THE SOUND INSULATION

PHONEWELL

Silence is golden…

WOLF

Bavaria

WOLF
Bavaria

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"German Price of Outstanding Innovative Achievement"

The best sound insulation
PHONEWELL

WOLF
Bavaria

PHONEWELL: the market leader in the combination of

- Sound insulation
- Pressure resistance
- Expenses saving
- Fast installation

Contents

The best sound insulation

Philosophy of PHONEWELL

The company Wolf Bavaria Ltd. set out the goal to bring a system on the market, which serves to the highest requests in the building industry.

The components are biological, renewable and mineral raw materials. PHONEWELL has a rough structure to stand firm at the highest environmental impacts, and a soft heart which radiates warmth.

PHONEWELL is the wellnes wonder that is compound from wood and sand.

What is PHONEWELL ?

PHONEWELL - is an impact sound insulating board
- is an airborne sound insulating board
- is a sound absorber

Cut through PHONEWELL

for floors, walls and ceilings

PHONEWELL is a name and patent under law protected, completely new insulating system for the building sector. It consists of definitely pure organic and biological components.

PHONEWELL essentially consists of heavy masses in free form. The filling material consists of biological pure burned quartz sand. After known physical principles only heavy masses can cause in loose form, interconnected with soft fillers, a high sound absorption, creating a comfortable living climate.

The family Post installed PHONEWELL in the first and upper floors as a sound insulating floor

The filling mixture is applied inside and outside the carton waves in order to grasp and eliminate the whole sound frequency-spectrum. Whit this, the sound waves must penetrate seven layers of paper and six layers of sand. While crossing so many material layers, the sound waves lose their energy and are extremely well dammed by this effect.

In addition, the applied cardboard comes from the food industry to the packaging of food. The quartz sand is also used in the cleaning of drinking water. Therefore, PHONEWELL is a biological pure product of construction and with it, is also suitable for allergic people.

The best sound insulation

The family Limberger placed on the raw concrete layer of the upper floor, quartz sand to have an even surface. Afterwards, two layers of PHONEWELL were installed and cork as a final cover. With this ground construction an impact sound insulation of Lnw = 46 dB was reached.

This patented combination forms are the basis for an amazing wellness sensation in the whole inside area: sound is absorbed and outstanding dammed, warmth is stored and distributed evenly in all the area.

In other words, PHONEWELL is a biological Wellnessboard, that as being compared with conventional dry or wet filling systems, changes the space climate immediately in a very positive way. The value of wellness is increased or is new defined.

Because of these sensational qualities, the PHONEWELL Concept was distinguished by the German Minister for Economy and Technology with the “German Prize of Outstanding Innovative Achievement” in 2007 and with the Innovation Prize of the "Region of Nurnberg“.

Wood hause of the family Kreisa

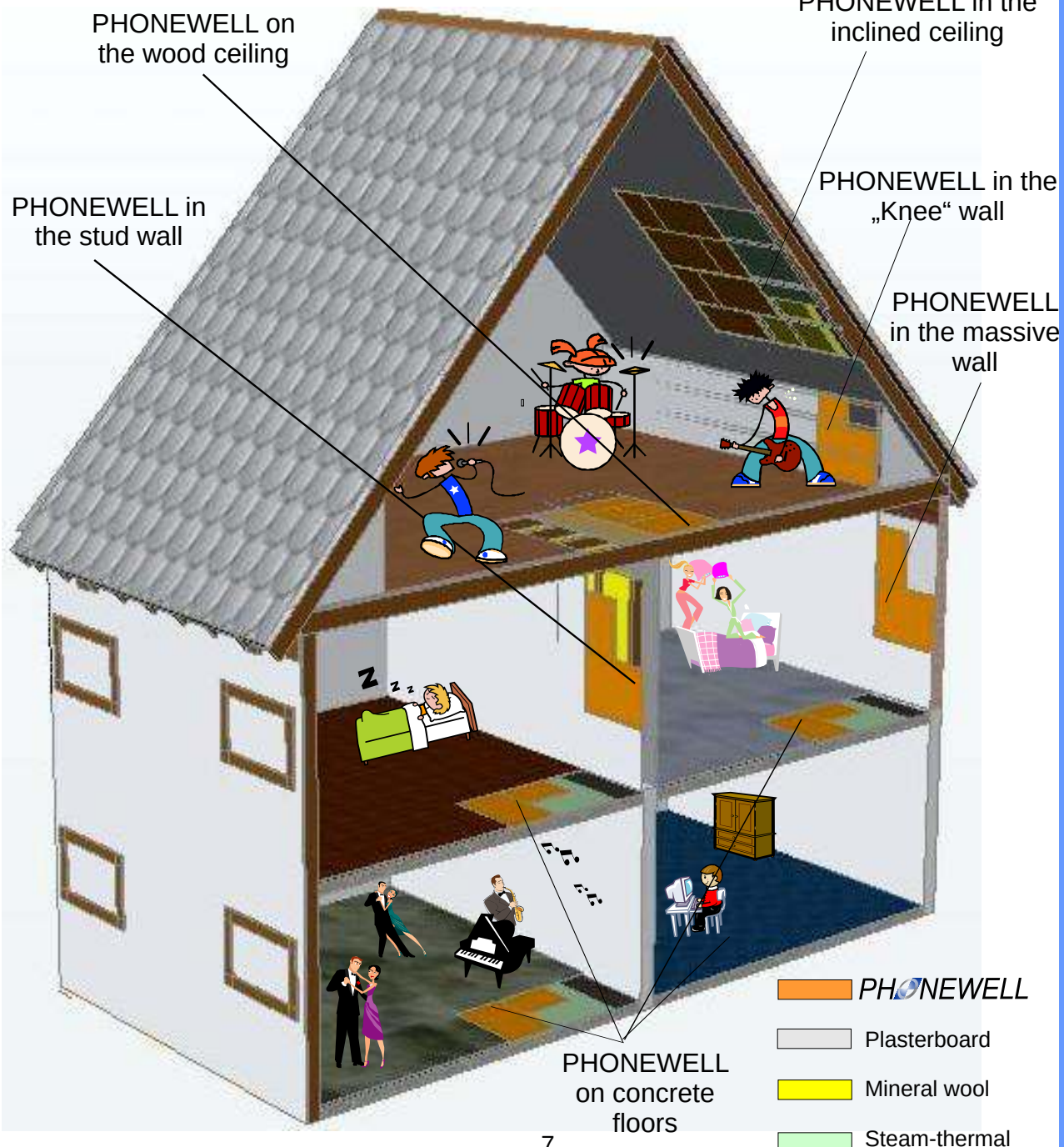
The family Kreisa has laid out the complete upper floor with two layers of PHONEWELL. With this slim construction they reached an impact sound insulation of Lnw = 53 dB and an airborne sound of Rw = 54 dB.

The best sound insulation
PHONEWELL

PHONEWELL Applications

- Floor
- Walls (inside/outside)
- Roofs and ceilings
- Inclined roofs and ceilings

PHONEWELL creates silences at home



The best sound insulation

PHONEWELL Dry filling system from wood and sand

PHONEWELL is biological and huge pressure resistant (65 to/m²) "dry filling system".

PHONEWELL makes possible faster and more favourable costs installations than conventional dry filling systems, because the plates must not be stuck together and screwed. Sound bridges cannot appear with PHONEWELL. The reason for this: the PHONEWELL - plates are installed until the wall. The loose filling material transfers no sound. Besides, no flanking strips are required, therefore the valuable time spend in border insulation is cancelled.

With PHONEWELL as a dry filling on wood and concrete floors and ceilings, outstanding impact sound and airborne sound insulating values are reached. In connection with wood soft fibre plates, sound insulating values are already achieved with a layer of PHONEWELL, which exceed the values of conventional filling systems.

JUNGBRUNN
DAS ALPINE LIFESTYLE HOTEL

www.jungbrunn.at

The Jungbrunn Hotel in Austria has dammed the internal fitness room with PHONEWELL. The floor was built as follows:

- ⇨ PVC
- ⇨ Brick floor
- ⇨ PHONEWELL
- ⇨ Perlite filling
- ⇨ Concrete floor.

The impact sound and airborne sound problem was thereby solved to the highest satisfaction.

The best sound insulation PHONEWELL

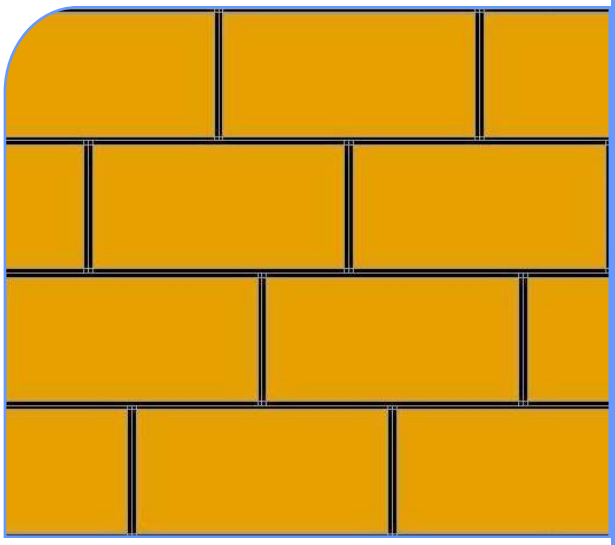
Installation of PHONEWELL

quickly and simply

The installation of PHONEWELL on an even underground is the easiest procedure. Starting in a corner and putting the boards one just beside the other one.

Installation pattern

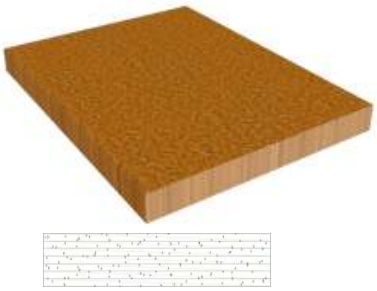
Keep in mind the fact that the PHONEWELL plates must be installed in association (Match at least 10 cm).



After the installation of the PHONEWELL - Plates, different kind of final covers can be set up directly on PHONEWELL (Parket, laminate, cork, tiles etc.).

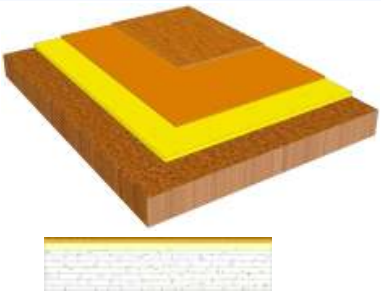
The best sound insulation

Sound insulation values of wood floors



175 mm OSB (Raw floor)

Lnw = 81 dB ☆☆☆☆☆
Rw = 42 dB ☆☆☆☆☆

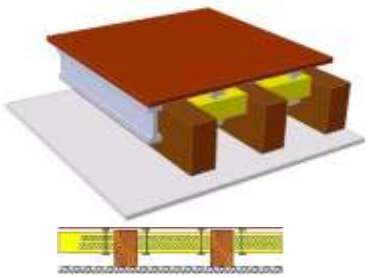


10 mm Final parquet
15 mm PHONEWELL
30 mm Mineral wool
175 mm OSB

Lnw = 48 dB ★★★★★
Rw = 57 dB ★★★★★

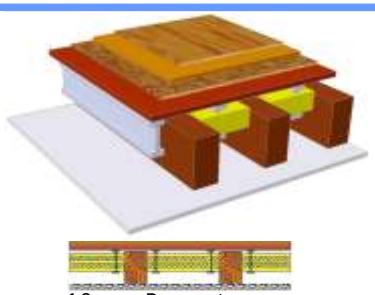
Improvement through PHONEWELL

Impact sound improvement
ΔLnw = 33 dB
Airborne sound improvement
ΔRw = 15 dB



22 mm Wood plate
100 mm Open cavity
200 mm Beams
16 mm Reed mat with loam

Lnw = 56 dB ★★★☆☆
Rw = 61 dB ★★★★☆

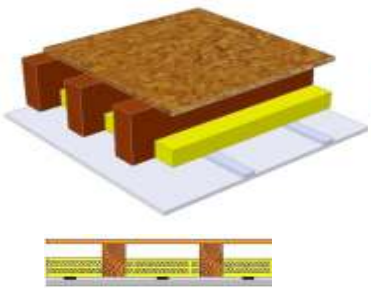


16 mm Parquet
15 mm PHONEWELL
9 mm Wood soft fibre
22 mm Wood board
100 mm Open cavity
200 mm Beams
16 mm Reed mat with loam

Lnw = 46 dB ★★★★★
Rw = 67 dB ★★★★★

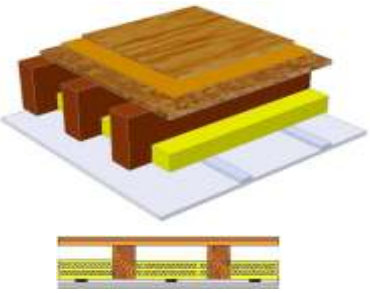
Improvement through PHONEWELL

Impact sound improvement
ΔLnw = 10 dB
Airborne sound improvement
ΔRw = 6 dB



18 mm OSB
235 mm Beams
100 mm Open cavity
16 mm Resilient bars
30 mm Plasterboard

Lnw = 67 dB ☆☆☆☆☆
Rw = 50 dB ☆☆☆☆☆



18 mm Parquet
15 mm PHONEWELL
18 mm OSB
235 mm Beams
100 mm Open cavity
16 mm Resilient bars
30 mm Plasterboard

Lnw = 53 dB ★★★★☆
Rw = 60 dB ★★★★★

Improvement through PHONEWELL

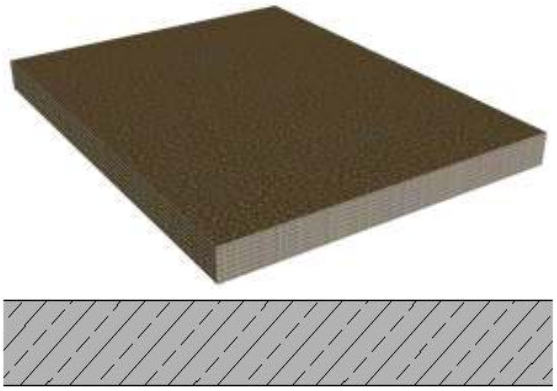
Impact sound improvement
ΔLnw = 14 dB
Airborne sound improvement
ΔRw = 10 dB

Impact sound = Lnw
Airborne sound = Rw

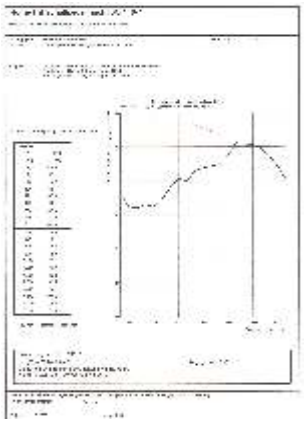
☆☆☆☆☆ Bad
★★★☆☆ Good
★★★★☆ Very good
★★★★★ Extremely well

The best sound insulation PHONEWELL

Sound insulation values of concrete floors



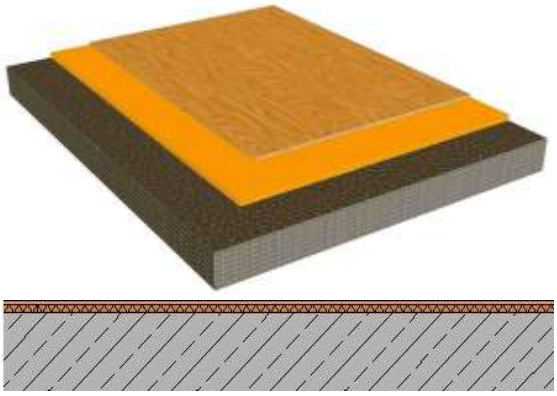
230 mm Reinforced concrete floor



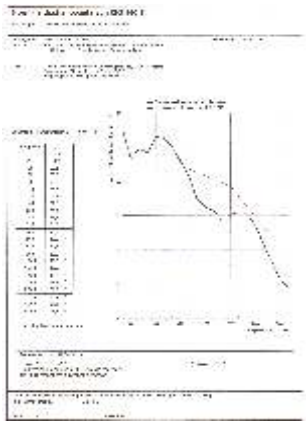
Norm - Level of impact sound
(Raw floor)

Lnw = 85,4 dB

☆☆☆☆☆



12 mm Parquet
15 mm PHONEWELL
230 mm Reinforced concrete floor



Norm - Level of impact sound
(Phonewell)

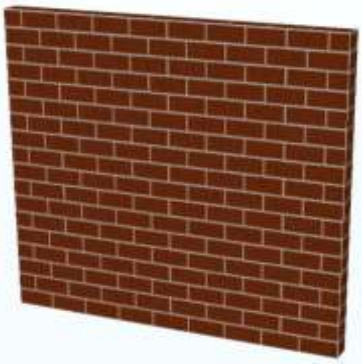
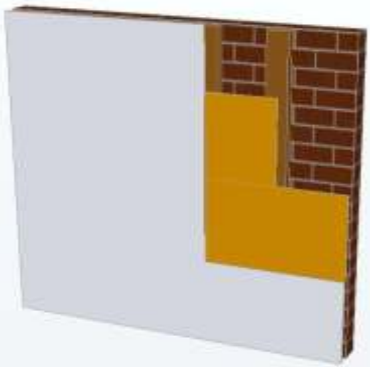
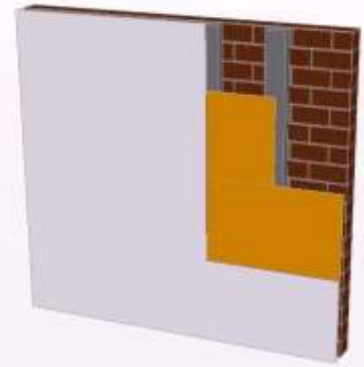
Lnw = 51,6 dB

★★★★★

Impact sound improvement: ΔLnw = 33,8 dB

The best sound insulation

PHONEWELL at massive walls

	Construction	Airborne sound (Rw)
	100 mm Brickwall Density: 650 kg/m³	42 dB ☆☆☆☆☆
	100 mm Brickwall 15 mm PHONEWELL stuck with Phonewell - adhesive 15 mm Plasterboard	48 dB ★★☆☆☆
	Airborne sound improvement: Δ Rw = 6 dB With it the airborne sound is dammed up about 50%	
	100 mm Brickwall 30x50 mm Battens 15 mm PHONEWELL screwed 15 mm Plasterboard	52 dB* ★★★★☆
	Airborne sound improvement: Δ Rw = 10 dB With it the airborne sound is dammed up about 65%	
	100 mm Brickwall 16 mm Resilient bars 15 mm PHONEWELL screwed 15 mm Plasterboard	55 dB* ★★★★★
	Airborne sound improvement: Δ Rw = 13 dB With it the airborne sound is dammed up about 75%	

*calculated Value

☆☆☆☆☆ Bad
★★☆☆☆ Good
★★★★☆ Very good
★★★★★ Extremely well

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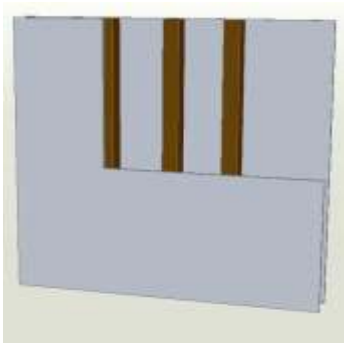
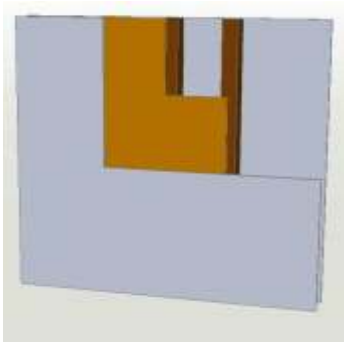
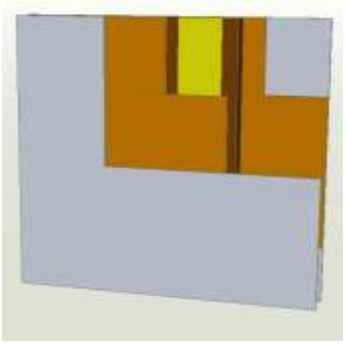
PHONEWELL at stud walls

	Construction	Airborne sound (Rw)
	15 mm Plasterboard 100 mm Wood studs 15 mm Plasterboard	36 dB ☆☆☆☆☆
	The 50 dB Wall 15 mm Plasterboard 100 mm Wood studs 15 mm PHONEWELL 15 mm Plasterboard No hollow cavity insulation	50 dB ★★★★☆
	12,5 mm Plasterboard 15 mm PHONEWELL 100 mm Wood or steel studs 15 mm PHONEWELL 12,5 mm Plasterboard	62 dB* ★★★★★

*calculated value

PHONEWELL screwed on metall studs

Attention:
Plasterboard with, gypsum screws, only in the PHONEWELL - plates screw! Screws in the metal stand produce sound bridges!!!

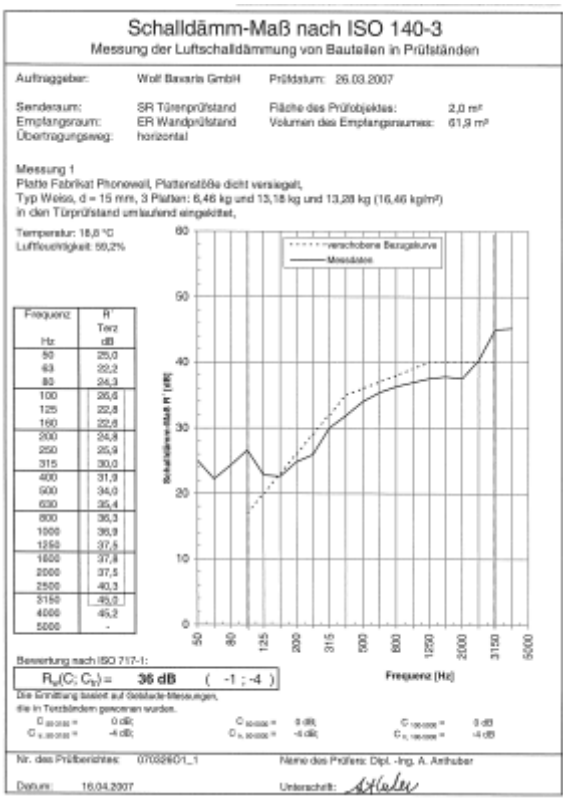
The best sound insulation

PHONEWELL sound insulation

The newest airborne sound measurements of the PHONEWELL - plates proved an airborne sound insulating value of Rw = 36 dB.

Notice the very high air sound insulating values in the low frequence area of 50 - 200 hertz. (See graph).

According to this result, the PHONEWELL - plates are suitable for the application in sound insulating doors, engine rooms and buildings.



Schalldämm-Maß nach ISO 140-3

Messung der Luftschalldämmung von Bauteilen in Prüfständen

Auftraggeber: Wolf Bavaria GmbH Prüfdatum: 26.03.2007

Senderaum: SR Türenprüfstand Fläche des Prüfobjektes: 2,0 m²
Empfangsraum: ER Wandprüfstand Volumen des Empfangsraumes: 61,9 m³
Übertragungsweg: horizontal

Messung 1
Platte Fabrikat Phonowell, Plattenstöße dicht versiegelt,
Typ Weiss, d = 15 mm, 3 Platten: 6,46 kg und 13,18 kg und 13,28 kg (16,46 kg/m²)
in den Türprüfstand umlaufend eingedichtet,

Temperatur: 18,8 °C
Luftfeuchtigkeit: 56,2%

Frequenz Hz	R' Terz dB
50	25,0
63	22,2
80	24,3
100	26,6
125	22,8
160	22,6
200	24,8
250	25,9
315	30,0
400	31,9
500	34,0
630	35,4
800	36,3
1000	36,9
1250	37,5
1600	37,8
2000	37,5
2500	40,3
3150	45,0
4000	45,2
5000	-

Bewertung nach ISO 717-1:

$R_w(C; C_{tr}) =$ 36 dB (-1 ; -4)

Die Ermittlung basiert auf Gebäude-Messungen, die in Terzbändern gemessen wurden.

Nr. des Prüfberichtes: 07032601_1 Name des Prüfers: Dipl.-Ing. A. Anthuber

Datum: 16.04.2007 Unterschrift:

PHONEWELL in ceilings

With the installation of the PHONEWELL boards in the roof and ceiling area, sensational airborne sound insulating values are reached.

Installing under the construction

PHONEWELL screwed on battens

PHONEWELL: finished ceiling assembly

Airborne sound insulation in the refurbishment of old buildings against street and railroad noises as well as airplane noises. Airborne sound improvement values up to 18 dB are reached by the installation of PHONEWELL.

The best sound insulation PHONEWELL

PHONEWELL Treatment

Cut with the circular saw

Cut the edges of the PHONEWELL plates with a table circular saw.

Cut with the fret saw

Lay the plates on two equally high tables and cut at the measure.

Cut with the cutter

Lay the plates on two equally high tables and cut.

Masking

The cut edges must always be closed with the biological paper adhesive tape.

Reference project: German Railways (Deutsche Bahn) trust in PHONEWELL

Roof renovation against airborne sound
Construction:

- Wood beams and Steam-thermal insulation
- Battens (Distance 40 cm)
- PHONEWELL screwed
- Plasterboard screwed

Result:
- Airborne sound insulation Rw = 58 dB ★★★★★

Installation of the PHONEWELL - boards in a inclined ceiling

Ansbach: Renovation of the in the inclined ceilings against street and traffic noises with PHONEWELL

The best sound insulation

Technical data:

Data	Measurement	Verification
PHONEWELL Professional		
Length x Width	1070 x 800 mm 1200 x 800 mm	
Thickness	15 mm	
Area / Plate	0,86 m² 0,96 m²	
Weight / m²	18,00 kg	
Impact sound improvement	**until 65 dB**	**DIN EN ISO 717-2**
ΔLw	**33,8 dB**	**DIN EN ISO 717-2**
Airborne sound improvement	**until 36 dB**	**DIN EN ISO 717-1**
Fire material class	B2 / B1 in test	DIN 4102
Useful load	5 kN/m²	DIN 1055, Issue 2002
Punctual load	4 kN	DIN 1055, Issue 2002
Heat conductivity	0,17 W/(mK)	DIN 52612
Specific heat capacity	1050 J/KgK	
Bending tension load	2107 N Lengthwise	DIN EN 520
Bending breaking load	2123 N Widthwise	DIN EN 520
Bending tension strength	17,5 N/mm² Lengthwise	DIN EN 520
Bending tension strength	17,6 N/mm² Widthwise	DIN EN 520
Application zones	A-D (Exception: C4/D3)	DIN 1055, Issue 1971
	1-4	DIN 1055, Issue 2002
Areas of application	Floors, walls, roofs and ceilings	
License DIBT (German Institute of Civil Engineering)	**Z-23.21-1605**	**DIBT Berlin**


DEUTSCHES INSTITUT FÜR BAUTECHNIK

Allgemeine bauaufsichtliche Zulassung

Zulassung DIBT

The best sound insulation
PHONEWELL

The best sound insulation

Data	Measurement	Verification

PHONEWELL Double Wave

Length x Width	1070 x 800 mm	
Thickness	10 mm	
Area / Plate	0,86 m²	
Weigth / m²	12,00 kg	
ΔLw	**19 dB***	**DIN EN ISO 717-2**
Fire material class	B2	DIN 4102
Useful load	5 kN/m²	DIN 1055, Issue 2002
Punctual load	4 kN	DIN 1055, Issue 2002
Heat conductivity	0,17 W/(mk)	DIN 52612
Areas of application	Floors, walls, roofs and ceilings	DIN 1055, Issue 2002

PHONEWELL Single Wave

Length x Width	1070 x 800 mm	
Thickness	5 mm	
Area / Plate	0,86 m²	
Weigth / m²	6,00 kg	
ΔLw	**17 dB***	**DIN EN ISO 717-2**
Fire material class	B2	DIN 4102
Useful load	5 kN/m²	DIN 1055, Issue 2002
Punctual load	4 kN	DIN 1055, Issue 2002
Heat conductivity	0,17 W/(mk)	DIN 52612
Areas of application	Floors	DIN 1055, Issue 2002

*calculated value

References

The family Kleinöder installed the complete attic with two layers of PHONEWELL. The bath was tiled directly on PHONEWELL after a humidity sealing.

Delivery:

70 PHONEWELL plates on the pallet correspond to 60 m², approx. 1.000 kg.

The plates are wrapped with plastic strips and protected with a carton box.

The wood ceiling of the family Kräher was sound insulated from below with PHONEWELL. They reached an airborne sound value of 52 dB. ★★★★☆

The Porst family installed PHONEWELL in all the floors as a sound insulating dry filling system .

References

Film studio in Augsburg 1200 m²

Film studio in Augsburg: Installation of the PHONEWELL plates in a massive wall

In the film studio, PHONEWELL was screwed in battens in all four massive walls. With this slim construction the outside noise of the nearby highway could be dammed up completely (Rw = 68 dB)

★★★★★

Ulster Musik Universiy in Ireland 1300 m²

For the improvement of the acustics, the walls of the concert hall were dressed up with 1.300 m² of PHONEWELL. The sound insulation of the walls reached values of Rw = 65 dB

★★★★★

The best sound insulation

The best sound insulation

PHONEWELL

This is what our customers say:

„I have dressed up my walls with PHONEWELL, since then, I hear no more passing trains! “

Dr. Habermüller, lives near the railway track in Ansbach, Germany

„The installation of the PHONEWELL plates is fun, simply, quickly and free of dirt! “

Wilhelm Schneider, Mason, Ansbach, Germany

„Silence is golden - that is what we need in UK!“

Paul Ibboston, Managing director
Acara Products, Dublin, Ireland

„By the installation of PHONEWELL we lower the construction height, the total expenses and we don´t hear noises anymore. Great!“

Huber; Wooden house farmer,
Munich, Germany

„Since I have installed PHONEWELL in my house, I can sleep again quietly and more efficiently than ever before.“

Dr. Johann Limberger,
Doctor, Schwabach, Germany

Firma: _____
Name: _____
Street: _____
PLZ, Place: _____

Please send us:

- ☐ Hand sample
- ☐ Planning file
- ☐ Film
- ☐ Flyer

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