
TESTING AND INSPECTION OF REMOTELY FABRICATED STRUCTURAL ELEMENTS

Disciplines: Structural**History:** Revised 11/09/20 Under 2019 CAC
Last Revised 05/08/18 Under Prior CBCs
Original Issue 08/13/03

Division of the State Architect (DSA) documents referenced within this publication are available on the [DSA Forms](#) or [DSA Publications](#) webpages.

PURPOSE

The purpose of this Interpretation of Regulations (IR) clarifies requirements for testing materials and inspection of the construction that takes place off-site. ←

SCOPE

This IR is applicable to off-site construction including, but not limited to: factory-built buildings, proprietary structural elements, poles for lights, curbs/platforms for HVAC units, prefabricated ramps, elevator guide rails, wood and/or steel open-web joists, wood trusses, etc. |

Exceptions: The following are outside the scope of this interpretation:

- The fabrication of bleachers (grandstands) is addressed in DSA's Interpretations of Regulations; see *IR 16-5: Design, Fabrication and Inspection of Bleachers, Folding and Telescopic Seating and Grandstands*.
- Packaged equipment such as HVAC units, motors, transformers, etc.
- Equipment that has received seismic certification pre-approval from the Office of Statewide Health Planning and Development (OSHPD).

BACKGROUND

In general, all aspects of the construction shown on the DSA-approved construction documents are subject to the California Building Code (CBC) and California Administrative Code (CAC) requirements for material testing and inspection, regardless of the location where the construction takes place. Since construction practices sometimes utilize specialized off-site manufacturing facilities to construct structures or portions of structures, this IR clarifies the requirements for inspection and structural tests of remotely fabricated items. |

1. DEFINITIONS**Factory-Built Building** ←

A building constructed in a plant at a location remote from the project site. Factory-built buildings include, but are not limited to: relocatable buildings, modular buildings (not relocatable), modular elevator towers, press boxes and modular shade structures.

Owner ←

For the purpose of this IR, owner shall be the State of California for state-owned or state-leased Essential Services Buildings. ←

Proprietary Structural Element ←


A structural element made or sold by a company or person that has the exclusive legal right to do so. Examples include, but are not limited to: moment connections qualified under the American Institute of Steel Construction (AISC) 358 and Buckling Restrained Braces. ←

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2. TESTING AND SPECIAL INSPECTION

2.1 Material test and special inspection requirements are listed on form *DSA-103: List of Required Structural Tests and Special Inspections* and in the DSA-approved plans and/or specifications for each project.

The School Board/Owner—with the advice of the responsible architect or engineer—shall select the Laboratory of Record (LOR) to conduct all required structural tests for the project, and special inspections which are contracted to the laboratory. All required structural tests and special inspection services shall be performed by qualified representatives of the LOR, and under the direct supervision of the LOR's DSA-accepted engineering manager.

The School Board/Owner may contract individually and directly with a special inspector that is approved by DSA and supervised by the design professional in general responsible charge in accordance with CAC Section 4-335(f)1.B. 

Exception: The LOR may subcontract structural tests and/or special inspections to a laboratory facility that is not DSA-accepted when all of the conditions of Sections 2.1.1 through 2.1.4 are met.

2.1.1 A facility accepted by DSA's Laboratory Evaluation and Acceptance program (LEA) does not exist within 300 miles of either the material supplier and/or the material fabrication location.

2.1.2 The required material test and/or special inspections are routine and the materials to be tested are used in an ordinary manner. Unusual materials and/or applications may require testing by an LEA-accepted facility at the discretion of the DSA field engineer for the project.

2.1.3 The facility to which services are subcontracted operates under the supervision of and reports directly to the LOR's approved engineering manager. The LOR's engineering manager shall verify the subcontracted facility's quality system management, personnel, equipment and operations meet the requirements of CAC Sections 4-335 and 4-335.1.

2.1.4 The LOR's engineering manager shall verify that all subcontracted tests and inspections are performed in accordance with the DSA-approved documents and that reports of such tests and inspections are submitted as required by code. Such supervision and control shall be evidenced by the engineering manager's signature and seal on the verified reports required by code.

3. GENERAL INSPECTION

Certain aspects of construction require inspection by an inspector approved by DSA, regardless of whether the construction occurs at an off-site facility or at the project site. In general, only Special Inspectors, DSA Class 1 inspectors (or equivalent for Essential Services Buildings), and Relocatable Building In-Plant inspectors are approved by DSA to inspect construction that occurs off-site.

Exceptions:

- With prior DSA District Structural Engineer (DSE) or their Supervisor's approval, DSA Class 2 and 3 inspectors may perform off-site construction inspection on projects within the inspector's classification. See *IR A-7: Inspector Certification and Approval* for project classification definitions.
- With prior DSA DSE or their Supervisor's approval, off-site inspection is not required if the nature of the construction allows the shop-fabricated assembly (excluding proprietary structural elements) to be fully inspected at the project site.

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3.1 Factory-Built Building In-Plant Inspection

Inspectors performing factory-built building “in-plant” inspection are responsible for all aspects of the inspection of construction and for monitoring all work of the testing laboratories and special inspection that occurs in the fabrication plant. Such aspects of construction include, but are not limited to plywood shear wall nailing, gypsum wall board installation, roofing, electrical or mechanical work, etc., and may include welding inspection provided the inspector is appropriately certified. In-plant construction shall not commence until form *DSA 152 IPI: In-plant Inspector Inspection Card/Verified Report* has been issued by DSA in accordance with *PR 13-01: Construction Oversight Process*. Inspection, reporting, employment and all other aspects of inspection are identical to those defined for project inspectors except that the scope of work for which the “in-plant” inspector is responsible will not be the entire scope of the project. The portions of the construction that will occur in the fabrication plant and the portions that will occur at the project site must be clearly defined as part of the DSA-approved documents.

Exception: For factory-built building stockpile projects, the construction performed in the fabrication plant is the entire scope of the project.

REFERENCES:

California Code of Regulations (CCR) Title 24
Part 1: California Administrative Code (CAC), Sections 4-330 through 4-339

This IR is intended for use by DSA staff and by design professionals to promote statewide consistency for review and approval of plans and specifications as well as construction oversight of projects within the jurisdiction of DSA, which includes State of California public schools (K–12), community colleges and state-owned or state-leased essential services buildings. This IR indicates an acceptable method for achieving compliance with applicable codes and regulations, although other methods proposed by design professionals may be considered by DSA.

This IR is subject to revision at any time. Please check DSA’s website for currently effective IRs. Only IRs listed on the webpage at www.dgs.ca.gov/dsa/publications at the time of project application submittal to DSA are considered applicable.