APPLICATION FOR OSHPD PREAPPROVAL OF MANUFACTURER’S CERTIFICATION (OPM)

OSHPD Preapproval of Manufacturer’s Certification (OPM)

Type:  

Renewal/Update

Manufacturer Information

Manufacturer: Sencorp White
Manufacturer’s Technical Representative: Scott Crossman
Mailing Address: 12700 Stowe Dr., Ste. 220, Poway, CA 92064
Telephone: (508) 681-8868  Email: scott.crossman@sencorpwhite.com

Product Information

Product Name: VERTICAL CAROUSEL 21XXXX-102 SERIES
Product Type: Other Mechanical & Electrical Equipment
Product Model Number: 21XXXX-102 SERIES
General Description: Pharmaceutical Storage and Retrieval System

Applicant Information

Applicant Company Name: EASE LLC.
Contact Person: Tiffany Tonn
Mailing Address: 1515 FAIRVIEW AVE, STE 205, MISSOULA, MT 59801
Telephone: (406) 541-3273  Email: tiffany@easeco.com

STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY

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## Registered Design Professional Preparing Engineering Recommendations

**Company Name:** EASE

**Name:** Jonathan Roberson  
**California License Number:** S4197

**Mailing Address:** 5877 Pine Ave., Suite 210, Chino Hills, CA 91709

**Telephone:** (909) 606-7622  
**Email:** jon@EASECo.com

## OSHPD Special Seismic Certification Preapproval (OSP)

- Special Seismic Certification is preapproved under OSP
  - **OSP Number:**

## Certification Method

- Testing in accordance with:  
  - [ ] ICC-ES AC156  
  - [ ] FM 1950-16

- Other(s) (Please Specify):

*Use of criteria other than those adopted by the California Building Standards Code, 2019 (CBSC 2019) for component supports and attachments are not permitted. For distribution system, interior partition wall, and suspended ceiling seismic bracings, test criteria other than those adopted in the CBSC 2019 may be used when approved by OSHPD prior to testing.

- [ ] Analysis
- [ ] Experience Data
- [ ] Combination of Testing, Analysis, and/or Experience Data (Please Specify):

## OSHPD Approval

**Date:** 6/15/2020

**Name:** Jeffrey Kikumoto  
**Title:** Senior Structural Engineer

**Condition of Approval (if applicable):**
OPM-0134

Jeffrey Kikumoto
06/15/2020

GENERAL NOTES

1. THIS OSHPD PREAPPROVAL OF MANUFACTURER'S CERTIFICATION (OPM) IS BASED ON THE 2019 CBC. THE DEMANDS (DESIGN FORCES) FOR USE WITH THIS OPM SHALL BE BASED ON THE 2019 CBC

2. THIS DOCUMENT MAY ONLY BE USED WITH THE EXPRESS WRITTEN CONSENT OF THE MANUFACTURER LISTED ABOVE FOR THE SPECIFIC PROJECT SITE AND INSTALLATION LOCATION. THIS DOCUMENT IS INVALID WITHOUT SUCH CONSENT.

3. THIS PREAPPROVAL CONFORMS TO THE 2019 CALIFORNIA BUILDING CODE WHERE SDS IS NOT GREATER THAN 1.90 & 2.20. SEE DETAIL FOR APPLICABILITY

4. FORCES PER ASCE 7-16 SECTION 13.3.1, EQUATIONS 13.3-1, 13.3-2 & 13.3-3,

   WHERE SDS = 1.90, a_s = 1.0, I_P = 1.5, R_P = 1.5, z/h = 0 AT CONCRETE SLAB. SEE FOLLOWING SHEETS FOR Ω_s

   WHERE SDS = 2.20, a_s = 1.0, I_P = 1.5, R_P = 1.5, z/h = 0 AT CONCRETE SLAB. SEE FOLLOWING SHEETS FOR Ω_s

5. THIS PREAPPROVAL COVERS ONLY THE SUPPORTS AND ATTACHMENTS OF THE EQUIPMENT TO THE STRUCTURE.

6. ALL DESIGN FORCES SHOWN ON THE DRAWINGS ARE FACTORED LOADS THAT SHALL BE USED FOR STRENGTH DESIGN.

7. CONCRETE SLAB DETAIL VALID FOR DEMANDS SHOWN AT ANY ELEVATION AT OR BELOW GRADE. (i.e. z/h = 0)

8. RESPONSIBILITIES OF THE STRUCTURAL ENGINEER OF RECORD OF THE BUILDING

   A. PROVIDE SUPPORTING STRUCTURE TO SUPPORT WEIGHS AND FORCES SHOWN IN ADDITION TO ALL OTHER LOADS.

   B. VERIFY THAT THE INSTALLATION IS IN CONFORMANCE WITH THE 2019 CBC AND WITH THE DETAILS, MATERIAL AND GAGE OF THE UNIT WHERE ATTACHMENTS ARE MADE AGREE WITH THE INFORMATION SHOWN ON THE PREAPPROVAL DOCUMENTS.

   C. VERIFY THAT PROJECT SPECIFIC VALUES OF SDS & z/h RESULT IN SEISMIC FORCES (Eh, Ev) THAT DO NOT EXCEED THE VALUES ON THE DETAILS.

   D. VERIFY THAT THE CONCRETE SLAB TO WHICH THE EQUIPMENT IS ANCHORED MEETS THE REQUIREMENTS OF THE APPLICABLE ICC ESR. AND THIS OPM.

   E. VERIFY THAT THE ANCHORS ARE AN ADEQUATE DISTANCE FROM ANY SLAB EDGES OR OPENINGS (SEE Typical DETAIL ON SHEET 2).

   F. VERIFY THAT ALL NEW OR EXISTING ANCHORS ARE AN ADEQUATE DISTANCE FROM THE UNIT ATTACHMENTS AND CHECK FOR INTERACTION WHERE OTHER ANCHORS ARE WITHIN 18" OR 6HFW FROM THIS UNIT'S ANCHORS.
9. EXPANSION ANCHORS:

A. ATTACHMENT IS TO BE MADE WITH THE ANCHORS LISTED BELOW AND INSTALLED AS DESCRIBED IN THE CORRESPONDING ICC REPORT.

<table>
<thead>
<tr>
<th>Anchor Diameter</th>
<th>Concrete Type</th>
<th>Min. f’c (psi)</th>
<th>Anchor Type</th>
<th>ICC Report No.</th>
<th>Min. Embed.</th>
<th>Min. Spacing</th>
<th>Min. Edge Dist.</th>
<th>Min. Conc. Thickness</th>
<th>Torque Test</th>
<th>Direct Tension Test</th>
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<tbody>
<tr>
<td>5/8&quot;</td>
<td>Normal Weight</td>
<td>4000</td>
<td>Hilti Kwik Bolt TZ</td>
<td>ESR-1917</td>
<td>4&quot;</td>
<td>7&quot;</td>
<td>60&quot;</td>
<td>6&quot;</td>
<td>60 FT-LB</td>
<td>1370 lb</td>
</tr>
<tr>
<td>5/8&quot;</td>
<td>Normal Weight</td>
<td>4000</td>
<td>Hilti HIT-HY 200</td>
<td>ESR-3187</td>
<td>7&quot;</td>
<td>7&quot;</td>
<td>60&quot;</td>
<td>8.5&quot;</td>
<td>N/A</td>
<td>3230 lb</td>
</tr>
</tbody>
</table>

B. THIS PREAPPROVAL ALLOWS FOR UP TO A MAXIMUM OF 2 ADJACENT CONCRETE SLAB EDGES, 60” AWAY MINIMUM (i.e. - CORNER).

SEE ADJACENT DETAIL FOR ADDITIONAL MINIMUM ALLOWABLE CONCRETE EDGE DISTANCES.

C. TESTING AND SPECIAL INSPECTION OF EXPANSION ANCHORS SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY EMPLOYED BY THE FACILITY OWNER PER CBC 1704A & 1910A.5 AND CAC 7-149. ALL REPORTS SHALL BE SENT TO THE INSPECTOR OF RECORD, OWNER AND THE ARCHITECT OR ENGINEER IN RESPONSIBLE CHARGE.

(i) AFTER AT LEAST 24 HOURS HAVE ELAPSED SINCE INSTALLATION, DIRECT PULL TENSION TEST OR TORQUE TEST AT LEAST 50% OF THE ANCHORS.

(ii) ACCEPTANCE CRITERIA:

- DIRECT TENSION TEST: THE ANCHOR SHOULD HAVE NO OBSERVABLE MOVEMENT AT THE TEST LOAD. A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER BECOMES LOOSE.
- TORQUE TEST: THE APPLICABLE TORQUE MUST BE ACHIEVED WITHIN THE FOLLOWING LIMITS: WEDGE TYPE: 1/2 TURN OF THE NUT

(iii) IF ANY ANCHOR FAILS, TEST ALL ANCHORS.

D. AVOID DAMAGING EXISTING STEEL REINFORCING IN CONCRETE SLAB WHEN INSTALLING CONCRETE EXPANSION ANCHORS.

E. PROVIDE FOR FULL THREAD ENGAGEMENT OF NUT & WASHER.
CareFusion
VERTICAL CAROUSEL
(21XXX-102 SERIES)

SEISMIC SUPPORTS & ATTACHMENTS

CONCRETE SLAB

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<table>
<thead>
<tr>
<th>SLAB</th>
<th>Sos</th>
<th>BOLT TYPE</th>
<th>DIAM</th>
<th>EMBED</th>
<th>Enrh</th>
<th>(0.3)Enrh</th>
<th>Mor</th>
<th>(0.3) Mor</th>
<th>0.9Wp-Ev</th>
<th>Tu MAX</th>
<th>Vu MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>190</td>
<td>HILTI KB-TZ</td>
<td>5/8&quot;</td>
<td>4</td>
<td>17,785</td>
<td>5366</td>
<td>1,78,100</td>
<td>365,430</td>
<td>7195</td>
<td>1232</td>
<td>458</td>
</tr>
<tr>
<td>85</td>
<td>220</td>
<td>HILTI HIT-HY</td>
<td>5/8&quot;</td>
<td>7</td>
<td>20,617</td>
<td>6185</td>
<td>1360,722</td>
<td>408,217</td>
<td>6365</td>
<td>1510</td>
<td>529</td>
</tr>
</tbody>
</table>

NOTES:
1. FORCES ARE DETERMINED PER 2019 CALIFORNIA BUILDING CODE AND ASCE 7-16.
   STRENGTH DESIGN IS USED. (\(\alpha_p = 1.0\), \(\phi_p = 15\), \(\phi_R = 15\), \(\Omega_e = 1.5\), \(z/h = 0\))
2. CENTER OF GRAVITY (C.G.) AND WEIGHT ARE THE GOVERNING PARAMETERS FOR DESIGN. THIS PREAPPROVAL ENCOMPASSES
   ALL WEIGHTS UP TO THE MAXIMUM WEIGHT SHOWN.
3. STRUCTURAL ENGINEER OF RECORD FOR THE BUILDING SHALL PROVIDE
   SUPPORT STRUCTURE DESIGNED TO SUPPORT WEIGHT AND FORCES
   SHOWN, IN COMBINATION WITH ALL OTHER LOADS THAT MAY BE PRESENT.
4. SEE GENERAL NOTES: SHEETS 1 AND 2
SEISMIC SUPPORTS & ATTACHMENTS

USE 42- 5/8"@ SEE SCHED
(MIN. EMBED. (Lw) = SEE SCHED)
(SHEET 3 OF 4)

UNIT CHANNEL 15
11 GA, SS OR 50 (MIN), A1008

PLAN AT BASE

BOLT GROUP CENTER

C.G. WT. = 13,887 LB
(7" = 66")

3.75" 2.75"

1.5"

7"

13.5"

3.75" 2.75"

2.78" 1.75"

2.75"

1.75"

7.47" 7"

40.25" 43.75"

7" 7.47" 2.78" TYP

10/3/2020

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