

OSHPD Special Seismic Certification Preapproval (OSP)

Preapproval of Special Seismic Certification by OSHPD
is a **voluntary** program for Equipment Manufacturers!



Office of Statewide Hospital Planning and Development

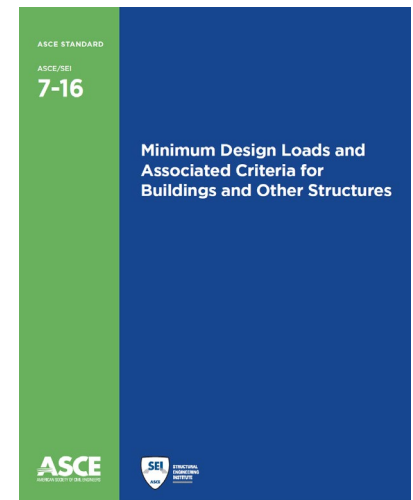
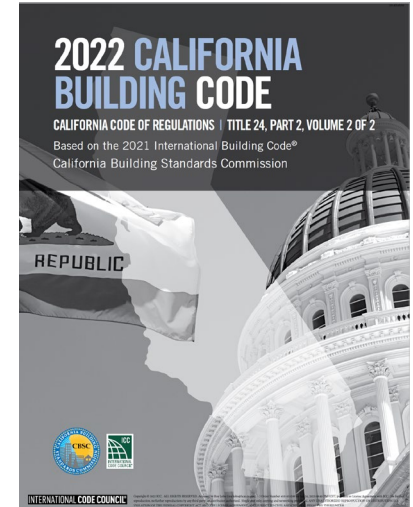
The Building Department for California's Hospitals

Scope of OSHPD Special Seismic Certification Preapproval (OSP)

- OSHPD Special Seismic Certification Preapproval (OSP) is limited to:
 - Components that require special seismic certification in accordance with the CBC 2022 Section 1705A.14.3

OR

- Components that require special seismic certification in accordance with the ASCE 7-16 Section 13.2.2



What is Special Seismic Certification?

Special Seismic Certification is a “Certificate of Compliance” provided by Manufacturers [CBC 2022 Section 1704A.5 Item #3] with assurance that after a Design Earthquake (DE) equipment shall maintain:

1. Structural Integrity, and
2. Functionality

Minimum Requirements for OSP

Compliance with the CBC 2022

Section 1705A.14.3 and HCAI [PIN 55](#)

Test of Two Units Required for Each Structural Configuration and Manufacturer

- **Test of two units** shall be required for **each anchorage or mounting configuration** and each Manufacturer
 - Different mounting types, such as wall mounted vs. floor mounted will require two tests for each configuration
 - If sub-component are made by different Manufacturer's, test of two units shall be required for each manufacturer

Testing Requirements for Virtually Identical Equipment with Two Different Materials

- If the **units are made of different materials** (e. g. Carbon Steel vs. Stainless Steel, etc.)
 - **Test of largest/heaviest unit of each material** can be used to satisfy the requirements for testing two representative equipment or component

Test Facility and Report Requirements

Compliance with the CBC 2022
Section 1703A.4 and [PIN 58](#)

Pre-Test Meeting with OSHPD is Recommended

- OSHPD strongly recommend that Manufacturer's representative and **California licensed structural engineer** in responsible charge of the OSP meet with OSHPD to review:
 - Test plan that will justify the scope of approval (OSHPD does not approve test plans)
 - Scope of pre-approval
 - Test standard and reporting requirements
 - Seismic Certification Label requirements

What is the Acceptance Criteria after Shake Table Testing?

Post-test acceptance criteria for shake-table testing shall be as required by ICC-ES AC 156:

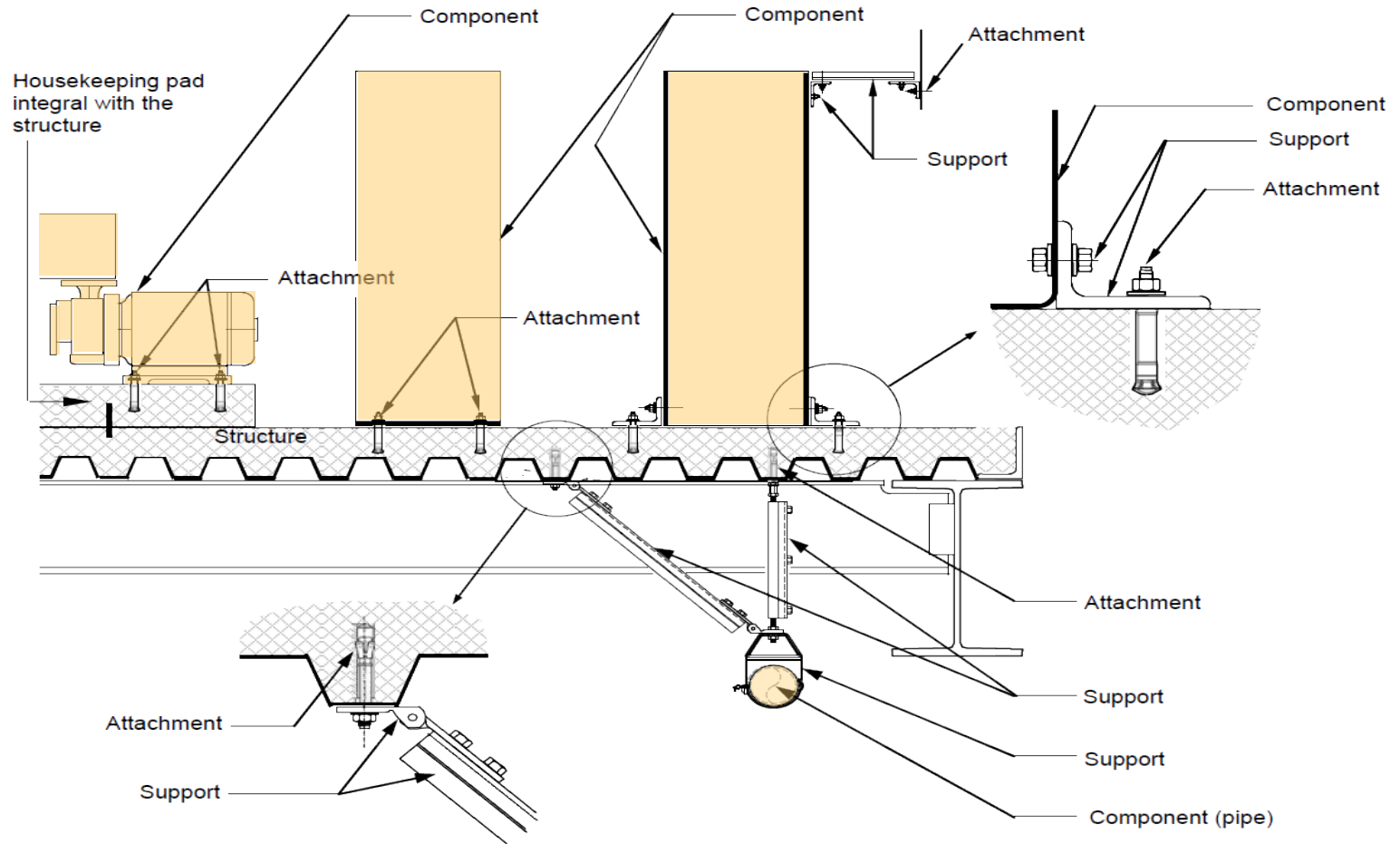
1. **Structural Integrity** of components, supports, and attachments shall be maintained
2. **Functionality** of components shall be maintained equivalent to pre-shake table test functionality test
 - *Functionality test shall be like what manufacturer normally performs prior to delivery of the components for use*

Can the Active Mechanical and Electrical Equipment get an OSP by analysis?

- **No!**

- Active and energized equipment/components shall be certified **exclusively** based on shake table testing
- ONLY connecting elements (such as pipes, interconnection between components, etc.), attachments, and supports can be justified by supporting analysis

What are Components, Supports, and Attachments?



What is a Component?

- **Component:** A part of an architectural, electrical, or mechanical system (e. g. equipment, component, sub-component, sub-assembly, etc.)
- **Nonstructural Component:** A part of an architectural, mechanical, or electrical system within or without a building or non-building structure

What is a Sub-Component?

- **Sub-Component** : A portion of an equipment or component that is uniquely identified by a part number (also known as model number or identification number)

What is a Subassembly?

- **Subassemblies:** A grouping or assemblage of sub-components and/or structural elements that require attachment to the component's primary force resisting system to achieve structural stability

What is a System?

- **System:** A group or combination of interrelated, interdependent, or interacting elements, equipment, or components forming a collective entity. Also, referred to as multi-component system

What is Equivalence?

- **Equivalence:** The material, method or work offered, is for the purpose intended, at least the equivalent of that prescribed in code in quality, strength, effectiveness, fire resistance, durability and safety

OSP Submittal Requirements

See [PIN 55](#) Items # 31 & 32

OSHPD Contact for Additional Information about OSP

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Does the Component Design need to Comply with the CBC 2022?

- **Yes!**
 - Demand and capacity shall be based on the CBC 2022

Can the Analysis be Bookended Similar to Testing?

- **No!**
 - Analysis is only good for the unit analyzed (limited variations and/or grouping may be acceptable)

Can I get an OSP by Analysis or Experience data?

- **No!**
 - OSP is based on test ONLY

What R_p value can be used for Special Seismic Certification?

- $R_p/I_p = 1.0$ for Special Seismic Certification by testing in accordance with ICC-ES AC 156
- $R_p = 1.0$ & $I_p = 1.5$ shall be used for analysis part of Special Seismic Certification, since functionality can't be verified by analysis
- ASCE 7-16 does not provide R_p and a_p values for special seismic certification
- R_p and a_p values in ASCE 7-16 can be used for design of supports and attachments

What Test Protocol should be used for Shake Table Testing?

ICC-ES AC 156 (2020)

Acceptance Criteria for Seismic Certification By Shake-Table Testing of Nonstructural Components

- *Where normal operating conditions of equipment involve variation of contents or configuration, each operating condition or configuration shall be simulated in the tests*
- *If uniaxial or bi-axial tests are used for certification, a test at 45-degree to two horizontal orthogonal directions shall be required in addition to tests in two horizontal and vertical directions*

Can Test of a Component with Rigid and Isolated Supports Justify Installation with Intermediate Support Conditions?

- **Yes!**

- Provided mounting configurations (e.g., installation is wall mounted, etc.) are similar and only difference is in the attachments, and
- Component is surface mounted

What is a Surface Mounted Component?

- **Surface Mounted Component:** Means component directly attached to only one continuous flat surface of wall, floor or roof, without supports. Surface mounted components are directly attached to a surface by attachments (without any supports) and are not rigidly connected to anything else (e.g., distribution system, other components, etc.)

Can the Supports and Attachments for Equipment with an OSP be Substituted?

- **Yes! Provided substituted supports and attachments have:**
 - Similar installation configurations (e. g. Support, Mounting, Attachment, Orientation, etc.), and
 - Equivalent Strength and Stiffness to those tested and approved

What does a Special Inspector Need to Verify in the Field for Special Seismic Certification?

Special Inspector shall verify:

1. **Label** for conformance with the certificate of compliance
2. **Anchorage or mounting** for conformance with the certificate of compliance and construction documents

Who provides Certificate of Compliance for Components?

- Manufacturer shall provide “Certificate of Compliance” for components with Special Seismic Certification in accordance with ASCE 7-16 Section 13.2.2
- The owner or owner’s authorized agent shall submit certificate of compliance to OSHPD in accordance with the CBC 2022 Section 1704A.5

Can a Single Product with Absolutely No Variation be Certified by One Test Only?

- **Yes! Provided:**

1. Manufacturing process is ISO 9001 certified
2. A single product (and not a product line with more than one product with variations) is certified
3. Variations, if any, are limited to software and color/branding

How much change can be made before OSP becomes invalid?

OSP will be nullified when:

- Design, construction, or quality control/quality assurance method are **materially altered** as defined in the California Administrative Code, 2022 Section 7-111

OR

- Strength, Stiffness, Size, Weight, Materials, Support, Orientation, or Manufacturer are changed/altered so that they are no longer equivalent to what was approved in the OSP

Can we Submit Multiple Products through a Single OSP Application?

- **Yes!**

- How the product will be grouped for approval is completely up to the Manufacturer

Will OSHPD Distribute Approved OSP's?

- **Yes!**
 - All approved OSP's will be posted at [OSHPD website](#)

Are Third Party Seismic Certification Subject to OSHPD Review?

- **Yes!**
 - Required by Health and Safety Code Sections 129680 and 129770
 - Required by the CBC 2022 Section 1601A.2

How Long will it take for OSHPD to review the OSP Application once Submitted?

- **OSHPD has a 60/30/30 Goal!**
 - New OSP Application Submittal shall be Reviewed within 60 days
 - Back Checks for OSHPD Comments will be Reviewed within 30 days
 - Renewal Request for OSP shall be Reviewed within 30 days

Sample Special Seismic Certification Label for Components with OSPs to Satisfy the CBC 2022!

Special Seismic Certification Label California Building Code

OSHPD Special Seismic Certification Preapproval: OSP-0XXX

Product Name: XXXX

Product Type: XXX

Seismic Performance Characteristics: $S_{DS}(g) = x.xx$, $z/h \leq 1.0$, $I_p = 1.5$

Manufacturer's Identification Number: XXXXXXXXXXXXXXXX

Company Logo

Label Tracking Number (If any)