

straviwood
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Straviwood WallBracket

Datasheet

Straviwood WallBracket is an acoustically isolated angle bracket engineered for structural joints between perpendicular building elements, such as walls and slabs. It integrates resilient pads that minimise flanking sound transmission while maintaining the required structural performance for shear and vertical load transfer. Ideal for CLT and other timber construction systems, it combines acoustic efficiency with structural integrity.

BENEFITS

- Delivers superior acoustic comfort compared to rigid wall-to-floor connections by significantly reducing flanking sound transmission while providing the required lateral support
- Complements Straviwood WallBreak-P and Straviwood WallBreak-S to create a fully decoupled CLT wall connection system
- Compatible with different timber-based construction materials, providing flexibility across a wide range of projects
- Designed for quick and error-free installation, with an integrated stop that automatically achieves the correct compression level without measurements or adjustments
- Enables fast and straightforward installation without the need for specialised tools or adjustment procedures
- Provides long-term durability and corrosion resistance thanks to its galvanised steel construction



This system can be combined with Straviwood WallBreak-P and Straviwood WallBreak-S resilient support solutions to provide both lateral restraint and vertical load support within an acoustically isolated wall connection. For acoustic performance data of the vertical support solutions, please refer to their respective datasheets.

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PHYSICAL & MECHANICAL PROPERTIES

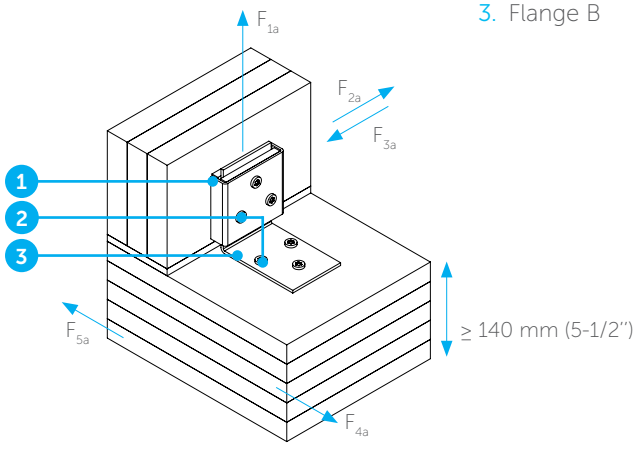
Length [mm (in)]	Width [mm (in)]	Height [mm (in)]	Fastening Holes		Thickness [mm (in)]
			Flange A	Flange B	
120 (4-3/4)	100 (4)	120 (4-3/4)	3Ø11 (3Ø7/16")	3Ø11 (3Ø7/16")	4 (3/16)

CHARACTERISTIC VALUES

- Characteristic strengths and stiffnesses per connection per direction obtained from mechanical testing.
- Valid for one bracket timber to timber.
- Applicable for moisture content in service class 1 & 2 (EN 1995-1-1:2004+A1:2008).
- Referential values valid when using 3 HECO-TOPIX-plus 10 x 100 mm (3/8" x 4"), flange head screws (ETA-19/0553) per flange, and CLT C24 of 120 mm (4-3/4") thickness with 3 layers of 40 mm (1-9/16").
- Extension of these values to other fasteners or other CLT types should be assessed according to the existing regulations by the structural engineer of the specific project.
- The amount of brackets per linear meter needs to be calculated on a project basis by the structural engineer.

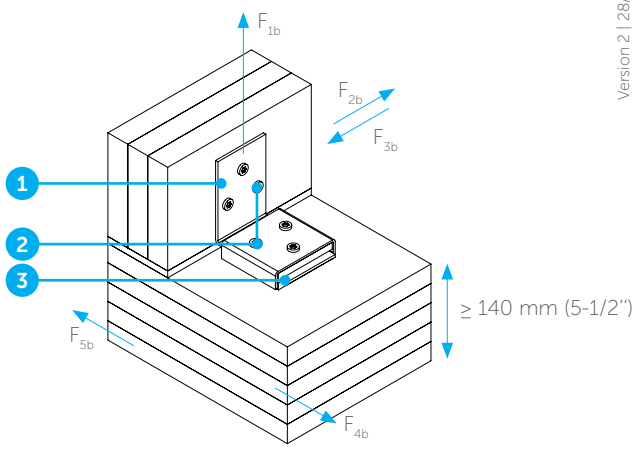
	R_1,k [N (kips)]	K_ser,1 [N/mm (kips/in)]	R_2/3,k [N (kips)]	K_ser,2/3 [N/mm (kips/in)]	R_4,k [N (kips)]	K_ser,4 [N/mm (kips/in)]	R_5,k [N (kips)]	K_ser,5 [N/mm (kips/in)]
Setup A	6391 (1.44)	664 (3.79)	5746 (1.29)	463 (2.65)	7783 (1.75)	579 (3.31)	11130 (2.5)	799 (4.57)
Setup B	7783 (1.75)	579 (3.31)	5746 (1.29)	463 (2.65)	6391 (1.44)	664 (3.79)	13683 (3.08)	1526 (8.72)

1. Flange B
2. Screw holes [3Ø11mm (3Ø7/16")]
3. Flange A



Setup A

1. Flange A
2. Screw holes [3Ø11mm (3Ø7/16")]
3. Flange B

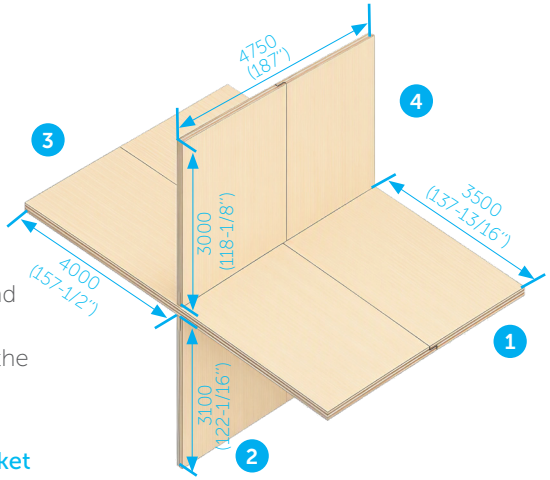


Setup B

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X-JUNCTION

Test configuration:
Upper wall: 100 mm (4") 5-ply CLT [w 4.75 m x h 3 m (w 15.6 ft x h 9.8 ft)]
Lower wall: 100 mm (4") 5-ply CLT [w 4.75 m x h 3.1 m (w 15.6 ft x h 10.2 ft)]
Slab: 140 mm (5-1/2") 5-ply CLT [w 4.75 m x l 7.5 m (w 15.6 ft x l 24.6 ft)]

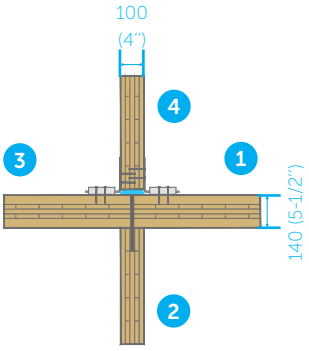


Fastening system:
Walls and slabs in 2 pieces fastened together by half-lap joint with screws @ 250 mm (9-13/16") o.c.
Slabs fastened to the lower wall with Ø8 x 240 mm (Ø5/16" x 9-7/16") flange-head screws @ 500 mm (19-11/16") o.c.
4x Straviwood WallBracket spaced at 2000 mm (78-3/4") o.c. (2 on each side of the upper wall), fastened with 6 x flange head screws Ø10 x 100 mm (Ø3/8" x 4") for each Straviwood WallBracket

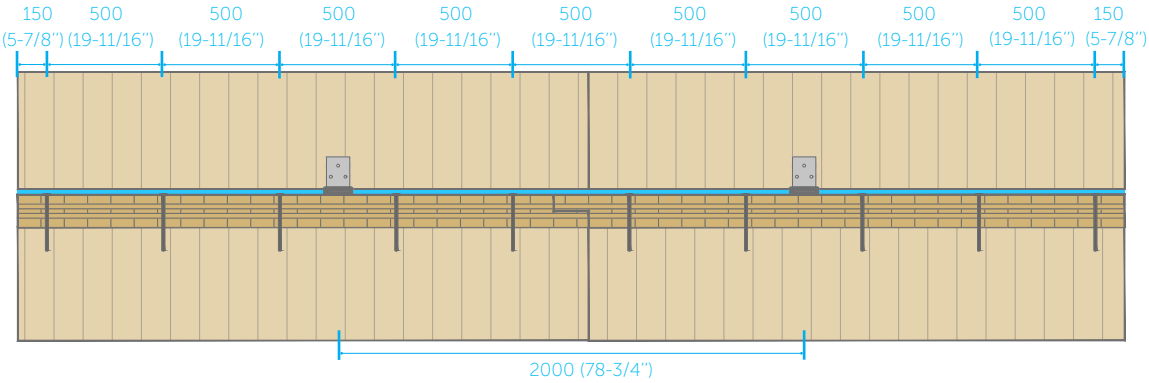
Decoupling layer (Option 1): **Straviwood WallBreak-S with Straviwood WallBracket**
Position: between the upper wall and the slab
Dimensions: width = 100 mm (4"), thickness = 12.5 mm (1/2"), length = 4.75 m (15.6 ft)
Type: continuous resilient strip, matching the wall width

Applied load:
Unloaded case (dead load of upper wall) = 0.0138 MPa (2.00 psi)
Loaded case (for the strip) = 0.375 MPa (54.39 psi) (75% SLS load)
Loaded case (for the bare junction) = 0.138 MPa (20.03 psi) (load for which the bare junction results were converging)

SIDE VIEW



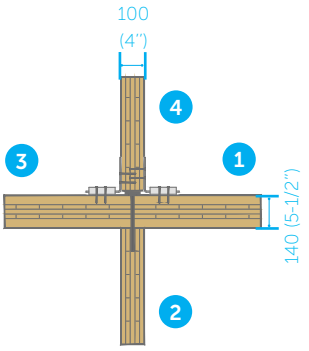
FRONT VIEW



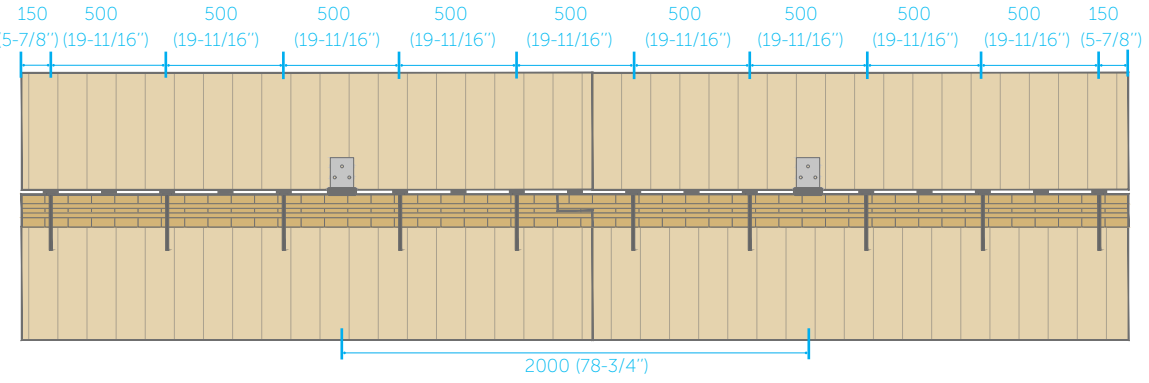
Decoupling layer (Option 2): **Straviwood WallBreak-P with Straviwood WallBracket**
Position: between the upper wall and the slab
Dimensions: 63 x 63 x 20 mm (2-1/2" x 2-1/2" x 13/16") pads, placed at 250 mm (9-13/16") o.c.
Type: discrete isolators

Applied load:
Unloaded case (dead load of upper wall) = 0.084 MPa (12.18 psi)
Loaded case (for the pads) = 1.125 MPa (163.17 psi) (75% SLS load)
Loaded case (for the bare junction) = 0.138 MPa (20.03 psi) (load for which the bare junction results were converging)

SIDE VIEW



FRONT VIEW



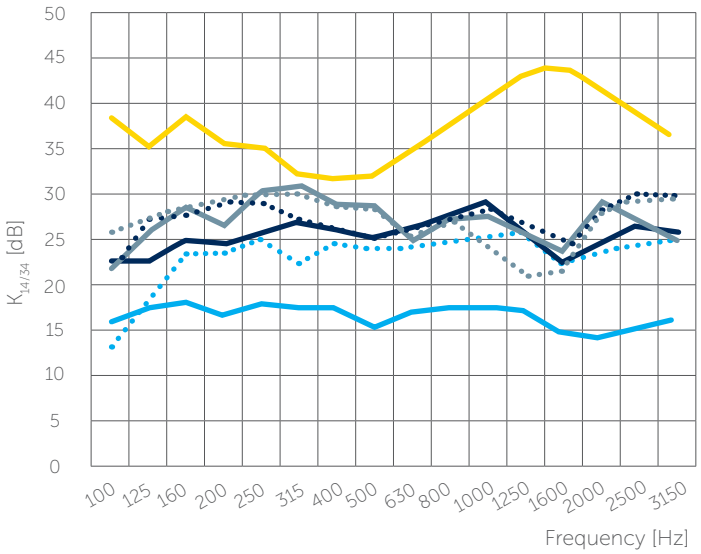
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K_{14}/K_{34}: Upper wall to slab path

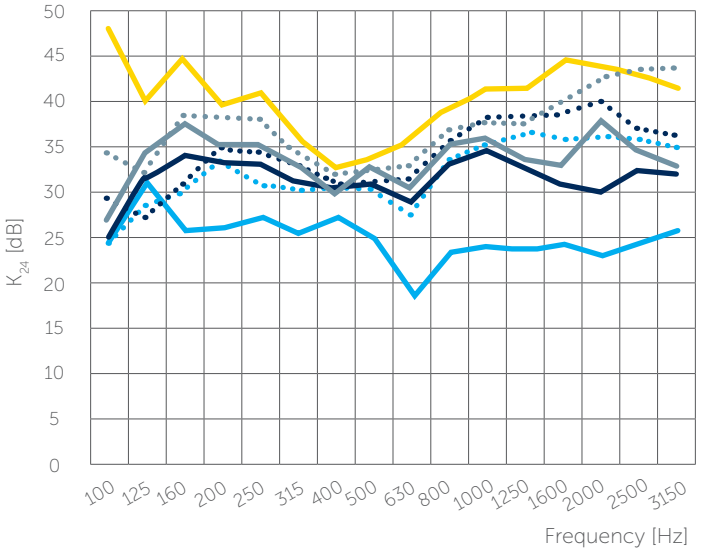
Frequency [Hz]	Bare Junction Unloaded [dB]	Bare Junction Loaded [dB]	Resilient Junction Unloaded (Option 1) [dB]	Resilient Junction Loaded (Option 1) [dB]	Resilient Junction Unloaded (Option 2) [dB]	Resilient Junction Loaded (Option 2) [dB]
100	13.2	16.1	22.4	22.9	26.0	22.0
125	17.9	17.6	27.3	22.8	27.9	26.2
160	23.4	18.1	27.6	25.1	28.8	28.8
200	23.4	16.8	29.1	24.8	29.4	26.9
250	25.1	17.9	29.0	26.2	30.1	30.6
315	22.8	17.3	27.3	27.0	30.3	31.0
400	24.4	17.5	26.4	26.3	28.9	29.0
500	24.0	15.5	25.4	25.3	28.3	28.7
630	24.1	16.9	26.8	26.3	25.7	25.1
800	25.0	17.3	26.7	28.2	27.7	27.5
1000	25.7	17.6	28.4	29.6	24.6	27.7
1250	25.8	17.1	26.1	25.9	21.2	25.8
1600	22.8	14.8	23.6	22.7	21.7	24.1
2000	23.8	13.9	28.1	24.7	28.5	29.6
2500	24.2	15.3	30.1	26.8	30.0	27.5
3150	25.2	16.2	29.7	26.2	29.9	25.0
$\overline{K_{14}/K_{34}}$	24.5	17.1	27.2	26.6	27.4	28.0



Bare Junction Unloaded
Resilient Junction Unloaded (Option 1)
Resilient Junction Unloaded (Option 2)
$K_{14/34,max}$
Bare Junction Loaded
Resilient Junction Loaded (Option 1)
Resilient Junction Loaded (Option 2)

K_{24}: Upper wall to lower wall path

Frequency [Hz]	Bare Junction Unloaded [dB]	Bare Junction Loaded [dB]	Resilient Junction Unloaded (Option 1) [dB]	Resilient Junction Loaded (Option 1) [dB]	Resilient Junction Unloaded (Option 2) [dB]	Resilient Junction Loaded (Option 2) [dB]
100	24.9	23.8	28.9	24.8	34.2	26.8
125	28.2	30.7	27.1	30.9	32.2	34.2
160	29.8	25.2	30.9	34.2	38.1	37.5
200	33.1	25.7	34.5	33.0	37.7	35.2
250	30.2	26.6	34.1	33.0	37.9	35.0
315	29.6	25.2	32.9	31.0	34.5	33.0
400	30.3	26.8	31.0	30.2	31.7	29.7
500	29.9	24.2	30.8	30.7	32.4	32.6
630	27.0	17.9	31.3	28.6	32.8	30.3
800	33.5	22.9	35.4	33.0	37.0	35.1
1000	35.1	23.7	38.0	34.5	37.7	35.7
1250	36.3	23.2	38.2	32.3	37.7	33.3
1600	35.4	23.8	38.5	30.6	39.6	32.6
2000	35.7	22.5	39.8	30.3	42.2	37.8
2500	35.6	24.0	37.0	32.5	43.2	34.4
3150	34.6	25.3	36.0	32.0	43.7	32.9
$\overline{K_{24}}$	31.7	24.0	34.0	31.8	35.5	33.3

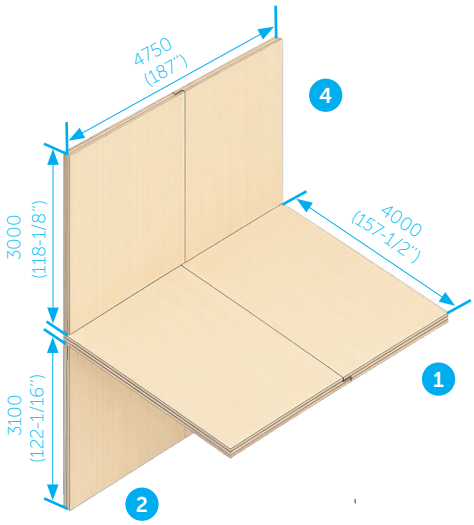


Bare Junction Unloaded
Resilient Junction Unloaded (Option 1)
Resilient Junction Unloaded (Option 2)
$K_{24,max}$
Bare Junction Loaded
Resilient Junction Loaded (Option 1)
Resilient Junction Loaded (Option 2)

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VERTICAL T-JUNCTION

Test configuration:
Upper wall: 100 mm (4") 5-ply CLT [w 4.75 m x h 3 m (w 15.6 ft x h 9.8 ft)]
Lower wall: 100 mm (4") 5-ply CLT [w 4.75 m x h 3.1 m (w 15.6 ft x h 10.2 ft)]
Slab: 140 mm (5-1/2") 5-ply CLT [w 4.75 m x l 4 m (w 15.6 ft x h 13.1 ft)]

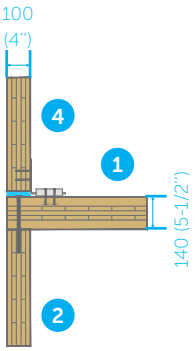


Fastening system:
Walls and slabs in 2 pieces fastened together by half-lap joint with screws @ 250 mm (9-13/16") o.c.
Slabs fastened to the lower wall with Ø8 x 240 mm (Ø5/16" x 9-7/16") flange-head screws @ 500 mm (19-11/16") o.c.
2x Straviwood WallBracket spaced at 2000 (78-3/4") o.c., fastened with 6 x flange head screws Ø10 x 100 mm (Ø3/8" x 4") for each Straviwood WallBracket

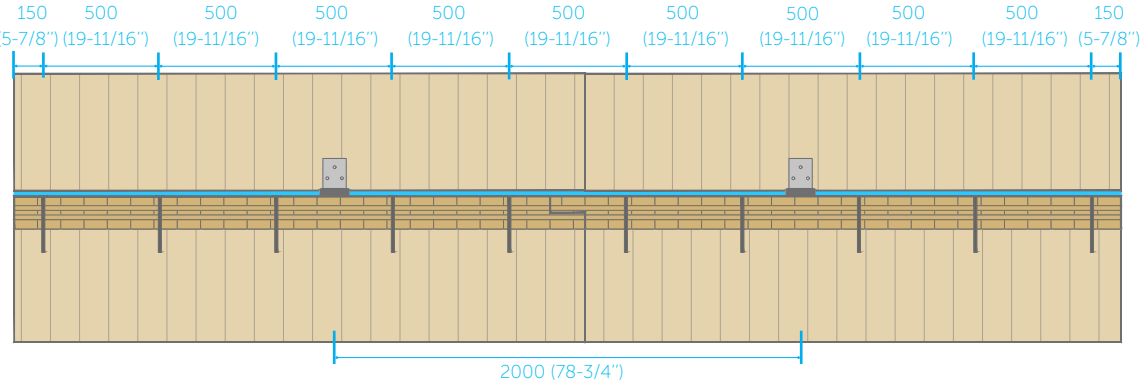
Decoupling layer (Option 1): **Straviwood WallBreak-S with Straviwood WallBracket**
Position: between the upper wall and the slab
Dimensions: width = 100 mm (4"), thickness = 12.5 mm (1/2"), length = 4.75 m (15.6 ft)
Type: continuous resilient strip, matching the wall width

Applied load:
Unloaded case (dead load of upper wall) = 0.0138 MPa (2.00 psi)
Loaded case (for the strip) = 0.375 MPa (54.39 psi) (75% SLS load)
Loaded case (for the bare junction) = 0.138 MPa (20.03 psi) (load for which the bare junction results were converging)

SIDE VIEW



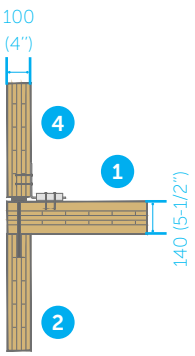
FRONT VIEW



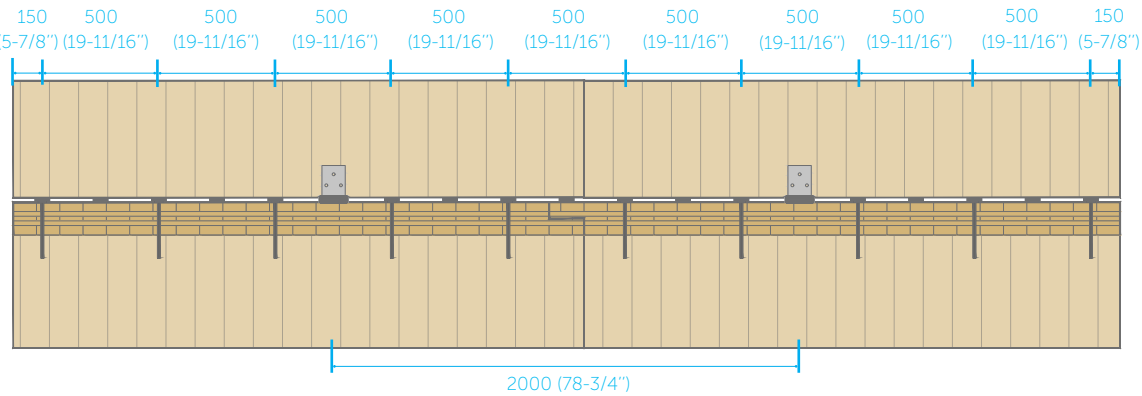
Decoupling layer (Option 2): **Straviwood WallBreak-P with Straviwood WallBracket**
Position: between the upper wall and the slab
Dimensions: 63 x 63 x 20 mm (2-1/2" x 2-1/2" x 13/16") pads, placed at 250 mm (9-13/16") o.c.
Type: discrete isolators

Applied load:
Unloaded case (dead load of upper wall) = 0.084 MPa (12.18 psi)
Loaded case (for the pads) = 1.125 MPa (163.17 psi) (75% SLS load)
Loaded case (for the bare junction) = 0.138 MPa (20.03 psi) (load for which the bare junction results were converging)

SIDE VIEW



FRONT VIEW



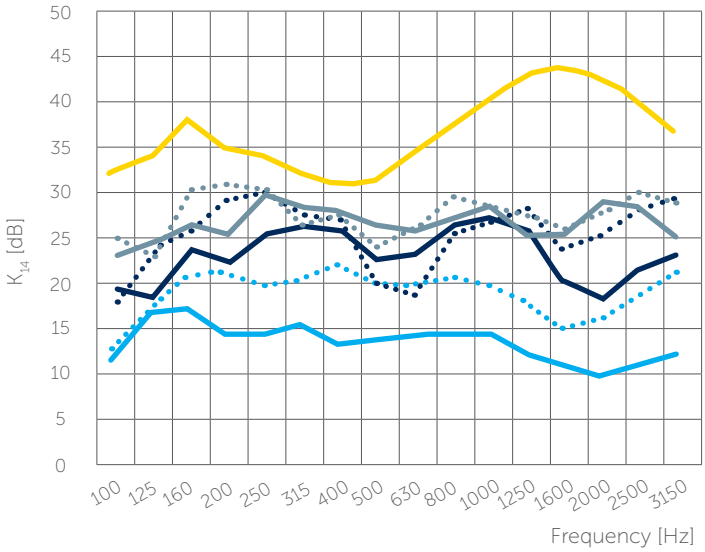
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K_{14}: Upper wall to slab path

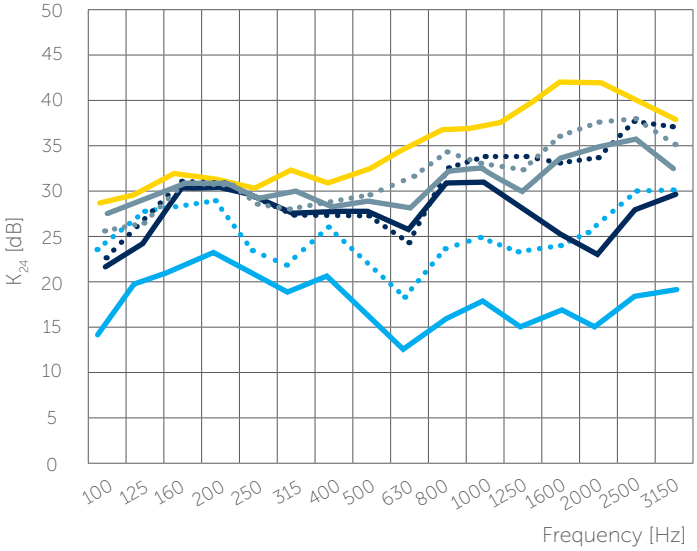
Frequency [Hz]	Bare Junction Unloaded [dB]	Bare Junction Loaded [dB]	Resilient Junction Unloaded (Option 1) [dB]	Resilient Junction Loaded (Option 1) [dB]	Resilient Junction Unloaded (Option 2) [dB]	Resilient Junction Loaded (Option 2) [dB]
100	12.7	11.4	17.7	19.0	25.0	23.1
125	17.4	16.7	23.7	18.3	23.1	24.2
160	20.8	17.1	25.7	23.8	30.1	26.4
200	21.3	14.4	29.0	22.4	30.9	25.3
250	19.8	14.4	29.8	25.2	30.5	29.7
315	20.7	15.4	27.5	26.5	26.4	28.3
400	22.3	13.4	26.6	25.5	27.3	27.8
500	20.2	14.0	19.7	22.7	24.0	26.5
630	19.6	14.3	18.5	23.3	25.9	25.8
800	20.7	14.3	25.5	26.2	29.6	27.1
1000	20.1	14.2	26.7	27.1	28.4	28.4
1250	18.1	12.1	28.1	25.6	27.5	25.4
1600	15.1	10.8	23.5	20.2	26.2	25.2
2000	16.3	9.9	25.3	18.0	27.7	28.9
2500	19.3	10.8	28.2	21.3	29.9	28.3
3150	21.4	12.0	29.2	23.1	28.8	24.9
$\overline{K_{14}}$	20.3	14.1	25.7	24.9	27.8	27.1



Bare Junction Unloaded
Resilient Junction Unloaded (Option 1)
Resilient Junction Unloaded (Option 2)
$K_{14,max}$
Bare Junction Loaded
Resilient Junction Loaded (Option 1)
Resilient Junction Loaded (Option 2)

K_{24}: Upper wall to lower wall path

Frequency [Hz]	Bare Junction Unloaded [dB]	Bare Junction Loaded [dB]	Resilient Junction Unloaded (Option 1) [dB]	Resilient Junction Loaded (Option 1) [dB]	Resilient Junction Unloaded (Option 2) [dB]	Resilient Junction Loaded (Option 2) [dB]
100	23.5	13.8	22.9	21.5	25.8	27.9
125	27.5	19.9	27.2	24.0	26.8	29.2
160	28.3	20.9	31.3	30.1	31.3	31.3
200	28.9	23.0	31.0	30.0	31.0	31.0
250	23.3	20.9	29.4	29.4	28.7	29.4
315	21.7	19.1	27.0	27.3	28.1	30.0
400	25.8	20.2	28.1	27.7	29.0	28.3
500	22.0	15.9	27.6	27.3	29.7	29.2
630	18.2	12.2	24.4	25.6	31.7	28.6
800	23.4	15.5	32.3	30.7	34.5	32.4
1000	24.8	17.7	33.8	30.8	33.2	32.9
1250	23.2	15.1	33.7	27.7	32.4	30.0
1600	23.9	16.8	33.3	25.2	36.1	33.9
2000	26.1	15.2	33.7	22.7	38.0	35.1
2500	30.0	18.2	38.0	27.8	38.2	35.9
3150	30.3	19.1	37.2	29.3	35.6	32.8
$\overline{K_{24}}$	23.5	17.7	29.7	28.5	30.9	30.2



Bare Junction Unloaded
Resilient Junction Unloaded (Option 1)
Resilient Junction Unloaded (Option 2)
$K_{24,max}$
Bare Junction Loaded
Resilient Junction Loaded (Option 1)
Resilient Junction Loaded (Option 2)

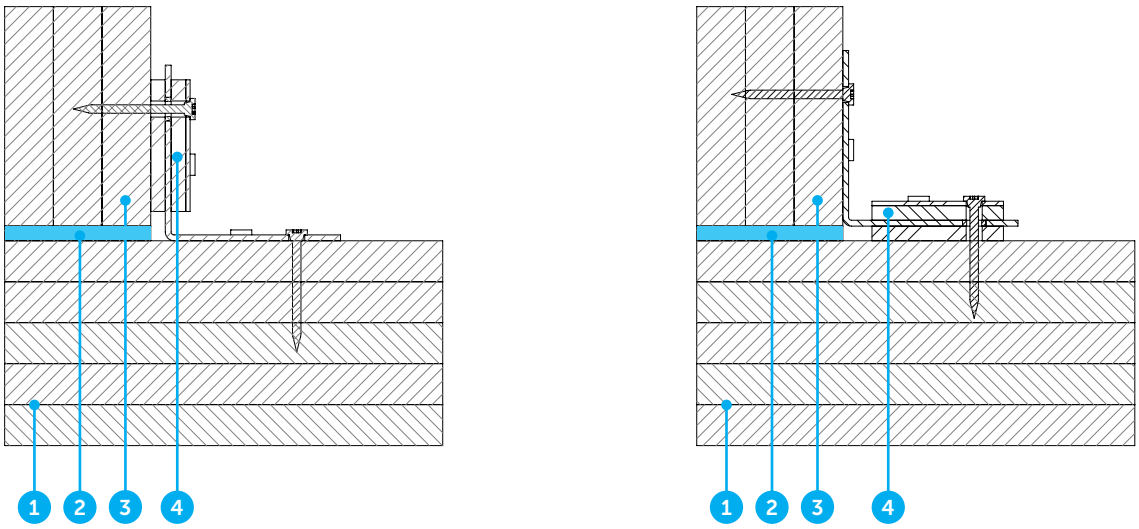
Notes:

- Results for other parameter variations available upon request.
- The parasitic airborne path was treated with mineral wool shielding. This parasitic airborne path sets the experimental measurement upper limit of K_{ij} and is quantified by the $K_{ij,max}$ measured values in the configuration where there is no structural contact between elements i and j.
- $\overline{K_{ij}}$ is the arithmetic average of K_{ij} values within the frequency range of 200 to 1250 Hz (one-third octave bands).
- Due to slight measurement variations, in case a K_{ij} value was higher than the $K_{ij,max}$ value, this K_{ij} value was capped to the $K_{ij,max}$ value.

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TYPICAL ASSEMBLIES

1. Structural CLT floor
2. Straviwood WallBreak-S
3. CLT wall
4. Straviwood WallBracket



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