material sheets to the wall with the help of the slats (fig.9).

3. Connect grounding / further processing

Screw in the ground strap EEB flatly and continuously from sheet to sheet. 4x in the middle of the sheet and 1x in the overlap area (fig.10).

Your electrician will now connect the ground strap with the intended socket (fig.A1) or your electric distributor (functional equipotential bonding) (fig.B1) with the help of the tubular cable lug RKS and the prepared grounding cable.

Afterwards, the rest of the wall construction of the facing shell with wood, plasterboards, panels, or a similar material can take place.

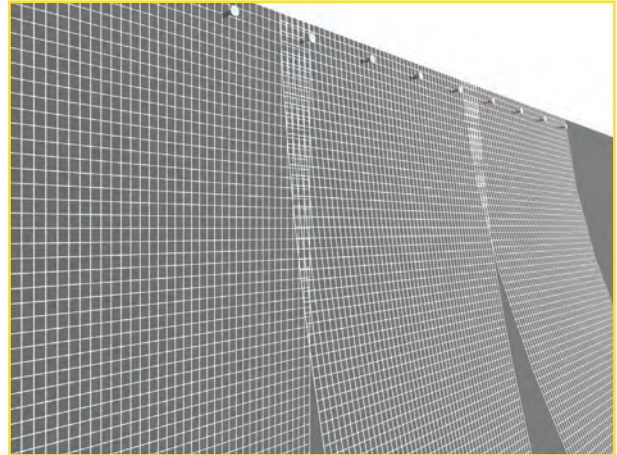


Fig.8: Provisional fixture of the fabric sheets

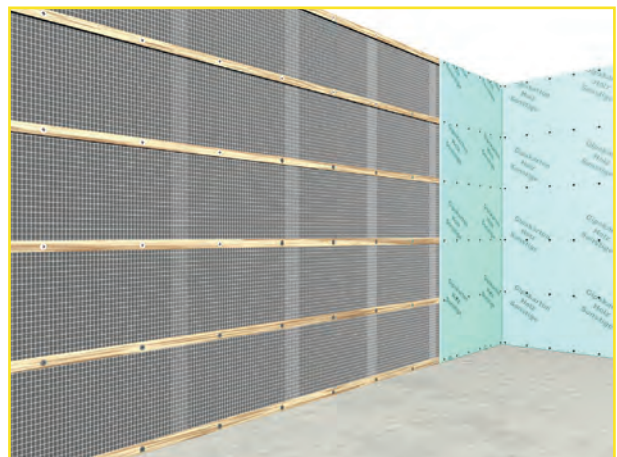


Fig.9: Fixed attachment of the sheets with the help of the slats – removing the auxiliary mounting

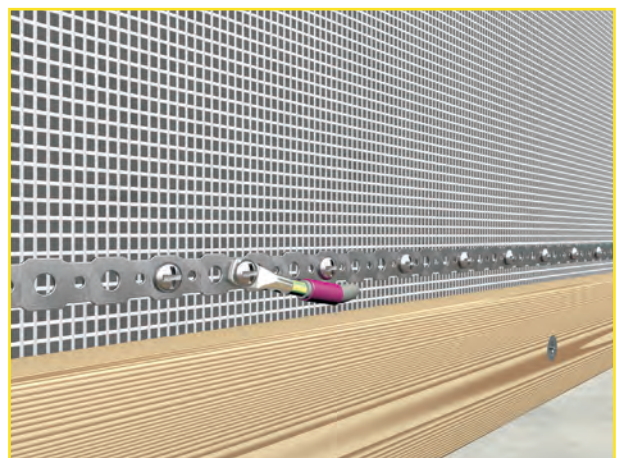


Fig.10: Attaching the stainless steel ground strap EEB with stainless steel screws – grounding with RKS



Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Interior area – installation facing shell (ceiling)

1. Preliminary work / measuring the surface

Determine the grounding point and let a qualified electrician inspect the grounding. Ask your electrician, depending on the distance to the grounding point, to bring a 2.5 mm² grounding wire (yellow/green-insulated) of the appropriate length (fig.A2). In the case of functional equipotential bonding to be carried out after an inspection, you or your electrician should order the flat grounding cable (EFK).

Measure the width and height of the surface. Plan an overlap of 5-10 cm (surface +10%). (fig.1+14)

Turn off the fuses and secure these to keep them from turning back on. Check for zero voltage in the room. Remove all lights and light baldachins.

2. Attaching the fabric

Provisionally attach the individual sheets on the entire ceiling surface with small nails, staples, or screwed wooden strips (fig.11).

Screw the shielding material sheets to the ceiling with the help of the slats (fig.12).

For processing in the ceiling area under plaster, it may be necessary to use plate dowels in order to better attach the shielding material and secure it from loosening.

3. Connect grounding / further processing

Screw in the ground strap EEB flatly and continuously on the material sheets near the outlets for luminaires. 4x in the middle of the sheet and 1x in the overlap area (fig.13).

Your electrician will now connect the ground strap with the intended socket (fig.13) or your electric distributor (functional equipotential bonding) (fig.B1).

Afterwards, the rest of the ceiling construction with wood, plasterboards, panels, or a similar material can take place.



Fig.11: Provisional fixture of the sheets



Fig.12: Fixed attachment of the sheets with the help of the slats - removing the auxiliary nails

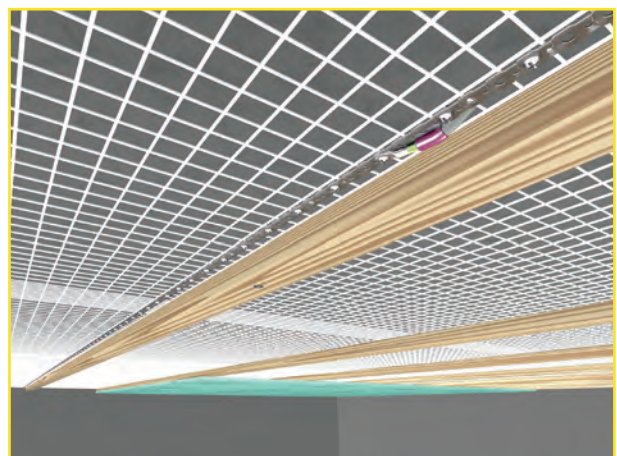


Fig.13: Attaching the stainless steel ground strap EEB with stainless steel screws – grounding with RKS

Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Interior area – installation under floor covering 1

1. Preliminary work / measuring the surface

Please find out beforehand which floor covering will come into effect. It is important to know whether the floor covering will be installed in a floating way or fixed with adhesive. A floating installment of the floor covering simplifies the installation of the shielding material. For the processing of floor covering with adhesive, e.g. beneath parquet or tiles, special measures must be considered. Particularly stable filling compound and edge reinforcement with suitable adhesives. Please ask your responsible workman about this. We are happy to give them further information by phone at +49 7433 955 7172.

Determine the grounding point and let a qualified electrician inspect the grounding. Ask your electrician, depending on the distance to the grounding point, to bring a 2.5 mm² grounding wire (yellow/green-insulated) of the appropriate length (fig.A2). In the case of functional equipotential bonding to be carried out after an inspection, you or your electrician should order the flat grounding cable (EFK).

Measure the width and height of the surface. Plan an overlap of 5-10 cm (surface +10%) (fig.14).

Turn off the fuses and secure these to keep them from turning back on. Check for zero voltage in the room. If necessary, remove the socket insert for the connection of the grounding.

When using the security equipotential bonding, prepare a small slit from the outlet to the floor (fig. A2). Insert the cable so that it protrudes by about 20 cm from the outlet and the edge of the floor. Protect both visible ends with insulating tape. The wire can also be positioned along the wall.

2. Installation of the material

Clean the floor and preferably place the sheets on the long side of the room, incl. 5-10 cm overlap from sheet to sheet (fig.15).

The attachment of the individual sheets can hereby occur with double-sided carpet tape, with strips, screws, staples, nails, or a similar material. Pay special attention to the overlap areas. The individual sheets should lie flatly on top of one another. Staple, screw, or nail them lengthwise at a distance of about 20-30 cm. The attachment of the individual sheets occurs 1x in the middle of the sheet and 1x in the overlap area (fig.16).

Cut out the heating pipes and keep a distance of about 0.5-1.0 cm to the pipes. Further information on wall penetrations of pipes, ventilation, chimneys, etc. can be found at the end of this technical data sheet in the section on tips and frequently asked questions (fig.25+26).

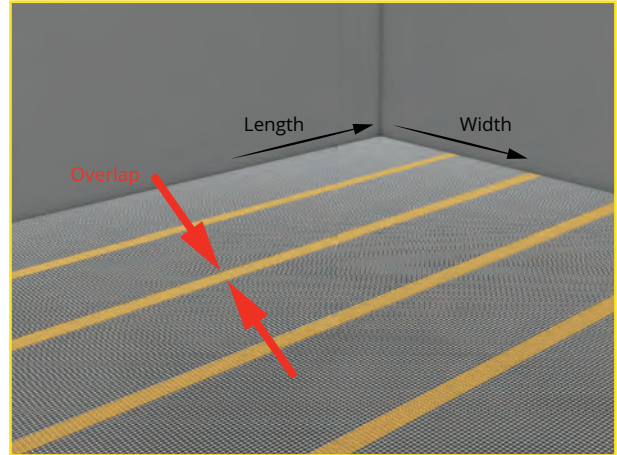


Fig.14: Length and width of the surface / overlap.

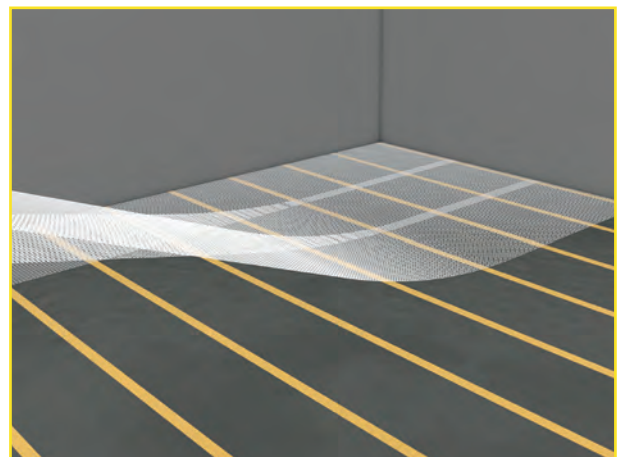


Fig.15: Installation of the shielding material on the floor. Double-sided carpet tape

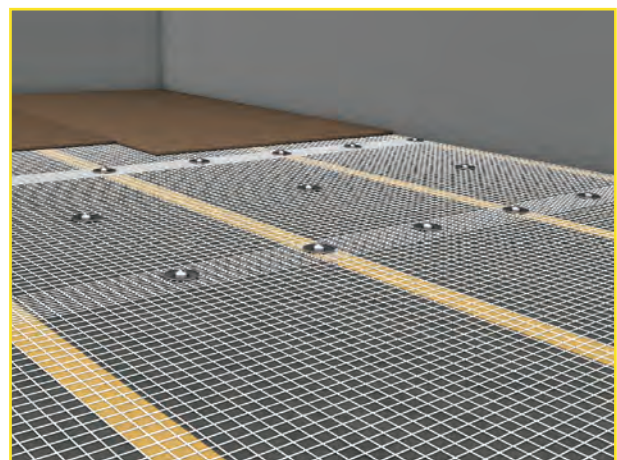


Fig.16: Attaching the shielding sheets / overlap areas.



Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Interior area – installation under floor covering 2

3. Connect grounding / further processing

Screw in the ground strap EEB flatly and continuously on the material sheets. (Fig.17)

Your electrician will now connect the ground strap with the socket with the help of the tubular cable lug RKS and the prepared grounding cable (fig.A1 + fig.17) or your electric distributor (functional equipotential bonding) (fig.B1).

Afterwards, the rest of the floor construction with footfall sound insulation and floor covering can take place.

*Also installable beneath screed and floor heating

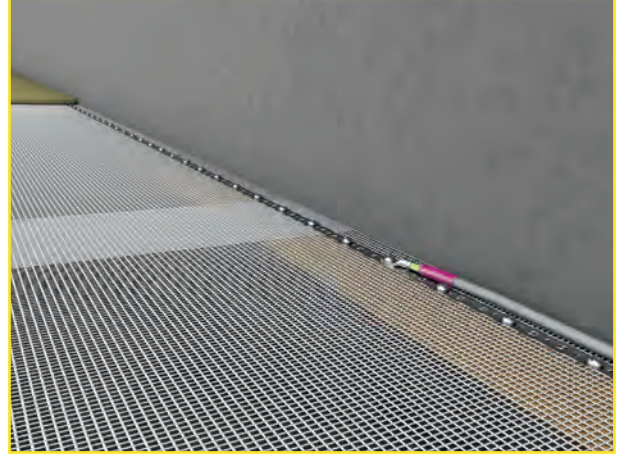


Fig.17: Electrical interconnecting of the individual sheets with one another and connection to the equipotential bonding (RKS+EEB).

Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Interior area – installation under parquet

1. Fabric filling

In order to install Adamantan 10 under parquet affixed with adhesive, fabric filling is generally required. (Fig.18) Materials from the company Stauf, for example, are recommended for this. Inserted into a suitable embedding mass (PU – parquet adhesive – solvent-free), the conventional floor construction can be continued (fig.19).

Your electrician will also carry out the grounding for this type of application. With the help of the tubular cable lug RKS6 and the prepared grounding cable as well as the ground strap with socket (fig.A1 + fig.17) or your electric distributor (functional equipotential bonding) (fig.B1). For an additional wall shielding, the grounding can also take place on the wall (see next pages).

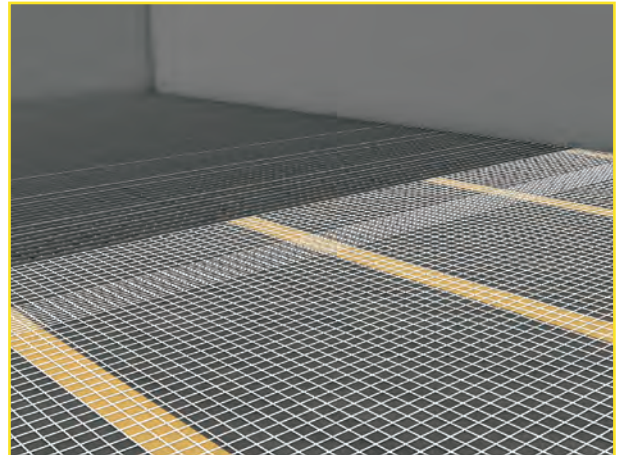


Fig.18: Electrically conductive connection of the individual sheets with one another, staples and connection to the equipotential bonding (RKS6+EEB).

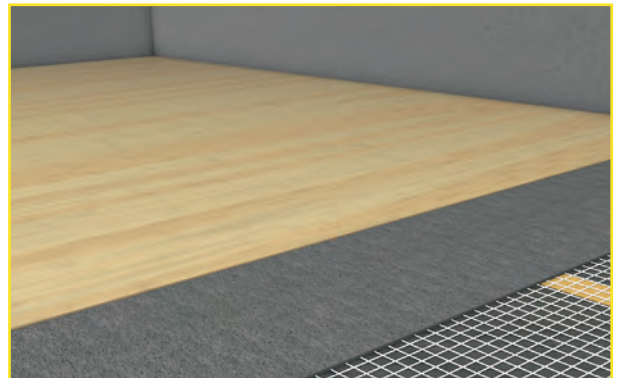


Fig.19: Further floor construction.



Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Interior area – combinations of surfaces 1

1a. Transition from ceiling to wall

Plan an overlap of 10-20cm from ceiling to wall (fig.20). This should be provided for all types of installations (beneath plaster, behind casing).

1b. Grounding combination ceiling to wall

Screw in another ground strap (EEB) in the additional overlap area in order to connect both surfaces. This only happens on one side. On all other sides, the above-mentioned overlap suffices (fig.21). The actual grounding occurs in the socket area or on the floor (fig.6+7+10). Optionally, the ground strap in the socket area can also be omitted and the equipotential bonding cable connected directly to the upper ground strap.

The intended grounding point is still used. One grounding point per connected surface / or room. In this case on the wall (security equipotential bonding) (fig.A1) or in the electric distributor (functional equipotential bonding) (fig. B1).

IMPORTANT!

In general, do not form loops. Meaning no ground strap once "all around" the room.

Only one grounding point per room should be provided to which all connecting surfaces are attached!

2a. Transition wall to floor

Plan an overlap of 10-20 cm from wall to floor (fig.22). This should be provided for all types of installations (beneath plaster, behind casing).

2b. Grounding wall to floor

Grounding can take place in the floor area as well as in the wall area. Usually on the floor (fig.23), screw in the ground strap (EEB) in the overlap area in order to connect both surfaces. This only happens on one side. On all other sides, the above-mentioned overlap suffices (fig.22).

The intended grounding point is still used. One grounding point per connected surface / or room. (Security equipotential bonding) (fig.A1) or in the electric distributor (functional equipotential bonding) (fig.B1).

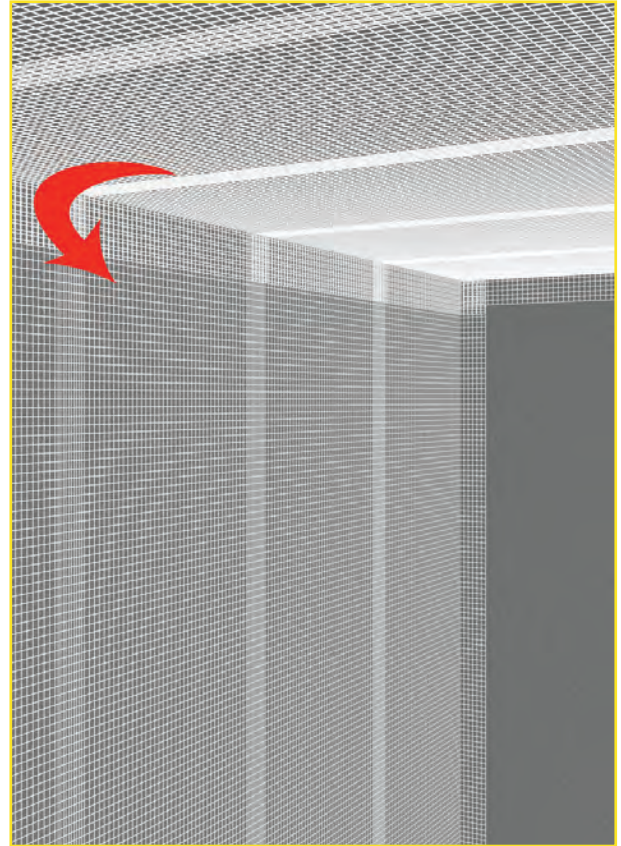


Fig.20: Overlap from ceiling to wall.

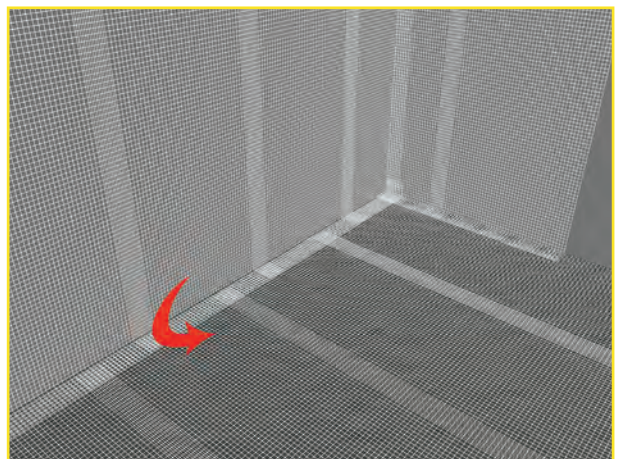


Fig.22: Overlap from wall to floor.

Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Interior area – combinations of surfaces 2

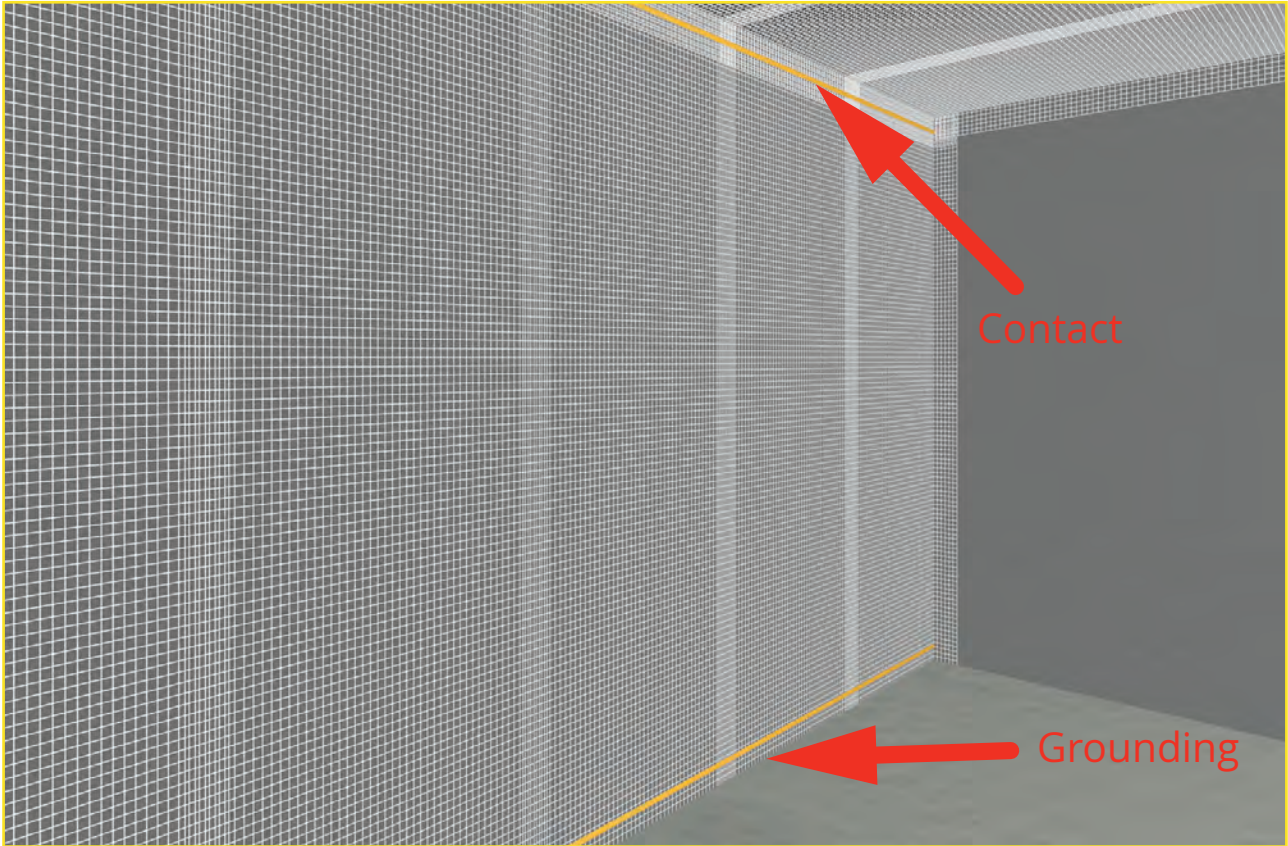


Fig.21: Connecting the overlapping parts – grounding in the socket area with EEB

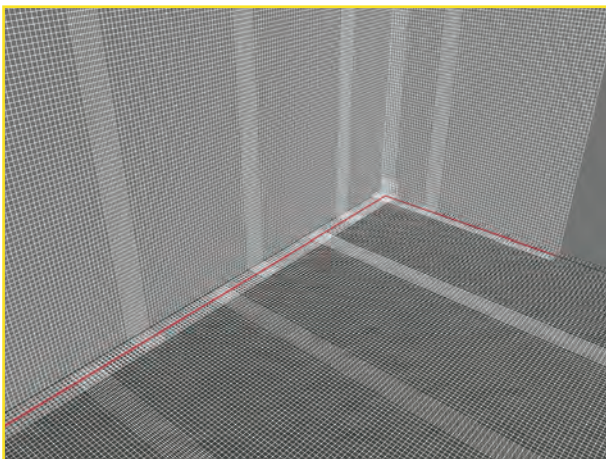


Fig.23: Connecting the overlapping parts – grounding on the floor with EEB



Fig.25a: Grounding roof slope with EEB

Different materials can be combined, e.g., H-F shielding paint HF60+ on walls and ceiling, Adamantan 10 on the floor. We are happy to give you or your workman further information by phone at +49 7433 955 7172.

Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Interior area – overview entire room

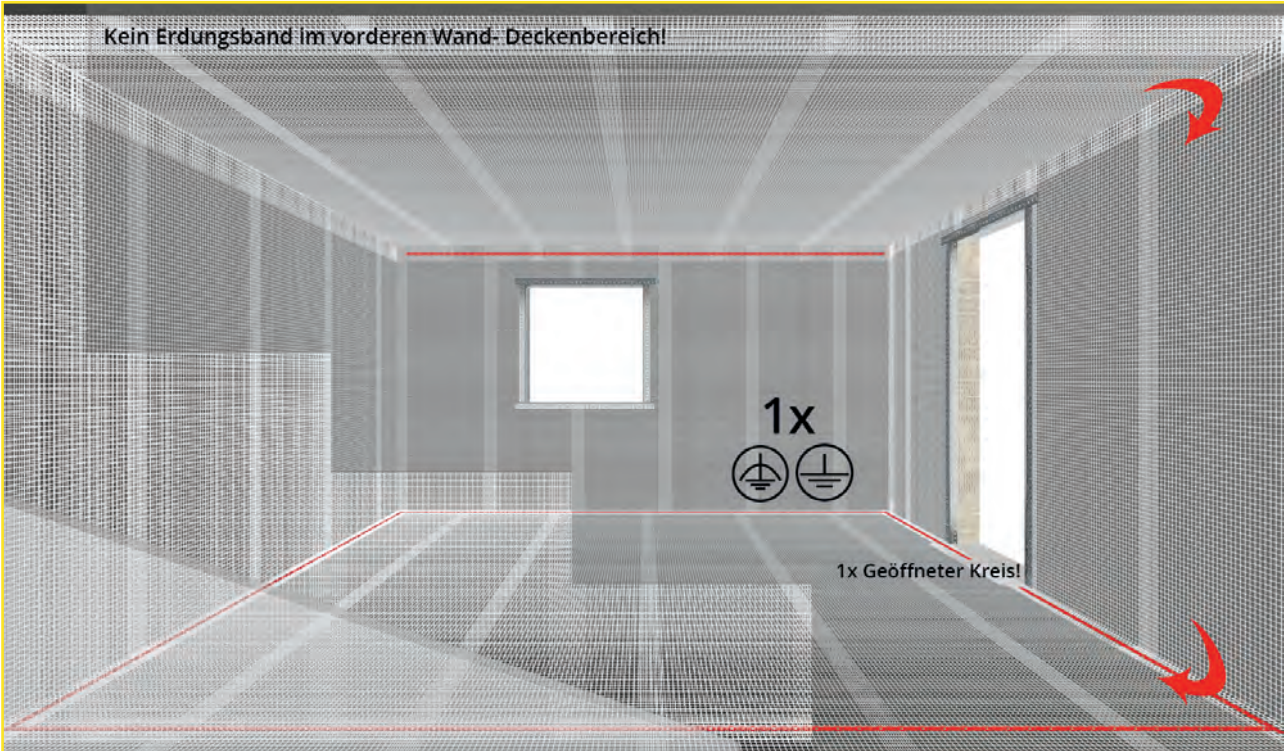


Fig.24: Depiction of room shielding all sides / attaching the ground strap EEB.

Additional examples

a. Roof slopes

b. Gable wall to roof

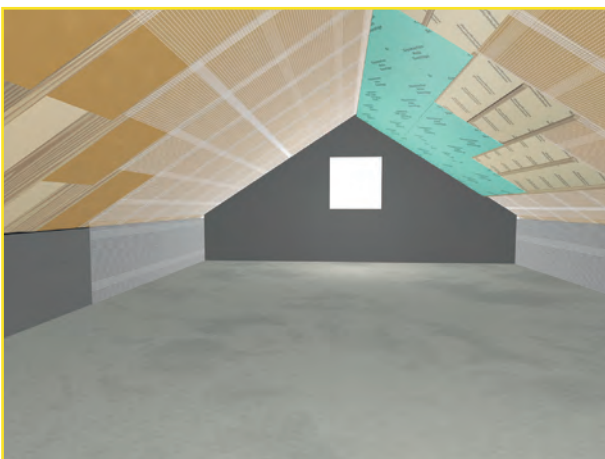


Fig.25: Installation on rafters or between two slab layers
Grounding method see fig.25a

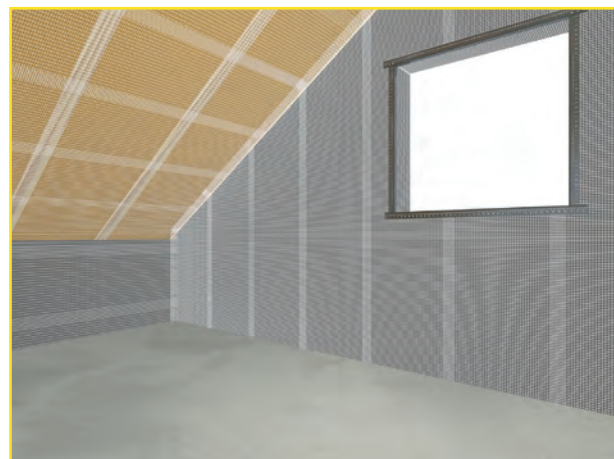


Fig.26: Overlap of gable wall to roof slope. The grounding of the gable surface in this case occurs via the ceiling surface fig.25a

on a+b) installation of Adamantan 10

The installation of Adamantan 10 can also be carried out in a vertical direction when processing between double planking, for example. The grounding is hereby attached either horizontally across wall and gable surfaces (fig. 6+10) or accordingly on the floor (fig.17+23).

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Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Outdoor area – possibilities house shielding

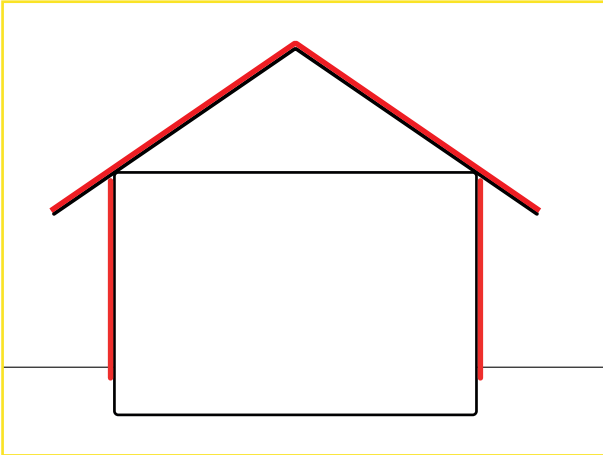


Fig. 27: Construction facade outside & roof outside

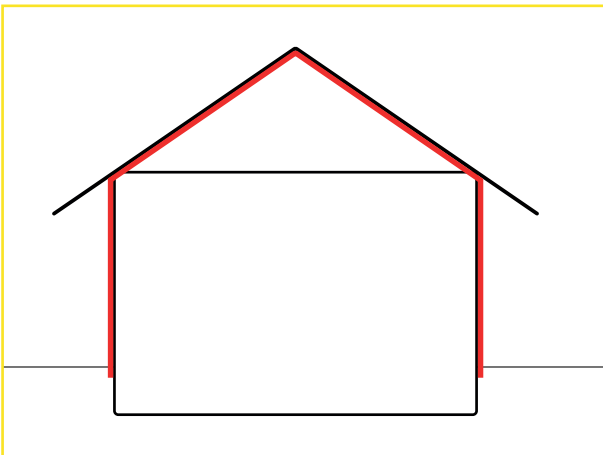


Fig. 28: Construction facade outside & roof inside

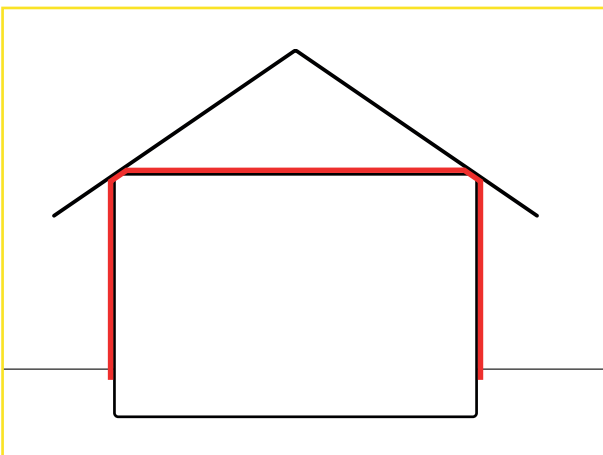


Fig. 29: Construction facade outside & roof inside (attic)

1.: Facade outside & roof outside

Fig. 27 – For this type of house shielding, the shielding fabric is installed and grounded separately from the ceiling surface. The shielding material is applied to the roof. It is also used for pure roof shielding.

The shielding material of the facade surfaces is led as closely as possible to the rafters.

The same applies to the gable surfaces, although an additional shielding of the slits and gaps to the ceiling surface may be necessary. Possibly also from the inside.

2. Facade outside & roof inside

Fig. 28 – For this shielding possibility, the fabric Adamantan 10 is installed further under the roof in the interior area. In the inside area, Adamantan 10 then comes into effect. Can be used also for pure roof – roof shielding.

The same applies to the gable sides.

This type of house shielding results in very few slits and gaps.

3. Facade outside & roof inside (attic)

Fig. 29 – In some cases, the roof area is uninhabited and does not need shielding. It is therefore possible to further install the shielding material from the facade in the roof area inside in the attic.

The same applies to the gable area.

This type of house shielding results in very few slits and gaps and creates an enclosed shielding area.

4. Detail solutions

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

Please do not hesitate to contact us by phone at +49 7433 955 7172 to work out an individual shielding solution incl. the details with your advising construction biologists, implementing workmen, and architects.

Blueprints and detail views present a considerable help when working out individual shielding measures.



Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Outdoor area – installation under plaster facade 1

1. Preliminary work / measuring the surface

Determine the grounding points. Per facade area 1x. Ask your electrician, depending on the distance to the grounding point, to bring a 16 mm² grounding wire (yellow/green-insulated) of the appropriate length.

Always place the grounding cable as closely as possible along the shielding fabric and bring all grounding cables into the house together.

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

Inspect and, if necessary, rework the surface (absorbency, loose parts, tears – fill, primer, etc.). For the use of a suitable primer, embedding compound or filler (grain size <1.0 mm) for the fabric filling and the visible plaster, please consult your plasterer or painter. Give them the product data sheet, the technical data sheet, and the security data sheet, if available, of the fabric. We are happy to give your workman further information by phone at +49 7433 955 7172, or to send your workman samples in the appropriate size.

2. Embedding the fabric

Apply the embedding compound (visible plaster, reinforcement layer) to the wall with a trowel or syringe and press the fabric into it from top to bottom (fig.31). Straighten the mass by pulling the fabric straight with a ladle or trowel until the fabric is no longer visible. Apply the next sheet incl. the measured overlap in the same way, until the surface is complete. Adamantan 10 is processed like a traditional fabric in the upper third of the reinforcement, with the exception of the grounding (fig.30).

Please leave about 3-5 cm untouched in the socket area in order to apply the ground strap EEB at a later point (fig.32). Cover the area with appropriately wide crepe band, for example, to prevent dirtying.

Afterwards, the ground strap can be filled, the surface closed (see point 4).

Important: For horizontal installation of the fabric, the ground strap is attached vertically!

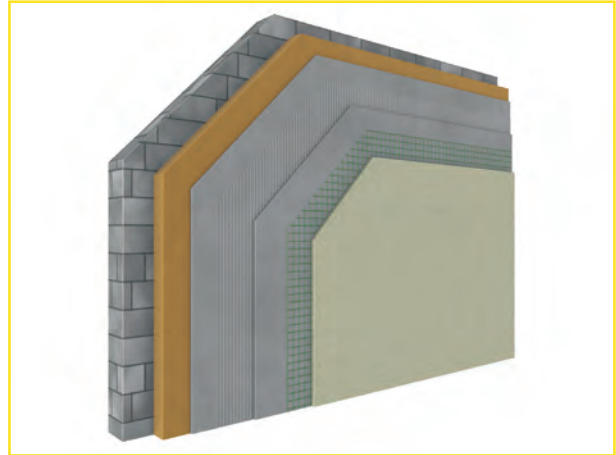


Fig.30: Possible wall construction in the outside area (with additional reinforcement fabric!)

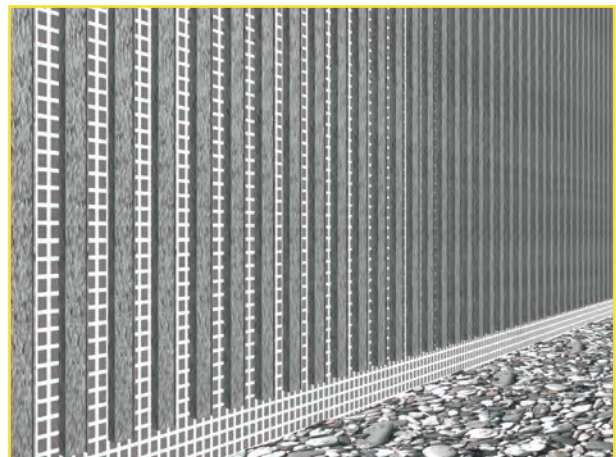


Fig.31: Embedding compound (plaster), fabric incorporation

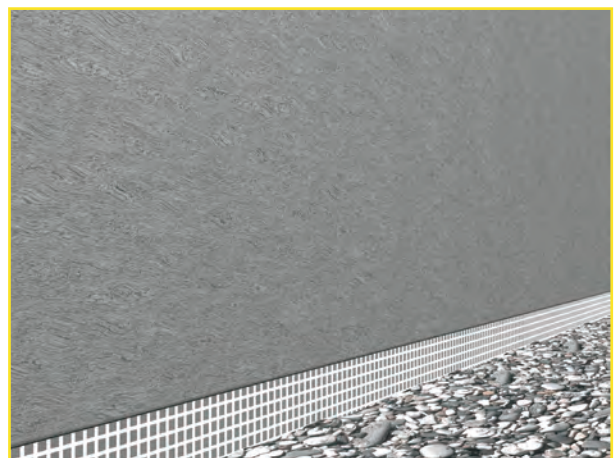


Fig.32: Socket area left free by about 5 cm



Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Outdoor area – installation under plaster facade 2

3. Windows and doors

Pull the fabric across the reveal to the door or window frame in order to seal the shielding area as extensively as possible. In the case of existing aluminum frames, aluminum-covered frames, or aluminum facing shells, you can attach the fabric directly to the frame. For wood or plastic frames, try to push the fabric as closely as possible to the frame so that no cracks emerge (fig.38). The gap of the frame can be further optimized with a shielding curtain or with the help of shielding insect protection. In the case of a new building, there will also be additional possibilities for the installation with windows and doors. In this case, please contact us at +49 7433 955 7172 or send an email to info@biologa.de.

4. Connect grounding / further processing

After installing the shielding fabric, screw the ground strap EEB horizontally onto the fabric in the socket area that was left free, so that all integrated fabric sheets are connected with one another in an electrically conductive way (fig.33). Your electrician will now, with the help of the tubular cable lug RKS16, connect the grounding cable with the equipotential bonding (fig. C1, C2, 11, 12) or with your electric distributor (functional equipotential bonding) (fig.3).

After completing the grounding, the ground strap EEB can, if necessary, be primed and reworked. This is followed by the normal further wall construction.

5. Windows / doors / reveals / house edges

The fabric should be placed into the reveals. In order to achieve a closed shielding surface without slits or gaps, it is recommended to use electrically conductive plaster angles (fig.35). This also applies to the house edges in which the fabric is unraveled and separated. In order to carry out further optimization and to prevent protraction through grinding, we recommend using a plastic plaster angle at a house edge to attach both sides electrically separate from one another.

In the case of planned aluminum-cased window frames, the fabric can be pulled directly beneath the facing shell (fig.35+38).

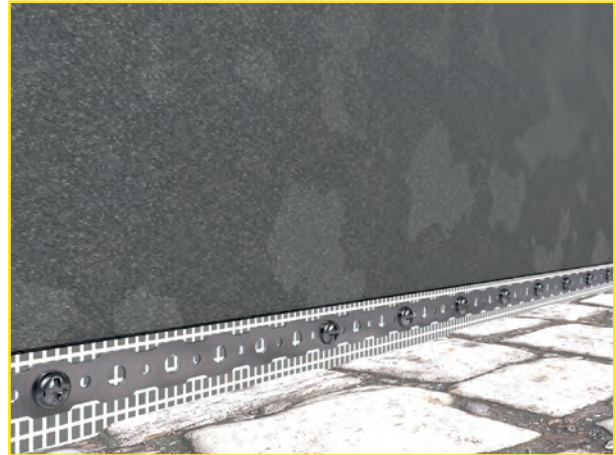


Fig.33: Electrically conductive connecting of the individual sheets with one another.

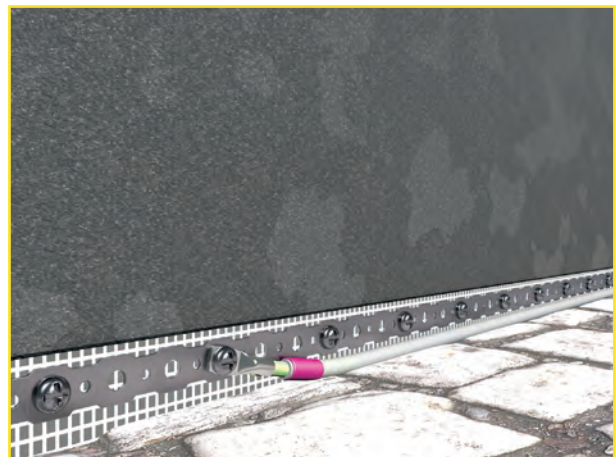


Fig.34: Connection of the grounding conductor with RKS16

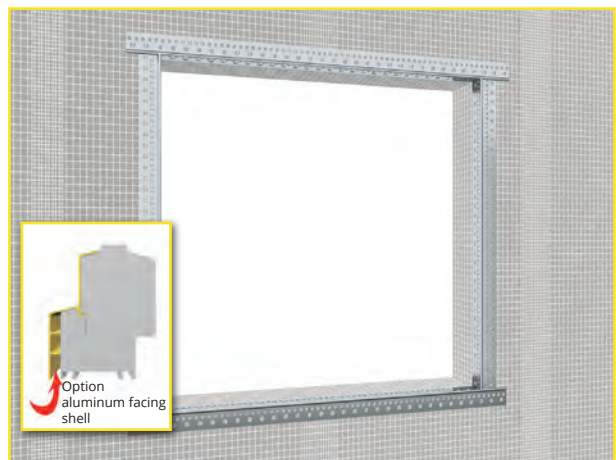


Fig.35: Windows, doors + reveals – plaster angles, e.g. out of stainless steel

Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Outdoor area – facade facing shell

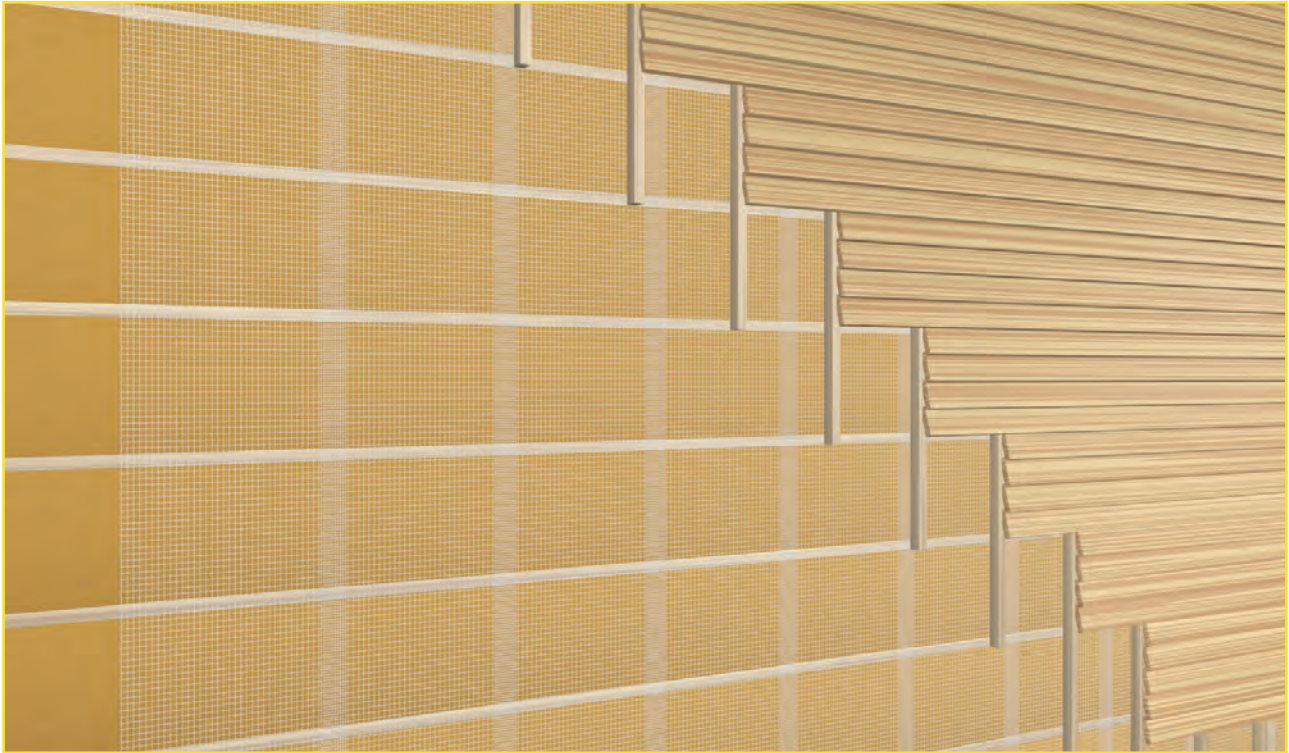


Fig.36: Shielding facade – The installation of the fabric is possible both horizontally and vertically. Depending on the type and alignment of the slats. The grounding occurs with a grounding cable cross section of 16 mm².

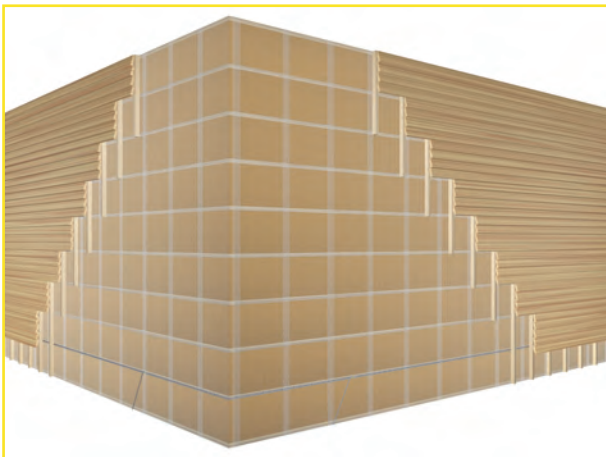


Fig.37: House edges

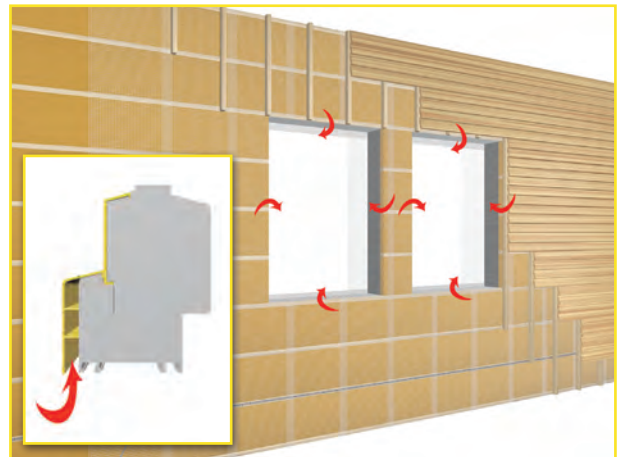


Fig.38: Shielding fabric at the window up to the reveal / aluminum facing shell

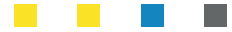
Installation of Adamantan 10 facades

For a good, continuous shielding area, it is particularly recommended to use window frames with an aluminum profile or completely made of aluminum. The shielding material is hereby placed behind the protruding profile with an overlap and fastened there (fig.38). In combination with the respective window glass, this results in a continuous shield without gaps and slits.

For constructors, construction companies we are happy to work out comprehensive shielding measures together with a construction biologist. For individual detailed solutions such as transitions, we need the detailed sketches of the house. The fabric can also be incorporated into the pre-production of a house in factory halls.

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Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Outdoor area – roof

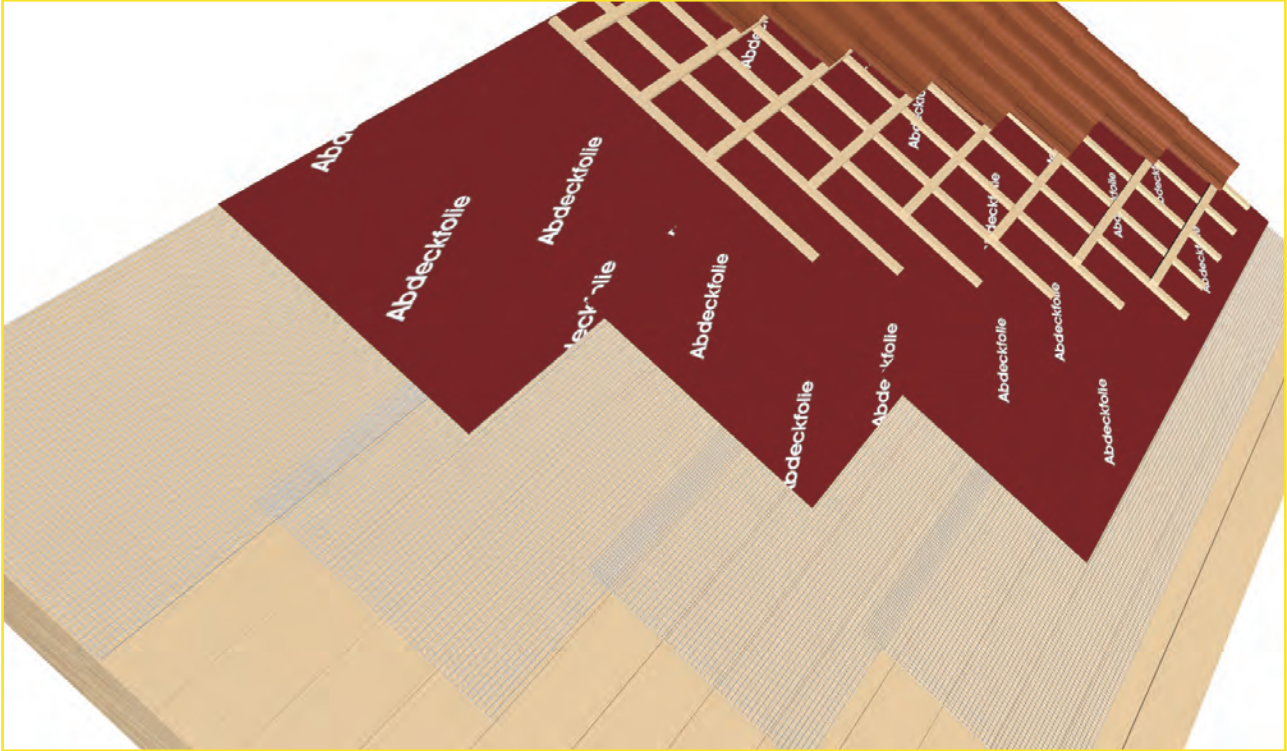


Fig.39: Depiction of a roof shielding in the outside area

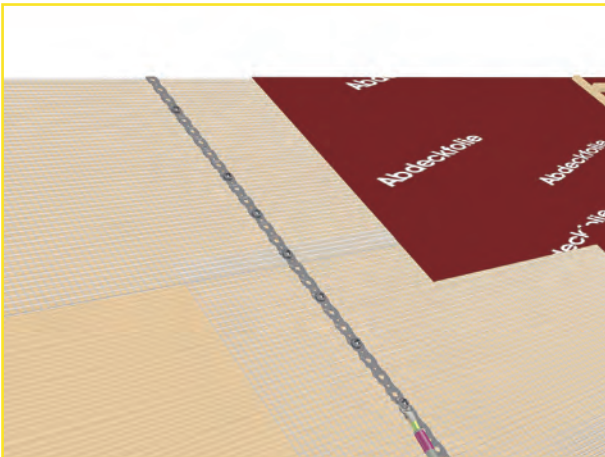


Fig.40: Grounding of the roof surface (EEB+RKS16)

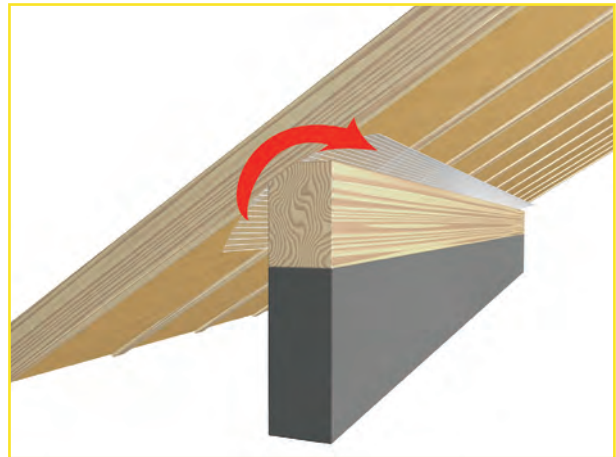


Fig.41: Option – Transition from facade to roof, outside to inside, between purlin and rafters.

Installation of Adamantan 10 on roof surfaces

The attachment of the individual sheets occurs with staples. Preferably made of stainless steel and not anodized on the inside, so that a clean contacting of the fabric is possible. The individual sheet must lie flatly on top of one another in the overlap area. Waves should be avoided (fig.39). Penetrations, for example of chimneys, should be carried out upwards. For the upwards installation, the following formula [(diameter o. diagonal) *2] of the chimney applies (fig.44). In the case of a coating of the chimney with metal sheets, this is not necessary. The shielding fabric is hereby led to and attached to the covering with an overlap and as closely as possible.

For constructors, construction companies, we are happy to work out comprehensive shielding measures together with a construction biologist. For individual detailed solutions such as transitions, we need the detailed sketches of the house. The fabric can also be incorporated into the pre-production of a house in factory halls.

The above information represents the current development status. It should be considered non-binding, since we cannot influence the processing, and the processing requirements differ by region. Claims resulting from this information are therefore excluded. The same applies to the commercial and technical advisory service and information that is made available at no charge and non-bindingly. We therefore recommend carrying out a sufficient number of your own attempts and determining whether the product is suitable for the intended purpose. With publication of these versions, all previous technical information (data sheets, fitting recommendations, and other versions intended for similar purposes) loses its validity.



Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Penetrations / Tips

Penetrations / Wall and ceiling openings

Ensure a flat installation, without gaps and slits, especially in the overlap areas. Waves in the fabric should be avoided.

The delivery of the grounding accessories, which must be ordered separately, does not include a grounding cable to prevent incorrect connection of the components. Please inform your trusted electrician of this. They will bring the cable in the appropriate length.

For incorporating the functional equipotential bonding (grounding variation B), a flat grounding cable EFK is used. This can be ordered by you after inspection of the grounding by a qualified electric worker or by your electrician from Biologa. Please name the version that you require.

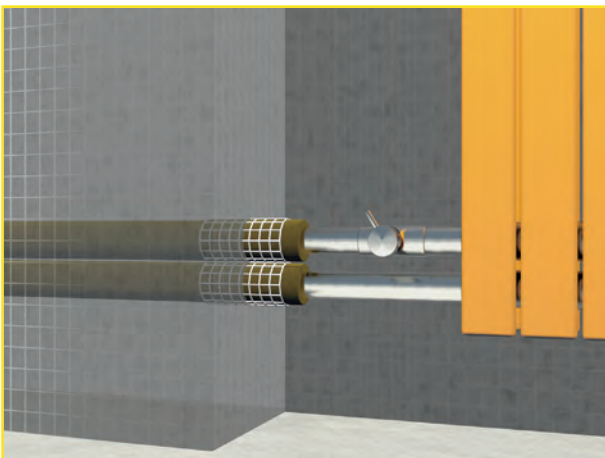


Fig.42: Optional wall penetration heating pipes – Øx2 to the outside and inside

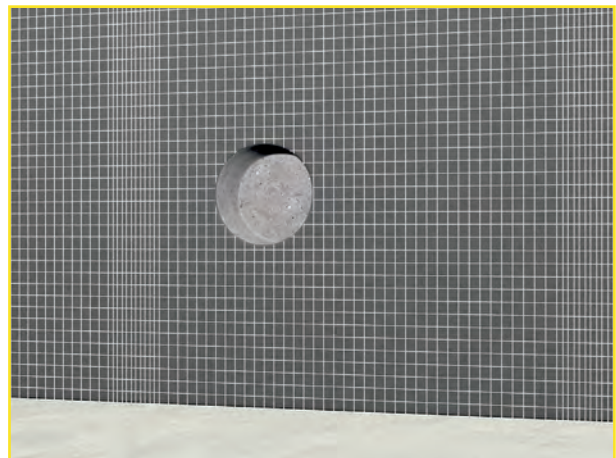


Fig.43: Wall openings – Example: Switch / socket – levelly cut off

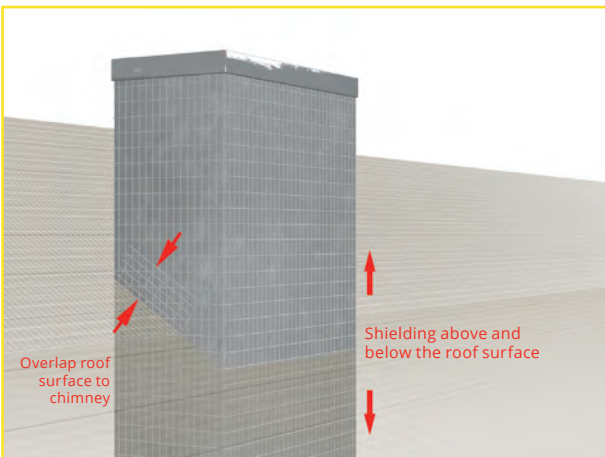


Fig.44: Optional penetration chimney – Øx2 to the outside and inside



Fig.45: Connection to roof window installation under roofing frame up to window



Adamantan 10 – HF/LF – Shielding fabric (high frequency+low frequency)

Frequently asked questions

Frequently asked questions

Which materials?

For processing with the above-mentioned techniques, a number of materials are available on the market. It is not possible at this point to examine the processing with every one of the available products. Furthermore, the application should not be limited to certain products within the group of materials. Therefore, typical products were selected, and the experiences made with these form the basis for these instructions. Due to the above-mentioned reasons, the processor is instructed to examine the processing technique of these instructions with consideration to the respective product descriptions and installation instructions of the used materials and adjust them to the circumstances and materials. The above-mentioned application possibilities can only represent examples. Further application possibilities are also conceivable. The processing specialist company must hereby individually evaluate the technical backgrounds with its expertise. Aside from these instructions on the installation, the recognized rules of technology, as well as the processing instructions for the used adhesive, colors, filling compound, etc. should be considered.

Can pictures or other objects be fixed to the wall or ceiling after completion of the shielding measures?

Attaching pictures or other objects does not present a problem and can also occur on a shielding surface. Nails or screws may be used.
Please pay attention to the cable course of your electric installation beforehand to avoid damaging existing cables in the wall. Cable finders no longer function after shielding!

Can the shielding material also be installed between two layers of plasterboard or similar panels?

Yes, the shielding material can also be installed between two panel layers. The processing, as far as the fixture and grounding goes, occurs in the same way as on a conventional surface.

Can the shielding material also be attached to the plate fitting with an adhesive, adhesive binder for attachment behind panels?

For use in this application, we will gladly send you or your workman samples for a suitability test.