SECTION 260548 - VIBRATION AND SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Vibration controls.

B. Related Requirements:

1. Section 260010 "Supplemental Requirements for Electrical" specifies additional requirements applicable to coordinating, scheduling, and sequencing of the Work specified in this Section.
2. Section 260529 "Hangers and Supports for Electrical Systems" specifies hangers and supports referenced by this Section.

1.2 DEFINITIONS

A. Designated Seismic System: An architectural, electrical, or mechanical system and its components for which the component importance factor is greater than 1.0 when determined in accordance with Section 018123 "Facility Seismic and Wind Criteria."

B. OSHPD: Office of Statewide Health Planning and Development (for the State of California owned and regulated medical facilities).

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Prepare and submit catalog cuts, brochures, and performance data illustrating size, physical appearance, and other characteristics of product.

B. Shop Drawings:

1. Detail fabrication and assembly of equipment bases.
2. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.
3. Show coordination of seismic and wind bracing for components with other systems and equipment in the vicinity, including other supports and seismic restraints.

Copyright © 2024 by the American Institute of Architects. Warning: This AIA MasterSpec based document is protected by U.S. Copyright Law and International Treaties. A valid, current MasterSpec license is required for editing or use of this document.

1.4 REGULATORY AGENCY APPROVALS

A. Delegated design submittals and shop drawings requiring approval by authorities having jurisdiction must be signed by qualified structural professional engineer responsible for their preparation. Submit for action by Architect prior to submitting for approval by authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Prepare design calculations in accordance with criteria specified in Section 260010 "Supplemental Requirements for Electrical" and Section 018123 "Facility Seismic and Wind Criteria."

B. Seismic and Wind Restraint Device Ratings: Devices must be tested and rated in accordance with applicable code requirements and authorities having jurisdiction. Devices must be listed by a nationally recognized third party that requires periodic follow-up inspections and has a listing directory available to the public. Provide third-party listing by one or more of the following: UL product listing an agency acceptable to authorities having jurisdiction.

C. Consequential Damage: Provide additional seismic and wind restraints for suspended components or anchorage of floor-, roof-, or wall-mounted components so that failure of a non-essential or essential component will not cause failure of any other essential building component.

D. Fire/Smoke Resistance: Seismic- and wind-restraint devices that are not constructed of ferrous metals must have a maximum flame-spread index of 25 and maximum smoke-developed index of 50 when tested by qualified testing laboratory in accordance with ASTM E84 or UL 723, and be so labeled.

E. Component Supports:

1. Load ratings, features, and applications of reinforcement components must be based on testing standards of qualified testing laboratory.

2.2 VIBRATION CONTROLS

A. Elastomeric Isolation Pads:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Eaton

Copyright © 2024 by the American Institute of Architects. Warning: This AIA MasterSpec based document is protected by U.S. Copyright Law and International Treaties. A valid, current MasterSpec license is required for editing or use of this document.

b. Unisorb

2. Standard Features:

a. Fabrication: Single or multiple layers of sufficient durometer stiffness for uniform loading over pad area.
b. Size: Factory or field cut to match requirements of supported equipment.
c. Pad Material: Oil and water resistant with elastomeric properties. Neoprene rubber, silicone rubber, or other elastomeric material.
d. Surface Pattern: Smooth, ribbed, or waffle pattern.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and equipment to receive seismic and wind control devices for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for reinforcement and cast-in-place anchors to verify actual locations before installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SELECTION OF VIBRATION AND SEISMIC CONTROLS

A. Multiple Raceways or Cables: Secure raceways and cables to trapeze member with clamps approved for application by an agency acceptable to authorities having jurisdiction.

B. Hanger-Rod Stiffeners: Install where indicated or scheduled on the Drawings to receive them and where required to prevent buckling of hanger rods caused by seismic forces.

C. Strength of Support and Seismic-Restraint Assemblies: Where not indicated, select sizes of components so strength will be adequate to carry static, wind, and seismic loads within specified loading limits.

3.3 FIELD QUALITY CONTROL

A. Nonconforming Work:

1. Seismic controls will be considered defective if they do not pass tests and inspections.
2. Remove and replace malfunctioning units and retest as specified above.

Copyright © 2024 by the American Institute of Architects. Warning: This AIA MasterSpec based document is protected by U.S. Copyright Law and International Treaties. A valid, current MasterSpec license is required for editing or use of this document.

B. Field Quality-Control Reports: Collect, assemble, and submit test and inspection reports.

END OF SECTION 260548

Copyright © 2024 by the American Institute of Architects. Warning: This AIA MasterSpec based document is protected by U.S. Copyright Law and International Treaties. A valid, current MasterSpec license is required for editing or use of this document.