

Date: **July 31, 2018**

Client: Oregon Health & Science University
Project Name: BICC DAS and ITG Upgrade
Project No.: 5540216

O=Office
F=Field
E=Entire Electronic Copy
X=Entire Package

OWNER / DESIGN / HCC

| OWNER | DESIGN | HCC |
|-------------------------|--------|-----------------------|
| Shelley Bonaduce - OHSU | | Dan Garnett - HCC |
| | | Jason Patterson - HCC |
| | | Brian Tingey - HCC |
| | | Dirk Koopman - HCC |
| | | |
| | | |
| | | |

SUBCONTRACTOR / VENDORS

[illegible]

| QTY | DESCRIPTION |
|-----|--|
| | Submittal 09 - 090000 - Raised Access Floor # of pages: 26 |
| | |
| | |
| | |
| | Use this CE # for pricing and EWA tickets |

Please review these documents carefully. Whether or not these documents contain revisions to your work which affects your agreement price, either credits, or no cost, a response from your company is required. Please submit a complete itemized pricing with back-up to Brian Tingey via email to Brian.Tingey@hoffmancorp.com by 8/7/2018 referencing CE

You are to:

- _____ Incorporate this information into your work immediately. No apparent cost impact.
- _____ Submit price and wait for authorization to proceed.
- _____ Proceed with work and submit price / credit by date listed above.
- _____ Proceed with work immediately. Time and Material cards must be signed daily by our Project Superintendent.
- _____ Review for your use. No further action required.

Note: RFI pricing submitted late will not be accepted. If you need additional information please contact the undersigned.

These are transmitted as checked below:

| | |
|------|---|
| XXXX | Approved as Submitted |
| | Approved as Noted |
| | Returned for Corrections and Resubmission |
| | For Review / Comment |
| | Rejected |

Comments:

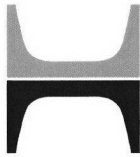
Signed:

Jason Patterson, Project Engineer, (503)803-7858

7/31/2018

SUBMITTAL TRANSMITTAL RECORD

Oregon Health & Science University



Hoffman Construction Co.
Lic. # 28417
Oregon Health & Science Univ.
3181 SW Sam Jackson Park Rd
Portland, OR 97239

| | |
|--|-------------------------------|
| Resubmittal No.: | Orig. Submittal No: 09-090000 |
| Description: Raised Access Floor | |
| For: <input checked="" type="checkbox"/> Review <input type="checkbox"/> Information <input type="checkbox"/> Coordination | |
| Specification Reference: | |
| Project: BICC DAS & ITG Core | |
| Supplier/Subcontractor: PCI | |
| Address: | |
| Phone: | Contact: |

HCC Job # 5440216

| Routing | # Copies | Attention | Date Sent | Date Received | Date Due |
|---------------|----------|-------------|-----------|---------------|----------|
| Ankrom Moisan | | Lori Kellow | 7/26/2018 | | 8/3/18 |
| | | | | | |
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| | | | | | |

| # of Copies | Description | Action | Comments |
|-------------|---|---|--|
| 1 | Raised Access Floor <div style="border: 1px solid black; padding: 5px;"> <p>HOFFMAN CONSTRUCTION COMPANY</p> <p>This submittal has been reviewed for general conformance with the contract documents. Contractor's review does not relieve the Vendor/Subcontractor of responsibility for compliance with all requirements of the contract, including completeness and accuracy of this submittal.</p> <p>7/26/18 09-090000</p> <p>Date Submittal #</p> <p>Jason Patterson</p> <p>Reviewed By</p> </div> | Review Ankrom Moisan Architects, Inc. Contractor Submittal Review Project Name: BICC DAS & ITG Core Project Number: 164510 Submittal ID: 09-090000 Received On: 7/26/18 Reviewed On: 07/31/18 Reviewed By: marijas Action: <input type="checkbox"/> No Exception Taken <input type="checkbox"/> Revise and Resubmit <input type="checkbox"/> Make Corrections Noted <input type="checkbox"/> Submit Specified Item <input checked="" type="checkbox"/> No Action Taken <input type="checkbox"/> Rejected | (1) Electronic (PDF) <small>Review is for the limited purpose of checking for the conformance with the information given and the design concept expressed in the Contract Documents. Review is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating the instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review shall not constitute approval of safety precautions or, unless specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's review shall not indicate approval of an assembly of which the item is a component. Corrections or comments made on shop drawings during this review do not relieve the Contractor from compliance with the requirements of the plans and specifications.</small> |

R = Reproducible

P = Print

B = Brochure

HCC Comments:

Recommend:

- ☒ NO EXCEPTIONS NOTED.
☐ MAKE CORRECTIONS NOTED.
☐ REJECTED.
☐ REVISE AND RESUBMIT.
☐ SUBMIT SPECIFIED ITEM.

Comments:

Signed: Jason Patterson 7/26/2018

Reviewer:

Date:

DESIGN OPERATIONS:

Recommend:

- ☐ NO EXCEPTIONS NOTED.
☐ MAKE CORRECTIONS NOTED.
☐ REJECTED
☐ REVISE AND RESUBMIT.
☐ SUBMIT SPECIFIED ITEM.

Comments:

Permit by vendor.

Signed: [Signature] 7/31/18

Reviewer:

Date:



PERFORMANCE CONTRACTING, INC.
8015 SW HUNZIKER ROAD. TIGARD, OREGON 97223
PHONE: (503) 684-5533.FAX: (503) 684-3627

SUBMITTAL

DATE: July 25, 2018

PROJECT: OHSU BICC-DAS RAF

CONTRACTOR: Hoffman

ARCHITECT: Ankrom Moisan

SPECIFICATION SECTION

09 69 00 – Raised Access Flooring

Approval

| Contractor | Architect |
|------------|-----------|
| | |

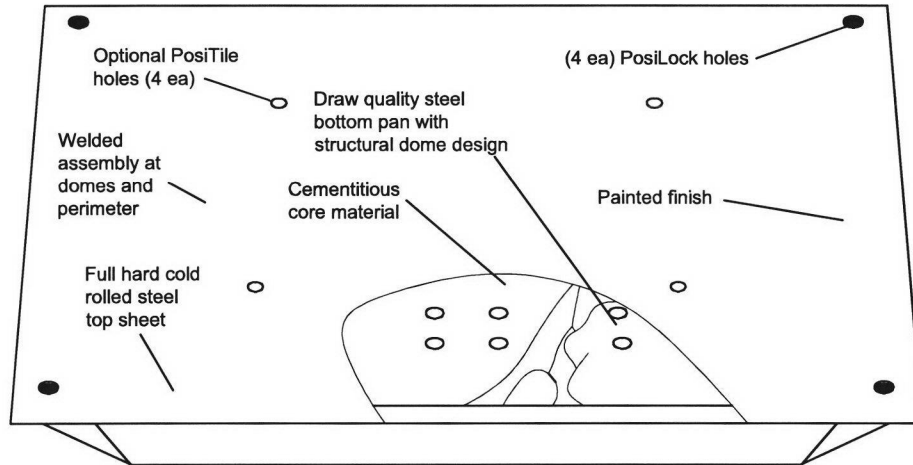


PERFORMANCE CONTRACTING, INC.
8015 SW HUNZIKER ROAD. TIGARD, OREGON 97223
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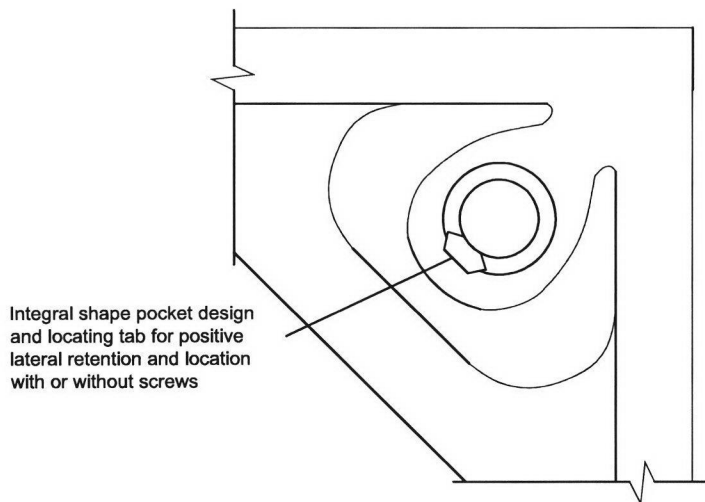
Table of Contents

09 69 00 – Raised Access Flooring Submittal

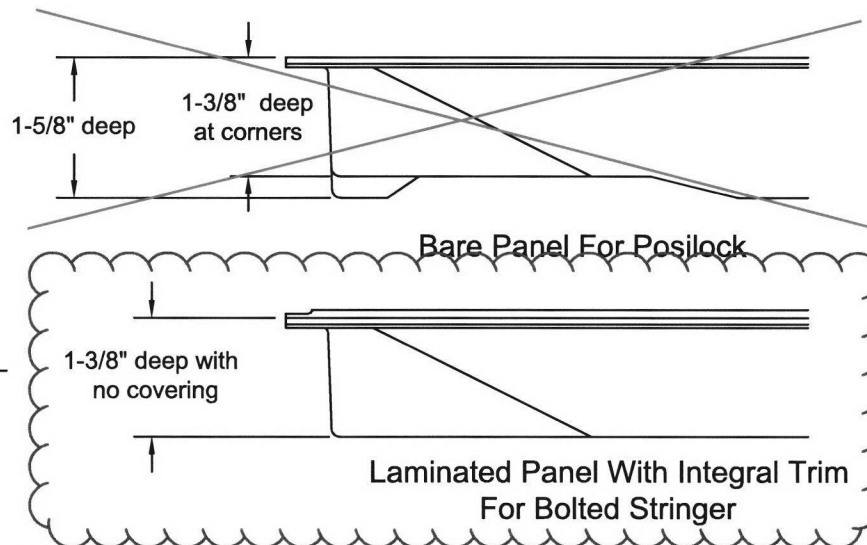
1. 001 - RAF Floor Plan
2. S1 – Allstructure Engineered RAF Details
3. Allstructure Structural Documents (attached via separate file)
 - a. Cover Sheet & Table of Contents
 - b. Project Information
 - c. Calculations
4. Tate Product Data
 - a. ConCore 1250 Cutsheet
 - b. GrateAire Panel w/ Slide Damper
 - c. Type 1A Pedestal Cutsheet
5. Sealbond 95 Adhesive Product Data
 - a. Technical Data Sheet
 - b. LEED Compliance – VOC Levels
6. KoldLok RAF Grommet Product Data (PN#10013)



TOP VIEW



CORNER DETAIL



SPECIFICATIONS

General information

- Panel weight : 8.0 lbs./ft² bare.
- All steel welded construction filled internally with a cementitious core material.
- Protected from corrosion by an epoxy paint finish.
- Class A flame spread rating.
- Non-combustible material.

UNDERSTRUCTURE OPTIONS

- ☐ Freestanding ☐ Posilock
- ☐ 2' Bolted Stringer ☐ 4' Bolted Stringer

COVERING OPTIONS

Tile factory laminated with integral trim edge

- ☐ 1/8" HPL _____ (Color) _____
- ☐ 1/16" HPL **NEVAMAR** (Color) **GRAY STARLITE**
- ☐ 1/8" Conductive HPL _____ (Color) _____
- ☐ 1/16" Conductive HPL _____ (Color) _____

For additional laminate options contact Inside Sales

Bare Painted Panel Options

- ☐ Bare Painted Finish to accept carpet tile application
- ☐ Bare Painted Finish to accept PosiTile application

System Performance Criteria

System performance criteria are the most important to consider because they represent the performance in a typical installation. Panel only criteria such as concentrated load is often used to specify floor systems however, the test is not representative of an actual installation because it is performed with the panel resting on blocks, not actual understructure.

| System Performance Criteria (Tested on Actual Understructure)* | | | | | | | |
|--|-----------------|------------------------------|--------------------|--------------------------|--------------------|-------------------|------------------|
| System Type | | SYSTEM WEIGHT | STATIC LOADS | | ROLLING LOADS | | IMPACT LOADS |
| Panel | Understructure | | Design Loads | Safety Factor (min. 2.0) | 10 Passes | 10,000 Passes | |
| ConCore CC1250-24" | Posilock | 8.5 lbs / ft² 41 kg / m² | 1250 lbs 567 kg | Pass | 1125 lbs 510 kg | 875 lbs 397 kg | 150 lbs 68 kg |
| | Bolted Stringer | 10.0 lbs / ft² 49 kg / m² | 1250 lbs 567 kg | Pass | 1000 lbs 454 kg | 800 lbs 363 kg | 150 lbs 68 kg |

*System load definitions and test procedure descriptions can be found in the Standard Product Tests and Methodology Guidelocated in the Resources section of Tate's web-site, www.tateaccessfloors.com.

SPECIFICATIONS

General information

- Die cast aluminum construction
- Interchangeable with laminated ConCore and All Steel panels
- 56% open area
- Panel size: 24 inches square
- Panel height at corner: 1.250". Total panel height 1.687".
- Flange width: .480" to accommodate 3/4" wide stringers.
- Panel weight: 4.7 lb./ft²
- Non-combustible material
- Class A flame spread rating
- Available with or without damper
- Damper with can be adjusted from the top to restrict air flow by up to 100%
- Removeable with portable lifting device

UNDERSTRUCTURE OPTIONS

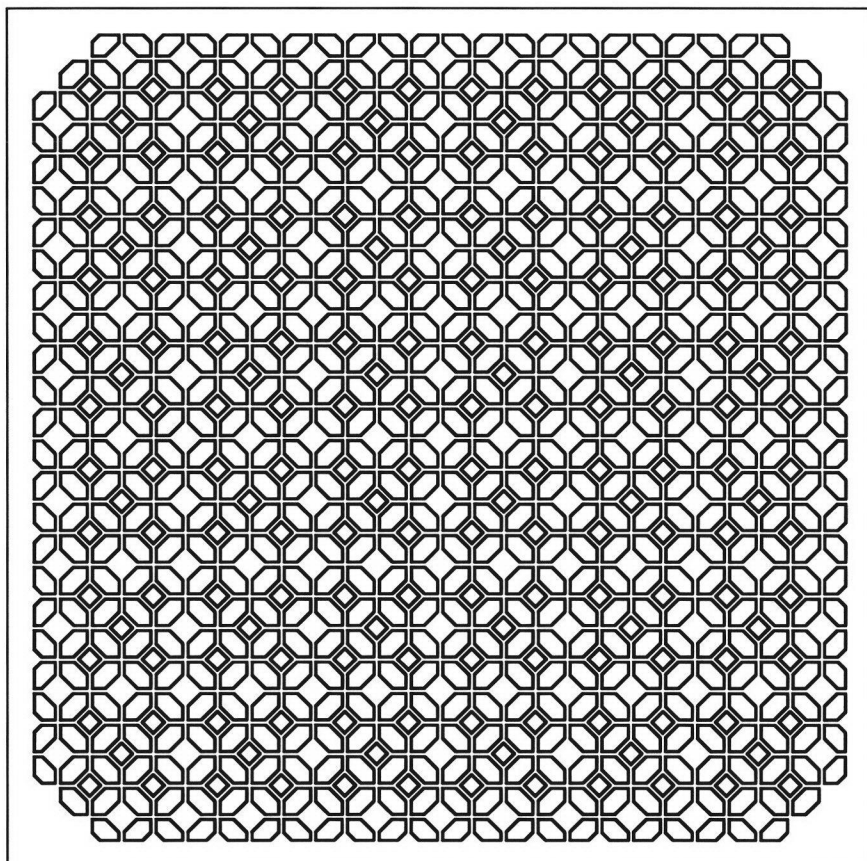
- ☐ 2' Heavy duty bolted stringer system
- ☐ 4' Heavy duty bolted stringer system

COATING OPTIONS

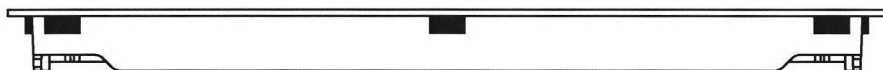
- ☐ Bare textured
- ☐ Anti-static SparkLite White powder coat finish - 25,000 to 20,000,000,000 ohms when tested at 500 volts per NFPA 99

AIRFLOW CONTROL OPTIONS

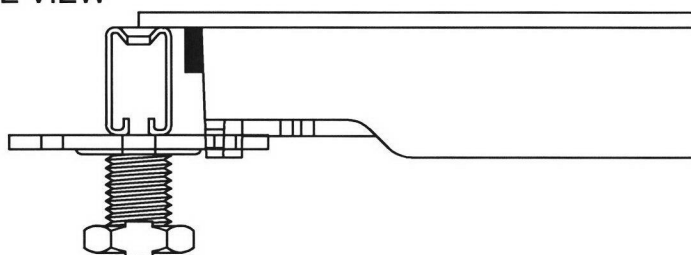
- ☐ Slide Damper
- ☐ Single-zone Opposed Blade Damper
- ☐ Multi-zone Opposed Blade Damper



TOP VIEW



SIDE VIEW

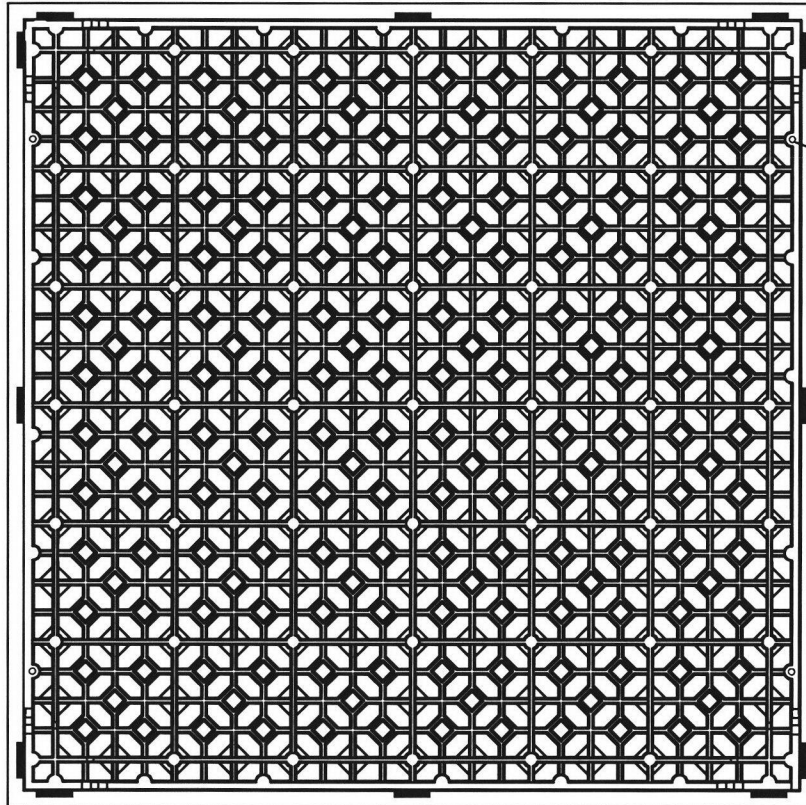


| Static Pressure (In. H ₂ O) | Air Volume (CFM) | Air Volume w/ damper open (CFM) | Air Volume w/ damper closed (CFM) |
|--|------------------|---------------------------------|-----------------------------------|
| 0.02 | 916 | 504 | 108 |
| 0.04 | 1320 | 712 | 156 |
| 0.05 | 1468 | 792 | 172 |
| 0.06 | 1608 | 876 | 196 |
| 0.08 | 1860 | 1008 | 224 |
| 0.10 | 2096 | 1128 | 252 |
| 0.12 | 2292 | 1232 | 276 |
| 0.14 | 2484 | 1332 | 296 |
| 0.16 | 2684 | 1416 | 316 |
| 0.18 | 2848 | 1496 | 332 |
| 0.20 | 3024 | 1580 | 352 |

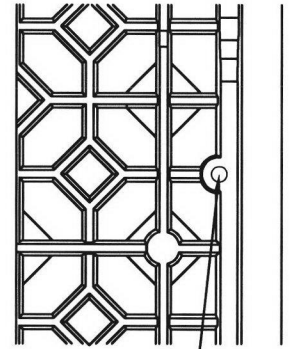
System Performance Criteria (Tested on Actual Understructure)

| System Type | Understructure | SYSTEM WEIGHT | STATIC LOADS | | ROLLING LOADS | | IMPACT LOADS |
|----------------|----------------------------|--------------------------------|--------------------|--------------------------|--------------------|-------------------|------------------|
| | | | Design Loads | Safety Factor (min. 2.0) | 10 Passes | 10,000 Passes | |
| Aluminum Grate | Heavy-Duty Bolted Stringer | 6.25 lbs / ft² 30.5 kg / m² | 1000 lbs 454 kg | Pass | 1000 lbs 454 kg | 800 lbs 363 kg | 100 lbs 45 kg |

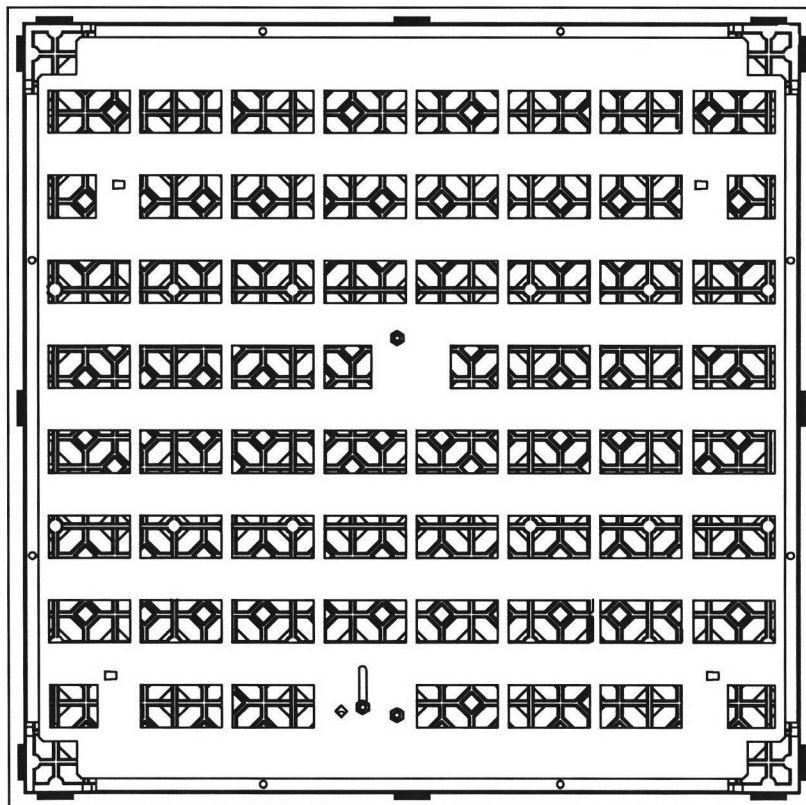
1. System Design Load is based on permanent set ≤ 0.25 mm and is verified by loading panels in accordance with the CISCA concentrated load method but with panels installed on actual understructure instead of steel blocks. (Testing on blocks does not represent performance of an actual installation.) Ultimate, Rolling, and Impact Load tests are performed using CISCA test procedures.
2. Safety Factor is Ultimate Load divided by Design Load.



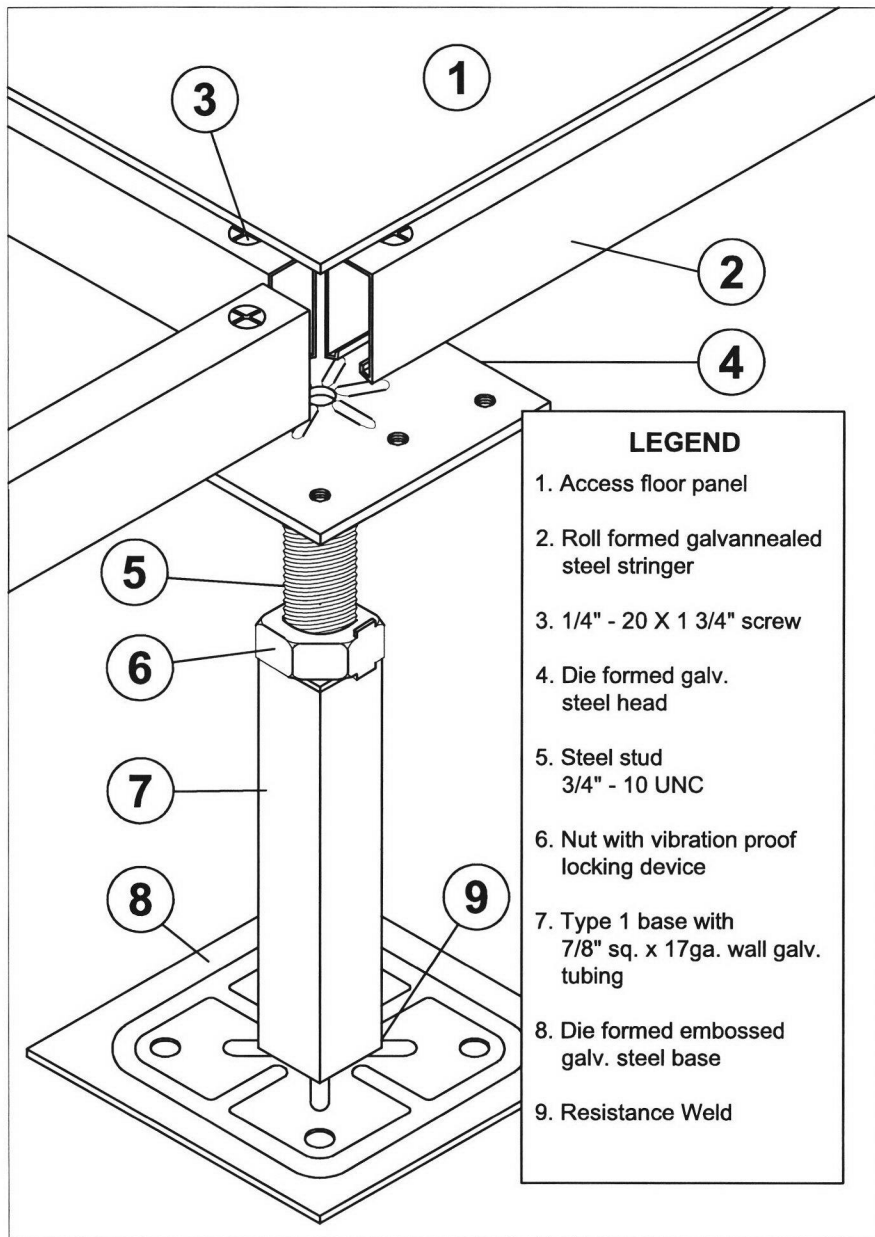
BOTTOM VIEW



Integrated mounting
holes for DBD



BOTTOM VIEW WITH DAMPER



PEDESTAL SPECIFICATIONS

Pedestal Assembly

- Assembly up to 36" FFH shall provide an 6,000 lb. axial load without permanent deformation.
- Assembly shall provide a 2" total adjustment with a floor height of 7" or greater.
- Standard finished floor heights from 6" to 36". For other finished floor heights please contact the Tate Technical Hotline @ 800-231-7788. For seismic conditions, refer to seismic submittal details.
- Overturning moment of 1,000 in./lbs. when Tate recommended pedestal adhesive is utilized.
- All pedestal components and fasteners are completely electro-zinc free.
- Zinc electroplating shall be prohibited on all pedestal components and fasteners.

Pedestal Head

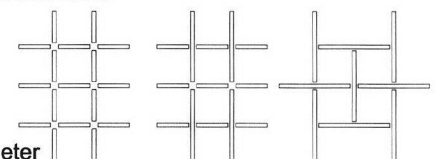
- Standard head is 11 ga. die formed galvanized steel pedestal head and resistance welded stud with adjustment nut. Heavy duty head for CC2000 and CC2500 panels is 8 ga. fillet welded for field and tack welded perimeter head. Head and installed stringers shall provide perimeter support for panel.
- Stringers shall be attached with 1/4" - 20 flat-head screws.
- Pedestal head shall be tapped for engagement of stringer screws with (4) 1/4" diameter holes for mechanical fastening applications.
- Steel stud shall be 3/4" - 10 UNC.
- Nut shall be 3/4" - 10 UNC with corrosion resistant coating.
- Stud shall provide an anti rotation feature when engaged with the pedestal base assembly (7" FFH or higher).

Pedestal Base

- Base to be at least 16" square and galvanized steel with (4) 1/4" diameter holes for mechanical fastening applications.
- Pedestal tube shall be 7/8" x 17 ga. wall square galvanized tubing.

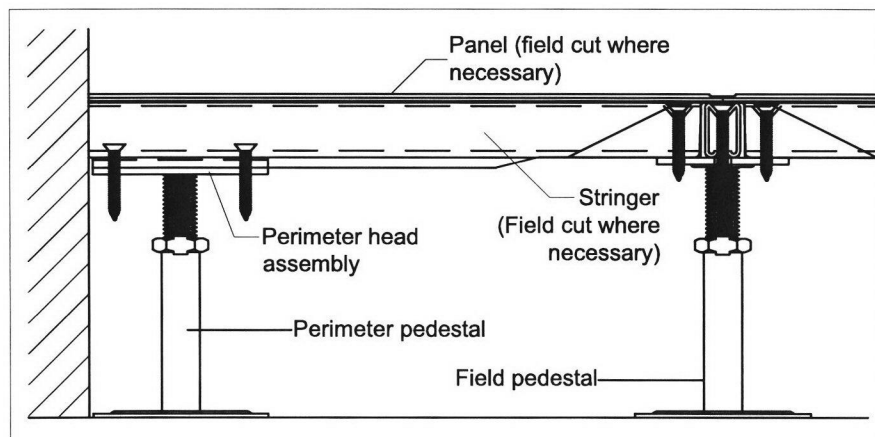
Stringers

- Heavy duty roll formed steel stringer will withstand 450 lb. mid-span load.
- ConCore 2500 panels require the 4' x .054" stringer. All other panels except the ConCore 3000 use the .048" stringer
- Galvanized stringer construction to prevent corrosion.
- Stringer shall be 1-1/4" deep x 3/4" wide.
- Stringer grid pattern shall be 2'2", 2'4", or 4'4" basketweave.



Perimeter

- Perimeter pedestal shall provide support for panels around columns, at walls, curbs and fascia.



Seal Bond 95 Access Flooring Pedestal Adhesive: Description

SB 95 was designed as a one-component multi-purpose adhesive for interior applications or applications not subject to UV light. SB 95 is used extensively for pedestal attachment (galvanized steel to concrete) in the Access Flooring Market.

Overturning moment test values using the SB 95 and a variety of Epoxy Coating and Concrete Sealers now available from Seal Bond have been performed by an independent test lab. Please consider the excellent performance of MA 200 Epoxy Coating, MA 279 Concrete Densifier/Dust Reducer and other concrete sealing products now available from Seal Bond.

Features:

- Solvent and isocyanate free, 100% solids
- Non-silicone
- Extremely low shrinkage
- Fast curing – typically 7-14 days
- Permanently elastic in a broad temperature range
- Low odor
- Primer-less adhesion to most surfaces
- Non-flammable

In addition, SB 95 may provide one or all of the following cost saving options:

- The ability to use smaller pedestal bases
- Avoid the use of mechanical fasteners
- The application of less adhesive

Physical Properties:

- Basic Material: Proprietary Polymer
- Consistency: Paste
- Color: Natural
- VOC's: 17 g/L
- Type: Elastomeric
- Solvent: 0%
- Isocyanate: 0%
- Specific Gravity: 1.6
- Shelf Life: 10 months in unopened containers stored between 60° and 80°F.

Field tests by contractors are recommended for the verification of adhesive and coating results at specific job sites.

Cure Schedule:

| Curing Condition | | Curing Depth (mm) | | | | | | |
|------------------|-------------------|-------------------|--------|--------|--------|---------|---------|---------|
| Temperature | Relative Humidity | 1 Day | 2 Days | 4 Days | 8 Days | 11 Days | 14 Days | 21 Days |
| -20° C (-4° F) | - | 0.8 | 1.0 | 1.2 | 1.8 | 2.2 | 2.3 | 2.8 |
| -10° C (14° F) | - | 0.5 | 0.6 | 1.1 | 2.0 | 2.3 | 2.7 | 2.9 |
| 5° C (41° F) | 50% | 2.2 | 3.8 | 4.3 | 4.6 | 5.5 | 6.5 | 7.7 |
| | 70% | 1.6 | 2.4 | 3.8 | 5.3 | 6.1 | 7.2 | 8.9 |
| 23° C (73.4° F) | 50% | 3.4 | 4.5 | 5.3 | 6.1 | 8.2 | 9.5 | 11.1 |
| | <20% | 2.4 | 4.0 | 5.5 | 7.5 | 8.7 | 9.9 | 11.2 |
| | 70% | 5.8 | 9.2 | 13.0 | 19.0 | 21.8 | 27.0 | 33.0 |

Performance Properties (Approximate):

| | | |
|----------------------|---|---------------|
| Shear Strength | 200 psi (7 day ambient cure) | ASTM D-1002 |
| Tensile Strength | 160 psi (7 day ambient cure) | ASTM D-412 |
| Elongation at Break | 175% (7 day ambient cure) | ASTM D-412 |
| Hardness Shore A | 45 (14 day ambient cure) | ASTM C-661 |
| Slump (Sag) | Zero Slump | ASTM C-639 |
| Flame Spread/Smoke | 0 Flame/0 Smoke | ASTM E-84-00A |
| Stain Testing | No staining | |
| Low Temperature Flex | -20 | --PASS-- |
| Service Temperature | -40° to 200° F, temporarily resistant to 390° | |

Packaging Options:

1 and 2 gallon pails
 10.3 and 28 ounce cartridges

Limitations:

Seal Bond 95 is not recommended for use in situations involving continuous submersion in water.

Seal Bond 95 should be tested for situations involving a desire for specific chemical resistance.

LIMITATIONS ON OUR LIABILITY

*We warrant that our products are manufactured to strict quality assurance specifications and that the information supplied by us is accurate to the best of our knowledge. Such information supplied about our products is not a representation or a warranty. It is supplied on the condition that you shall make your own tests to determine the suitability of our product for your particular purpose. Listed physical properties are typical and should not be construed as specifications. **NO WARRANTY IS MADE, EXPRESSED OR IMPLIED, REGARDING SUCH OTHER INFORMATION, THE DATA ON WHICH IT IS BASED, OR THE RESULTS YOU WILL OBTAIN FROM ITS USE. NO WARRANTY IS MADE, EXPRESSED OR IMPLIED, THAT OUR PRODUCT SHALL BE MERCHANTABLE OR THAT OUR PRODUCT SHALL BE FIT FOR ANY PARTICULAR PURPOSE. NO WARRANTY IS MADE THAT THE USE OF SUCH INFORMATION OR OUR PRODUCT WILL NOT INFRINGE UPON ANY PATENT.** We shall have no liability for incidental or consequential damages, direct or indirect. Our liability is limited to the net selling price of our product or the replacement of our product, at our option. Acceptance of delivery of our product means that you have accepted the terms of this warranty whether or not purchase orders or other documents state terms that vary from this warranty. No representative is authorized to make any representation or warranty or assume any other liability on our behalf with any sale of our products. Our products contain chemicals that may **CAUSE SERIOUS PHYSICAL INJURY. BEFORE USING, READ THE MATERIAL SAFETY DATA SHEET AND FOLLOW ALL PRECAUTIONS TO PREVENT BODILY HARM.***

Contact Information:

In U.S.A.:

Scott Carmichael
 616-850-0507 phone
 616-850-0530 fax
 scarmichael@seal-bond.com

Seal Bond
 14851 Michael Lane
 Spring Lake, MI 49456
 www.Seal-Bond.com

In China:

Bill Huang
 +86 15819309204
 RongYuan Gardon, Zhaoqing National High-Tech Zone,
 Zhaoqing City, Guangdong Province, PRC, 526238
 billhqd@hotmail.com



July 7, 2006

Subject: Seal Bond 95 Pedestal Adhesive -- LEED-NC V2.2 Credit Compliance

Referenced Credit: EQ Credit 4.1: Low-Emitting Materials

To Whom It May Concern:

Tate Access Floors, Inc. declares that the VOC levels in Seal Bond 95 pedestal adhesive do not exceed the current VOC limits of South Coast Air Quality Management District Rule #1168.

The EQ Credit 4.1 requirement states that all adhesives and sealants used on the interior of the building shall comply with the requirements of South Coast Air Quality Management District Rule #1168. SCAQMD Rule#1168 specifies a volatile organic compound (VOC) limit of 70 grams per liter for Multipurpose Construction Adhesives. The VOC level of Seal Bond 95 is less than 17g/L.

Tate Access Floors Technical Services Dept.

Tate® is a member of



Corporate Headquarters

Tate Access Floors, Inc.
7510 Montevideo Road
Jessup, MD 20794
www.tateaccessfloors.com
Tel: 410-799-4200
Fax: 410-799-4207



Installation Guide

KoldLok® 24" Extended Raised Floor Grommet

Part Numbers

3" x 24" - 10012

6" x 24" - 10013



Table of Contents

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| Tools and Product Components | Page 2 |
| Installation Procedures | Page 3 & 4 |
| Modifications to Product | Page 5 |
| General Information | Page 6 |
| Warranty | Page 7 |

Each carton contains the following items:

- KoldLok Extended Raised Floor Grommets (10)
- End Cap Sets—Left and Right Sides (10)
- Adhesive Mounting Kit (10)
- Self-Tapping #10 Screws (50)
- Installation Guide (1)

Tools and Preparation Required for Installation

Tools Required:

- Bandsaw, table saw, or other appropriate cutting tool
- Hand tools, including bolt cutters, pliers, hammer (or mallet), stake, and metal file

| Dimensions and Cutting Requirements | Inches (W x D) | Millimeters (W x D) |
|--|------------------------------|--------------------------------|
| Item No. 10012 3"x 24" - Overall size | 24" x 5.05" | 610 x 128mm |
| Maximum cutout size sealed | 24" x 4" | 610 x 102mm |
| Usable cable area | 22" x 2.5" | 559 x 64mm |
| Product height above the raised floor | 1" w/ mounting kit installed | 25mm w/ mounting kit installed |

| | | |
|--|------------------------------|--------------------------------|
| Item No. 10013 6"x 24" - Overall size | 24" x 8.08" | 610 x 205mm |
| Maximum cutout size sealed | 24" x 7" | 610 x 178mm |
| Usable cable area | 22" x 5.5" | 559 x 140mm |
| Product height above the raised floor | 1" w/ mounting kit installed | 25mm w/ mounting kit installed |

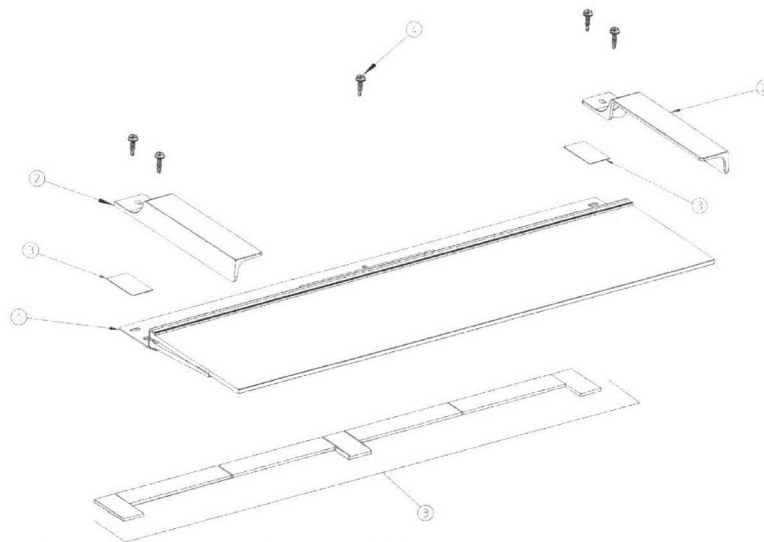
Preparation:

- Remove skirts and tip plates to access the cable cutout.
- Determine the maximum dimensions of the trimmed cutout. To ensure stability and proper sealing, the KoldLok Extended Raised Floor Grommet should have a minimum surface-to-floor contact of 1 inch (25mm) on three sides of the cutout. Otherwise, the Grommet cannot be used to effectively seal the cutout. Contact Upsite Technologies, Inc. at (888) 982-7800 for customized products and installation services designed to seal larger openings.
- Determine whether to install Grommets by screwing the product directly to the floor with the self-tapping screws or by using the Adhesive Mounting Kit.
- Clean the tile and bottom surface of the KoldLok Extended Raised Floor Grommet using an alcohol wipe or a clean cotton cloth, damp with a solution of at least 50 percent isopropyl alcohol. Helpful tip: When choosing your cleaning cloth, do not use fabric or paper that will disintegrate or leave particles that could interfere with the adhesive.
- The KoldLok Extended Raised Floor Grommet can be modified to fit special situations.

Product Components (see Figure 1)

1. KoldLok Extended Raised Floor Grommet.
2. Right and Left End Caps for protecting and sealing the end of the Grommet.
3. Adhesive Mounting Kit provided as an alternative mounting method if screws cannot be used. The kit includes seven foam strips with 2-sided adhesive backing to adhere the Grommet to the floor and two strips of double-sided adhesive tape to mount the End Caps to the Grommet.
4. Self-Tapping Screws are provided as the preferred method of securing the Grommet to the floor tile.

Figure 1



Installation Procedure with Self-Tapping Screws:

***IMPORTANT:** If the KoldLok Extended Raised Floor Grommets are being installed in an active data center, remove the floor tile and install the Grommet outside of the active data center environment. Following installation, return the floor tile and Grommet to the data center.

1. Position the Grommet over the cable cutout, with the flange resting on the floor tile and Grommet filaments covering the cutout.
2. Ensure the flange does not rest on top of any cutout trim. If the Grommet cannot be placed without resting on the cutout trim, install the Grommet with the Adhesive Mounting Kit. See Installation Procedure with Adhesive Mounting Kit on Page 4.
3. Once the Grommet is positioned as desired, drive a self-tapping screw through the center pre-drilled screw hole on the Grommet flange to attach the Grommet to the raised floor.

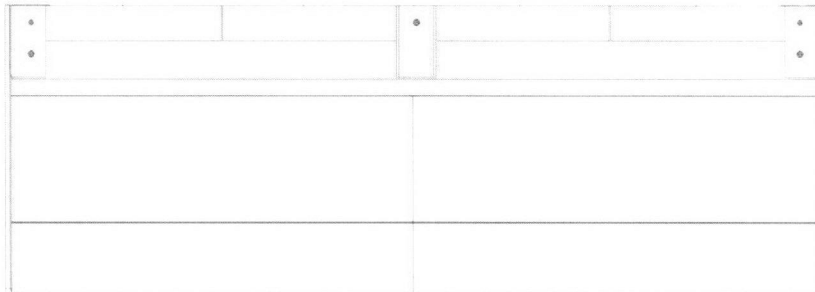
Installation Procedure with Self-Tapping Screws Continued:

4. Align the screw holes of one End Cap with the screw holes on the end of the Grommet flange. Use self-tapping screws to attach the End Cap and flange to the floor tile. The screw-hole design allows for horizontal and vertical positioning of the End Caps when attaching to the flange. NOTE: With the inside wall of the End Caps mounted against the flange, the installed Grommet can seal an opening the length of a 600mm floor tile. With the End Caps extended away from the flange, the installed Grommet can seal an opening the length of a 24-inch floor tile.
5. Repeat Step 4 with the other End Cap.
6. Attach the Grommet with the remaining screws.
7. Clean any residue that may have been created during installation.

Installation Procedure with Adhesive Mounting Kit (see Figure 2):

1. Remove one layer of adhesive backing from each of the three pads and mount on the bottom of the flange at the center and outside corners in a vertical position.
2. Remove one layer of adhesive backing from each of the four 5-inch strips. Mount strips between each vertical pad, along the rear edge of the flange that is furthest away from the brush holders.
3. Remove the second layer of adhesive backing from all seven adhesive strips. Position the Grommet on the floor tile and over the cable cutout.
4. Adhere the unit to the floor. Press down firmly on all portions of the unit to ensure a secure connection to the raised floor surface.
5. Use the two strips of thin double-sided adhesive to adhere the left and right End Caps to the top of the flange.
6. Mount the End Cap

Figure 2: Assembled Adhesive Mounting Kit

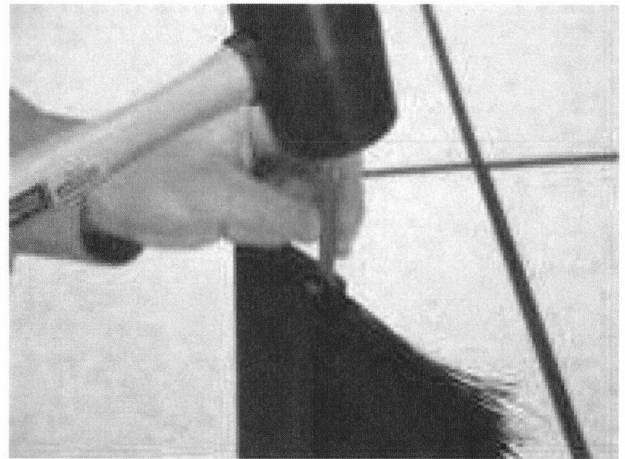


Modification of Extended Raised Floor Grommets

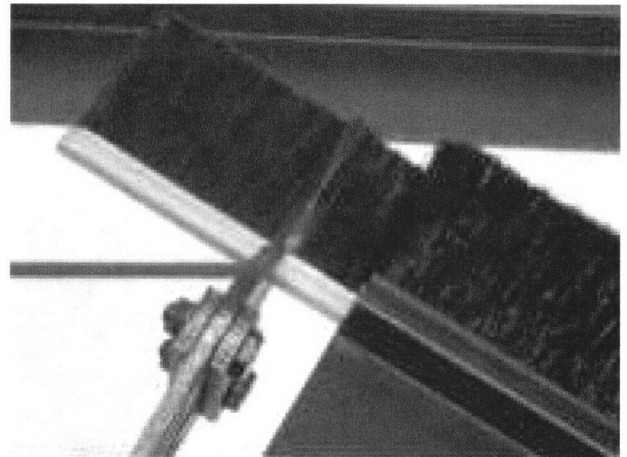
The KoldLok Extended Raised Floor Grommets can be modified to seal large and unique openings. The metal filament channel and Grommet flange may be cut to a desired length. ***IMPORTANT:** Never cut metal within the raised floor environment.

1. Using a hammer (or mallet) and stake, drive one of the metal filament channels out of the Grommet flange to the desired length.
2. Mark the desired cut line.
3. Use bolt cutters to cut and snap the metal filament channel.
4. Crimp the ends of the metal filament channel with pliers to prevent bristle escape. File any rough or sharp corners and edges.
5. Repeat Steps 1 through 5 for the other metal filament channel.
6. Mark the empty Grommet flange for cutting. Cut the flange with a saw.
7. File the cut edge of the flange.
8. Use a hammer (or mallet) and stake to reposition the metal filament channel in the Grommet so that the end of the metal filament channel does not protrude from the end of the flange channel.

Step 1



Step 3



Step 6



Installation Guide

KoldLok® 24" Extended Raised Floor Grommet

General Information

Effective Installation of Cables

In order to minimize any air loss from under the raised-floor plenum, allow for adequate slack in the cables. If the cables are under too much tension, the Grommet filaments may be pulled apart, resulting in a V-shaped gap that will cause an increase in the volume of air escaping from under the raised floor.

Cutting Raised Floor Tiles

Each raised floor tile manufacturer provides instructions to properly and safely modify their products. Installers must be familiar with and observe tile manufacturer's recommendations with regard to applicable tools, cutting procedures, the design load capacity of the cut tile, and any additional underfloor support requirements for cut raised floor tiles.

When installing the KoldLok Extended Raised Floor Grommet on a newly cut hole, trim the cutout prior to installation.

Maintaining Proper Cooling of Equipment

Failure to follow computer manufacturer's guidelines for maintaining proper cooling may result in the overheating of equipment. Before sealing gaps between racks, ensure that there is adequate airflow to the intake side of the computer equipment or cabinets through devices such as perforated floor tiles or grates. Achieving proper airflow to the intake side of computer equipment and/or cabinets is the responsibility of the customer.

Safety Requirements

Installers must be familiar with standard safety and risk management practices when working on server rack equipment or in data center environments.

Customer Support

If you have any questions, please contact us direct at (505) 798-0200, or Toll Free at (888) 982-7800
Email us at info@upsite.com



P/N 60227 Rev. A © 2012

Limited Warranty

KoldLok® 24" Extended Raised Floor Grommet

Upsite Technologies, Inc. (the *Company*) warrants to the original purchaser that products delivered hereunder will be free of defects in materials and workmanship for a period of twelve (12) months from the date of purchase (the "Warranty Period").

The *Company* shall, at its option, within the Warranty Period, either repair or replace free of charge, any product or part thereof found, upon the *Company's* inspection, to be defective in materials and workmanship, and will return the repaired or replaced product to the purchaser at *Company's* expense.

For warranty service and shipping instructions, contact the *Company* at the telephone number shown below. If the product is under warranty and the defect appears to be covered by this Limited Warranty, the *Company* will issue to the purchaser a Notice of Authorization For Warranty Return. Products returned to the *Company* for warranty service must be accompanied by a statement of defect, the Notice of Authorization for Warranty Return provided by the *Company*, and proof of purchase.

This Limited Warranty is conditioned on the following:

1. The *Company* must be notified within 12 months of purchase and have been given the opportunity of inspection by return of any alleged defective product free and clear of all liens and encumbrances to the *Company* or its manufacturer; and
2. The product must not have been abused, misused, or improperly maintained, and/or repaired during such period; and
3. Such defect has not been caused by corrosion or exposure to other than ordinary wear and tear.

The company makes no other express or implied warranty or representation of any kind whatsoever including any warranty of merchantability or fitness for a particular purpose and all such other warranties are hereby included.

The *Company's* maximum liability hereunder is limited to the purchase price of the product. In no event shall the *Company* be liable for any consequential, indirect, incidental, or special damages of any nature arising from the sale or use of the product, whether based in contract, tort, strict liability, or otherwise.

Note: Some jurisdictions do not allow limitations on incidental or consequential damages or how long an implied warranty lasts, so that the above limitations may not fully apply. This warranty gives specific legal rights and you may also have other rights which may vary from jurisdiction to jurisdiction.

For complete warranty and repair information Call (888) 982-7800 or visit upsite.com

Register your product online at www.upsite.com/warranty to initiate your warranty.

U.S. Patent No. 6,632,999 and International Patents Pending



ALLSTRUCTURE
Engineering LLC

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www.allstructure.com

STRUCTURAL DOCUMENTS

Project:

Allstructure #
18208.00

OHSU BICC DAS
Raised Access Floor
Prepared for PCI

Portland, Oregon

7/25/18

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NOTES:

Allstructure Engineering LLC was retained in a limited capacity for this project and is responsible only for the items described in these documents.

Tim Spengler PE, SE

Digitally signed by Tim
Spengler PE, SE
DN: C=US,
E=tims@allstructure.com,
O=Allstructure
Engineering LLC,
CN="Tim Spengler PE,
SE"
Date: 2018.07.25
16:06:05-07'00"



Expires 6/30/20

RAF OHSU

PROJECT INFORMATION

NAME: OHSU

LOCATION: PORTLAND, OR

SCOPE: THIS PROJECT IS TO DESIGN A RAISED ACCESS FLOOR. ITEMS IN THE DESIGN ARE THE PEDESTALS, THE ATTACHMENT TO FLOOR, AND A BRIDGE.

LOADING:

DEAD: 10 PSF

LIVE: 100 PSF

2000 lb VERT.

SEISMIC: 41.3 PSF (31.3% OF LL FOR SEISMIC WT. + 10 PSF)

SYMBOLS:

(A) - ASSUMPTION

(C) - CONSERVATIVE

(N) - APPROXIMATE

(E) - EXIST'G.



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OHSU BICC DAS

RAISED ACCESS FLOOR

PREPARED FOR PCI

BY GSG DATE 7/25/18

CHK BY DATE

JOB NO 18208.00

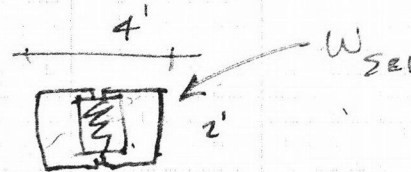
SHEET OF

RAF

- RACKS WL = 250 # PER PCI E.M.
- RACK FOOTPRINT $\approx 22" \times 24"$ VIA SCALE OF DWGS
- ASSUME (1) RACK PER (2) FLOOR TILES
- USE 100% OF WL

DL FLOOR ≈ 10 PSF (A)

$$\text{USE SEISMIC MASS EQUIV} = \frac{250}{(2+2)(12)} = 31.3 \text{ PSF}$$



FOR ANALYSIS

- USE 10 PSF FOR DL FLOOR
- USE 100 PSF FOR LL PER CODE (2000# FOR VENT)
- USE 31.3 % OR 31.3 PSF FOR % OF LL FOR SEISMIC.

FXL = 12" PER E.M.

7-28 LOOK
CANN



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PCI
OHSU BICCTAS

BY TFS DATE 7.19.12
CHK BY DATE
JOB NO 10208.07
SHEET OF

SEISMIC ($I_p = 1.5$)

$S_{OS} = 0.74$ MAX PORTLAND METRO.

$Z/H = 0.0$ (A) STATED @ BSMT IN EIT,

$I_p = 1.5$ $A_p = 1.0$ $R_p = 2.5$

$$0.7 F_p = \frac{(0.4)(0.74)(1.0)(1 + 2/1.5)(1.5)(0.7)}{1.5} = 0.21 W$$

$$(0.7) 0.3 F_{pmin} = 0.3 (0.74)(1.5)(0.7) = 0.233 W \quad \leftarrow \text{CONTROLS}$$

FFH = 12" PER PC1

SEISMIC ($I_p = 1.0$)

$$(0.7)(0.3 F_{pmin}) = 0.233 \frac{1}{1.5} = \underline{\underline{0.1553 W}}$$



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RAISED ACCESS FLOOR

PREPARED FOR PCI

BY TPS DATE 7/25/18

CHK BY DATE

JOB NO 18208.00

SHEET OF

Access Floor Pedestal Analysis

Based on the 2012 International Building Code and ASCE 7-10

Design Input

Vertical Loads:

| | | |
|-------------------------------------|-----|-------------------|
| $DL_{\text{floor}} =$ | 10 | psf |
| $LL_{\text{partition, seis}} =$ | 0 | psf |
| $LL_{\text{partition, vertical}} =$ | 0 | psf |
| $LL =$ | 100 | psf |
| $\% \text{ of } LL =$ | 31% | (used for W_p) |

Seismic:

| | | |
|------------|-------|---|
| $S_{DS} =$ | 0.740 | g |
| $a_p =$ | 1.0 | |
| $R_p =$ | 1.5 | |
| $I_p =$ | 1.0 | |
| $z/h =$ | 0.10 | |

Column Loads:

| | | |
|--|-----|-----|
| $P_{DL} =$ | 40 | lbs |
| $P_{LL} =$ | 400 | lbs |
| $P_{LL, 2,000\# \text{ point load}} =$ | 948 | lbs |
| $F_{p,7} =$ | 27 | lbs |

Pedestal Info:

| | | |
|---------------------|----|-----------------|
| $A_{\text{trib}} =$ | 4 | ft ² |
| $F.F.H. =$ | 12 | in |

| | | |
|-----------------------------|--------|----|
| Base plate dimension, $B =$ | 4.00 | in |
| Panel Thickness = | 0.188 | in |
| Moment Arm = | 11.812 | in |

* Use pipe depth if weld failure

Pedestal Analysis (Allowable Stress Design)

Overturning Moment:

| | | |
|----------------------------|-------|---------|
| $W_p =$ | 165.2 | lbs |
| $F_p =$ | 0.237 | * W_p |
| $F_{p, \text{max}} =$ | 1.184 | * W_p |
| $F_{p, \text{min}} =$ | 0.222 | * W_p |
| $F_{p,7, \text{design}} =$ | 27 | lbs |
| $M_{\text{ot},7} =$ | 323 | in-lbs |

Resisting Moment:

| | | |
|---|-------|--------------------------|
| $W_p =$ | 165.2 | lbs |
| CASE 1: Loaded orthogonal to base plate | | |
| $e =$ | 1.00 | in ($B/4$) |
| $M_{\text{resist}} =$ | 165 | in-lbs CONTROLS |
| CASE 2: Loaded diagonal to base plate | | |
| $e =$ | 1.41 | in ($(B/4)(\sqrt{2})$) |
| $M_{\text{resist}} =$ | 234 | in-lbs |

Net Moment:

| | | |
|---|-----|--------|
| $M_{\text{net}} = M_{\text{ot}} - (0.9)M_{\text{resist}}$ | | |
| $M_{\text{net}} =$ | 175 | in-lbs |
| $M_{\text{required}} = M_{\text{net}} * \text{F.O.S.}$ | | |
| $M_{\text{required}} =$ | 524 | in-lbs |

Req'd Factor of Safety = 3

Tate Type-1 pedestal w/ Seal Bond 95 Adhesive

< $M_{\text{tested}} = 1,222$ in-lbs **OK**

Check Adhesive:

| | | |
|--|-----|--------|
| $M_{\text{required}} = M_{\text{net}} * \text{F.O.S.}$ | | |
| $M_{\text{required}} =$ | 874 | in-lbs |

Req'd Factor of Safety = 5

< Adhesive on 5x5 Base plate: 9225 in-lbs **OK**

⇒ Use TATE 1 w/
SEALBOND on
2'x2' ARRAY.

RAF OHSU

BRIDGE DESIGN:

$$P_{LL} = 9481b$$

$$P_{OL} = 10psf(4ft)(2ft) = 801b$$

$$F_p = 0.1553((31.8psf + 10psf)(4ft)(2ft)) = 521b$$

$$P_{MAXZ} = 10281b$$

$$P_{MAXX} = 521b$$

BIAXIAL

$$M_{MAXZ} = \frac{10281b \cdot 4ft}{4} = 12336 K \cdot in$$

$$M_{MAXX} = \frac{521b \cdot 4ft}{4} = 624 K \cdot in$$

TRY C5x6.7

$$M_{AZ} = \frac{M_y}{\Omega} = \frac{36Ksi \cdot 0.757in^3}{1.67} = 16319 K \cdot in \quad (\text{NO LTB IN FLAT ANGLE})$$

$$M_{AX} = \frac{M_y}{\Omega} = \frac{36Ksi \cdot 3.55in^3}{1.67} = 76530 K \cdot in \quad (M_{MAXX} \text{ SO SMALL - NO NEED TO CONSIDER LTB})$$

$$DLR = 12336/16319 + 624/76530 = 0.76 < 1.0 \quad \checkmark$$

USE C5x6.7 FOR 4'-0" BRIDGE (C6x8.2 ALSO OK.)



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