

straviwood
by CDM Stravitec

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Straviwood WallBreak-S

Datasheet

Straviwood WallBreak-S is a resilient strip designed to improve the acoustic performance of CLT constructions by limiting flanking sound transmission through walls while maintaining continuous load transfer to the slab. Its resilient design reduces rigid connections between structural elements, helping to control vibration and structure-borne noise throughout the building.

BENEFITS

- Ideal for wall-floor decoupling in CLT constructions
- Suited for all wood-based materials
- Straightforward installation, no additional tooling required
- Wide range of material options for optimal performance across all load conditions
- Ensures reliable long-term performance through low creep and reduced differential deflection
- Standard thicknesses of 12.5 mm (1/2") (and 25 mm (1"))
- Widths adapted to dimension of the wall
- Quick and easy to install
- Easily customized to the required length for a perfect fit
- Detailed installation plan available upon request
- High friction surface (coefficient of friction >=0.5) minimizes the risk of slippage during installation and service life

In order to specify the correct Straviwood WallBreak-S solution, our engineers will need to know the required acoustic performance, wall type and dimensions, and possible dead and live loads.



This system can be combined with resilient fastening solutions such as Straviwood WallBracket to enhance the lateral stiffness of the isolated wall. For acoustic performance data of the Straviwood WallBreak-S and Straviwood WallBracket combination, please refer to the Straviwood WallBracket datasheet.

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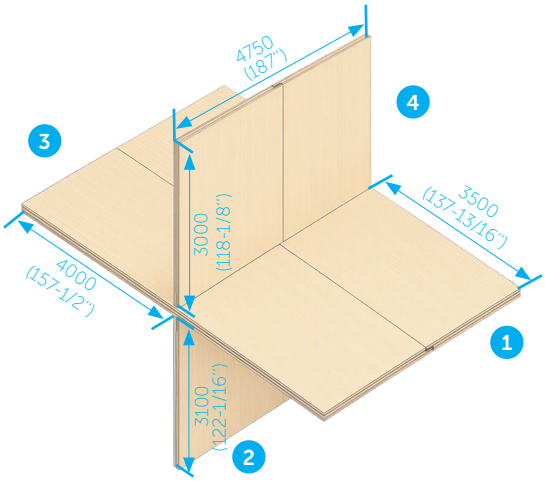
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X-JUNCTION

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)]

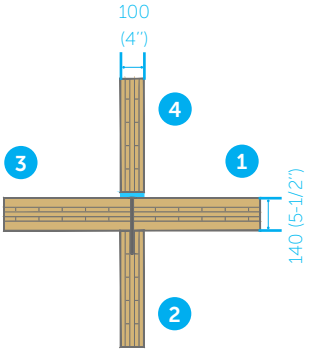
Fastening system:
Walls and slabs in 2 pieces fastened together by half-lap joint with screws @ 250 mm (9-13/16'') o.c.
Slabs fastened to the lower wall with Ø8 x 240 mm (Ø5/16'' x 9-7/16'') flange-head screws @ 500 mm (19-11/16'') o.c.

Decoupling layer:
Straviwood WallBreak-S
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

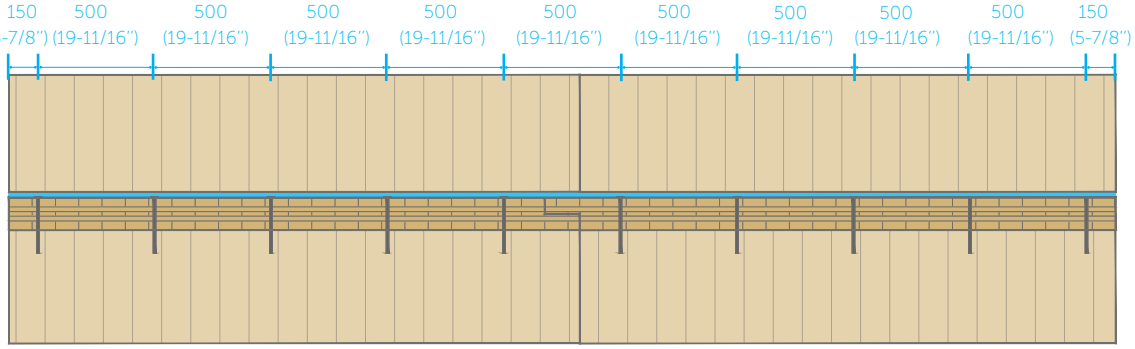


Applied load:
Unloaded case (dead load of upper wall) = 0.0138 MPa (2.00 psi)
Loaded case (for the strip) = 0.375 MPa (54.39 psi) (75% SLS load)
Loaded case (for the bare junction) = 0.138 MPa (20.03 psi) (load for which the bare junction results were converging)

SIDE VIEW



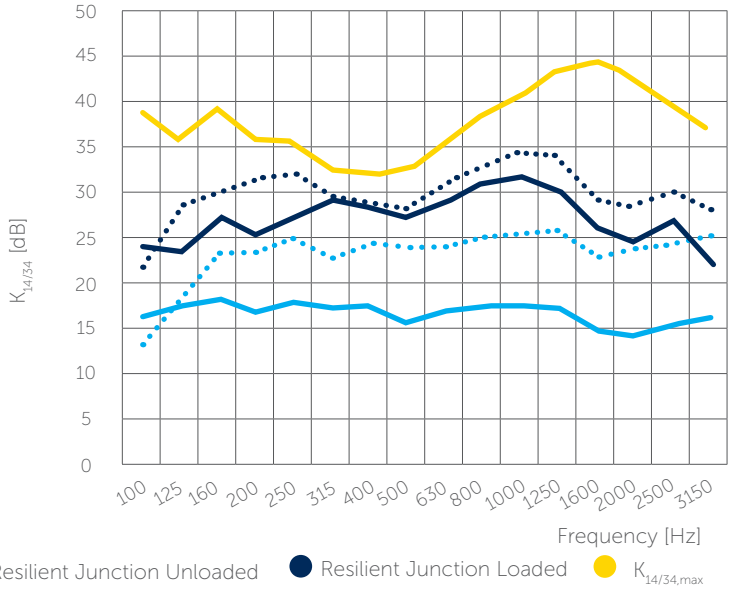
FRONT VIEW



All dimensions are in mm (in).

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

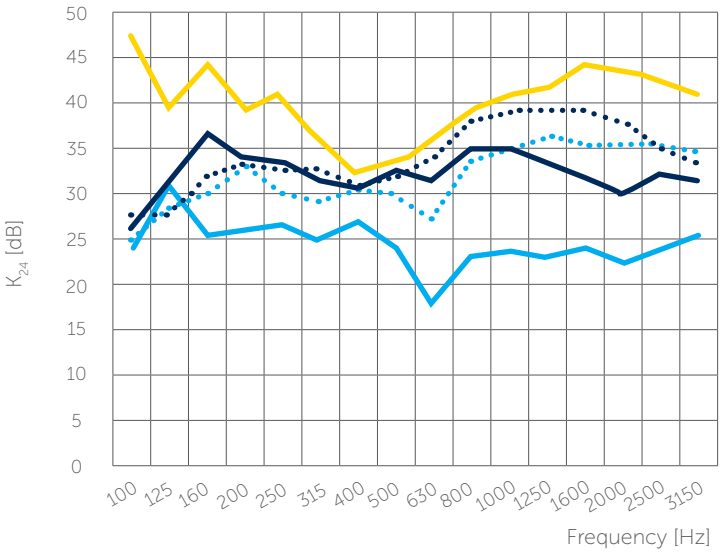
Frequency [Hz]	Bare Junction Unloaded [dB]	Bare Junction Loaded [dB]	Resilient Junction Unloaded [dB]	Resilient Junction Loaded [dB]
100	13.2	16.1	21.9	23.8
125	17.9	17.6	28.7	23.5
160	23.4	18.1	30.1	27.1
200	23.4	16.8	31.5	25.7
250	25.1	17.9	32.0	27.6
315	22.8	17.3	29.4	29.0
400	24.4	17.5	28.8	28.2
500	24.0	15.5	28.3	27.1
630	24.1	16.9	31.2	28.8
800	25.0	17.3	33.3	31.2
1000	25.7	17.6	34.6	31.9
1250	25.8	17.1	33.7	30.2
1600	22.8	14.8	29.1	26.1
2000	23.8	13.9	28.6	24.6
2500	24.2	15.3	30.0	26.8
3150	25.2	16.2	28.0	22.1
$\overline{K_{14}/K_{34}}$	24.5	17.1	31.4	28.9



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K_{24}: Upper wall to lower wall path

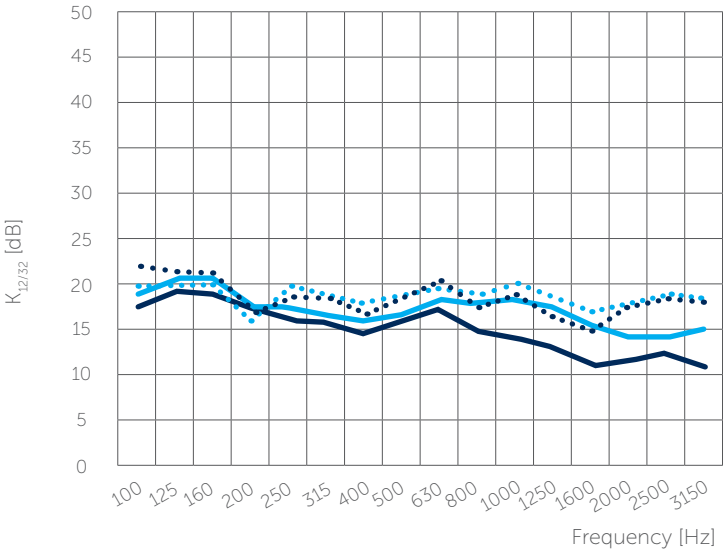
Frequency [Hz]	Bare Junction Unloaded [dB]	Bare Junction Loaded [dB]	Resilient Junction Unloaded [dB]	Resilient Junction Loaded [dB]
100	24.9	23.8	27.6	26.2
125	28.2	30.7	27.7	31.6
160	29.8	25.2	31.8	37.0
200	33.1	25.7	33.3	34.1
250	30.2	26.6	32.9	33.6
315	29.6	25.2	32.8	31.5
400	30.3	26.8	30.8	30.7
500	29.9	24.2	31.8	32.6
630	27.0	17.9	33.8	31.7
800	33.5	22.9	38.0	35.5
1000	35.1	23.7	39.3	35.1
1250	36.3	23.2	39.5	33.7
1600	35.4	23.8	39.2	31.8
2000	35.7	22.5	38.1	30.0
2500	35.6	24.0	34.9	32.4
3150	34.6	25.3	33.5	31.5
$\overline{K_{24}}$	31.7	24.0	34.7	33.2



Bare Junction Unloaded · Bare Junction Loaded · Resilient Junction Unloaded · Resilient Junction Loaded · $K_{24,max}$

K_{12}/K_{32}: Slab to lower wall path

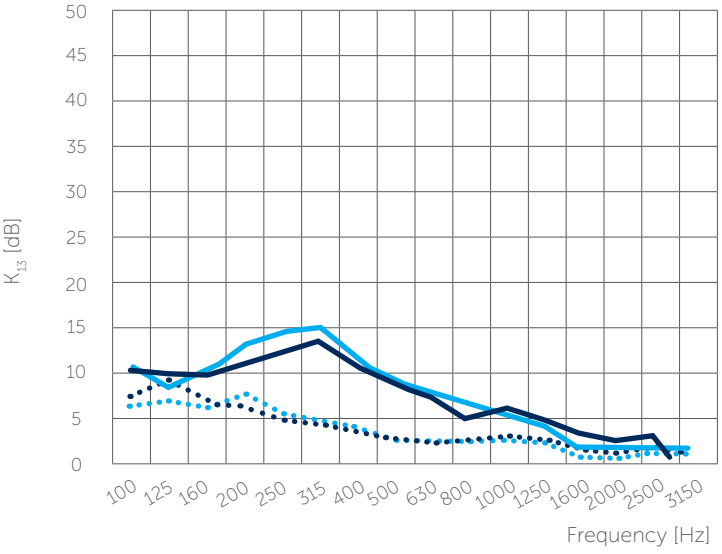
Frequency [Hz]	Bare Junction Unloaded [dB]	Bare Junction Loaded [dB]	Resilient Junction Unloaded [dB]	Resilient Junction Loaded [dB]
100	19.7	19.1	21.8	17.5
125	19.6	20.5	21.4	19.3
160	20.0	20.6	21.4	18.6
200	15.5	17.3	16.7	17.2
250	19.6	17.4	18.6	16.3
315	18.4	16.5	18.3	15.7
400	17.7	15.9	16.6	14.5
500	18.5	16.7	18.4	15.7
630	19.5	18.0	20.3	17.3
800	19.1	17.7	17.3	14.7
1000	20.2	18.1	19.0	14.0
1250	18.6	17.7	16.3	12.8
1600	16.8	15.4	14.7	10.7
2000	18.0	14.2	17.4	11.3
2500	19.0	14.2	18.3	12.1
3150	18.3	14.9	17.9	10.3
$\overline{K_{12}}/\overline{K_{32}}$	18.6	17.3	17.9	15.4



Bare Junction Unloaded · Bare Junction Loaded · Resilient Junction Unloaded · Resilient Junction Loaded

K_{13}: Slab to slab path

Frequency [Hz]	Bare Junction Unloaded [dB]	Bare Junction Loaded [dB]	Resilient Junction Unloaded [dB]	Resilient Junction Loaded [dB]
100	5.7	10.0	7.0	9.6
125	6.1	7.6	8.4	9.2
160	5.5	9.6	6.3	9.5
200	6.7	12.4	5.8	10.6
250	4.7	14.0	4.3	11.6
315	4.3	14.4	3.7	12.9
400	3.7	11.0	2.8	10.4
500	2.0	8.5	1.9	8.3
630	1.8	7.2	1.6	6.7
800	1.5	5.9	1.4	4.3
1000	1.9	5.1	2.2	5.2
1250	1.6	3.8	2.0	4.1
1600	0.0	1.0	0.9	2.7
2000	-0.5	1.3	0.2	1.8
2500	0.4	1.3	1.3	2.4
3150	0.2	1.1	0.2	-3.1
$\overline{K_{13}}$	3.1	9.1	2.9	8.2

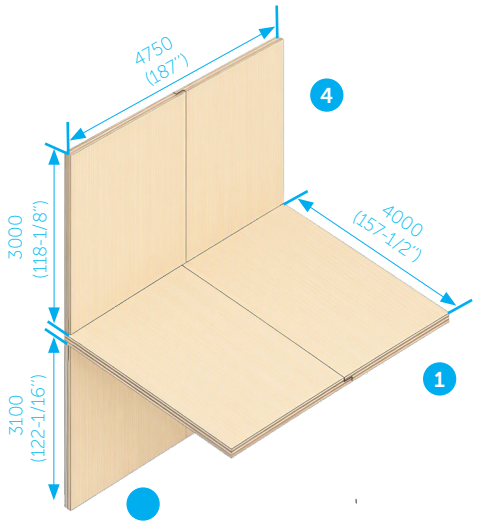


Bare Junction Unloaded · Bare Junction Loaded · Resilient Junction Unloaded · Resilient Junction Loaded

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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)]

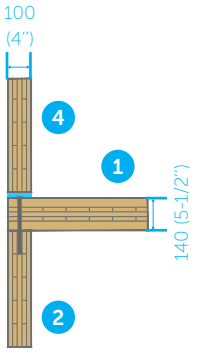


Fastening system:
Walls and slabs in 2 pieces fastened together by half-lap joint with screws @ 250 mm (9-13/16") o.c.
Slabs fastened to the lower wall with Ø8 x 240 mm (Ø5/16" x 9-7/16") flange-head screws @ 500 mm (19-11/16") o.c.

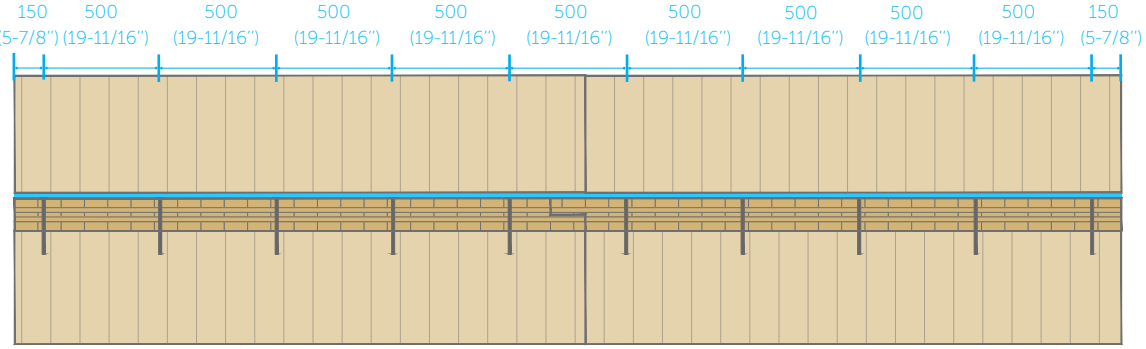
Decoupling layer:
Straviwood WallBreak-S
Position: between the upper wall and the slab
Dimensions: width = 100 mm (4"), thickness = 12.5 mm (1/2"), length = 4.75 m (15.6 ft)
Type: Continuous resilient strip, matching the wall width

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



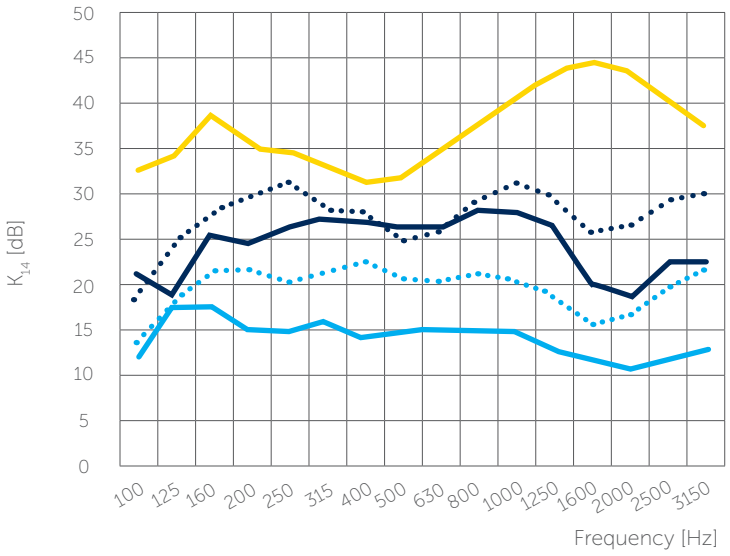
FRONT VIEW



All dimensions are in mm (in).

K_{14}: Upper wall to slab path

Frequency [Hz]	Bare Junction Unloaded [dB]	Bare Junction Loaded [dB]	Resilient Junction Unloaded [dB]	Resilient Junction Loaded [dB]
100	12.7	11.4	17.9	20.5
125	17.4	16.7	24.1	18.4
160	20.8	17.1	27.2	24.9
200	21.3	14.4	29.7	23.8
250	19.8	14.4	30.8	26.0
315	20.7	15.4	27.8	26.8
400	22.3	13.4	27.6	26.7
500	20.2	14.0	24.3	25.9
630	19.6	14.3	25.5	26.1
800	20.7	14.3	29.2	27.6
1000	20.1	14.2	30.6	27.6
1250	18.1	12.1	29.3	26.2
1600	15.1	10.8	25.3	19.7
2000	16.3	9.9	26.1	18.0
2500	19.3	10.8	29.0	22.1
3150	21.4	12.0	29.8	22.0
$\overline{K_{14}}$	20.3	14.1	28.3	26.3

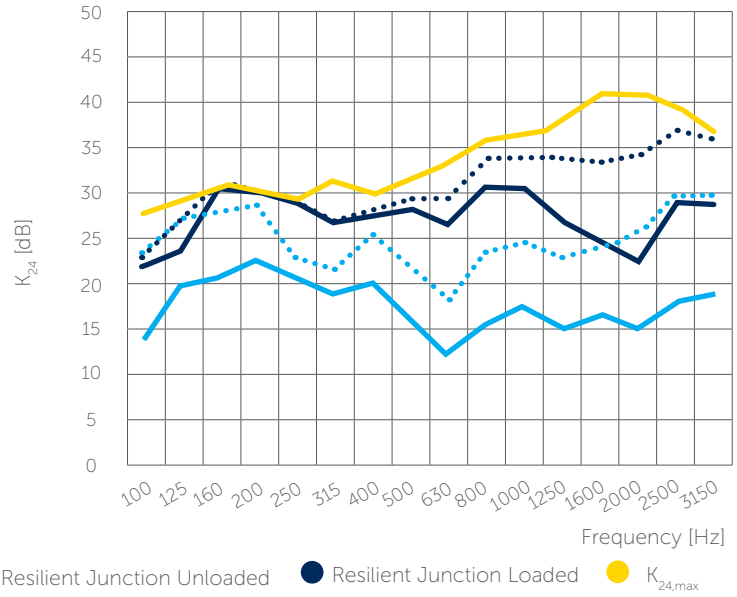


Bare Junction Unloaded Bare Junction Loaded Resilient Junction Unloaded Resilient Junction Loaded $K_{14,max}$

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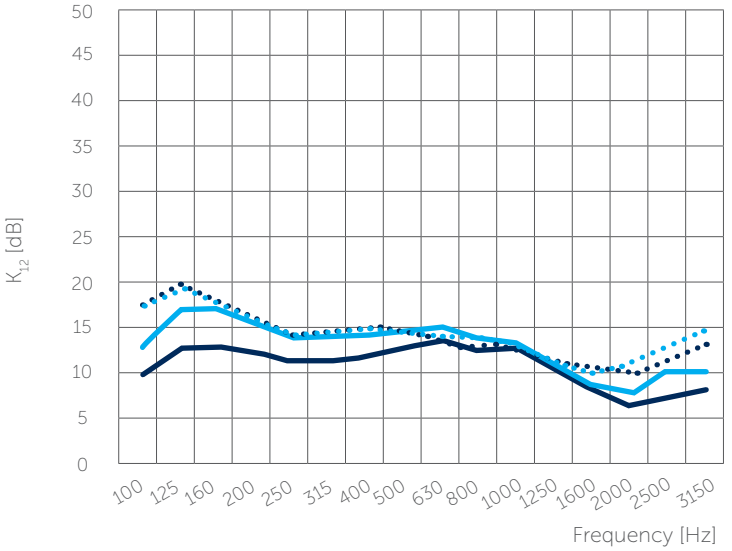
K_{24}: Upper wall to lower wall path

Frequency [Hz]	Bare Junction Unloaded [dB]	Bare Junction Loaded [dB]	Resilient Junction Unloaded [dB]	Resilient Junction Loaded [dB]
100	23.5	13.8	23.3	22.0
125	27.5	19.9	28.2	23.9
160	28.3	20.9	31.3	31.0
200	28.9	23.0	31.0	30.5
250	23.3	20.9	29.4	29.4
315	21.7	19.1	26.9	27.2
400	25.8	20.2	28.1	27.9
500	22.0	15.9	29.9	28.5
630	18.2	12.2	29.8	26.8
800	23.4	15.5	34.5	31.0
1000	24.8	17.7	34.6	30.9
1250	23.2	15.1	34.2	27.4
1600	23.9	16.8	33.9	25.2
2000	26.1	15.2	34.5	22.6
2500	30.0	18.2	37.5	29.4
3150	30.3	19.1	36.3	29.1
$\overline{K_{24}}$	23.5	17.7	30.9	28.8



K_{12}: Slab to lower wall path

Frequency [Hz]	Bare Junction Unloaded [dB]	Bare Junction Loaded [dB]	Resilient Junction Unloaded [dB]	Resilient Junction Loaded [dB]
100	17.5	12.4	17.5	9.6
125	19.4	16.8	19.4	12.5
160	17.1	16.8	17.4	12.7
200	15.3	15.5	15.8	12.1
250	14.0	13.6	14.0	11.2
315	14.4	14.0	14.2	11.1
400	14.7	14.1	14.9	11.8
500	14.1	14.8	14.5	12.6
630	13.7	15.2	13.2	13.2
800	13.4	13.4	13.1	12.3
1000	12.8	12.8	12.2	12.5
1250	10.9	10.3	11.0	10.0
1600	9.8	8.4	10.2	7.5
2000	10.8	7.7	9.6	6.0
2500	13.1	9.8	10.8	7.1
3150	14.6	9.9	12.8	8.0
$\overline{K_{12}}$	13.7	13.7	13.7	11.9

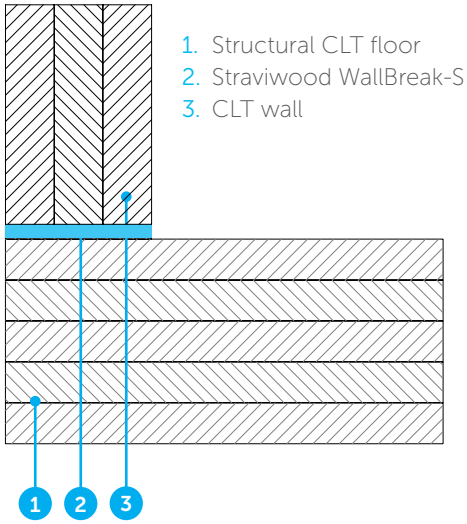


Notes:

- 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

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