Recommended Specifications for

Stravifloor Jackup-E



Section 13 48 00 Sound Control

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Specification notes are identified in the document as follows “***SPEC NOTE***” – these notes must be removed from final documents. Where multiple options may be available, these are identified in the corresponding spec note.

Text highlighted in yellow indicates text that should be coordinated with the entire spec book or represent sections that are options not found on every installation.

This document specification has been specifically written for the Stravifloor Jackup-E system. Below is a schematic indication of the construction process from start to end, as described in this specification.

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PART 1 GENERAL

* 1. SUMMARY

1. Furnish and install all materials, labor, tools, appliances, and equipment and perform all operations necessary for installation of the isolated floating floor system, Stravifloor Jackup-E, as shown on the contract drawings and/or as described in the contract documents.
   1. Related SECTIONS

Shall include but not be limited to:

1. Concrete and reinforcing:  Section 3

***SPEC NOTE:***

1. *Stravifloor Jackup-E systems require a flat and level structural floor to be specified. All Stravifloor Jackup-E mounts are a fixed height, so the contour of the structural floor controls the flatness and levelness of the finished floated slab.* *(Note to Specifier: FF 25 as minimum – meaning a single ¼’’ (6.35 mm) defect across 10-feet (3 m)).*
2. *Caulking: This is to be coordinated with the appropriate specification or specified herein. Care should be taken to identify the proper acoustical caulking if it is in a separate specification section.*
3. Metal pipe and conduit sleeves (Plumbing and Electrical):  Section 22 & Section 26
4. Caulking:  Section 079200
   1. SYSTEM DESCRIPTION

 The isolated floating floor system shall be designed, supplied, and installed as detailed in the contract drawings, and include the following components:

1. Stravifloor Jackup-E Isolated Floating Floor System: which is composed of: a bell-shaped cast iron housing with 3-5/16’’ (85 mm), lifting bolt, and molded natural rubber elastomers with an embedded 5/16’’ (8 mm) steel load plate with an indent to locate the jacking bolt, capable of achieving a resonant frequency as low as 10 Hz. must be color-coded for easy identification of the type of support (by load capacity).
2. Construction Grade Polyethylene Sheeting: Construction grade Polyethylene sheeting with a nominal thickness larger or equal than 6 mils.
3. Stravifloor Perimeter Isolation Element: 1-inch-thick perimeter isolation board with an apparent density of 6 lbs/cu-ft. Alternatively use of a 3/8’’ (10 mm) resilient perimeter isolation strip with a minimum density of 20 lbs/cu-ft in areas where seismic loading is considered is recommended.

***SPEC NOTE:***

*OPTIONAL ITEM: Batt insulation to be specified by the acoustic consultant.*

1. Stravifloor Acoustical Batt Insulation: Provide for acoustical batt insulation with the following specifications:
   * + 1. Nominal Thickness: 1” (25 mm) | 1.5” (38 mm) | 2” (50 mm) | 3” (75 mm)
       2. Apparent Density: greater than 2 lbs/cu-ft.

***SPEC NOTE:***

*OPTIONAL ITEM: The height of the box is fixed and therefore for floating slabs with a thickness above 3-5/16” (85mm) the following item is to be provided.*

*Indicate total thickness of floating slab below*

1. Housing extension: to guarantee access to the housing if the floating slab is thicker than 3-5/16’’ (85 mm).
2. Housing plug or housing extension plug to seal the box and avoid concrete leakage.

***SPEC NOTE:***

*Load bearing lateral isolation restraints, as well as for projects in seismic zones which require edge restraint.*

1. Stravifloor FAB: Provide acoustical load bearing isolation restrains as required per project documents and/or drawings.

***SPEC NOTE:***

*Provide information for caulking if required*

1. Caulking: Perimeter of Acoustical Isolated Floating Slab to be caulked with non-hardening acoustical seal.
2. Concrete for Isolated Floating Floor System: Provide normal weight concrete *(UNO by design team)* with a minimum compressive strength of 4000 psi (28 MPa) at 28 days. Slab should be properly reinforced to sustain self-weight loads, imposed and live loads. Minimum rebar reinforcement recommended #4 bars 10” O.C. both directions for a 4” (100 mm) concrete slab. The slab should be properly reinforced and cured per structural design, respecting the code minimums specified and SEOR floating floor design.

***SPEC NOTE:***

*Minimum 4000 psi (28 MPa), standard weight concrete. The slab should be properly reinforced and cured per structural design, respecting the code minimums specified and SEOR floating floor design.*

*Lightweight concrete can also be considered however test data may not be available to justify performance.*

* 1. SUBMITTALS

1. Shop Drawings: Submit shop drawings showing layout, profiles, product components, product data, and relevant performance information, including but not limited to:
   1. Detailed product drawings, including isolator size and locations.
   2. Identification of all loads for the project – Dead Loads (DL), Superimposed Dead Loads (SiDL), Live Loads (LL).
   3. Calculation of static (deflection) and dynamic (resonance frequency) performance of all isolators under the following scenarios:
      1. Construction Phase (CP) Load,
      2. Dead Load only (DL),
      3. Acoustic Design Load (ADL) – Dead Load plus Live Load with a coefficient of 25%, and
      4. Serviceability Limit State (SLS) - Dead Load plus Live Load.
   4. Penetrations and drain details.
   5. Perimeter condition details.
2. Acoustical test data from an independent laboratory showing a minimum STC of 62 and IIC of 65 using a 4” (100mm) Isolated Floating Floor System, on a 6” (150mm) structural floor, with a 2” (50mm) air gap.

***SPEC NOTE:***

*Item above relative to Acoustical test data references a requirement for “tests conducted within the last 10 years”. It should be noted that this is different from the test report as it is common practise for laboratories to re-issue reports with new test report date.*

***Stravi-dB:***

*CDM Stravitec provides various acoustic tests for different floor setups on* [*www.stravi-dB.com*](http://www.stravi-dB.com)*. In addition to the test reports, editable .csv files with data and typical cross-sections are also available.*

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* 1. QUALITY ASSURANCE

 The Stravifloor Jackup-E system shall be installed by an experienced installer specialized in the installation of similar work to that of this project.

1. The jack-up manufacturer shall have a minimum of 10 similar projects within the past 5 years and be capable of providing field service representation during installation.
2. The system shall be designed and fabricated by CDM Stravitec and subjected to CDM Stravitec Quality Assurance program.
   1. DELIVERY, STORAGE, AND HANDLING
3. Ordering: Comply with the manufacturer's ordering process and lead time requirements to avoid project delays.
4. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
5. Storage and Protection: Materials shall be stored in a conditioned space recommended by the manufacturer and protected from external weather conditions.
   1. PROJECT CONDITIONS
      1. If site conditions are unsatisfactory or raise questions about the installation and/or performance of the floating floor, the work shall not proceed until the condition has been corrected in a manner acceptable to meet the Isolated Floating Floor System Manufacturer’s guidelines.
   2. WARRANTY
6. Manufacturer’s Warranty: Submit, for the owner’s acceptance, the manufacturer’s standard warranty document executed by an authorized company official. The manufacturer’s warranty is in addition to and not a limitation of other rights the Owner may have under Contract Documents.

PART 2 PRODUCTS

2.01 MATERIALS

1. Manufacturer:

CDM Stravitec, Inc.

Address: 342 N. Queen St., Warehouse D, Lancaster, PA 17603

Phone: 888-454-6236

Email: [info-us@cdm-stravitec.com](mailto:info-us@cdm-stravitec.com)

Web: [www.cdm-stravitec.com](http://www.cdm-stravitec.com)

1. Products:
   1. Stravifloor Jackup-E and associated accessories as described in Part 1 of this Section.

2.02 SUBSTITUTION OF MATERIALS

***SPEC NOTE:***

*Choose one of the following statements as desired by the design team.*

1. Substitute materials shall meet or exceed the “quality and performance” of the products which are listed in these Specifications. Submit samples and test reports by an independent laboratory for consideration on this project.

[OR]

A. No substitutions are permitted.

PART 3 EXECUTION3.01 INSTALLATION

1. The installation of the Isolated Floating Floor System specified herein shall be in accordance with procedures submitted by the System manufacturer and approved by the Design Team (architect, structural and acoustical).
2. The base structural slab receiving the Isolated Floating Floor System shall be flat, smooth structural surface, cleared of debris and broom swept; any required waterproofing properly installed. The flatness of the supporting floor should be a maximum of 1/4” (6 mm) over 10’ (3 m) – FF 25 (according to ASTM E1155-14 and American concrete Institute publication ACI 302) - to ensure a successful installation.

If the supporting floor is not completely flat and level then use a fast-drying, self-levelling compound across the whole floor to achieve required flatness criteria.

The contour/levelness of the structural slab determines the same for the floating slab.

1. Using the installation plans supplied, mark out the location of the center of each box across the whole floor.
2. All walls, columns, and service penetrations through the floating floor should be isolated using strips of perimeter isolation or similar material as required to meet the geometry on site. The height of this isolation should be at a minimum equal to the thickness of the Isolated Floating Floor System.
3. If the use of an absorption layer in the Isolated Floating Slab System cavity (between floating slab and structural slab) is recommended, then provide at the locations where the boxes will be installed over-height to raise the boxes from structural slab (using fibercement board plate or other approved material) with same thickness as absorption layer.
4. Prior to the placement of isolator assemblies, a protective layer of construction grade polyethylene sheeting shall be installed over the whole floor and continued up the wall to cover the perimeter isolation strip.
   1. The protection layer shall consist of one layer of polyethylene sheeting overlapped and taped at all seams and at all connections where the vertical edge of the isolated slab contacts the building.
   2. All overlaps should be a minimum of 4’’ (100 mm) and then sealed using a 2’’ (50 mm) (minimum) wide construction grade self-adhesive tape.
   3. Ensure the protection layer is fitted neatly into the corner areas of the floor to avoid any pocketing which could result in a reduction of slab thickness in these areas.
5. All isolator assemblies shall be placed on the marks, per floor submittal, ensuring the correct positioning of the pad to make sure there are no gaps where leakage could occur.
   1. Verify that the correct isolator type (housing and rubber element) is placed at each marked location prior to the concrete pour. Ensure that that there are no gaps under the base flange of the housing which could allow entry of concrete slurry.
   2. Verify that the distance between the center-to-center distance between boxes and the center to the edge of the floor on perimeter boxes are stated in the shop drawings.
6. Install Jack-Up box extension as needed to ensure the jack-up bolt is accessible after pouring. No gaps between the extension and the box neck should exist, where concrete leakage could occur and impeded jack-up of the floating slab. The box extension height (PVC-tube) should be defined considering the finished floor height.
7. Install reinforcing bars as required and identified by structural engineer. Reinforcement bars shall be assembled to the isolator assemblies in accordance with instructions from the structural engineer. If during installation of reinforcement bars any accidental tears occur in the polyethylene sheeting, they must be repaired using additional polyethylene sections and/or construction-grade self-adhesive tape depending on tear size.
8. After installation of the isolation materials, the concrete shall be poured and allowed to cure. Minimum cure strength shall as identify in Part 1 of this section shall be achieved prior to lifting the slab.
9. After curing, the plug should be removed.
10. The floor shall be raised to final elevation by turning the leveling screws in sequence, in accordance with the instructions from the system manufacturer.  Improper lifting of the slab can cause stress cracks.
11. All sound isolation materials and building components supported by isolation materials are to be completely free from rigid contact with any part of the building structure.
    1. PROTECTION
       1. Foot traffic during installation shall be kept to a minimum.
       2. Products shall be protected from damage during construction.
       3. Any vented or open perimeters shall remain free and clear of debris.
       4. The operation of heavy equipment and machinery on the floating floor shall be verified with the manufacturer before use.

END OF SECTION