

Eurotec®

The specialist for fastening technology

SONOTEC V2

**SOUND INSULATION REIMAGINED FOR
YOUR PLANNING CERTAINTY**

www.eurotec.team/en



The SonoTec V2 linear bearings enable unwanted flank sound transmission to be reduced significantly thanks to precise acoustic control. The bearings are available in six variants with hardness levels of up to 58 Shore A and are even suitable for use in high-rise structures. This produces an improvement in the real assessed sound insulation measurement $R'w$ of up to 7 dB. Thanks to their great versatility, the bearings can be used in combination with CLT, GLT, LVL, steel and concrete structures. When SonoTec V2 is used, no additional sound decoupling is required with the CLT angle brackets as this has been verified and confirmed.

MATERIAL:

THERMOPLASTIC POLYMER

- Waterproof and airtight
- Resistant to oils and greases
- Free of DEHP, latex, proteins, nanomaterials and carcinogenic substances
- Versatile uses
- Environmentally friendly
- Resistant to cracks, UV radiation and many chemicals

PROPERTIES/ADVANTAGES

- Resistant, waterproof and airtight
- Tested real sound insulation measurement $R'W$ up to 7 dB
- Six variants with hardnesses of up to 58 Shore
- Versatile uses (CLT, GLT, LVL, steel and concrete)



ITEM TABLE:

Item number	Description	Hardness [Shore A]	Colour	Dimensions [mm]			PU
				Length	Width	Height	
946360	SonoTec V2 25 - 80	25	Light blue	1150	80	10	20
946340	SonoTec V2 25 - 100	25	Light blue	1150	100	10	20
946361	SonoTec V2 25 - 120	25	Light blue	1150	120	10	20
946362	SonoTec V2 25 - 140	25	Light blue	1150	140	10	20
946364	SonoTec V2 30 - 80	30	Red	1150	80	10	20
946341	SonoTec V2 30 - 100	30	Red	1150	100	10	20
946365	SonoTec V2 30 - 120	30	Red	1150	120	10	20
946366	SonoTec V2 30 - 140	30	Red	1150	140	10	20
946367	SonoTec V2 30 - 160	30	Red	1150	160	10	20
946346	SonoTec V2 35 - 100	35	Light grey	1160	100	10	20
946369	SonoTec V2 35 - 120	35	Light grey	1160	120	10	20
946370	SonoTec V2 35 - 140	35	Light grey	1160	140	10	20
946371	SonoTec V2 35 - 160	35	Light grey	1160	160	10	20
946342	SonoTec V2 40 - 100	40	White	1140	100	10	20
946373	SonoTec V2 40 - 120	40	White	1140	120	10	20
946374	SonoTec V2 40 - 140	40	White	1140	140	10	20
946375	SonoTec V2 40 - 160	40	White	1140	160	10	20
946343	SonoTec V2 50 - 100	50	Stone	1120	100	10	20
946377	SonoTec V2 50 - 120	50	Stone	1120	120	10	20
946378	SonoTec V2 50 - 140	50	Stone	1120	140	10	20
946379	SonoTec V2 50 - 160	50	Stone	1120	160	10	20
946344	SonoTec V2 58 - 100	58	Black	1100	100	10	20
946381	SonoTec V2 58 - 120	58	Black	1100	120	10	20
946382	SonoTec V2 58 - 140	58	Black	1100	140	10	20
946383	SonoTec V2 58 - 160	58	Black	1100	160	10	20

STRUCTURAL PROPERTIES





LOAD TABLE IN KG PER LINEAR METRE FOR SONOTEC V2

The maximum loads for SonoTec V2 with 10% (1 mm) and 20% (2 mm) compression are shown below. We recommend limiting the maximum deformation to 10% (1 mm) as any degree of compression higher than this may cause the connecting elements between the components to fail or become damaged. The maximum permitted compression is 2 mm (20%).

Maximum loads with 10% compression

With surface treatment (silicone oil):

Compression	100 mm width		120 mm width		140 mm width		160 mm width	
	10 % (1 mm)	20 % (2 mm)						
SonoTec V2 25	1300 kg	1570 kg	1560 kg	1884 kg	1820 kg	2198 kg	2080 kg	2512 kg
SonoTec V2 30	1620 kg	1940 kg	1944 kg	2328 kg	2268 kg	2716 kg	2592 kg	3104 kg
SonoTec V2 35	2060 kg	2390 kg	2472 kg	2868 kg	2884 kg	3346 kg	3296 kg	3824 kg
SonoTec V2 40	3190 kg	3710 kg	3828 kg	4452 kg	4466 kg	5194 kg	5104 kg	5936 kg
SonoTec V2 50	5910 kg	6370 kg	7092 kg	7644 kg	8274 kg	8918 kg	9456 kg	10192 kg
SonoTec V2 58	10750 kg	12 500 kg	12900 kg	15 000 kg	15050 kg	17 500 kg	17200 kg	20 000 kg

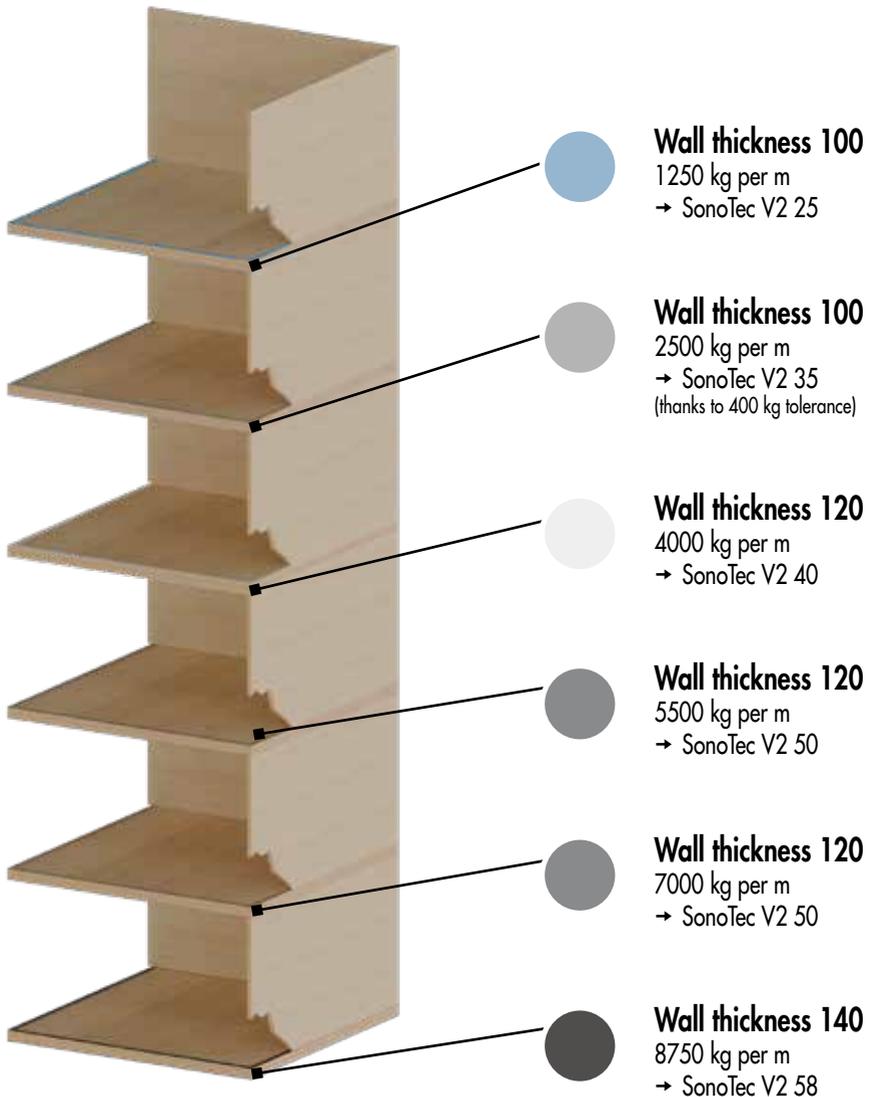
Without surface treatment:

Compression	100 mm width		120 mm width		140 mm width		160 mm width	
	10 % (1 mm)	20 % (2 mm)						
SonoTec V2 25	1250 kg	1510 kg	1500 kg	1812 kg	1750 kg	2114 kg	2000 kg	2416 kg
SonoTec V2 30	1530 kg	1830 kg	1836 kg	2196 kg	2142 kg	2562 kg	2448 kg	2928 kg
SonoTec V2 35	2140 kg	2470 kg	2568 kg	2964 kg	2996 kg	3458 kg	3424 kg	3952 kg
SonoTec V2 40	3140 kg	3650 kg	3768 kg	4380 kg	4396 kg	5110 kg	5024 kg	5840 kg
SonoTec V2 50	5590 kg	6020 kg	6708 kg	7224 kg	7826 kg	8428 kg	8944 kg	9632 kg
SonoTec V2 58	10 570 kg	12 260 kg	12 684 kg	14 712 kg	14 798 kg	17 164 kg	16 912 kg	19 616 kg

The maximum weight tolerance is 400 kilograms per metre. This means, for example, that the weight of SonoTec 30 with a width of 100 mm should be between 1420 and 1820 kg. The softest available variant should be chosen to provide a significantly better level of sound insulation. Although harder versions have a higher load-bearing capacity, the sound-insulating properties decrease as the hardness increases. For example, with a width of 100 mm and a weight of 1600 kg per linear metre, SonoTec V2 30 should be chosen rather than SonoTec V2 35.

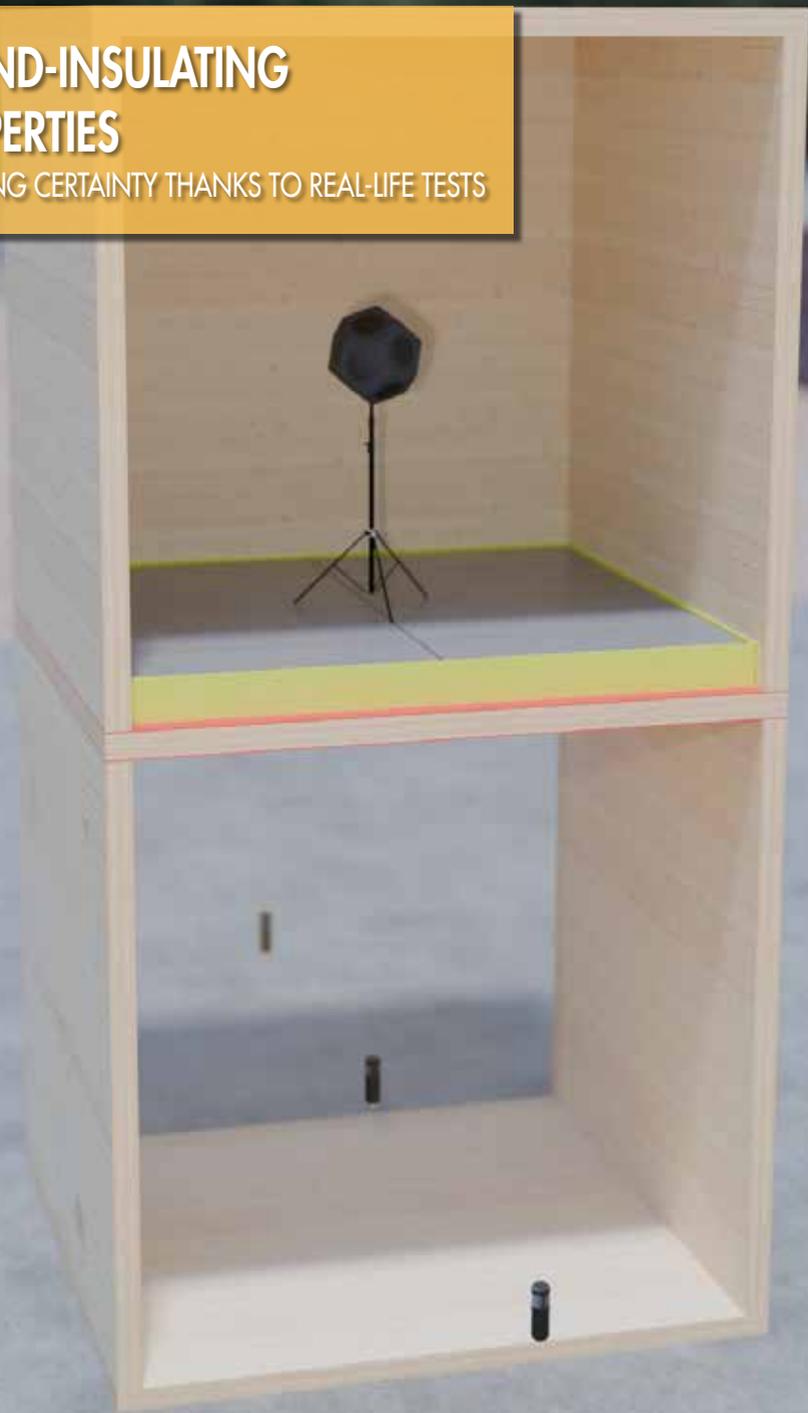
MAXIMUM LOADS EXPLAINED

An estimated load-bearing capacity of around 1100 kg to 1400 kg per linear metre can be assumed for each floor. The following example shows a possible strategy for distributing SonoTec over several floors, taking into account a maximum deformation of 20%. This scenario is for the purpose of illustration only; the actual planning must be adapted to reflect the specific structural requirements and design of the respective building.



SOUND-INSULATING PROPERTIES

PLANNING CERTAINTY THANKS TO REAL-LIFE TESTS

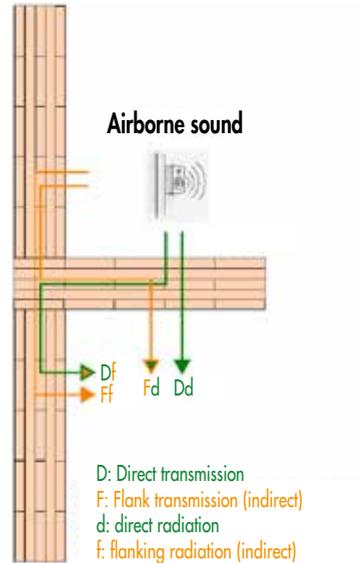


STRUCTURE-BORNE SOUND TRANSMISSION EXPLAINED: AIRBORNE SOUND – IMPACT SOUND

Real airborne sound insulation measurement $R'w$

- Describes the sound insulation of components against airborne sound (e.g. loudspeakers)
- The higher the $R'w$ value, the better the insulation.
- Can be improved by SonoTec V2
- Transmission paths:
- Ceiling–ceiling Dd (1x)
- Ceiling–flank Df (4x)
- Flank–ceiling Fd (4x)
- Flank–flank Ff (4x)

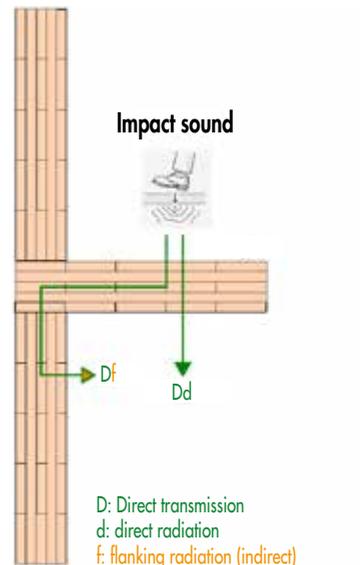
→ 13 transmission paths, mainly via the flanks.



Real impact sound level measurement $L'n,w$

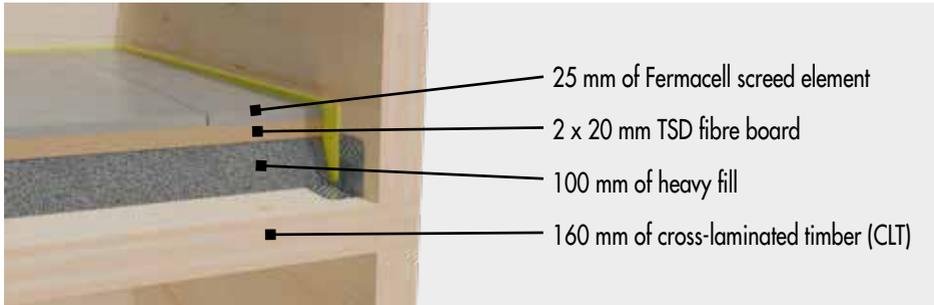
- Describes the sound insulation of components against impact sound (e.g. footsteps, furniture sliding)
- The lower the $L'n,w$ value, the better the insulation
- Is reduced primarily by secondary installations, such as grit fill, an impact sound insulation panel and dry screed
- Transmission paths:
- Ceiling–ceiling Dd (1x)
- Ceiling–flank Df (4x)

→ 5 transmission paths, mainly via the ceiling

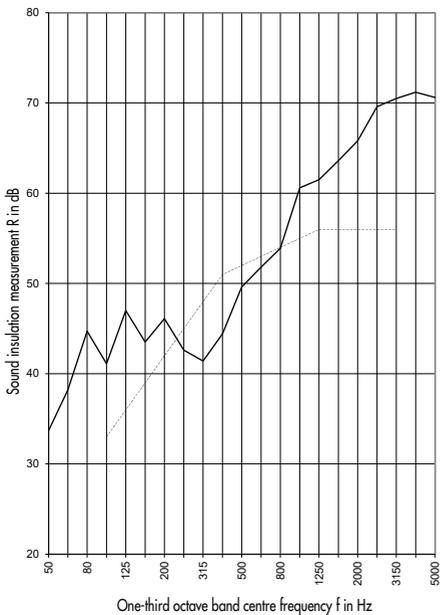


TRANSMITTING SOUND-INSULATING EFFECT – THE COMPARISON

Without sound insulation tape:



Assessed construction sound insulation measurement
 $R'_{w} = 54 \text{ dB}$

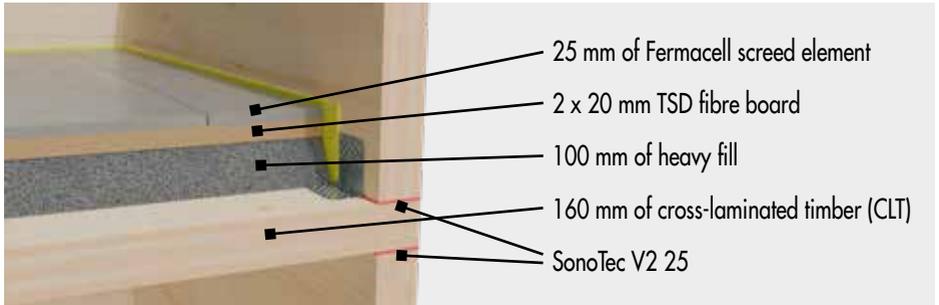


Assessed standard impact sound level
 $L'_{n,w} = 54 \text{ dB}$

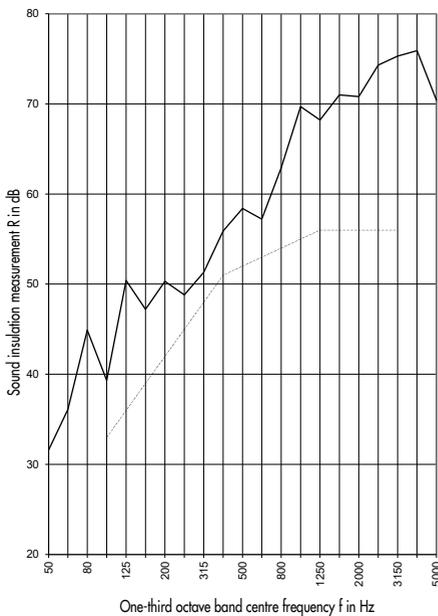


SOUND-INSULATING EFFECT – THE COMPARISON

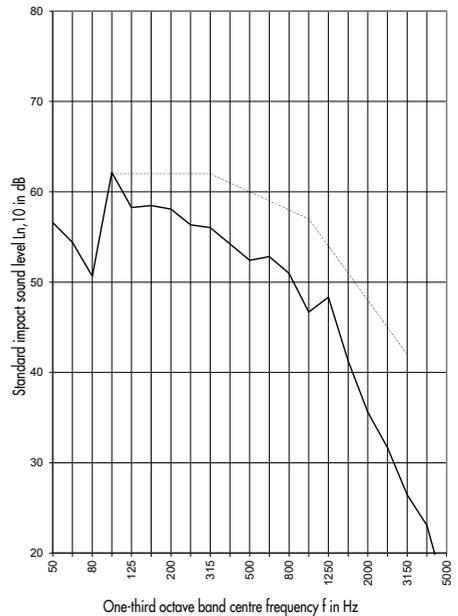
With SonoTec V2 25:



Assessed construction sound insulation measurement
 $R'_{w} = 61 \text{ dB}$



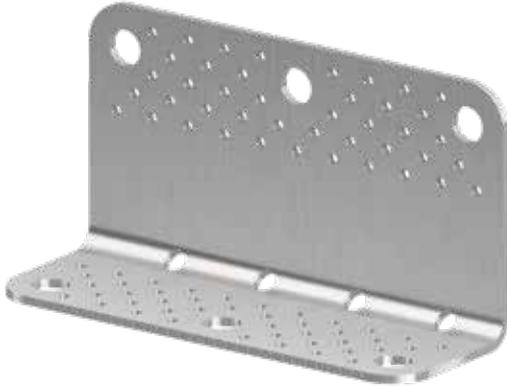
Assessed standard impact sound level
 $L'_{n,w} = 53 \text{ dB}$



Tested by the Technical University of Innsbruck. Tester: Prof. Dr. Dipl.-Ing. Anton Kraler

- R'_{w} 7 dB improvement thanks to SonoTec V2 25
- Requirement according to DIN 4109 met

OUR CLT SYSTEM BRACKET WITH SONOTEC V2



The CLT system bracket is ideal for use in solid wood construction. Its area of application is limited to the use of CLT (Cross-Laminated Timber). Its solid design means it is able to transmit high forces. In contrast to the standard brackets, the CLT system bracket can be combined with our IdeeFix. This makes it possible to construct complex joints.

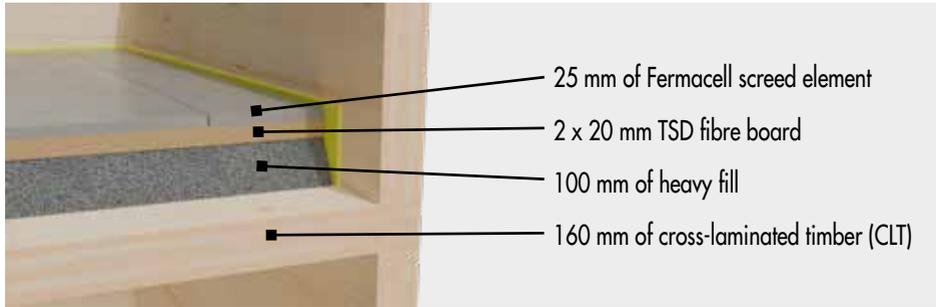
ADVANTAGES

- Variable uses
- High load absorption
- SK04-compatible
- Does not require any additional decoupler with SonoTec V2
- Saving on costs and time
- No reduction in load-bearing capacity

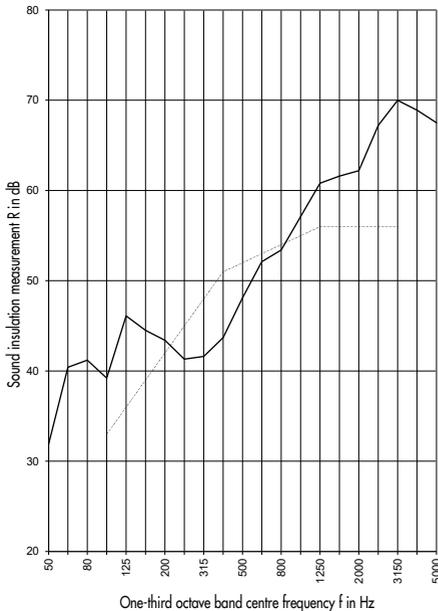
OUR CLT SYSTEM BRACKET WITH SONOTEC V2

Comparison without bracket – decoupled bracket – non-decoupled bracket

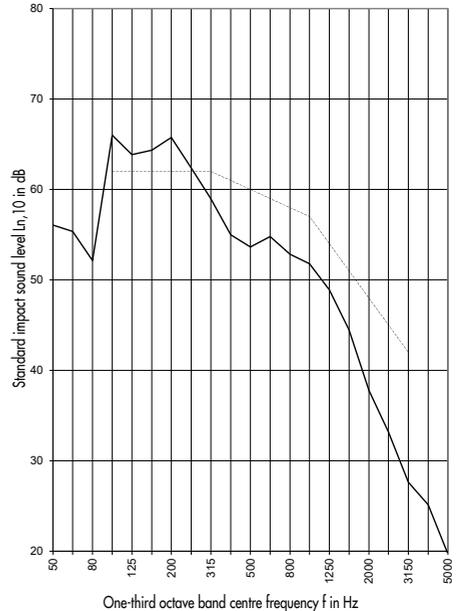
Without bracket:



Assessed construction sound insulation measurement
 $R'_{w} = 53$ dB



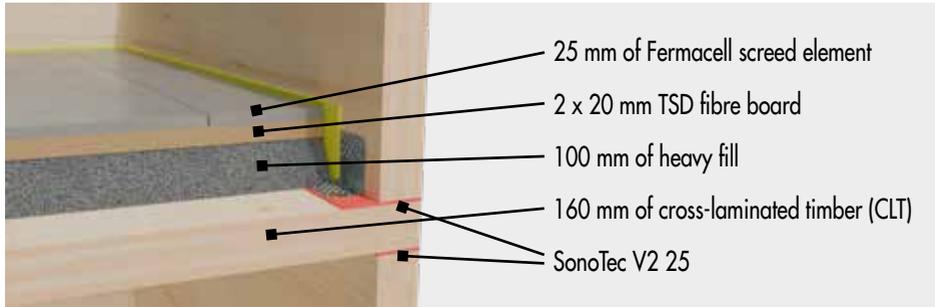
Assessed standard impact sound level
 $L'_{n,w} = 57$ dB



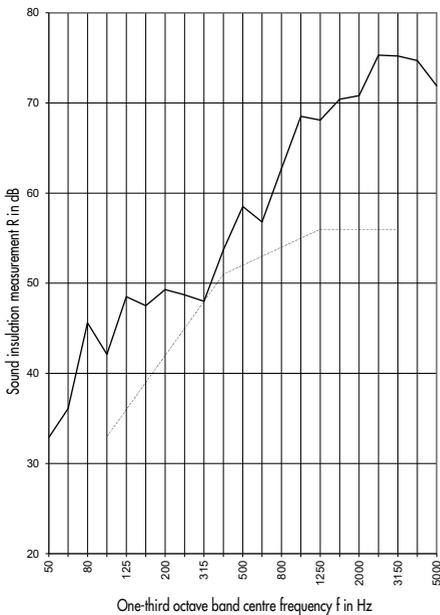
OUR CLT SYSTEM BRACKET WITH SONOTEC V2

Comparison without bracket – decoupled bracket – non-decoupled bracket

Decoupled bracket:



Assessed construction sound insulation measurement
 $R'_{w} = 61 \text{ dB}$



Assessed standard impact sound level
 $L'_{n,w} = 53 \text{ dB}$



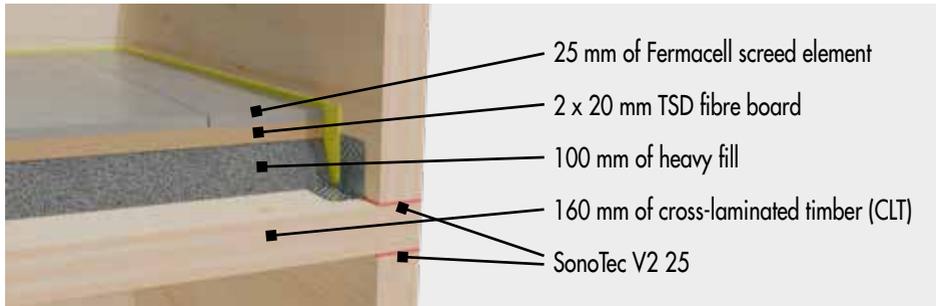
Tested by the Technical University of Innsbruck. Tester: Prof. Dr. Dipl.-Ing. Anton Kraler

→ R'_{w} improved by 8 dB and $L'_{n,w}$ by 4 dB

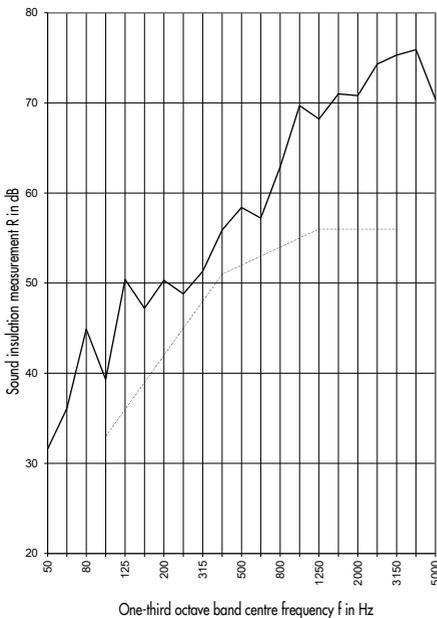
OUR CLT SYSTEM BRACKET WITH SONOTEC V2

Comparison without bracket – decoupled bracket – non-decoupled bracket

Non-decoupled bracket:



Assessed construction sound insulation measurement
 $R'_{w} = 61 \text{ dB}$



Assessed standard impact sound level
 $L'_{n,w} = 53 \text{ dB}$



Tested by the Technical University of Innsbruck. Tester: Prof. Dr. Dipl.-Ing. Anton Kraler

- No change compared to decoupled bracket: Extra decoupler under the bracket no longer required with SonoTec V2
- Saving on costs and time

WE'LL DO THE
CALCULATION
FOR YOU

EUROTEC DESIGN SERVICE
SOUND INSULATION OPTIMISATION
WITH SONOTEC V2

Eurotec®
The specialist for fastening technology

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Contact our technical department at all times via 24-hour telephone service available in the Service section on our homepage: <http://www.eurotec.com/en/service>

Contact

Customer: _____ Party receiving the work: _____
 Contact person: _____ Contact person: _____
 E-mail: _____ Phone: _____
 Building project: _____ E-mail: _____

Calculation of the correct sound insulation strip:

Option 1:
 Which Sonotec V2 sound insulation strip? _____

Option 2:
 We'll calculate the correct strip for you.
 To do this, we will require the following values for each individual wall:

1) $S_{w, req}$ _____
Required sound insulation (see note)

2) $m_{p, eq}$ _____
Equivalent weight (see note)

3) $m_{p, eq}$ (variable extra-weighting, from people, furniture, etc.) _____

4) t_{wall} (thickness of the wall) _____

ABSORBENT SOUND:

5) $S_{w, req}$ is the required sound insulation measurement of the separating element:
measured in the construction situation

6) $S_{w, req}$ is the required sound insulation measurement of the backing component 1 in the receptor space, in dB
measured in the construction situation in the construction situation

7) $S_{w, req}$ is the required sound insulation measurement of the backing component 2 in the receptor space, in dB
measured in the construction situation in the construction situation

8) d is the space between the two objects to be measured (e.g. ceiling, wall)

9) L_{eq} denotes the length of the connection joint between the separating component and the backing component (1 and 2), in metres (project specific)

10) L_{eq} denotes the reference length of the connection joint standard (e.g. $L_{eq} = 1$ according to DIN EN 12254)

How to use: Fill in the values for the required sound insulation and the equivalent weight. Then the correct sound insulation strip will be calculated.

