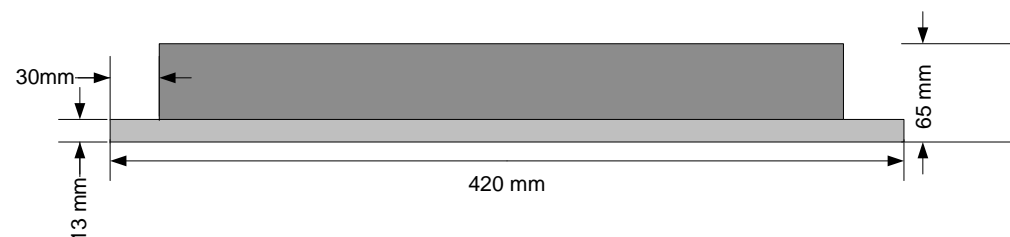
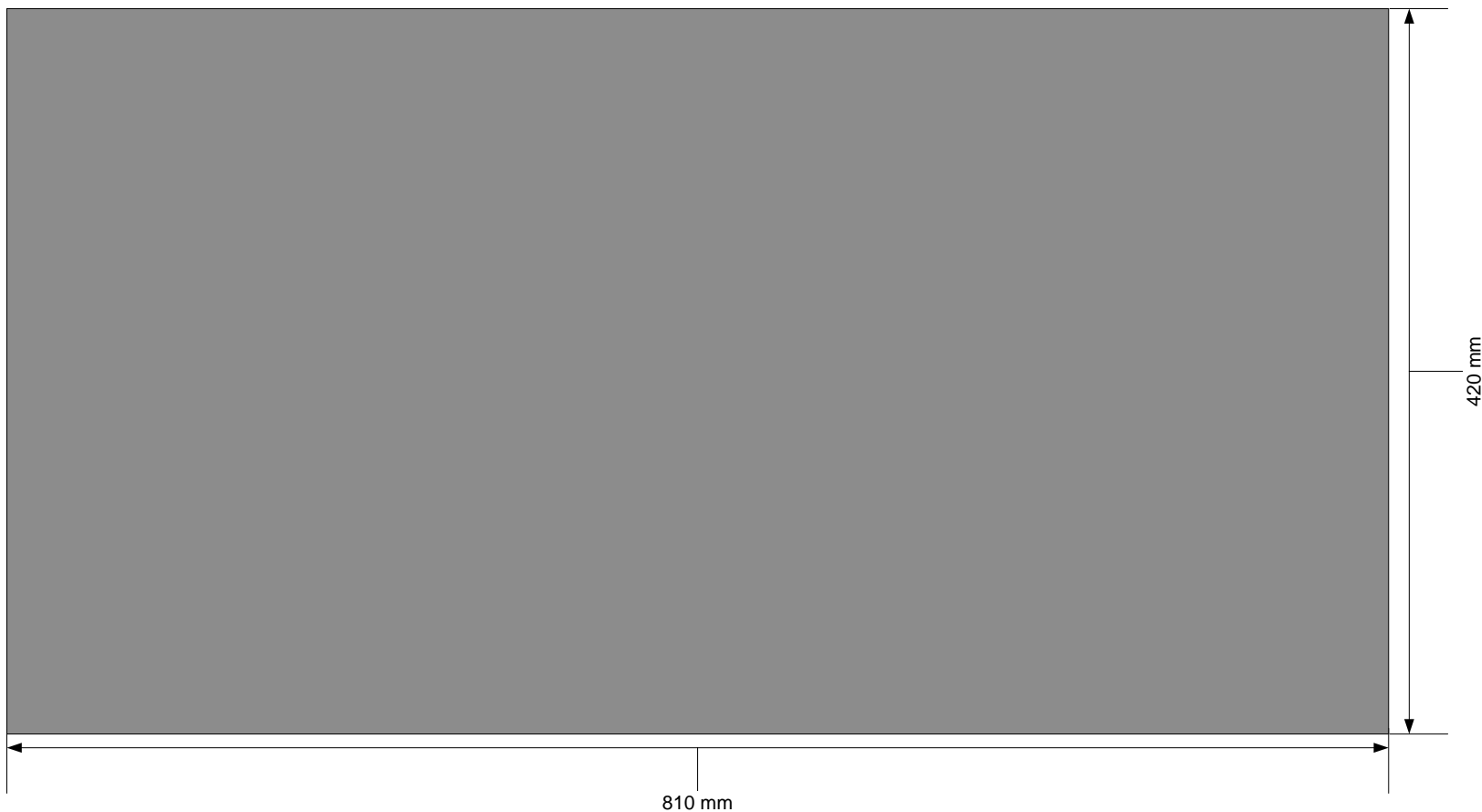


## Hollow body made of Styrodur plates

The larger panel should round off with the finished covering surface of the ceiling with an undersize of about 2 - 5 mm. As the case may be, the panel thickness needs to be adapted for this purpose!

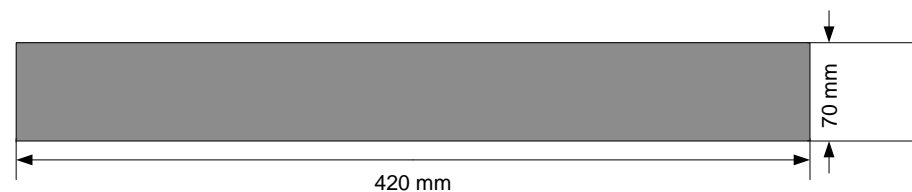


<b>REVOX</b>	Hollow body for Re:sound I invisible 40 A		
	REVOX GmbH Am Krebsgraben 15 78048 VS-Villingen	Hollow body made of Styrodur for massive walls or ceilings	REVISION
ERSTELLT VON			
DATUM	30.03.2011	Www.revox.de	Übersicht Seite 1 VON 3



## Hollow body made of styrodur plates

Assembly of the hollow body planar to the finished bare ceiling  
Position of the required shiplap edge results from the later assembly of the absorber strip



<b>REVOX</b>		Hollow body für Re:sound I invisible 40 A		
		REVOX GmbH Am Krebsgraben 15 78048 VS-Villingen	Hollow body made of Styrodur for massive walls or ceilings with absorber kit	REVISION
ERSTELLT VON				
DATUM	30.03.2011	Www.revox.de	Übersicht	Seite 2 VON 3



Hollow body after removal of the profile;  
Feed for speaker cables in red.



Slots in the concrete ceiling

<b>REVOX</b>		Hollow body für Re:sound I invisible 40 A		
		REVOX GmbH Am Krebsgraben 15 78048 VS-Villingen	Pictures for illustration	REVISION
ERSTELLT VON				
DATUM	30.03.2011	Www.revox.de	Übersicht	Seite 3 VON 3

# Re:sound | invisible

Example for the installation into a double layer plasterboard  
Showroom Revox (Schweiz AG)

The following presentation demonstrates the installation of the Re:sound | invisible speakers in the premises of Revox Schweiz AG.

The adjoining picture shows the basic installation possibilities.



1.

On-wall installation

3.

Ceiling installation

2.

In-wall installation

4.

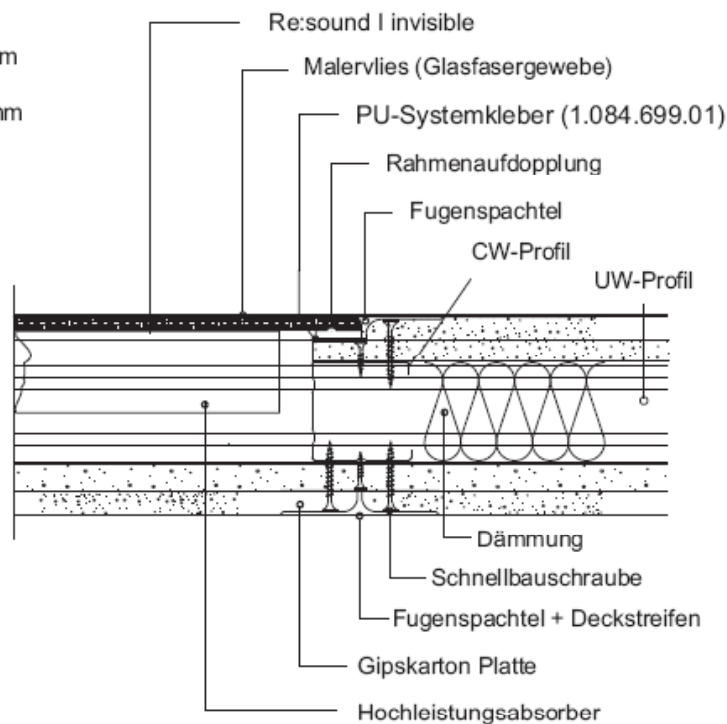
Floor installation

# Example for installation Re:sound I invisible

geeignete Soundboards:

Re:sound I invisible 40 W 1.084.686.00 / 800 x 625 mm

80 W 1.084.691.00 / 1000 x 625 mm



# REVOX

Einbau in GK-Wand zweifach beplankt

REVOX GmbH  
Am Kriebgrab 15  
78048 VS-Villingen

Re:sound I invisible

REVISION

BRITTELT VON P. Schmidt

BRITTELT 01. September 2019

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# REVOX

# Example for installation Re:sound I invisible

The speakers Re:sound I invisible 40 W and 80 W are to be installed in a wall.

Each pair is actuated by a specially equalised M219 via a M217/M218 control unit.



# Example for installation Re:sound I invisible

Marking out the outer dimensions.

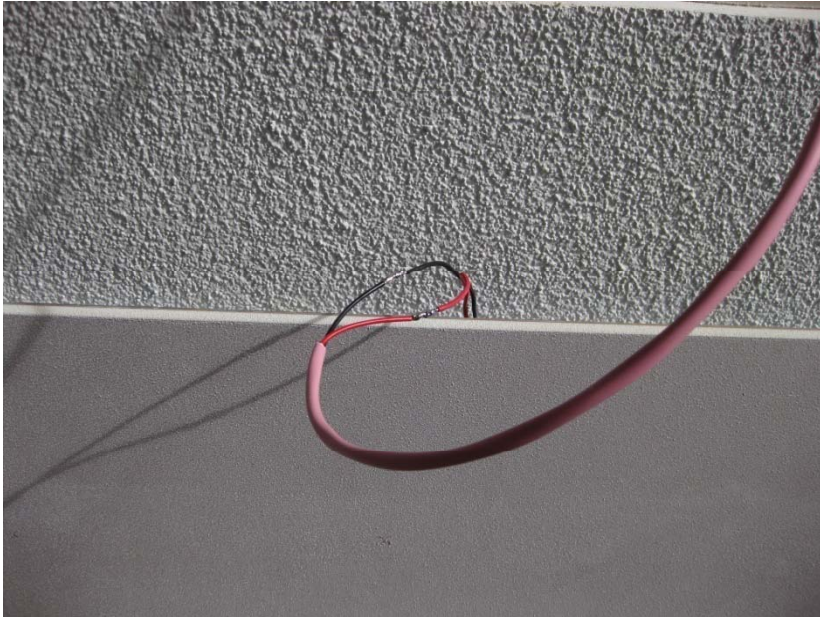


Cutting out the plasterboard along the markings.

**REVOX**

# Example for installation Re:sound I invisible

On the right side you can see the two layers of plasterboard. A frame remains from the lower layer, onto which the soundboard is glued on afterwards.

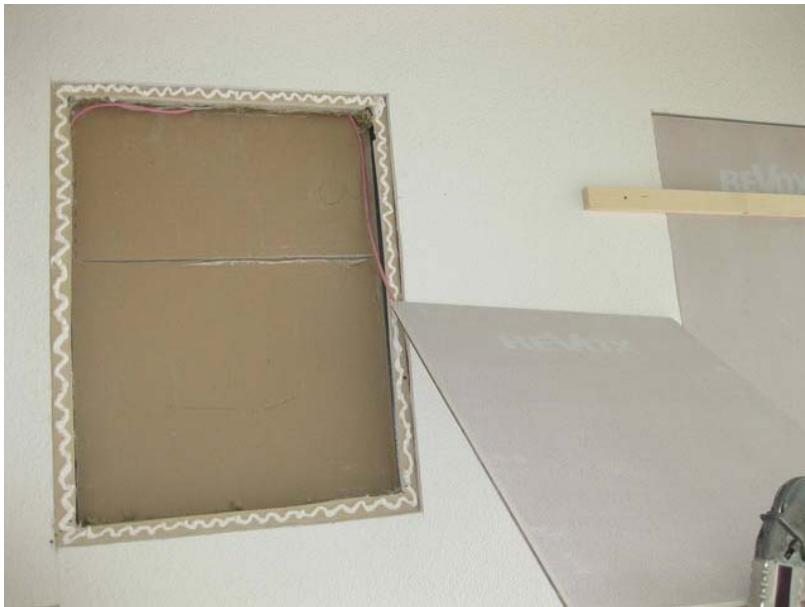


Permanent connection of the soundboard with the speaker cable and subsequent isolation.

# Example for installation Re:sound I invisible

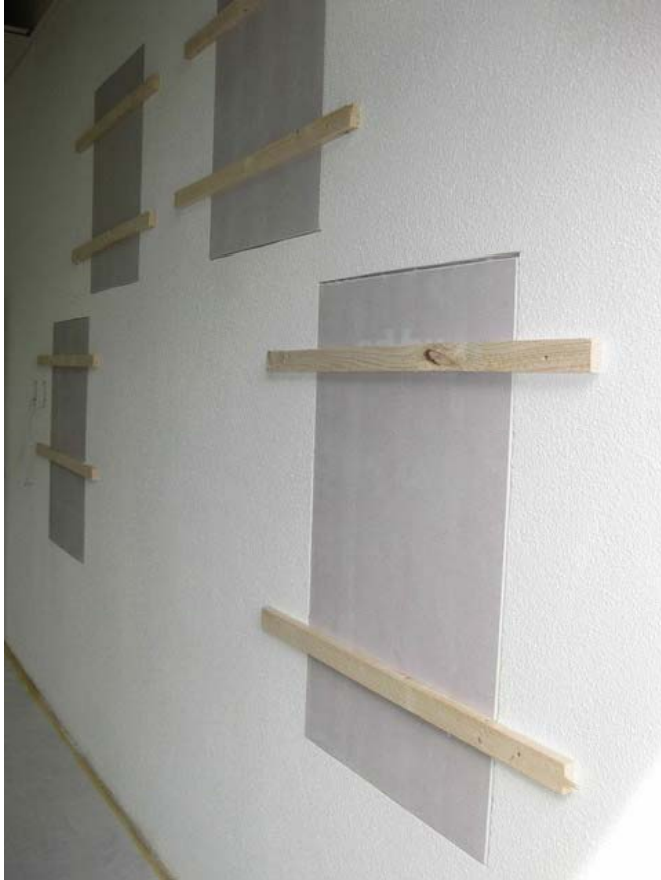
Applying of the adhesive.

To avoid damages of the board and unintentional sound conduction into the wall, the soundboards should never be screwed in place.



Attaching of the wired soundboards.

# Example for installation Re:sound I invisible



The soundboards are pressed onto the adhesive bed by roth laths in a way that they are one level with the remaining wall.

# Example for installation Re:sound I invisible

Neat sealing of the gap  
between soundboard and wall.



To avoid fissures at a later stage, the  
gaps are tightened by fibre ribbon  
(alternatively shielding fleece).

# Example for installation Re:sound I invisible

Re-trowelling of the gaps  
incl. the inlaid fibre ribbon.



# Example for installation Re:sound I invisible

Plastering of the „old“ wall  
and the soundboards to  
create a unitary surface.



## Re:sound I invisible speaker series

The Re:sound I invisible series is a logical extension of the Revox speaker range. The invisible speakers should come into operation whenever the customer likes to combine excellent sound with perfect architectural integration.

The Re:sound I invisible series are available with two power stages - with 40 or 80 Watt per panel. To decide which type of speaker is suitable for the required room, we recommend the following guidelines:

- Background sound: about 2 Watt per square meter of room surface
- Main sound: about 5 Watt per square meter of room surface
- Home theatre: about 10 Watt per square meter of room surface

Example: Room surface 35 sqm for "main sound" - installation in the wall  
35 sqm at 5 Watt = 175 Watt total operating performance  
Recommendation: 2 x Re:sound I invisible 80 W

The positioning within the room can be carried out in varied ways. Basically, the easiest way of positioning should be chosen.

Example: A bathroom, which is quite fully utilised by walls planked with tiles, cabinets and mirrors, with a ceiling made of plastered drywall, is to be treated with ultrasound. In this case it makes sense to install the Re:sound I invisible speakers in the ceiling and not to position them behind the tiles, even though it would be technically possible.

Revox offers 3 different versions (C, W and A) per power setting. Version C (ceiling) and version W (wall) are generally identical except for the outer dimensions. The dimensions of these boards derive from the DIN dry construction standard. For the operation in the ceiling we offer boards with a width of 410 mm and for the wall with a width of 625 mm. The panel is pre-treated with a „broadband-grounding“ so that many stuccos and colours can be directly be put on.

(For the further layer construction of the visible surface the processing specialist company must observe the obligatory testing)

The panels are 12,5 mm thick, which corresponds to the thickness of most plasterboard panels. By removing one of the additional distance layers from the Re:sound I invisible speaker the thickness can be reduced to 9,5 mm.

Version A serves for the laminar adhesion with different materials, such as with a wooden panel or even with a mirror.

For the installation into wood or onto metal stud frame we recommend our 1-component PU adhesive. For sensitive materials such as stone or mirror the recommendations of the supplier/manufacturer should be considered.

The Re:sound I invisible speakers are controlled by a special M219 amplifier. The M219 amplifier is equipped with an equaliser board, which is available in two versions - for the 40 or for the 80 Watt panel. (Attention: The amplifier performance of the M219 does not alter by the application of this additional board. Merely the equalisation is adapted to the panel.) Alternatively the M100 amplifier

can be employed for the control of the Re:sound I panel. In this case the equalization needs to be set correspondingly in the Re:system M100 menu.

Re:connect M219 MKII linear (for the application with normal, passive speakers)	1.551.060.01
Re:connect M219 MKII – E40 (for the application with 40 Watt Re:sound I invisible speakers)	1.551.060.02
Re:connect M219 MKII – E80 (for the application with 80 Watt Re:sound I invisible speakers)	1.551.060.03

The technical drawings given below serve as support for the drywall-worker/cabinetmaker. When installing the speakers according to these drawings, please make sure, that their operation is guaranteed in the long term.

For the loudspeaker connectivity of the panel we recommend the utilisation of two-core cables with a cross section of 1,5 square millimetres up to a maximum length of 20 m. For longer distances a cross section of 2,5 square millimetres is recommended.

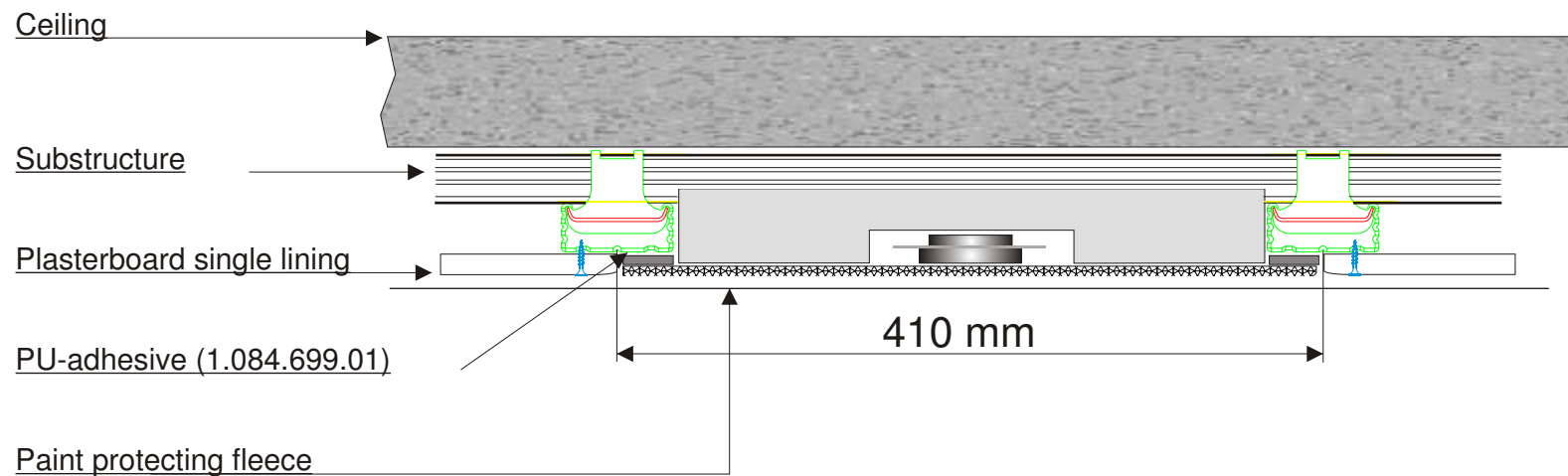
As the panels are in most instances mounted in walls or ceilings, a consultation about the sound conduction is supposed to be effected, to minimise disturbances from other rooms or buildings. In addition to the drawings for a professional assembly, we offer also an absorber kit for the optimisation, which reduces the sound conduction within the material and consequently the impact sound.

Products of the Re:sound I invisible series:

Re:sound I invisible 40 C	1.084.685.00	800 x 410 x 12,5 mm	40 Watt, 4 Ohm
Re:sound I invisible 40 W	1.084.686.00	800 x 625 x 12,5 mm	40 Watt, 4 Ohm
Re:sound I invisible 40 A	1.084.687.00	800 x 410 x 12,5 mm	40 Watt, 4 Ohm
Re:sound I invisible 80 C	1.084.690.00	1000 x 410 x 12,5 mm	80 Watt, 8 Ohm
Re:sound I invisible 80 W	1.084.691.00	1000 x 625 x 12,5 mm	80 Watt, 8 Ohm
Re:sound I invisible 80 A	1.084.692.00	1000 x 410 x 12,5 mm	80 Watt, 8 Ohm
Re:sound I glue cartridge	1.084.699.01	1-component PU special adhesive	
Re:sound I absorber kit	1.084.699.02	Absorber kit for the reduction of impact sound	

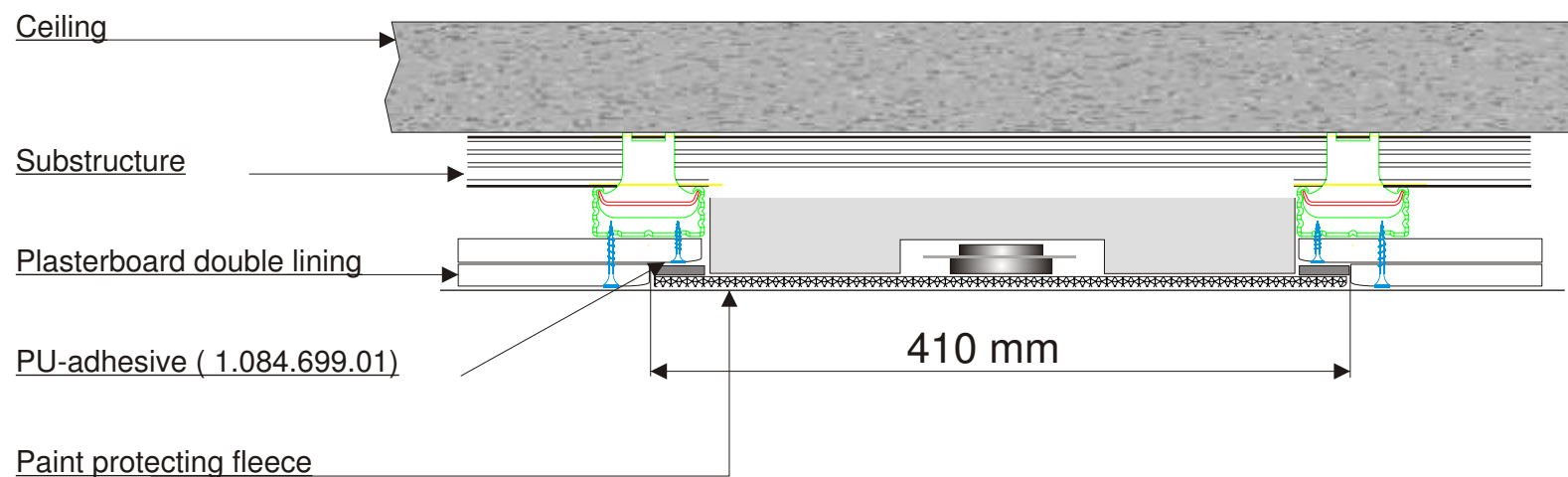
## Appendixes

- Assembly drawing: ceiling with drywall single
- Assembly drawing: ceiling with drywall double
- Assembly drawing: wall with drywall single
- Assembly drawing: wall with drywall double
- Assembly drawing: wood adhesion
- Assembly drawing: solid wall
- Details absorber kit



Appropriate soundboards: Re:sound I invisible 40 C 1.084.685.00 / 800 x 410 mm  
 80 C 1.084.690.00 / 1000 x 410 mm

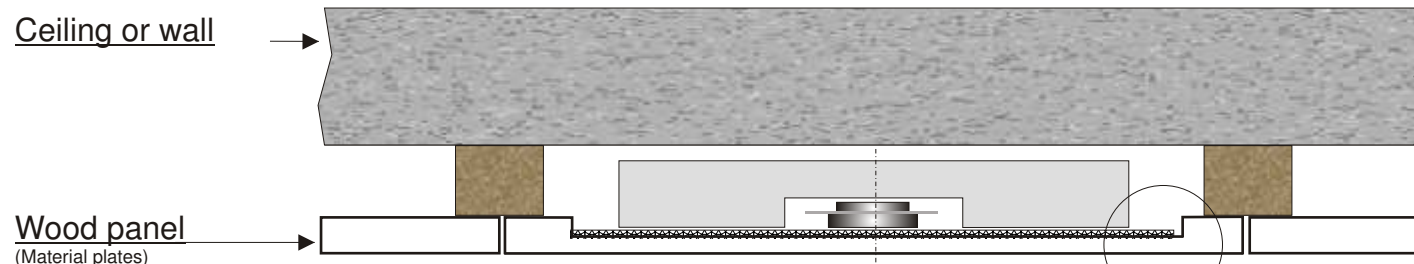
<b>REVOX</b>		Installation into plasterboard ceiling single lining	
		REVOX GmbH Am Krebsgraben 15 78048 VS-Villingen	Re:sound I invisible REVISION
ERSTELLT VON P.Schmidt	DATUM 01.September 2010	WWW.REVOX.DE	GESAMTKONZEPT SEITE



Installation depth: 65 mm

Appropriate soundboards: Re:sound I invisible 40 C 1.084.685.00 / 800 x 410 mm  
 80 C 1.084.690.00 / 1000 x 410 mm

<b>REVOX</b>		Installation into plasterboard ceiling double lining	
		REVOX GmbH Am Krebsgraben 15 78048 VS-Villingen	REVISION
ERSTELLT VON P.Schmidt	Re:sound I invisible		
DATUM 01.September 2010	WWW.REVOX.DE	GESAMTKONZEPT	SEITE



Installation depth: 65 mm

Absorbing foam

Re:sound I invisible

Plenary adhesion  
PU adhesive  
(1.084.699.01)

Reduction of material via  
pocket milling (4-8mm max.)

Appropriate soundboards:

Re:sound I invisible 40 A 1.084.687.00 / 800 x 410 mm

80 A 1.084.692.00 / 1000 x 410 mm

**REVOX**

ERSTELLT VON P.Schmidt

DATUM 01. September 2010

Installation into wood panel Wall and ceiling

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Re:sound I invisible

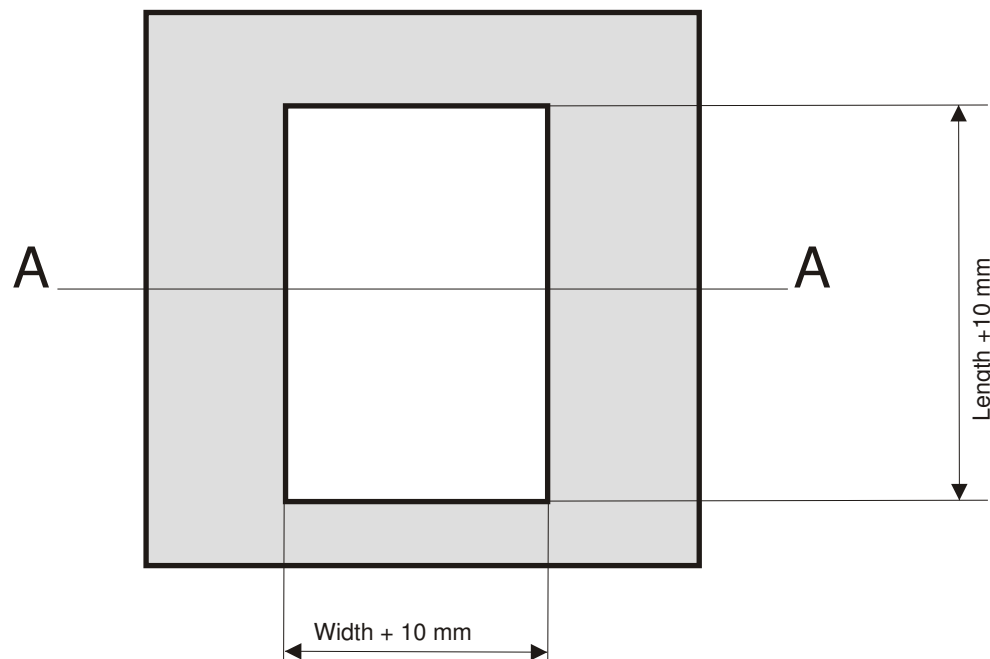
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# Re:sound I invisible soundboards for solid walls or ceilings for retrofitting

(For solid walls and ceilings soundboards of the series C are generally employed)



## Cutouts for Re:sound I invisible

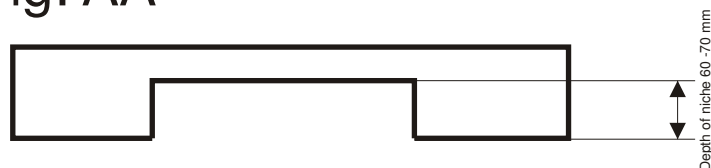
**40 C 1.084.685.00**

Size 800 x 410 mm  
Cutout 810 x 420 mm

**80 C 1.084.690.00**

Size 1000 x 410 mm  
Cutout 1010 x 420 mm

## Cutting: AA



Note: The depth of the niche must always be 60 - 70 mm, the width and length must exceed the selected soundboard by 10 mm.

Caution: The subsequent construction of a niche might impact the bearing capacity of the building element!

# REVOX

ERSTELLT VON W.Schlott

DATUM 08.Sept.2010

Installation into solid walls or ceilings

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Re:sound I invisible

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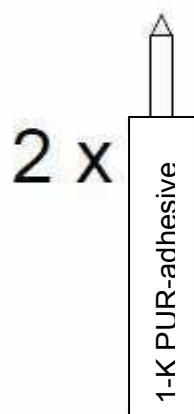
SEITE

## Information about the installation of the Re:sound I invisible soundboards into solid walls and ceilings

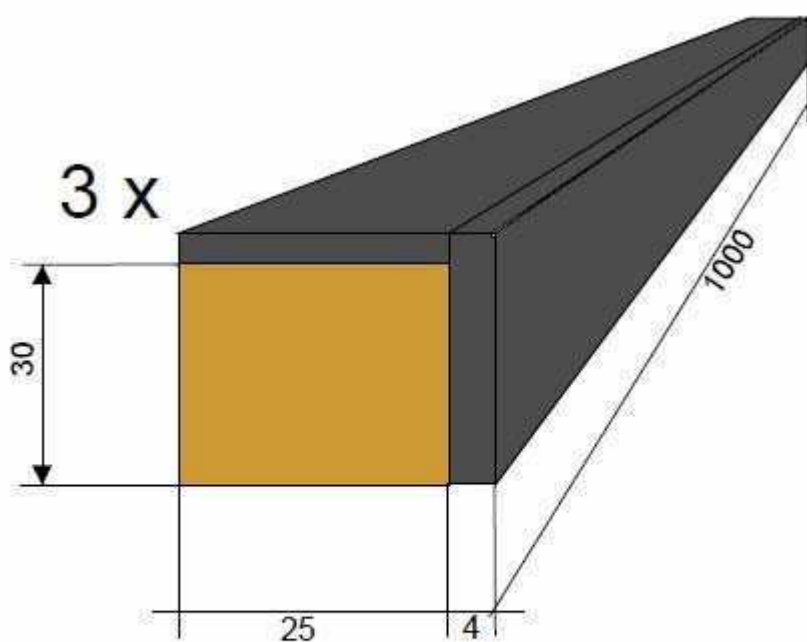
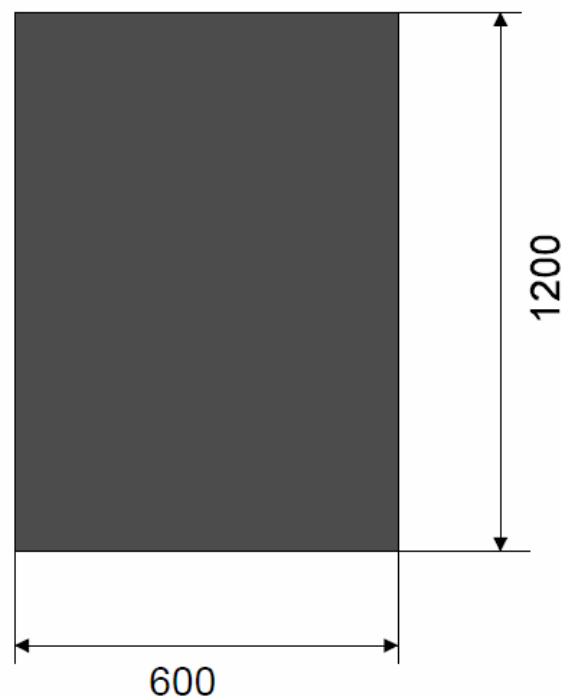
1. Position the soundboard on wall or ceiling
2. Transfer the measurements of the soundboards plus 10 mm in length and 10 mm breadthwise  
(Example: Re:sound I invisible 40 C format 800 x 410 - wall or ceiling cutout 810 x 420 mm)
3. Cutout the niche by an angle grinder circumferentially ca. 60 to 70 mm deep
4. Hollow out the niche rectangulary
5. Smooth out the back wall of the niche (priming, plastering) and remove dust
6. Cut the wooden strips circumferentially to inside dimension of the niche
7. Glue the wooden strips circumferentially 13 mm away from the wall edge and wedge them against each other until the adhesive has cured (e.g. by means of a cramp)
8. Glue the absorber mat onto the back wall of the niche and draw the peripheral edge of the absorber mat up to below the peripheral wooden strips.
9. Apply enough PU adhesive onto the front side of the wooden strips
10. Connect soundboard to the speaker cable (mind the contact freedom to the soundboard)
11. Press the soundboard into the adhesive so that it is planar to the wall  
(keep the distance of the lower joint by means of small pieces of wood, max. 5 mm thick)
12. Fix the soundboard by means of wooden strips until the adhesive has cured
13. Soundtest, measure the ohmic resistance
14. Apply the joints and surface of the soundboard with tie coat
15. Apply the fleece overlapping the joints
16. Plaster / paint / wallpaper

The content of this information relates to our today's state of knowledge. The information is continuously updated. Please inform in time whether there are any updates about the installation of the soundboards available. Due to the quite different structural conditions and application possibilities the information about the soundboards are of general nature. It is for the processors to check whether the product is suitable for the intended employment and installation. We therefore grant our warranty not for the successful processing, but for the performance of our product.  
All instructions made by Revox that overlap the frame of the general information are subject to a written confirmation of Revox.

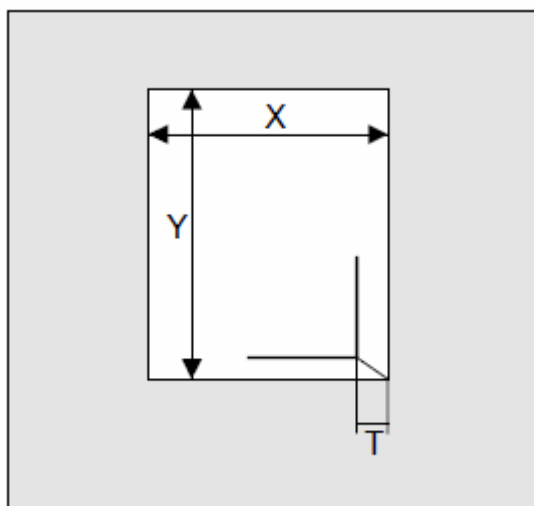
	Installation information		
	REVOX GmbH Am Krebsgraben 15 78048 VS-Villingen		REVISION
	ERSTELLT VON		
DATUM		GESAMTKONZEPT	SEITE



Absorber mat  
1 x 1200 x 600 x 4 mm



## 1. Cutout solid wall



X = Width of soundboard + 10 mm

Y = Length of soundboard + 10 mm

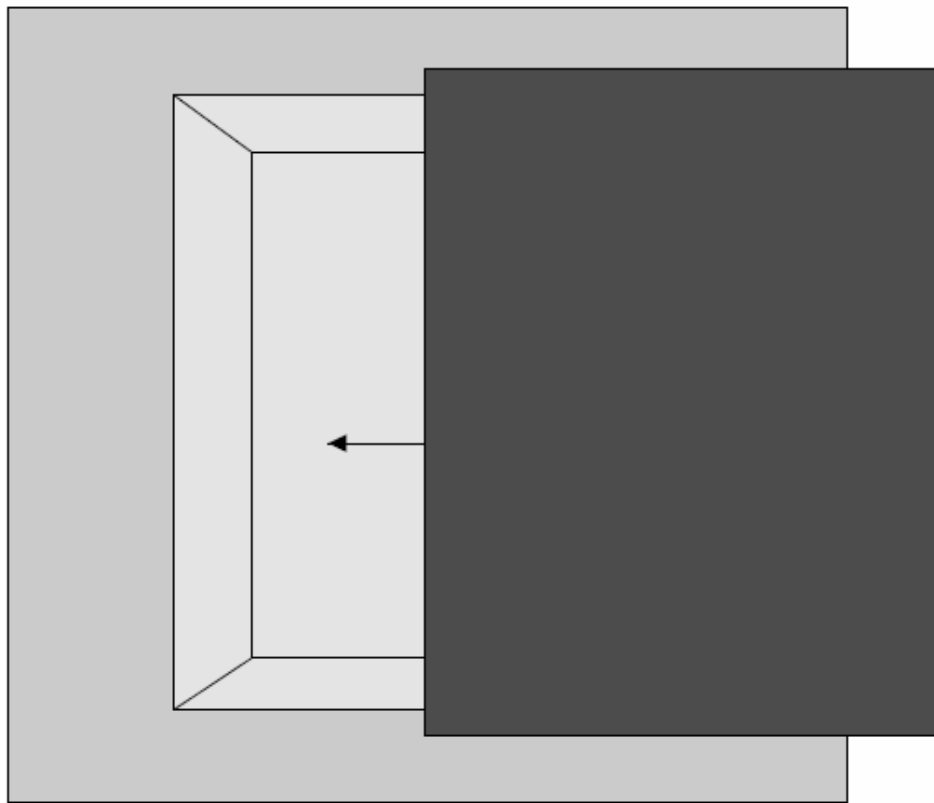
T = Cutout depth

Example: Soundboard with format:

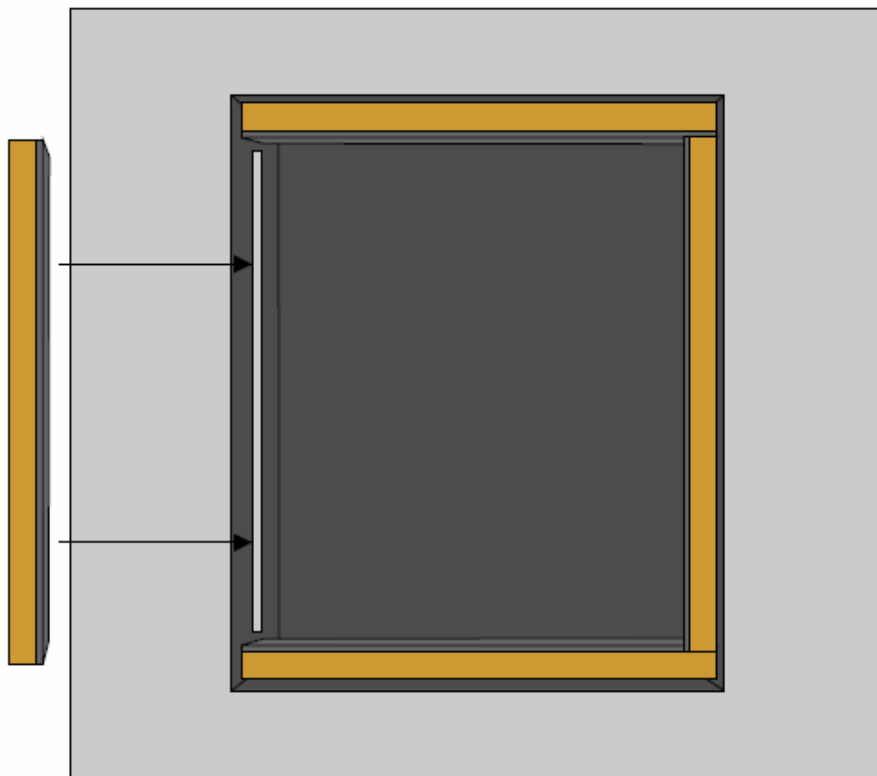
800 x 410 mm

Cutout: 810 (Y) x 420 (X) x 70 (T) mm

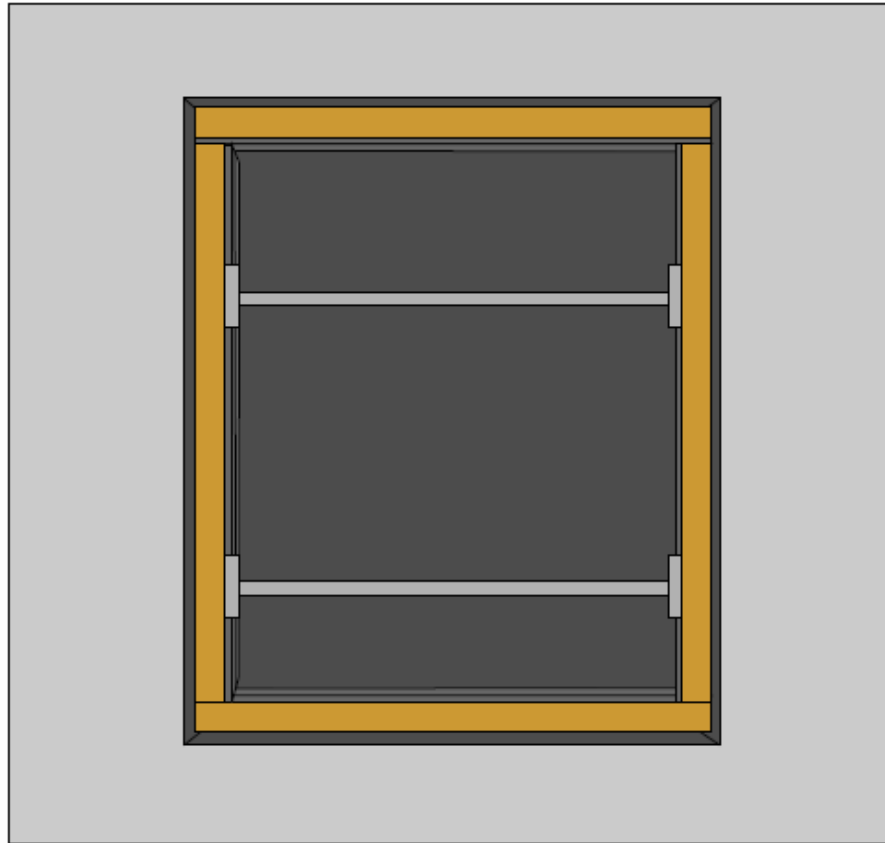
2. Smooth cutout and glue in the absorber mat



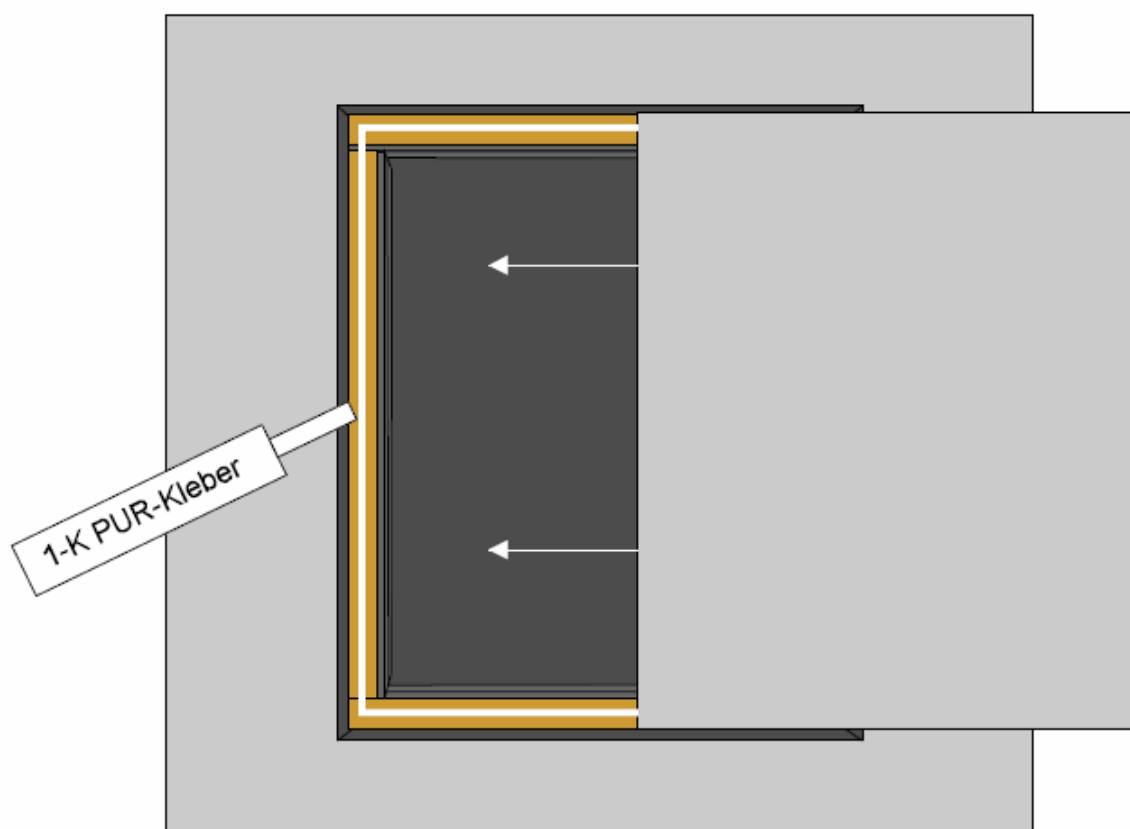
3. Cut wooden strips to size and glue in along the intrados

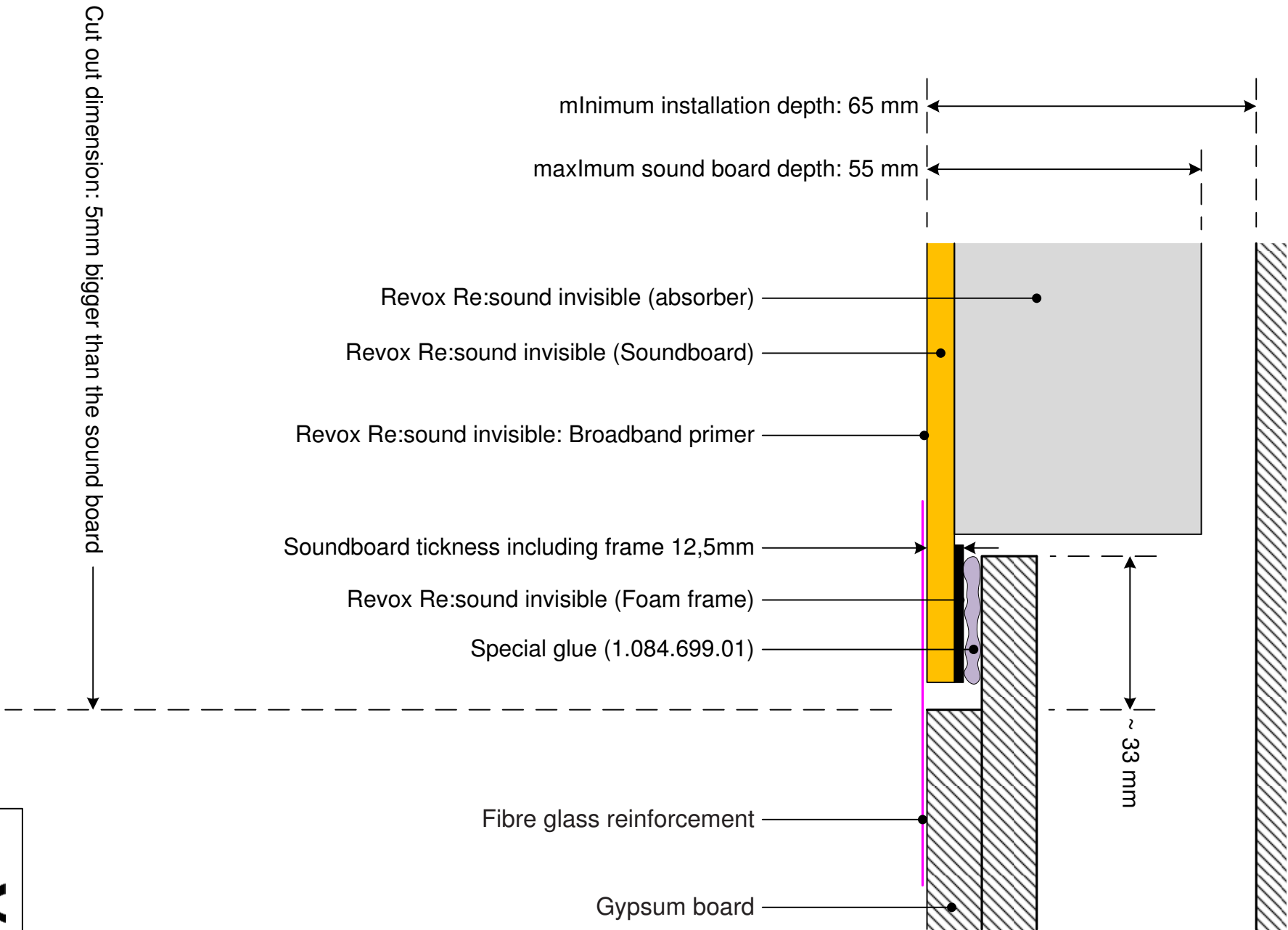


#### 4. Clamp the wooden strips



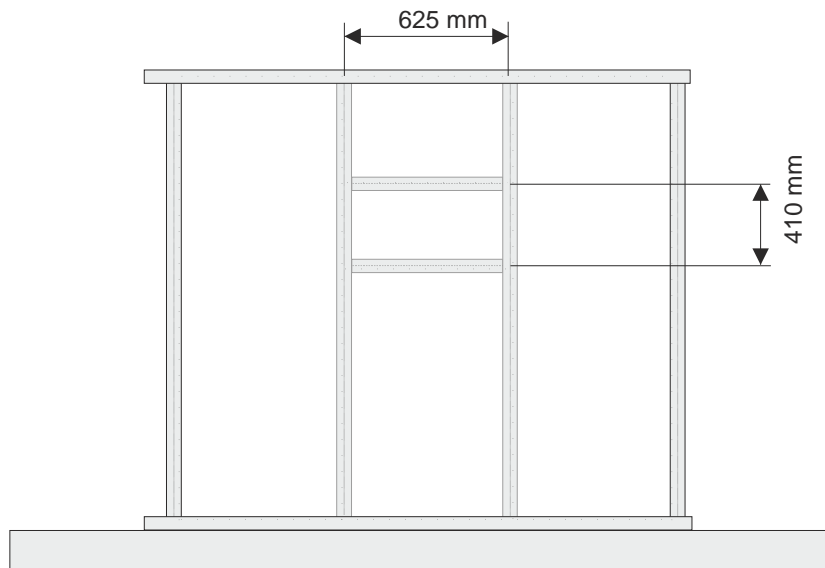
#### 5. Connect the soundboard, apply glue onto the wooden strips, press on and arrest the soundboard.





<b>REVOX</b>		Installation depth of the Re:sound I invisible series	
Erstellt von	Revox	Revox GmbH	REVISION
Datum	17.01.2011	www.revox.de	01
		Revox invisible	
		Einbau-Hinweise	
		Seite 1 von 1	

## Re:sound I invisible U

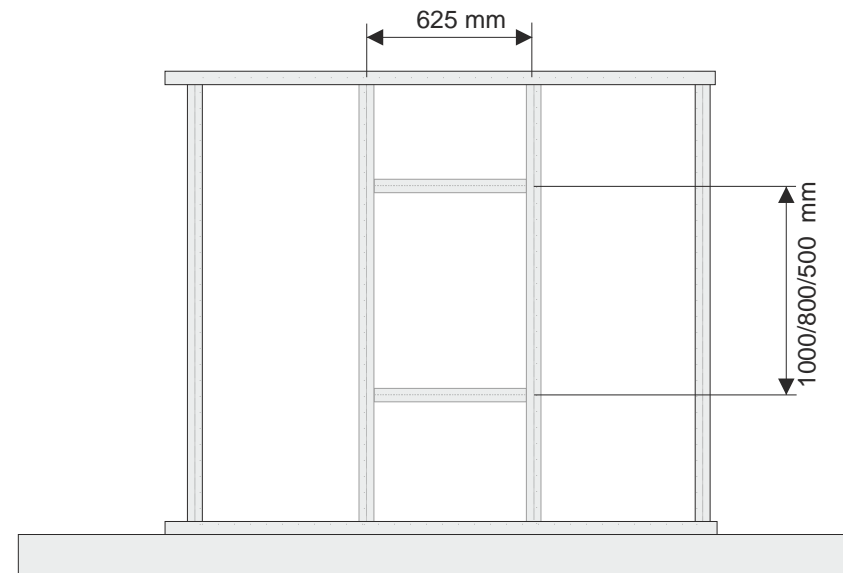


Standard substructure with CW-profile and a distance of 625 mm between the axes. For each speaker a framed pocket needs to be provided.

### Possible boards

20 Watt	1.084.670.00	1.084.673.00 (stereo)
40 Watt	1.084.671.00	1.084.676.00 (carbon)
	1.084.674.00 (PE)	
80 Watt	1.084.672.00	1.084.677.00 (carbon)

## Re:sound I invisible W



Standard substructure with CW-profile and a distance of 625 mm between the axes. For each speaker a framed pocket needs to be provided.  
Depending on board type with 500, 800 or 1000 mm height.

### Possible boards

20 Watt	1.084.681.00 (500 mm)
40 Watt	1.084.686.00 (800 mm)
80 Watt	1.084.691.00 (1000 mm)

# REVOX

ERSTELLT VON MH  
DATUM April 2014

## Substructure plasterboard

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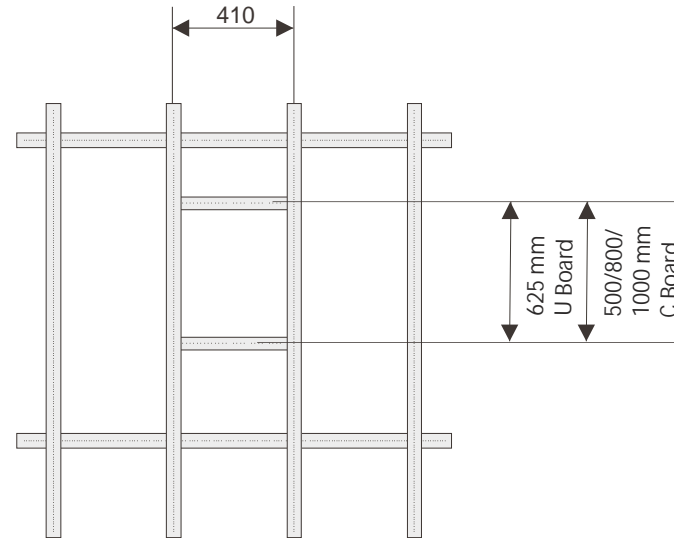
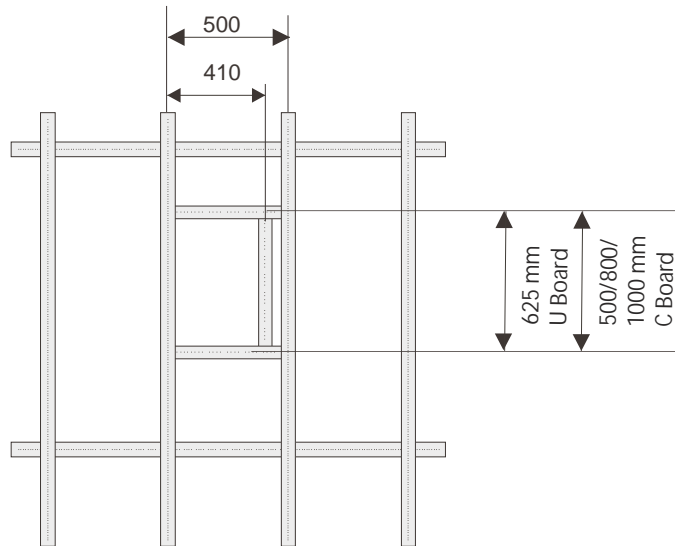
## Re:sound I invisible

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## Re:sound I invisible U and C



Standard substructure with CW-profile and a distance of 500 or 410 mm between the axes. For each speaker a framed pocket needs to be provided.

Possible boards

20 Watt	1.084.680.00 (C)	1.084.670.00 (U)	1.084.673.00 (U stereo)	
40 Watt	1.084.685.00 (C)	1.084.671.00 (U)	1.084.676.00 (U carbon)	1.084.674.00 (U PE)
80 Watt	1.084.690.00 (C)	1.084.672.00 (U)	1.084.677.00 (U carbon)	

# REVOX

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## Substructure plasterboard

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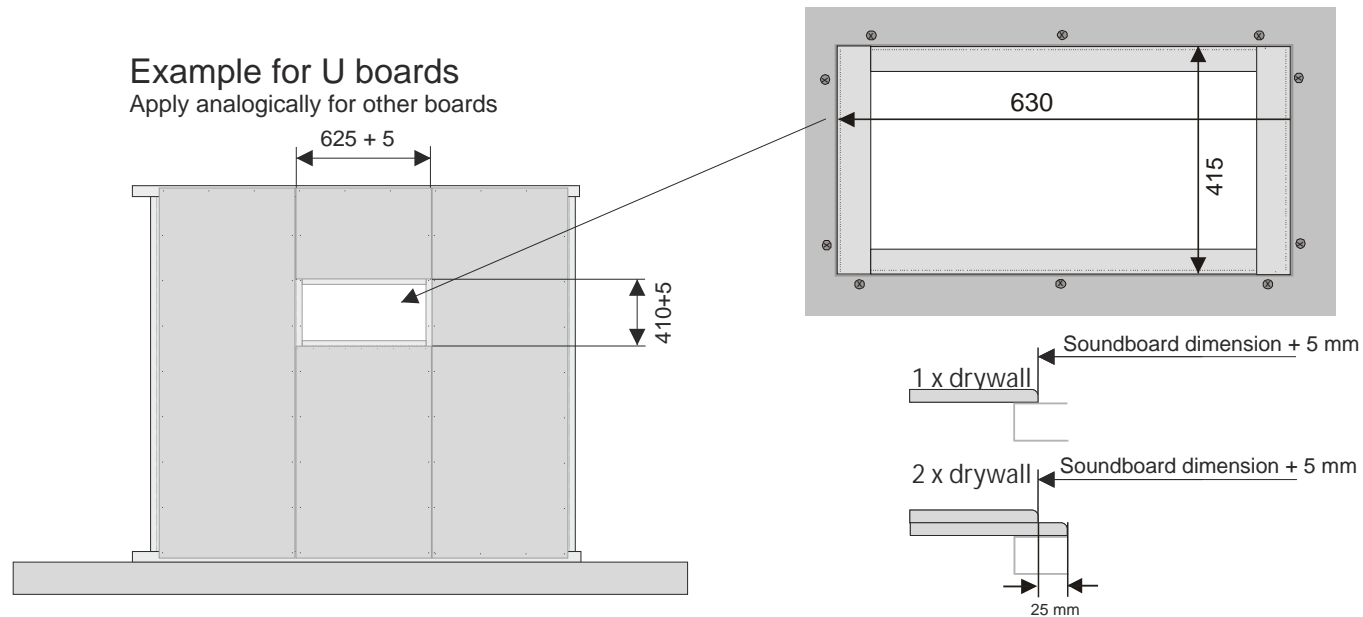
## Re:sound I invisible

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## Aperture dimension on the drywall



The aperture dimension on the drywall is about 5 mm larger than the corresponding soundboard dimension.  
In case of a double layer of boards, the first layer makes up the soundboard pocket with a surrounding adhesive rim of 25 mm and the second drywall layer features the aperture dimension (see drawing above).  
The upper drywall board should be chamfered slightly in order that the filling material is able to adhere in an optimal way.

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## Aperture dimension on the drywall

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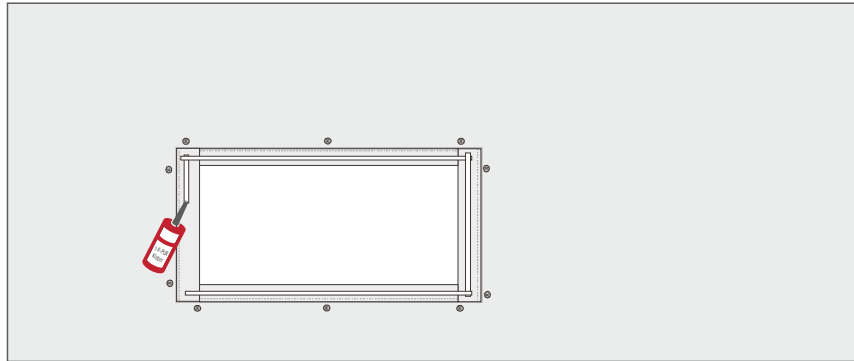
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## Installation of a soundboard into a plasterboard

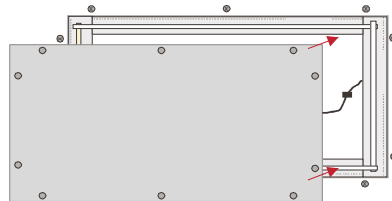
1.



Application of the 1-component PU adhesive onto the adherend (in a meandering pattern)

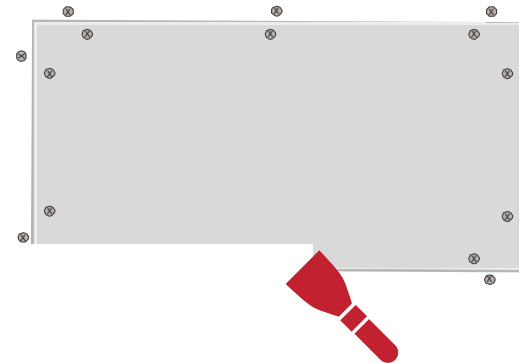
1.084.699.01 1-component PU adhesive

2.



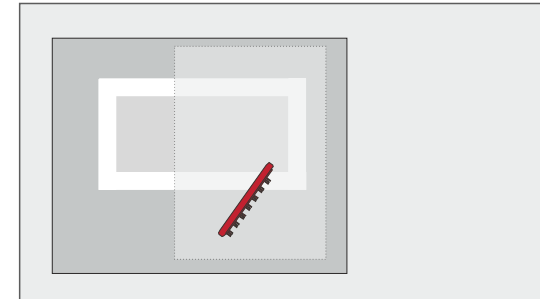
Permanent connection of speaker cables (ideally by soldering or by means of WAGO terminals). Check the proper function of the connecting cable and test the acoustics of the speaker. Press on the soundboard centrally and planar to the surface and fix it all around with drywall screws at the prefabricated holes. The cable must not contact the rear side of the soundboard.

3.



Apply primer onto the chamfered joints. Check the surface adhesion and apply undercoat onto the surface. Fill the joints and seal the screw heads. Embed joint cover strips all around and adhere to the drying time.

4.



It is recommended to wallpaper the complete wall area with a glass mat. Please adhere to the drying times. Continue with the layered construction.

# REVOX

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## Installation of the soundboard

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Re:sound I invisible

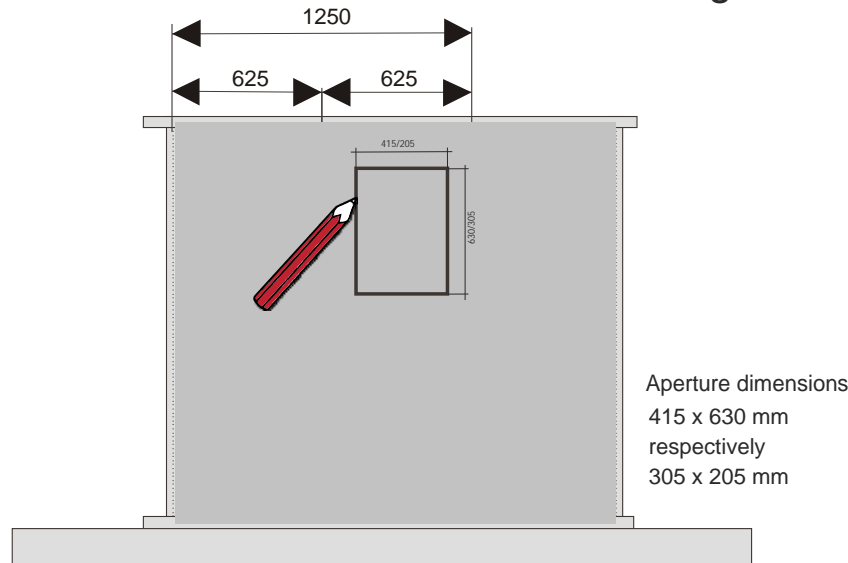
GESAMTKONZEPT

REVISION

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## Installation of a U board with mounting bracket

1.



Build up a metal stud wall and a drywall ceiling substructure respectively according to the manufacturer's instructions. Define the position of the soundboard. Transfer the soundboard dimensions and cut the drywall space with indicated oversize.

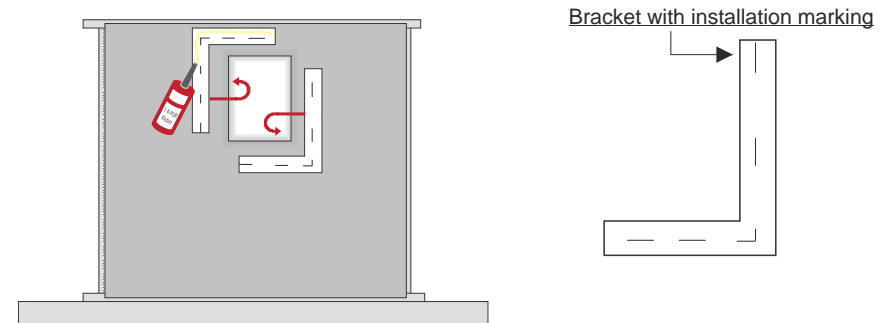
Mounting bracket

1.084.699.21 for Re:sound I invisible U boards

1.084.699.22 for Re:sound I invisible U mini boards

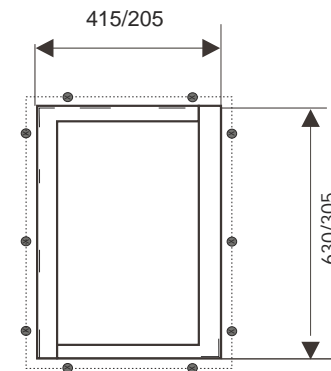
These mounting brackets lend themselves especially for the subsequent installation, when no surrounding profiles can be applied.

2.



Fix the mounting bracket all around internally by means of 1-C-PU adhesive (1.084.699.01). The installation marking on the bracket is, parallel to the plasterboard edge, minimally visible. The positioning guide and the installation markings allow a clean and correct mounting.

3.



Fix the mounting bracket with drywall screws. The soundboard installation is effected the same way as the installation into a plasterboard.

# REVOX

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## Installation with mounting bracket I

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Re:sound I invisible

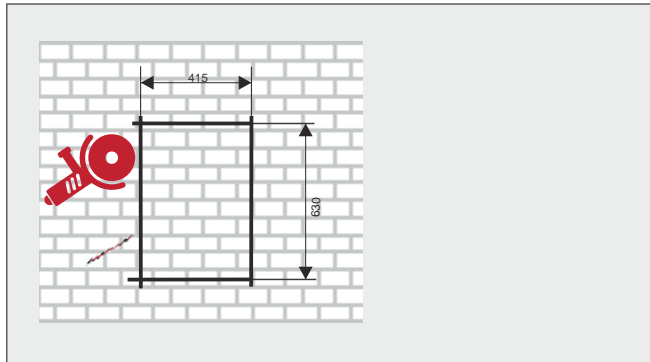
GESAMTKONZEPT

REVISION

SEITE

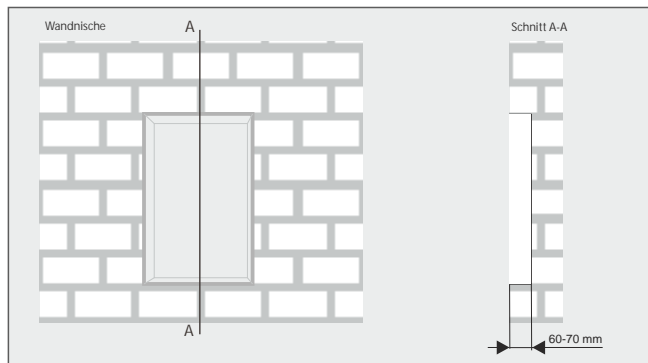
# Installation of a U board into a solid wall / ceiling

1.



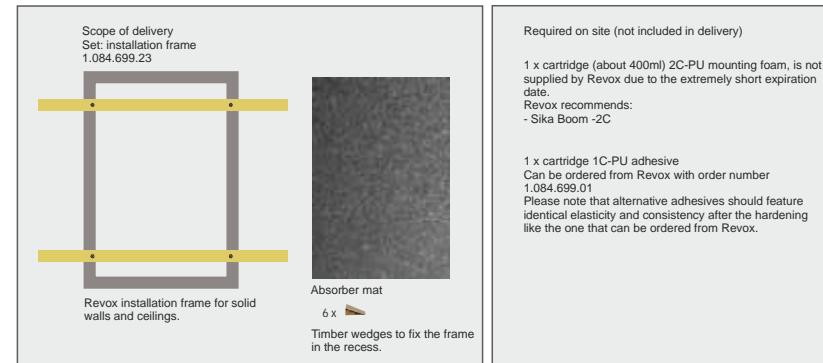
Choose installation position.  
Transfer the soundboard dimension onto the surface and cut out 415 x 630 mm. Recess depth: about 60-70 mm

2.



**Caution:**  
The statics of the construction part can be affected by the cutout. Please always contact an expert before the installation.

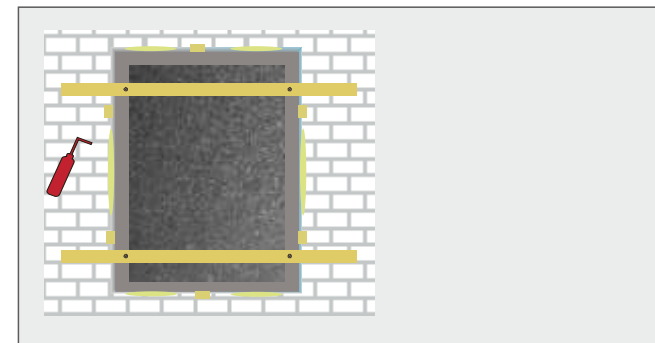
3.



Glue in the absorber mat planar to the wall recess. Apply the mounting frame and fix it with timber wedges. The mounting strips are planar to the wall surface. The installation frame is located 12,5 mm under the wall surface.

Spray the 2-K-PU foam into the joint between cutout and installation frame dosed and punctually. Allow the foam to harden completely. Remove the mounting strips and check the installation frame for tight fit.

4.



## REVOX

ERSTELLT VON MH  
DATUM April 2014

### Installation into a solid wall/ceiling (1)

REVOX GmbH  
Am Krebsgraben 15  
78048 VS-Villingen

WWW.REVOX.DE

Re:sound I invisible

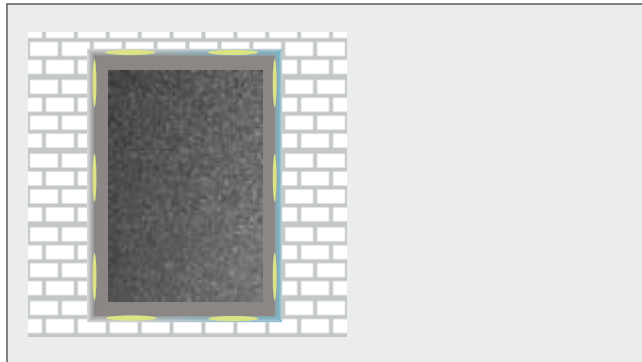
GESAMTKONZEPT

REVISION

SEITE

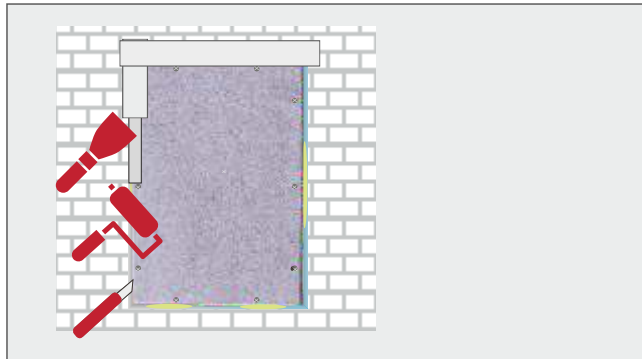
## Installation of a U boards into a solid wall / ceiling

5.



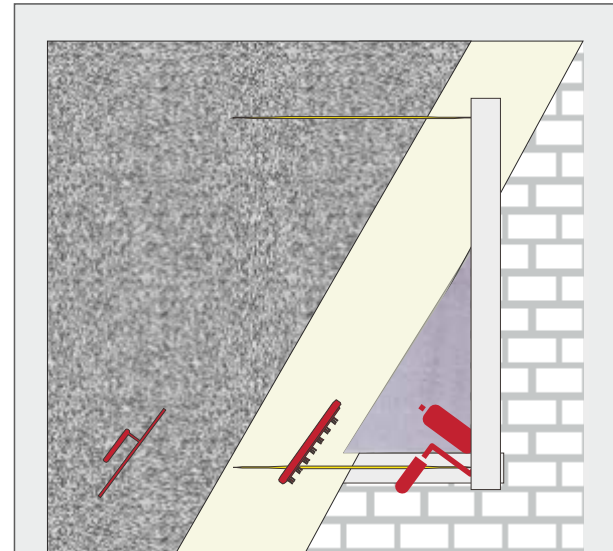
Prepare the joints like the joints of a plasterboard. Apply primer onto the surrounding joints and connect the speakers (as with plasterboard). Fix the speakers flush to the rims to the Revox installation frame by means of adhesive and drywall screws.

6.



Apply primer onto the chamfered joints. Check the surface adhesion and apply undercoat onto the surface. Fill the joints and seal the screw heads. Embed joint cover strips all around and adhere to the drying time

7.



Further layered construction according to the processing guidelines. In this example: full-faced application of a primer, wallpapering paint substrate, application of thin-bed stucco. Adhere to the drying time indicated by the producers.

The installation frame can be ordered from Revox including adhesive cartridge with order number 1.084.699.23

# REVOX

ERSTELLT VON MH  
DATUM April 2014

## Installation into a solid wall / ceiling (2)

REVOX GmbH  
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Re:sound I invisible

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SEITE

# Revox Re:sound I invisible Soundboards overview / mounting guidelines



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# Introduction

## Preamble

We strongly recommend that you read the entire Assembly and installation instructions carefully before starting the installation of the soundboard. The Revox Assembly and installation instructions are intended for the specialist company carrying out the installation. They give instructions and advice and are based on the current state of our knowledge. Because of the wide range of possible installation environments, the condition of the building and the materials used, these Assembly and installation instructions should not be interpreted as any guarantee of the properties of the described product in the corresponding installation situation in respect of statutory warranty regulations.

## Freedom in design

Space-filling, natural sound that seems to be coming out of nowhere. The age-old dream of complete freedom of design can be achieved with the Re:sound I invisible series. The innovative panel speakers, just a few millimetres thick, are installed, completely concealed behind plaster, paint or wallpaper and transform walls or ceilings into hidden sound sources.

Revox invisible speakers, available in different sizes and versions, have become a fixed and important element of the Revox product range. The Soundboards can be fixed by gluing or screwing. In the latter case, this may only be done using the pre-drilled holes. The following should serve to give you an overview of the Re:sound I invisible Soundboards.

## Application areas



The Re:sound I invisible speakers can be deployed in many ways. Whether for providing discrete background music in the home or right up to providing the sound for high-quality Home Cinema. But the Re:sound I invisible can also fit the bill for commercial applications. Through the concept

of diffuse bending wave emission, the Re:sound I invisible is ideally suited for speech reproduction.

Whether in a conference room, an auditorium or for announcement systems at stations or airports, the invisible speaker is the perfect solution. Thanks to its invisibility it is also well protected against vandalism.



It could also be considered for deployment in damp or wet rooms. Because of the fact that the Re:sound I invisible can be plastered in, deployments requiring IP classification up to IP68 can be achieved. In this case,

the Carbon Boards are particularly suitable.



A particular strength is the usage in all areas where high levels of hygiene have to be maintained. As opposed to classical speakers with grilles, an invisible speaker can be cleaned very easily.

# Requirements

## Basics

Soundboards are designed for integration into internal walls and ceilings and internally mounted fibreboard panels. There are special Soundboards for use in façades. In each case, the applications basics and the relevant regulations and standards that apply to the corresponding components must be taken into account. The deployment of Soundboards outside the described and intended usage leads to a loss of the statutory guarantee and liability entitlements and any agreed warranty conditions.

## Proper storage and transport

Soundboards must always be stored under dry conditions. Storage temperature can be between 5°C and 35°C. Packaged Soundboards may be stored flat to a maximum height of 12 stacked boxes, with no additional weight on them or they may be stored individually, vertically on an even surface.

The Soundboards are packed in special boxes before leaving the factory. This packaging is just intended for normal transportation purposes.

Incorrect transport and storage can lead to damage being caused to the Soundboards. Under no circumstances should the boxes be thrown or set down violently on their edge.

## Conditions at the installation site

In accordance with the particular advice in respect of the relevant disciplines, e.g. general construction, drywall construction and the decorating trade, the suitability of the substrate at the installation site must be guaranteed. Appropriate conditions in terms of humidity (screed) or heat, e.g. through mastic asphalt must be adhered to. The processing of the Soundboards may only be done when no larger changes in surface lengths resulting from dampness and/or temperature changes are expected.

## Suitability of the installation location

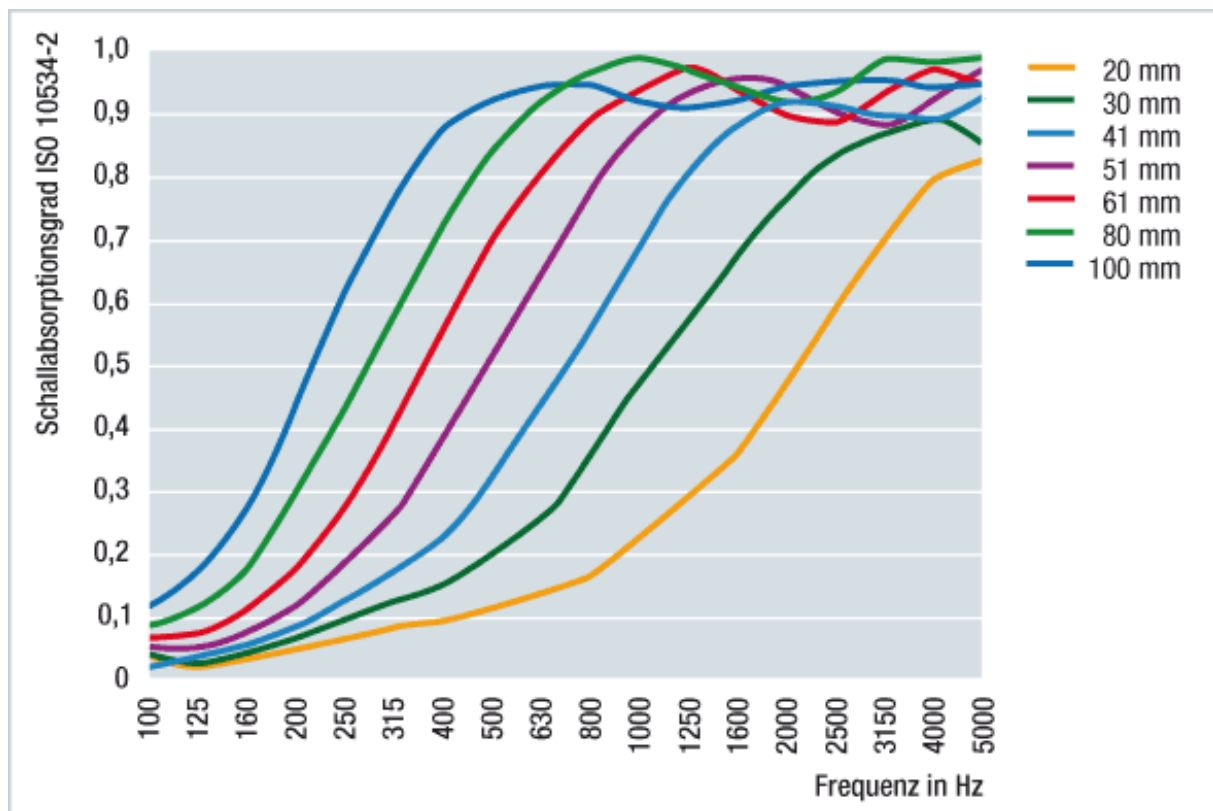
When selecting the installation location, possible influences on the building physics, e.g. structure, heat insulation, fire prevention and noise insulation, such as DIN EN 4103 and DIN EN 4109 are to be taken into account as well as the relevant advisory notices from German building associations and trade organisations.

## Sound insulation

Sound insulation requirements, in particular sound penetration levels for dividing constructional elements and sound longitudinal insulation measurements for flanking constructional elements must be evaluated as required, by an expert. If buildings with increased sound insulation requirements are to be equipped with concealed speakers, a sound evaluation must be carried out and confirmation must be given that no issues will be raised by the installation of the speakers. Revox cannot be held liable for any sound shortcomings.

The Re:sound I invisible works by transmitting energy to the wall and as a result using the whole surface of the wall to create sound. For this reason, you must always observe the specifications and requirements of the object, particularly in the case of public buildings, hotels and blocks of apartments. If you are unsure, you should always consult the responsible specialist.

In the case of critical walls, Revox recommends the use of a facing panel in order to decouple the sound from the relevant wall.



In the graphic you can read off the level of sound absorption across the frequency as a factor of the thickness of the absorption material. Please take special note of these values if you reduce the absorber on the back of the board because of a reduced build-in height in the ceiling. Such a reduction is solely the responsibility of the installer.

## Assembly of the Soundboards

The Soundboards are to be processed in accordance with the following Assembly and installation instructions, taking the corresponding installation situation into account. A difference is made between installation in partition and solid walls, partition and solid ceilings and in fibreboard panels including acoustic panels. No tension must be applied to the Soundboards when fitting them into the installation cut-out. If necessary, the cut-outs must be reshaped to avoid this happening. The following applies for all installation situations: The installation location must be clean, dry and free of separating agents. It must be cleaned and pre-treated with suitable cleansing agents, e.g. degreasing of the supporting profile, removal of demoulding agents, application of primer, etc. Open cut edges in the installation cut-out must be primed accordingly.

## Installation preparations

### Preparing the installation cut-out

The installation cut-out for the Soundboard must be of the correct dimensions, it must be rectangular with right-angled corners, capable of bearing the corresponding load, free from frost, dry and free of dust. The correct dimensions for the opening are derived from the external dimensions of the corresponding Soundboard, plus 5 mm.

Example: Soundboard dimension 500 x 400 mm = required opening dimensions of 505 x 405 mm

The substrate must be checked in accordance with VOB/DIN and with the accepted rules of building technology and for its suitability for purpose. Metal sub-constructions, panelling and accessories must be checked for sound-resonance, e.g. by applying a mechanical load or by striking them and must be modified as necessary. Any loose parts are to be avoided. Any empty spaces behind the Soundboards should be kept as small as possible. As appropriate, such empty spaces should be insulated with sound-absorbent material.

# Actions after the mounting

## Surface connection

The connection to the surrounding surface has to be evaluated on an individual basis, depending on the surrounding building materials and the architectural requirements. The edge joint should be full-depth and between 1 and 5 mm wide. The joint is chamfered, capable of bearing the corresponding load and must be of low-absorbency. Loose objects, dust and dirt and other substances that may reduce adhesion must be avoided or removed. A suitable compacted stopper to the depth of the joint must be applied, which is then levelled off flush to the joint. The use of a flexible joint-bridging has proved to be a good approach. A reinforcement suitable to the particular installation should be provided, e.g. Kobau optitape SH. Once dry, the area is smoothed off and a primer coat is applied. The factory-applied priming should not be removed and if damaged, must be replaced. It is strongly recommended that the entire surface be covered with glass fleece matting.

## Further surface application

Further surface application is done in line with the processing guidelines of the corresponding surfacing manufacturer. The Soundboard itself has a non-absorbent surface that is coated with an insulation and blocking primer for surface plastering, based on a synthetic resin emulsion. This is filled with fine quartz sand, given a white pigmentation and is alkaline-resistant.

Further coating is done after having checked the adhesive properties and compatibility of the coating material to be used. If necessary, further primers/bonding agents should be applied. The necessary drying times between the individual work processes must be adhered to.

The construction of the entire coating must be done in an interlocking, force-fitting and permanent manner. Because of the wide range of different materials and their specific properties, the compatibility of the deployed materials must be ensured.

We recommend in all cases that you carry out sufficient tests yourself. If you are unsure, suitable test surfaces should be created. If required, sample boards are available on request.

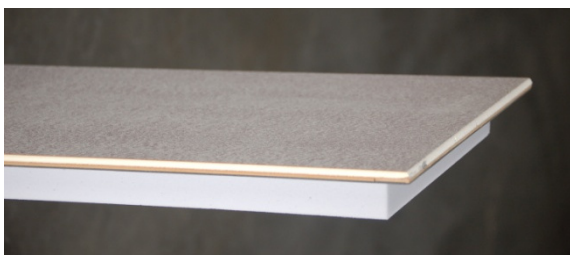
## Electrical connection

Soundboards must be connected up professionally and for the long-term by companies specialising in media technology, system technology and/or electro-technology. The connecting cable should not be positioned to the rear of the Soundboard.

Star topology should be used when laying the cables. Cable lengths in excess of 35 metres should be avoided. The electrical parameters of the Soundboard, in terms of impedance and polarity must be observed. Unless otherwise stipulated, a high-pass filter with 120Hz/24dB/oct. must be planned and deployed by the specialist company doing the installation. This function may not be bypassed nor be capable of being modified by non-authorized persons. If you are using Revox amplifiers, the high-pass filter is already integrated in the amplifier.

# Versions

## Standard model



The standard version includes speakers for in-ceiling installation (C) and in-wall insulation (W). The C and W versions of the standard model have a quartz sand primer coating, which is ideally suited for adhering to most plaster finishes. The plasterer or the drywall builder is always the one responsible for ensuring the correct match of plaster and primer in accordance with DIN dry building.

The standard model has the following four versions:

**Re:sound I invisible 40 C and W** 1.084.687.00 / 1.084.685.00 / 1.084.686.00

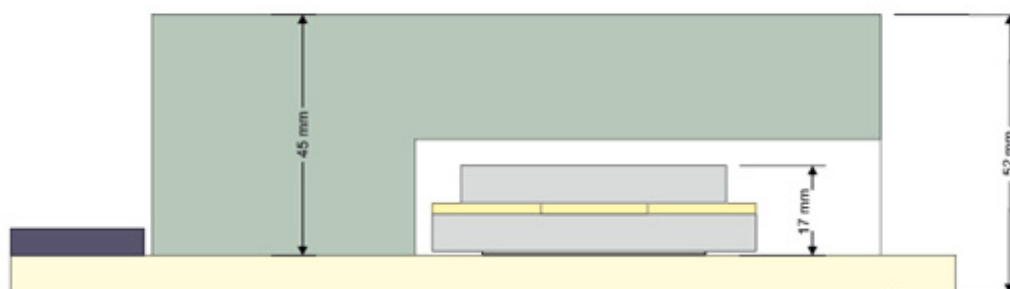
**Re:sound I invisible 80 C and W** 1.084.692.00 / 1.084.690.00 / 1.084.691.00

The C version can be fully substituted for the earlier A version as the primer coating achieves optimum adhesion with the Revox glue (1.084.699.01). As of 1st April 2014, the standard 10 watt boards will be replaced by new Universal boards - Re:sound I invisible U 20 mini

Technical data:

	Height (mm)	Width (mm)	Build-in depth	Weight (kg)	Music rated load (watt)	Impedance (Ohm)	Frequency range*	Efficiency 2.83V/1m (dB)*
<b>40 C</b>	800	410	52	1.5	40	4	100 Hz - 18 kHz	88
<b>40 W</b>	800	625	52	1.8	40	4	100 Hz - 18 kHz	88
<b>80 C</b>	1000	410	52	4.5	80	8	100 Hz - 18 kHz	90
<b>80 W</b>	1000	625	52	4.0	80	8	100 Hz - 18 kHz	90

\*Application-dependent



Build-in depth of a Re:sound I invisible C/W speaker

## Universal model



The dimensions of the standard boards have proved to be optimal for most applications. Nevertheless, there are some applications where the large Soundboards can cause some difficulties. The Universal model covers a wide range of different Soundboards and as a rule measures 625 x 410 mm.

The advantages are obvious: They can be used both in the wall (625 mm strut spacing) and in the ceiling (410 mm strut spacing). The build-in depth is 52 mm.



The 20 mini Board with dimensions of 300 x 200 mm and a build-in depth of just 33 mm is particularly flexible. You can also work in particularly small areas with this board or if there is not enough space around the television for a Center speaker, several mini Boards can be combined to make a Center speaker.

We offer the Universal boards in four output levels, as 20, 40 or 80 watt and as a 2 x 20 watt board for small areas.

These boards are also pre-treated with a primer coating and can be deployed both as the classic application under plaster or paint but also as the adhesive version. Please ensure that you always use the glue recommended by Revox (1.084.699.01) as this is the only way to ensure a long-term installation.

All boards have a fixed double-wall so that they can be deployed in a typical dry wall with 12.5 mm board material.

On the reverse, the Universal board is protected by a plastic cover, greatly increasing the quality rating of the product.

The universal model has the following four versions:

**Re:sound I invisible 20 U mini** 1.084.660.00

**Re:sound I invisible 40 U** 1.084.671.00

**Re:sound I invisible 80 U** 1.084.672.00

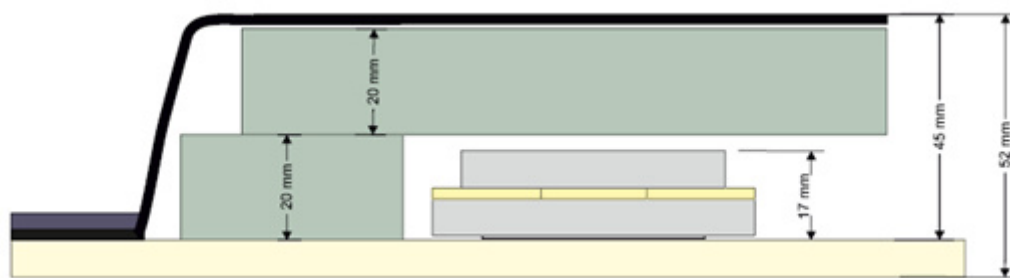
**Re:sound I invisible 20 U stereo** 1.084.673.00

Technical data:

	Heigh (mm)	Width (mm)	Build-in depth	Weight (kg)	Music rated load capacity (watt)	Impedance (Ohm)	Frequency range*	Efficiency level 2.83 V/1 m (dB)*
<b>20 U mini</b>	300	200	33	0.5	20	8	80 Hz - 19 KHz	88
<b>40 U</b>	625	410	52	2.1	40	4	80 Hz - 19 KHz	88
<b>80 U</b>	625	410	52	2.3	80	8	80 Hz - 19 KHz	85
<b>20 U stereo</b>	625	410	52	1.6	2 x 20	2 x 8	80 Hz - 19 KHz	85

\*Application-dependent

**REVOX**



Build-in depth of a Re:sound I U Board



Build-in depth of a Re:sound I U mini Board

## Carbon model

On request, we can also supply the Universal boards in the 40 and 80 watt version and also the 20 mini version with a carbon surface. The stiffer surface gives an even more accurate reproduction of the sound. When installing in locations such as wet rooms or swimming pools, the carbon surface offers further advantages as the polyurethane foam is better protected but also because prints can be applied better.

We only deliver these speakers when ordered specially. We need 3 weeks delivery time.

The carbon model has the following three versions:

**Re:sound I invisible 20 U mini carbon 1.084.661.00**

**Re:sound I invisible 40 U carbon 1.084.676.00**

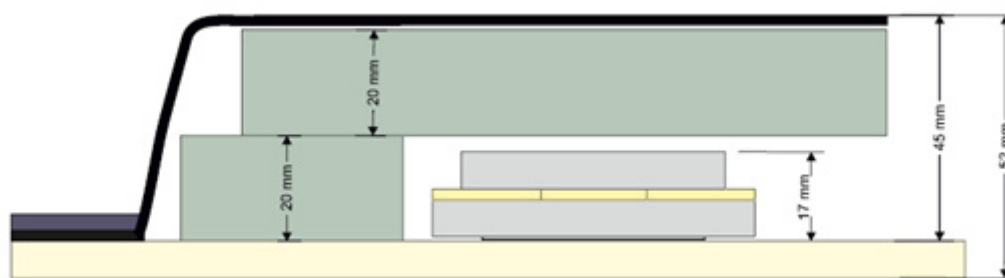
**Re:sound I invisible 80 U carbon 1.084.677.00**



Technical data:

	Height (mm)	Width (mm)	Build-in depth (mm)	Weight (kg)	Music rated load capacity (	Impedance (Ohm)	Frequency range*	Efficiency level 2.83V/1m (dB)*
<b>20 U mini carbon</b>	200	300	33	0.5	20	8	80 Hz - 19 KH	85
<b>40 U carbon</b>	625	410	52	1.4	40	4	80 Hz - 19 KH	95
<b>80 U carbon</b>	625	410	52	1.8	80	8	80 Hz - 19 KH	95

\*Application-dependent



Build-in depth of a Re:sound I U Board



Build-in depth of a Re:sound I U mini Board

## Passively equalised model

Unlike the M100 or the Joy products, the M51 doesn't have integrated equalisation for the invisible Soundboards. You will find more information about equalisation later in this document.

Revox offers a passively equalised Invisible speaker, based on the new Universal boards with 410 x 625 mm dimensions and with the black cover on the rear. Equalisation is done through a small component on the speaker itself. In this way, it can be connected directly to the M51 speaker outputs.

We recommend using the 5 x 60 watt version of the M51 in combination with the Invisible boards.

You can also create any speaker configuration you want with the passive boards. The Re:sound G elegance as the front speaker in tandem with a Re:sound G Center, add on a subwoofer from the Re:sound S range and an Invisible speaker at the rear.

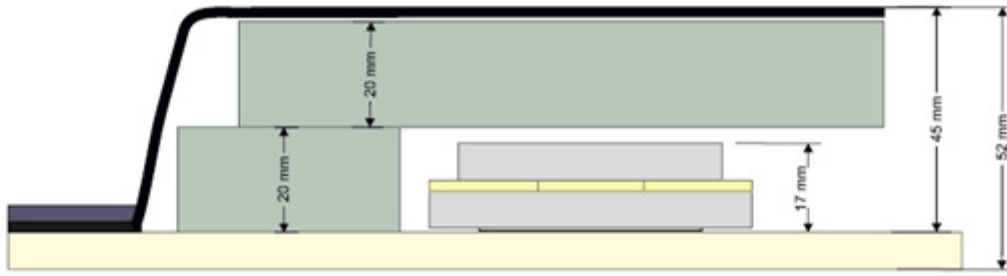
We only deliver these speakers when ordered specially. We need 3 weeks delivery time.

**Re:sound I invisible 40 U PE 1.084.674.00**

Technical data:

	Height (mm)	Width (mm)	Build-in depth (mm)	Weight (kg)	Music rated load capacity (watt)	Impedance (Ohm)	Frequency range*	Efficiency level 2.83V/1m (dB)*
<b>40 U PE</b>	625	410	52	1.4	40	4	80 Hz - 19 KHz	89

\*Application-dependent



Build-in depth of a Re:sound I U Board

## Special applications

Revox Soundboards can also be deployed for special applications, for example constructions and coatings that are explicitly called for. The feasibility of such special applications must be agreed by Revox.

Customised special applications and product modifications do not have to be made subject to these Assembly and installation instructions. In such cases, specific recommendation may have to be followed.

### Special versions - Special sizes

The measurements of the 20, 40 and 80 boards can be adjusted to meet customer requirements. Please contact us for more details.

### Special versions - Primer coating for applying paint

If a wall needs to have a smooth plaster finish to be able to paint directly onto the plasterboard wall, it is possible to supply the speakers with a smooth primer coating at no extra cost. Please contact us for more details. You have to allow for a 3 week delivery time.

### Special versions - Special requirements

In the project building business, there is a wide range of special ceiling types such as acoustic ceilings or even cooling ceilings. Depending on the manufacturer, Revox can also offer solutions to meet these requirements and we would be happy to advise you on your options. It isn't always so but in many cases, we can work out a solution for you. We strongly advise you against experimenting on your own.

## Advice on installation

When building into a plasterboard wall, you always have to ensure that the speaker is fully strut-supported on the rear. As a rule, 2 sides of the board are automatically strut-supported with the standard 625 or 410 mm measurements. Corresponding profiles have to be inserted from the dry build for the other sides (see In-build drawing - Plasterboard wall sub-construction).

Revox also offers 2 new build-in aids for the U boards. Build-in brackets can be screwed and glued into position through the cut-out for the boards.

The special, two-part construction of the build-in kit that is available for the normal U Boards (Part number 1.084.699.21) and for the U mini Boards (Part number 1.084.699.22), facilitates quick and simple subsequent installation. Markings help to find the optimum position for the frame in the cut-out.

You will find sample drawings in the Support area of the Revox website that give help and advice to drywall builders as to what the best way is to build in Revox Invisible boards.

Basically, Revox recommends gluing the speakers and additionally fixing them in place at the prepared places (holes) with drywall screws.

# Installation in fibreboard panels

The Soundboard is glued over its entire surface into a pocket to be constructed on the rear of the fibreboard panel (residual material width 4 - 6 mm) and/or glued onto the panel in a manner compliant with the material and the application. The selection of adhesive is made in line with the properties of the fibreboard panel. It is the responsibility of the company carrying out the installation to test the suitability of any adhesive before it is used for the installation. Sample panels are available on request. The processing advice given by the manufacturer of the material and/or the adhesive is to be adhered to.

## Advice on jointing

Because of the principle of their construction, Re:sound I invisible speakers have to move. The movement is transmitted through the joints to the further wall. For this reason, special attention has to be given to the joint. The joint has to be carefully plastered by an experienced plasterer. Additionally, a layer of gauze has to be laid over the joints and plastered in place. Alternatively, the wall can be covered with a decorator fleece.

If "extra demands" are made of the wall surface for a particular project, Revox Invisible speakers can meet these demands in principle, if installation is done correctly. In this case, we recommend applying a full-surface fleece and to get in contact with Revox experts if there is anything you are uncertain about.

In accordance with "DIN dry wall construction", the execution of the installation and therefore the responsibility and the liability always lie with the company that carried out the work.

## Advice on primer coating

The primer coating that is applied is designed such that it can be used to the best advantage with most plasters, paintwork and adhesives. The primer coating is ready for use and serves as an insulation and a barrier layer. It is possible that some special plasters will not adhere to the standard primer coat used by Revox. In such cases, a further primer must be applied to the Revox primer coat that will work together with the special plaster. Please observe the drying times required for the primers before continuing with the process.

The Revox primer is based on a synthetic resin emulsion enriched with quartz sand, in order to guarantee even better adhesion of the plaster. It has a white pigmentation in order to make it easier to see.

In accordance with "DIN dry wall construction", the company that carries out the work is always responsible for the execution of the installation and the resulting guarantee. In order to check how the Revox primer will work with the final plaster, samples can be ordered from Revox under the part number 1.084.699.04.

## Advice on gluing

Invisible speakers from Revox can also be glued to hard surfaces. All boards can be used for this purpose. Depending on whether the rear of the board should be seen or not, U Boards can also be used.

You should make sure that the sound is not going to be impaired through being under too much material. If for example, you want to glue the speaker to a cupboard door, Revox recommends first milling the door out to the size of the Soundboard with an extra edge-border of 5 mm. Ideally there should be 2 - 3 mm of door material left when the space is milled out.

Make sure that the surface that is to be glued to should be dust-free and dry. Apply the Revox-recommended glue (part number 1.084.699.01) in lines. Then spread the glue evenly over the surface using a fine-toothed spatula (maximum 2 mm gap between the teeth), so that later, the complete board can be glued to the whole surface of the door. Once the board has been placed onto the glued surface, press it down into the glue using light, circular movements. This method will press out any air bubbles between the material and the board. Then fill the joint with glue. Full-surface adhesion is important as each air bubble will impact on the sound transfer. Fix the board in place by applying pressure to it until the glue is fully hardened.

## Advice on switching several boards per channel

If you want to use several boards per amplifier channel, when deploying 2 boards per channel we recommend parallel switching for all 8 ohm boards and serial switching with 4 ohm boards

If you are using more than 2 boards per amplifier channel, you should be aware that the total nominal impedance may under no circumstances fall below 3 ohm.

## Advice on fire protection

In the case of most requirements in respect of public buildings, an Invisible speaker does not comply with regulations such as "F60" or "F90". However most other build-in products such as power sockets, light switches or touch displays also don't comply with these requirements on fire-rated walls.

The only possibility is to construct a "casing" of suitable material to go behind the board, in order to comply with the fire protection regulations. Some suppliers of plasterboard walls offer such rear casings as standard in their ranges.

Alternatively, you can also work with a facing panel on a fire-rated wall.

## Advice on determining the board size

Revox offers the Re:sound I invisible speakers in three different output levels with 20, 40 or 80 watt. We recommend the following guide values when deciding which of these types is the right one for your room:

- Background sound provision with approx. 2 watt per square meter of area
- Foreground sound provision with approx. 5 watt per square meter of area
- Home cinema with approx. 10 watt per square meter of area

Example: Room size 35 m<sup>2</sup>, as foreground sound provision - Installation location in the wall:

35 m<sup>2</sup> à 5 watt = 175 watt total output → Recommendation: 2 x Re:sound I invisible 80 W

The positioning in the room can be done in many different ways. Basically, you should strive to find the easiest way when it comes to the positioning.

Example: You want to provide sound in a bathroom where the walls are already pretty well covered with tiles, cupboards and mirrors and the ceiling is made of plasterboard. Here, it makes sense to install the Re:sound I invisible speaker in the ceiling and not behind the tiles, even if this is technically possible.

## Advice on cable sizing

We recommend the use of 2-core speaker cable with a cross-section of 1.5 mm<sup>2</sup>, up to a maximum cable length of 20 m; A cross-section of 2.5 mm<sup>2</sup> is recommended for lengths above 20 m.

## Advice on equalisation

Because of their construction and characteristics, Soundboards exhibit certain limits in terms of the frequency response. This can be compensated for through modified amplifiers. For this purpose, Revox offers the Re:connect M219 MKII side room amplifier in the E20, E40 and E80 versions. These versions have been optimised for the equalisation of the 20, 40 and 80 watt Soundboards respectively.

The speakers can also be connected to the Re:system M100 or the Revox Joy. The corresponding compensation curves for the Re:sound I invisible boards are stored in the M100's internal memory and can be selected as required through the menu.

Revox offers a passively equalised Soundboard for use with a Re:system M51 (please refer to the "Passively equalised model" section).

## Sound

Generally, we recommend the use of a subwoofer, e.g. Re:sound S active bass 03 for smaller Soundboards or Re:sound S active bass 04 for the larger boards, in order to give voluminous and acoustic support to the bass range.

In each case, Revox recommends that the sound quality be demonstrated to the customer in the showroom. The same is of course true for all other speakers.

## Installation in a masonry wall

Revox Invisible speakers can be installed in existing walls. There is a build-in frame for this purpose that makes it possible to create a base which the speaker can be integrated into later. This build-in frame has been developed for the Re:sound I invisible U boards (not for U mini) and can be ordered from Revox under the part number 1.084.699.23.

You have to create a 70 mm deep recess in the wall with the dimensions of the U Board (625 x 410 mm, allowing an extra 5 mm all the way round. Screw the build-in frame to the wall using the two installation aids, in order to create a uniform levelness. Fix the frame in place additionally with the supplied wedges.

Using the 2-component adhesive, create a seal around the frame and leave the foam to harden as described in the manufacturer's instructions. You should only use **Sika Boom 2-C** door-frame glue as recommended by Revox. **Revox doesn't supply this glue as its shelf-life is relatively short.** Make sure that you do not use too much material when applying the adhesive as it expands a significant amount. You can remove excess, hardened foam with a cutter knife.

Now lay the supplied insulation material in the build-in frame, in order to reduce the rearwards dissipation of the sound.

You can now screw the Revox Invisible speaker to the build-in frame. If the installation aids have been used correctly, the surface of the speaker should now be flush with the surface of the surrounding wall.

## Preparation for a concrete ceiling

From the summer of 2014, Revox is offering a casting surround for concrete ceilings or walls (part number 1.084.699.24). Mount the casting surround as described in the supplied instructions onto the cladding of the as yet uncast concrete ceiling.

Using steel bars that are to be set in place, the casting surround can be fixed to the other reinforcement bars.

A 12.5 mm thick sheet of MDF is supplied that equals out the thickness of the Revox Invisible Board. This sheet of MDF should be mounted before screwing the casting surround to the cladding.

Break-out points enable the later removal of the cladding without damaging the casting surround.

## Faults

Essentially, there can be two types of failures in conjunction with the Re:sound I invisible speakers. On the one hand there can be a speaker power failure and on the other, there can be faults caused by errors during the process of installing the speaker in the wall.

All speakers from the Revox Invisible range are factory-fitted with an effective and secure overload protection. The electrical current flow is permanently measured while the speaker is in operation. If this becomes too high, the polyswitch upstream from the exciter becomes highly resistive and provides effective protection. Once the current is reduced again, the polyswitch becomes less resistive and the speaker can play again normally. If the speaker receives too much current over a longer period of time - this distortion is clearly audible - the spool can burn through in spite of the overload protection. This case is not covered by the guarantee as it constitutes usage outside the operating limits.

As a result of Revox's high manufacturing quality and the intensive QA controls, electrical failures can be largely excluded. If a Revox Invisible speaker should fail as the result of a manufacturing error, Revox will have the matter checked by an assessor and if appropriate, arrange for the costs of a replacement to be covered by insurance.

Errors such as the development of cracks, discolouration or insufficient adhesion of the plaster are entirely the responsibility of the specialist company that carried out the work and must be covered by their insurance.

## Accessories

### **Re:sound I invisible glue 1.084.699.01**

For gluing the speaker and frame to the wall and also for the full-surface adhesion of the Soundboards to a hard surface.

### **Re:sound I invisible StoSilent Coll 1.084.699.03**

Revox offers a special system glue for the StoSilent acoustic board system from Sto.

### **Re:sound I invisible Absorber kit 1.084.699.02**

The Absorber kit serves to reduce structure-borne sound and is applied behind the Soundboard.

### **Re:sound I invisible build-in frame U drywall construction 1.084.699.21**

Two-part build-in frame for the retrospective installation of Re:sound I invisible U (not U mini) boards in drywalls.

### **Re:sound I invisible build-in frame U mini drywall construction 1.084.699.22**

Two-part build-in frame for the retrospective installation of Re:sound I invisible U mini boards in drywalls.

### **Re:sound I invisible build-in frame U masonry/cement 1.084.699.23**

Build-in frame in solid walls - also suitable for retrospective installation.

### **Re:sound I invisible casting surround U cement 1.084.699.24**

Casting surround for cement ceilings