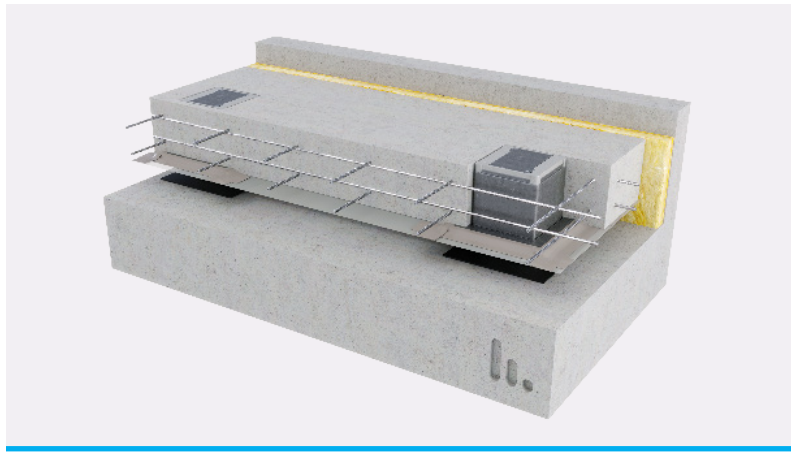




Stravifloor Jackup-R Datasheet

Stravifloor Jackup-R is an isolated floating floor system using reinforced steel boxes cast into concrete and jacked up after the concrete has cured, to provide the required void depth.

Once the concrete has cured, the isolated slab is raised off the structure to the required void depth. Stravifloor Jackup-R boxes allow for easy adjustment of the final floor height as well as replacement or inspection of isolators, should the use of the room or load conditions change in the future.

Stravifloor Jackup-R boxes have an extremely high load capacity and, therefore, allow for larger spans and fewer support points than traditional jack-up systems, to provide a cost-effective solution. Stravifloor Jackup-R reduces the risk of acoustic bridging between the floating floor slab and the subfloor.



CHARACTERISTICS

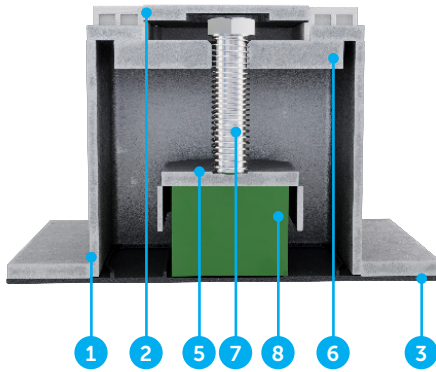
- Can be provided with elastomer bearings giving a natural frequency as low as 6 Hz, or spring mounts giving a natural frequency 4.5 Hz or 3 Hz*
- Standard box heights are 100 mm (4"), 150 mm (6") and 200 mm (8") (any height from 100 mm (4") upwards can be manufactured to special order or project requirement)
- Stravifloor Jackup-R boxes have an extremely high load capacity, allowing for larger spans
- Steel components are centrifugal hot-dip galvanized
- Spring or elastomeric isolators are accessible and replaceable even after installation and concrete pour
- Jack-up systems provide the lowest risk of acoustical bridges through poured concrete
- Stravifloor Jackup-R systems can have a shallow or adjustable air gap
- Can take high loads before the slab is raised (e.g. used as a storage area during construction)
- Eliminates the cost and need for formwork

* Standard springs are epoxy coated, suitable for C2 environments.
Springs with special coating or special spring materials are available upon request for installation in outside conditions or other special environments.



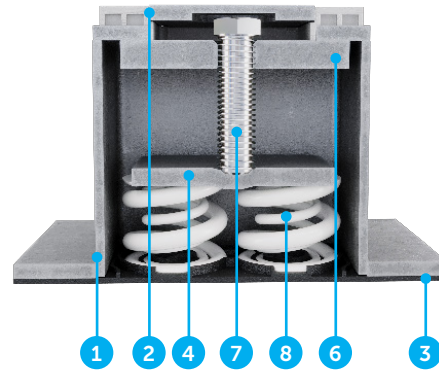
SYSTEM COMPONENTS

Stravifloor Jackup-R box (elastomers)
Weight: 13.6 kg (30 lbs) (excl. elastomers)



- 1. Reinforced steel box
- 2. Box lid
- 3. Bottom plate
- 4. Spring plate
- 5. Bearing cap
- 6. Adjustment plate

Stravifloor Jackup-R box (springs)
Weight: 13.6 kg (30 lbs) (excl. springs)



- 7. Bolt
- 8. Isolator (elastomer or spring)



PHYSICAL & MECHANICAL PROPERTIES

Standard Elastomeric Pads

Quantity (units)	Type	Dimensions [mm (inch)]	ADL = DL + LL/4 [kN (lbs)]	f_{res} @ ADL (Hz)	TL = DL + LL [kN (lbs)]
1	Pad-H	64x64x50 (2-1/2x2-1/2x2)	4.1 (922)	6	4.9 (1,102)
1	Pad-H	64x105x50 (2-1/2x4-1/8x2)	6.7 (1,506)	6	8.1 (1,821)
1	Pad-X	64x64x50 (2-1/2x2-1/2x2)	8.2 (1,843)	7	12.3 (2,765)
1	Pad-X	64x105x50 (3-9/16x4-1/8x2)	13.4 (3,012)	7	20.2 (4,541)
1	Pad-U	55x55x50 (2-3/16x2-3/16x2)	19.7 (4,429)	10	24.2 (5,440)
1	Pad-U	64x64x50 (2-1/2x2-1/2x2)	26.6 (5,980)	10	32.8 (7,374)
1	Pad-U	64x105x50 (3-9/16x4-1/8x2)	43.7 (9,667)	10	53.8 (12,095)

Standard Spring Solutions

Spring 4kN (899lbs)/4.5Hz [h = 50 mm (2")]	Spring 1.35kN (304lbs)/4.5Hz [h = 50 mm (2")]	Spring 5.5kN (1,237lbs)/3.15Hz [h = 87.5 mm (3-9/16")]	Spring 20kN (4,496)/3Hz [h = 45/8" (118 mm)]	ADL = DL+LL/4 [kN (lbs)]	TL = DL+LL [kN (lbs)]
4	4			21.4 (4,811)	25.9 (5,823)
4	2			18.7 (4,201)	22.8 (5,126)
4				16 (3,597)	19.6 (4,406)
2	4			13.4 (3,012)	16.1 (3,619)
2	2			10.7 (2,406)	13 (2,923)
2				8 (1,799)	9.8 (2,203)
			1	20 (4,496)	26 (5,845)
		4		22 (4,946)	25 (5,620)
		2		11 (2,473)	12.5 (2,810)

Maximum distance between boxes and recommended concrete reinforcement

Maximum distance between boxes and distances to the floor edges is a consequence of load conditions of the project and maximum loads possible to accommodate by the boxes and bearing type selected. CDM Stravitec recommends the following minimum requirements for all phases of work pertaining to the construction of the reinforced concrete jack-up slabs:

- Work shall conform to the minimum standards of the "Building Code Requirements for Structural Concrete", ACI 318, & the "International Building Code", IBC, latest editions.
- Deformed reinforcing bars shall conform to the requirements of ASTM A615 Grade 60.
- The concrete compressive strength shall be at least 4,000psi at 28 days.
- Slabs with a thickness of 100 mm (4") & 125 mm (5") shall be reinforced with one layer of #4@10", each way, with a clear cover of 40 mm (1-1/2") from top of slab.
- Slabs with a thickness of 150 mm (6") & 200 mm (8") shall be reinforced with two layers of #3@10", each way, with a clear cover of at least 20 mm (3/4").
- Splices shall be at least 610 mm (24"), to be located at support lines for bottom steel and at mid span lines for top steel.
- All reinforcing bars shall be uniformly distributed across the length and width of the slab.
- All reinforcing bars shall be well secured in position prior to concrete placing.
- The contractor shall verify all dimensions prior to construction. The architect and/or structural engineer shall be notified of any discrepancies or inconsistencies.

The suggested steel reinforcement of the floating floor should be considered as general guidelines for design & construction and are therefore solely given for information purposes. CDM Stravitec cannot be held responsible for any implementation in a specific project. For each project a specific calculation must be made by the stability engineers appointed by the client, in function of the particularities of the project, the required dead and live loads, etc.



ACOUSTICAL RESULTS

Test Setup

1. 100 mm (4") reinforced concrete floating floor
2. 100 mm (4") reinforced steel box with rubber isolators [Pad-H, 50 mm (2")]
3. PE-foil
4. 50 mm (2") air void
5. 150 mm (6") reinforced concrete slab

Setup

IIC

HIIC

LIIC

STC

Assembly

62

68

93

61

Bare Slab

29

28

66

53

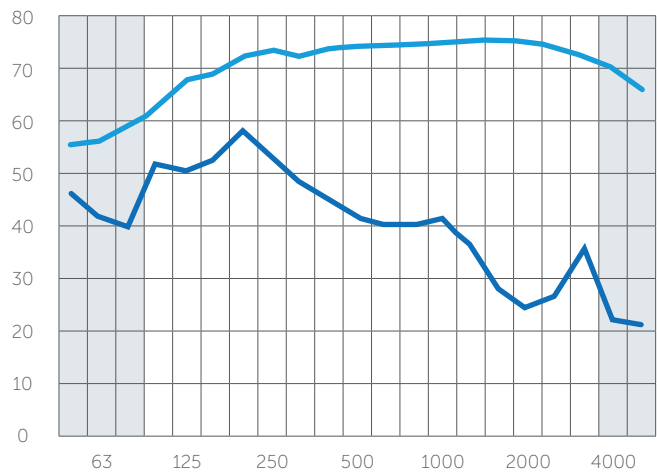
Laboratory report available upon request
NRC Test Report A1-021983-20

Frequency [Hz]	NISPL [dB]	
	Bare Slab	Assembly
50	55	46
63	56	42
80	59	40
100	62	52
125	67	50
160	68	52
200	71	58
250	72	53
315	71	48
400	73	45
500	73	42
630	73	40
800	73	40
1000	74	41
1250	74	37
1600	74	29
2000	74	25
2500	73	27
3150	71	36
4000	69	23
5000	65	22

NISPL [dB]

● Bare Slab

● Assembly



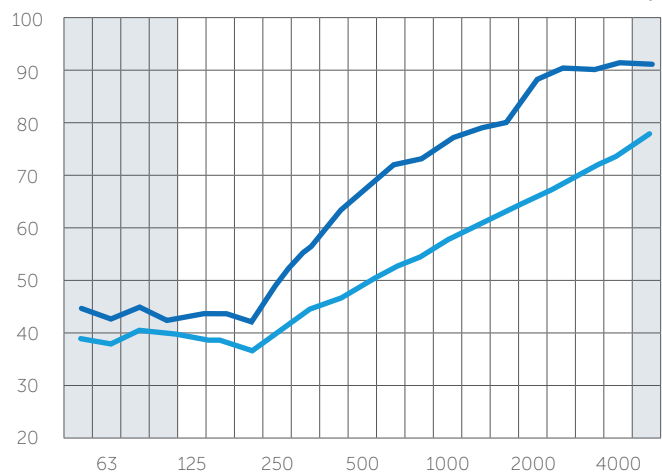
Frequency [Hz]

Frequency [Hz]	Airborne TL [dB]	
	Bare Slab	Assembly
50	39	45
63	39	43
80	41	45
100	40	43
125	39	44
160	39	54
200	37	43
250	41	51
315	45	56
400	47	63
500	50	68
630	53	72
800	55	73
1000	58	77
1250	61	79
1600	63	80
2000	66	88
2500	68	90
3150	72	90
4000	74	91
5000	78	91

TL [dB]

● Bare Slab

● Assembly



Frequency [Hz]

Test Setup

1. 150 mm (6") reinforced concrete floating floor
2. 150 mm (6") reinforced steel box with rubber isolators [Pad-X, 50 mm (2")]
3. PE-foil
4. 50 mm (2") air void
5. 150 mm (6") reinforced concrete slab

Setup

IIC

HIIC

LIIC

STC

Assembly

60

63

90

62

Bare Slab

29

28

66

53

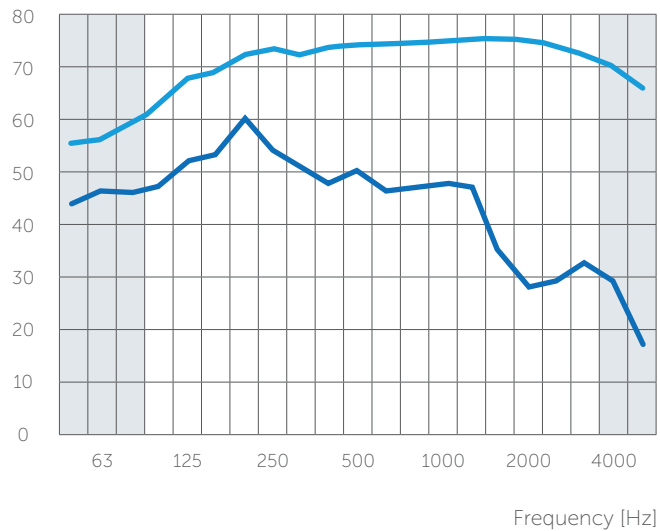
Laboratory report available upon request
NRC Test Report A1-021983-22

Frequency [Hz]	NISPL [dB]	
	Bare Slab	Assembly
50	55	43
63	56	46
80	59	46
100	62	46
125	67	51
160	68	53
200	71	60
250	72	53
315	71	51
400	73	47
500	73	50
630	73	45
800	73	46
1000	74	47
1250	74	46
1600	74	34
2000	74	28
2500	73	29
3150	71	32
4000	69	29
5000	65	16

NISPL [dB]

Bare Slab

Assembly

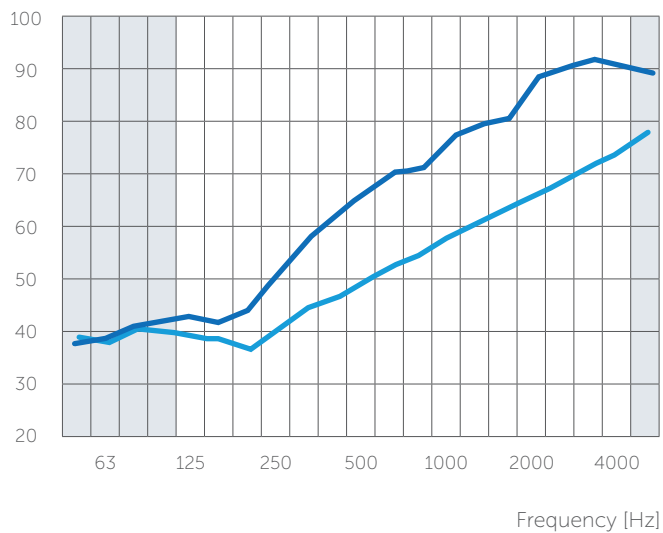


Frequency [Hz]	Airborne TL [dB]	
	Bare Slab	Assembly
50	39	38
63	39	39
80	41	41
100	40	42
125	39	43
160	39	42
200	37	44
250	41	51
315	45	57
400	47	62
500	50	66
630	53	70
800	55	71
1000	58	77
1250	61	79
1600	63	80
2000	66	88
2500	68	90
3150	72	91
4000	74	90
5000	78	89

TL [dB]

Bare Slab

Assembly



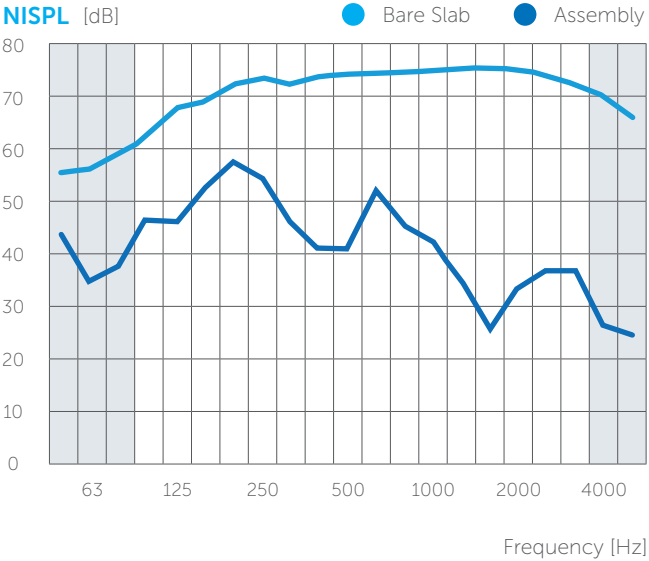
Test Setup

- 100 mm (4") reinforced concrete floating floor
- 100 mm (4") reinforced steel box with 4.5 Hz steel springs
- PE-foil
- 50 mm (2") air void
- 150 mm (6") reinforced concrete slab

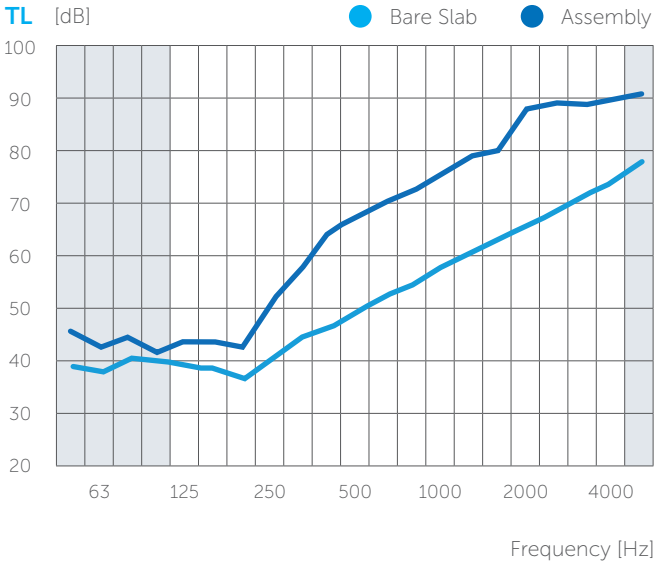
Setup	IIC	HIIC	LIIC	STC
Assembly	62	63	100	61
Bare Slab	29	28	66	53

Laboratory report available upon request
NRC Test Report A1-021983-21

Frequency [Hz]	NISPL [dB]	
	Bare Slab	Assembly
50	55	43
63	56	35
80	59	37
100	62	46
125	67	46
160	68	52
200	71	57
250	72	54
315	71	46
400	73	41
500	73	40
630	73	52
800	73	45
1000	74	42
1250	74	35
1600	74	25
2000	74	34
2500	73	37
3150	71	37
4000	69	29
5000	65	25



Frequency [Hz]	Airborne TL [dB]	
	Bare Slab	Assembly
50	39	46
63	39	43
80	41	45
100	40	42
125	39	44
160	39	44
200	37	43
250	41	51
315	45	57
400	47	64
500	50	68
630	53	70
800	55	72
1000	58	76
1250	61	79
1600	63	80
2000	66	88
2500	68	89
3150	72	89
4000	74	90
5000	78	91



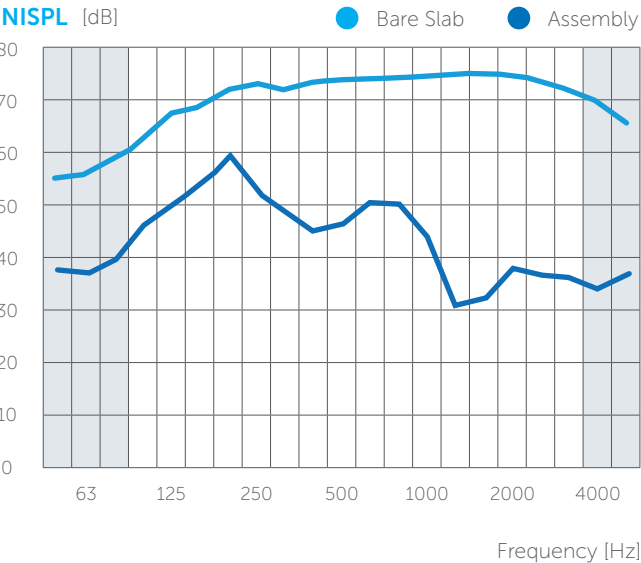
Test Setup

1. 150 mm (6") reinforced concrete floating floor
2. 150 mm (6") reinforced steel box with 4.5 Hz steel springs
3. PE-foil
4. 50 mm (2") air void
5. 150 mm (6") reinforced concrete slab

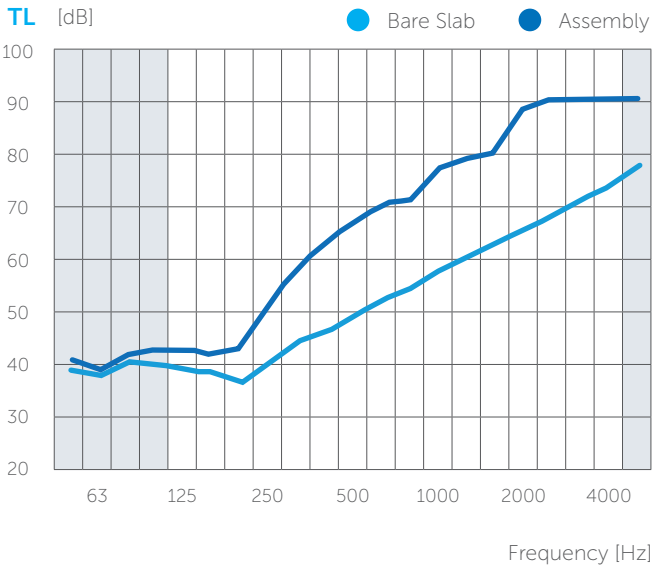
Setup	IIC	HIIC	LIIC	STC
Assembly	61	62	104	61
Bare Slab	29	28	66	53

Laboratory report available upon request
NRC Test Report A1-021983-23

Frequency [Hz]	NISPL [dB]	
	Bare Slab	Assembly
50	55	38
63	56	37
80	59	40
100	62	46
125	67	50
160	68	53
200	71	59
250	72	52
315	71	48
400	73	45
500	73	46
630	73	50
800	73	50
1000	74	44
1250	74	31
1600	74	32
2000	74	38
2500	73	37
3150	71	36
4000	69	34
5000	65	37



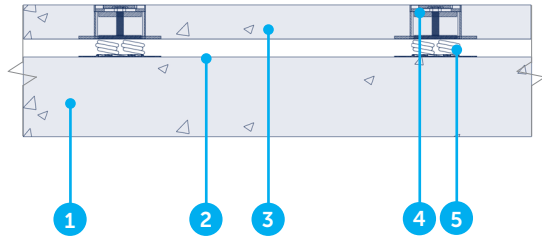
Frequency [Hz]	Airborne TL [dB]	
	Bare Slab	Assembly
50	39	41
63	39	39
80	41	42
100	40	43
125	39	43
160	39	42
200	37	43
250	41	51
315	45	58
400	47	63
500	50	67
630	53	70
800	55	71
1000	58	77
1250	61	79
1600	63	80
2000	66	88
2500	68	90
3150	72	90
4000	74	90
5000	78	90





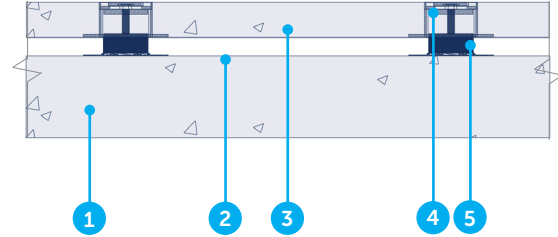
TYPICAL ASSEMBLIES

Stravifloor Jackup-R with springs



1. Reinforced concrete slab
2. Protection foil (PE layer)
3. Reinforced concrete floating floor
4. Reinforced steel box
5. CDM Stravitec springs

Stravifloor Jackup-R with elastomeric pads



1. Reinforced concrete slab
2. Protection foil (PE layer)
3. Reinforced concrete floating floor
4. Reinforced steel box
5. CDM Stravitec elastomeric pad

Note: an installation manual is available upon request.



Other Stravifloor Jackup-R assemblies
available on our test data platform Stravi-dB.



SCAN
ME

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