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	1
946340	SonoTec V2 25 - 100	25	Light blue	1150	100	10	1
946361	SonoTec V2 25 - 120	25	Light blue	1150	120	10	1
946362	SonoTec V2 25 - 140	25	Light blue	1150	140	10	1
946364	SonoTec V2 30 - 80	30	Red	1150	80	10	1
946341	SonoTec V2 30 - 100	30	Red	1150	100	10	1
946365	SonoTec V2 30 - 120	30	Red	1150	120	10	1
946366	SonoTec V2 30 - 140	30	Red	1150	140	10	1
946367	SonoTec V2 30 - 160	30	Red	1150	160	10	1
946346	SonoTec V2 35 - 100	35	Light grey	1160	100	10	1
946369	SonoTec V2 35 - 120	35	Light grey	1160	120	10	1
946370	SonoTec V2 35 - 140	35	Light grey	1160	140	10	1
946371	SonoTec V2 35 -160	35	Light grey	1160	160	10	1
946342	SonoTec V2 40 - 100	40	White	1140	100	10	1
946373	SonoTec V2 40 - 120	40	White	1140	120	10	1
946374	SonoTec V2 40 - 140	40	White	1140	140	10	1
946375	SonoTec V2 40 -160	40	White	1140	160	10	1
946343	SonoTec V2 50 - 100	50	Stone	1120	100	10	1
946377	SonoTec V2 50 - 120	50	Stone	1120	120	10	1
946378	SonoTec V2 50 - 140	50	Stone	1120	140	10	1
946379	SonoTec V2 50 -160	50	Stone	1120	160	10	1
946344	SonoTec V2 58 - 100	58	Black	1100	100	10	1
946381	SonoTec V2 58 - 120	58	Black	1100	120	10	1
946382	SonoTec V2 58 - 140	58	Black	1100	140	10	1
946383	SonoTec V2 58 -160	58	Black	1100	160	10	1

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):

	100 mm width		120 mm width		140 mm width		160 mm width	
Compression	10 % (1 mm)	20 % (2 mm)	10 % (1 mm)	20 % (2 mm)	10 % (1 mm)	20 % (2 mm)	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

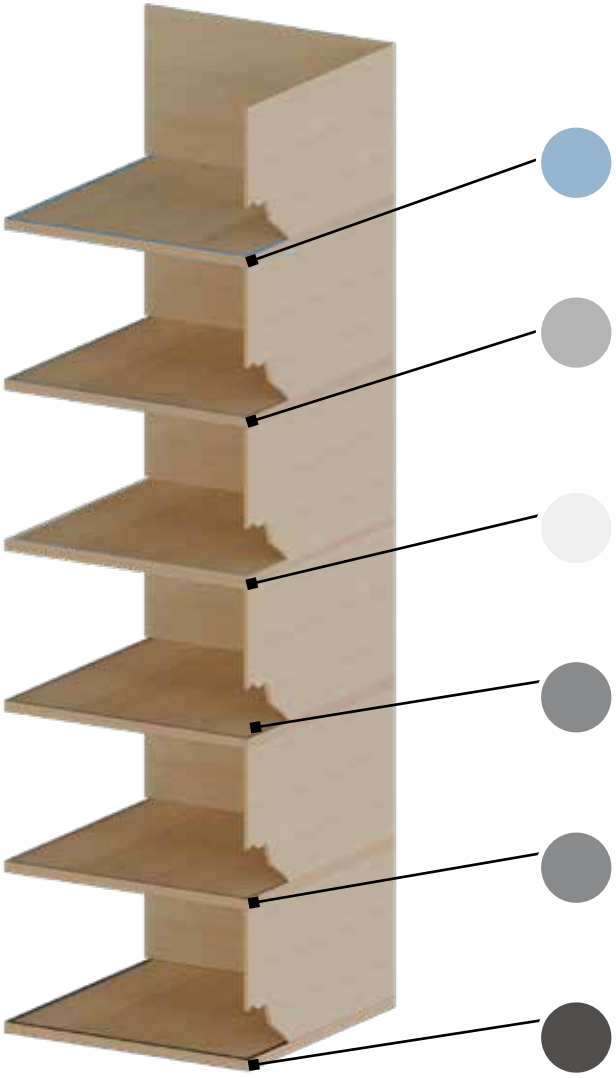
Without surface treatment:

	100 mm width		120 mm width		140 mm width		160 mm width	
Compression	10 % (1 mm)	20 % (2 mm)	10 % (1 mm)	20 % (2 mm)	10 % (1 mm)	20 % (2 mm)	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.



Wall thickness 100
1250 kg per m
→ SonoTec V2 25

Wall thickness 100
2500 kg per m
→ SonoTec V2 35
(thanks to 400 kg tolerance)

Wall thickness 120
4000 kg per m
→ SonoTec V2 40

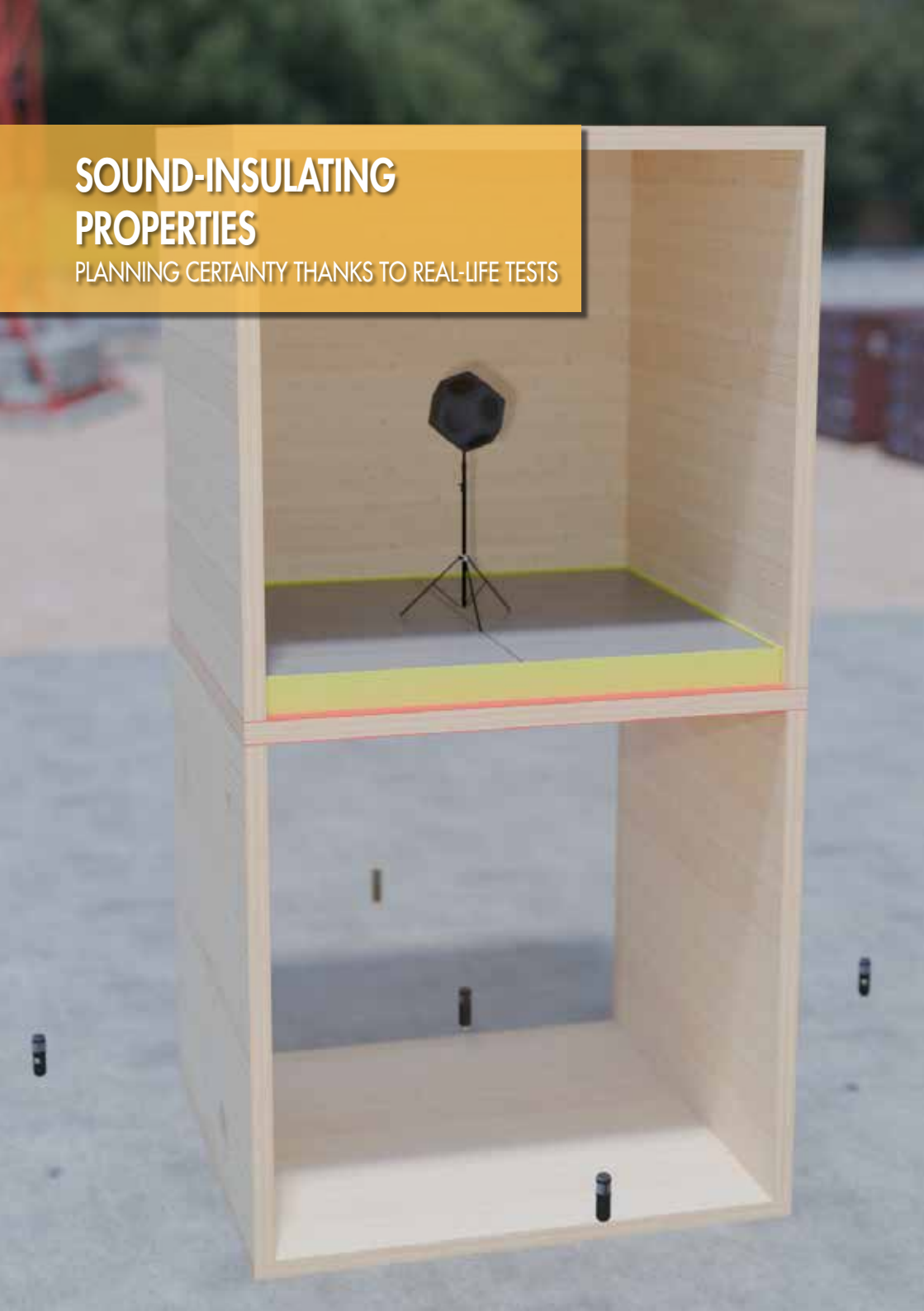
Wall thickness 120
5500 kg per m
→ SonoTec V2 50

Wall thickness 120
7000 kg per m
→ SonoTec V2 50

Wall thickness 140
8750 kg per m
→ SonoTec V2 58

SOUND-INSULATING PROPERTIES

PLANNING CERTAINTY THANKS TO REAL-LIFE TESTS

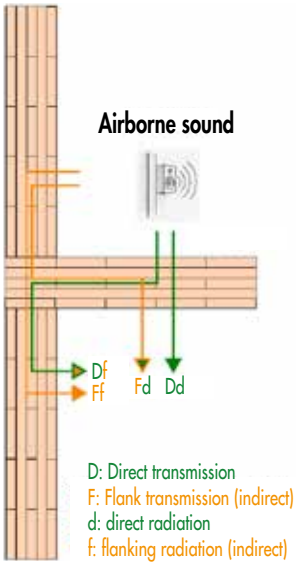


STRUCTURE-BORNE SOUND TRANSMISSION EXPLAINED:
AIRBORNE SOUND – IMPACT SOUND

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)

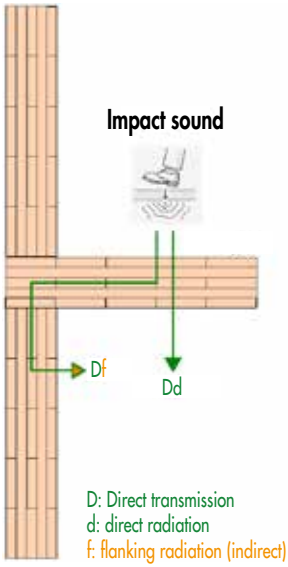
→ 13 transmission paths, mainly via the flanks.



Real impact sound level measurement L'n,w

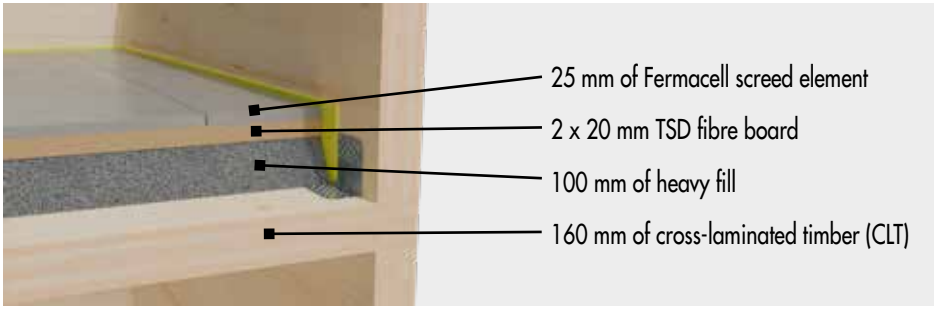
- Describes the sound insulation of components against impact sound (e.g. footsteps, furniture sliding)
- The lower the L'n,w value, the better the insulation
- Is reduced primarily by secondary installations, such as grit fill, an impact sound insulation panel and dry screed
- Transmission paths:
-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

→ 5 transmission paths, mainly via the ceiling



TRANSMITTING SOUND-INSULATING EFFECT – THE COMPARISON

Without sound insulation tape:



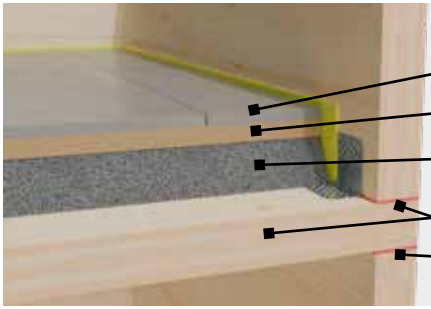
Assessed construction sound insulation measurement
R'w = 54 dB

Assessed standard impact sound level
L'n,w = 54 dB

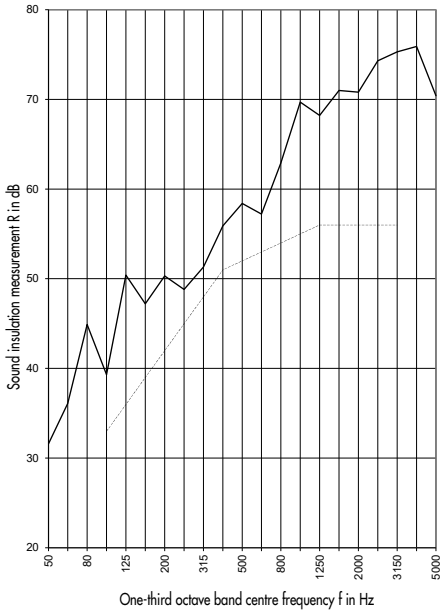
Tested by the Technical University of Innsbruck. Tester: Prof. Dr. Dipl.- Ing. Anton Kraler

SOUND-INSULATING EFFECT – THE COMPARISON

With SonoTec V2 25:



Assessed construction sound insulation measurement
R'w = 61 dB

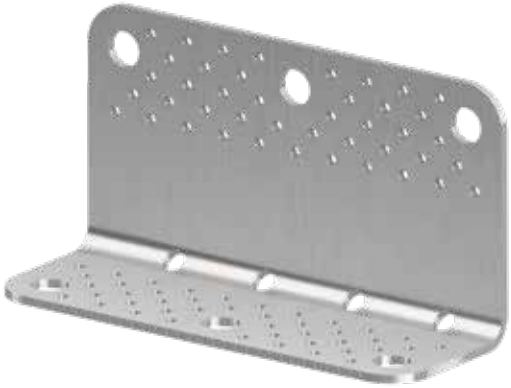


Assessed standard impact sound level
L'n,w = 53 dB

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

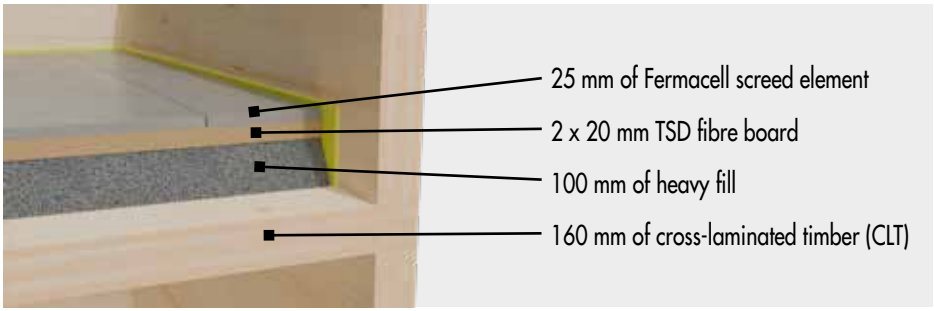
- Variable uses
- High load absorption
- SK04-compatible
- Does not require any additional decoupler with SonoTec V2

→ 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

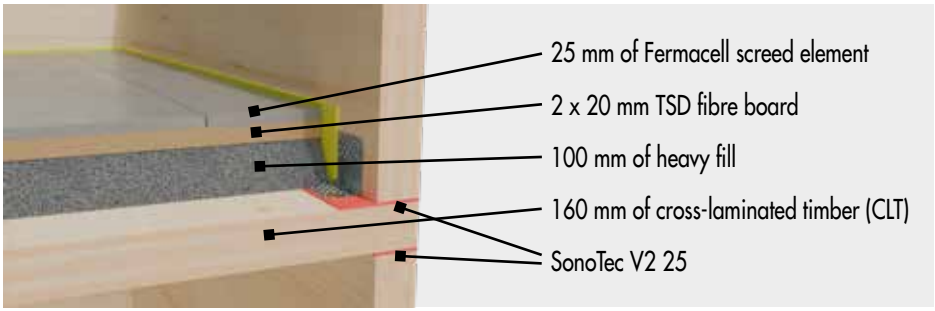
Assessed standard impact sound level
L'n,w = 57 dB

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

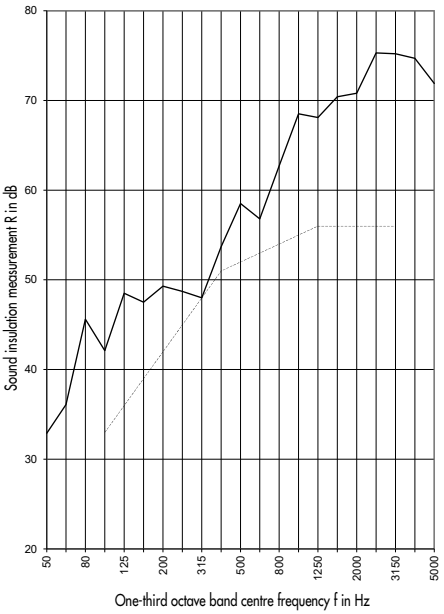
OUR CLT SYSTEM BRACKET WITH SONOTEC V2

Comparison without bracket – decoupled bracket – non-decoupled bracket

Decoupled bracket:



Assessed construction sound insulation measurement
R'w = 61 dB



Assessed standard impact sound level
L'n,w = 53 dB

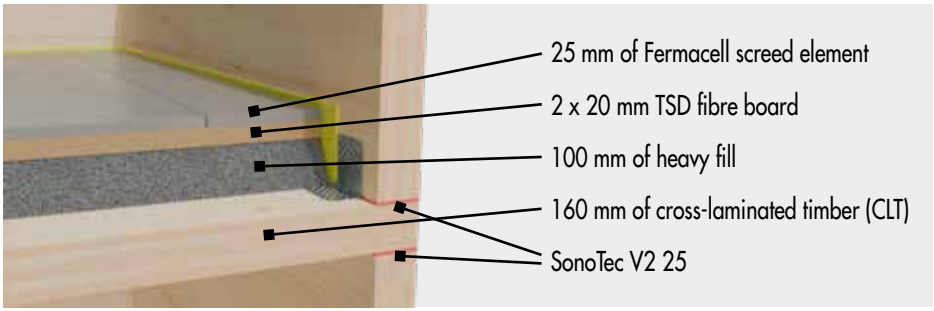
Tested by the Technical University of Innsbruck. Tester: Prof. Dr. Dipl.- Ing. Anton Kraler

→ R'w improved by 8 dB and L'n,w by 4 dB

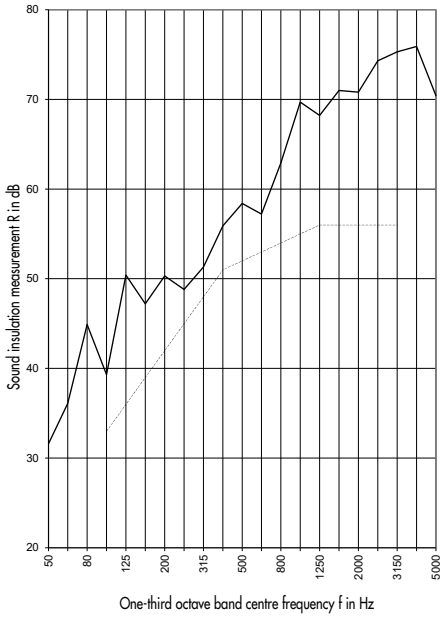
OUR CLT SYSTEM BRACKET WITH SONOTEC V2

Comparison without bracket – decoupled bracket – non-decoupled bracket

Non-decoupled bracket:



Assessed construction sound insulation measurement
R'w = 61 dB



Assessed standard impact sound level
L'n,w = 53 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

EUROTEC DESIGN SERVICE
SOUND INSULATION OPTIMISATION WITH SONOTEC V2

Eurotec®
The specialist for fastening technology

Phone +49 (0)2331 6245-444 Fax +49 (0)2331 6245-200 E-mail technik@eurotec.team

Contact our technical department or make use of the free design service available in the Service section on our homepage: **https://www.eurotec.team/en/service**

Contact

Dealer: ______ Party executing 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 can calculate the correct strip for you.
To do this, we will require the following values for each individual wall:

l_w [m]:
Length of the wall ______

$m_{w,d}$ [kg/m]
Constantly applied weight per linear metre ______

$m_{w,l}$ [kg/m] Variable extra weight (e.g. from people, furniture, etc.) ______

t_w [mm] Thickness of the wall ______

AIRBORNE SOUND:

$R_{s,w}$ [dB]: is the assessed sound insulation measurement of the separating element. ______
Measured on all separating elements (ceiling structure)

$R_{F,w}$ [dB]: the assessed sound insulation measurement of the flanking component F in the reception space, in dB ______
Measured on the flanking component on the side on which the sound originated.

$R_{f,w}$ [dB]: the assessed sound insulation measurement of the flanking component f in the reception space, in dB ______
Measured on the flanking component on the side of the reception space.

S_s [m²]: the space between the two objects to be separated (e.g. ceiling, wall) ______

l_f [m]: denotes the length of the connection joint between the separating component and the flanking components F and f, in metres (project-specific). ______
Actual contact length between the separating and flanking components.

l_0 [m]: denotes the reference length of the connection joint standard: l_0 = 1 m according to EN ISO 12354. ______

Note: Information on the processing of your personal data can be found at the following link: **https://www.eurotec.team/en/data-protection**

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SOUND INSULATION OPTIMISATION WITH SONOTEC V2