



tsunamis.

Japan has gone much further than the United States in outfitting new buildings with advanced devices called base isolation pads and energy dissipation units to dampen the ground's shaking during an earthquake.

The isolation devices are essentially giant rubber-and-steel pads that are installed at the very bottom of the excavation for a building, which then simply sits on top of the pads. The dissipation units are built into a building's structural skeleton. They are hydraulic cylinders that elongate and contract as the building sways, sapping the motion of energy .....

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Lastly, make sure you receive proper project documentation, including daily field reports, test results and a final letter, for your records.

## Building Construction



The next phase of testing begins with the building construction. Your Architect and Structural Engineer have prepared a set of plans and specifications based on current building codes, which require a minimum scope of testing and inspections to verify the quality of construction and materials. This work typically includes the inspection and testing of numerous types of materials used in your structure ranging from concrete and steel reinforcing for slabs and foundations to structural steel, masonry, and wood materials for the building super structure.

Most jurisdictions require that a special inspection form be signed by the owner, structural engineer, architect and a selected testing firm. This form contains a list of all of the required special inspections and testing, and is a commitment from the owner to perform all of the required work.

Most commonly, the owner is required to retain a building official approved Special Inspection firm. Only appropriately certified individuals are permitted to perform certain inspections and evaluations and these individuals are required to meet certain prerequisites for certification and must pass examinations. The building official typically maintains a list of approved testing firms listing the qualified work items each firm is approved to perform.

While some of the special inspections services may be similar to or the same as conventional testing services (i.e. checking steel reinforcing and casting of concrete cylinders for slabs and foundations), more involved inspections using specially qualified inspectors are required when special foundations such as deep piling or drilled piers are needed or for when structural system require welding, high strength bolts or post-tensioned concrete slabs/foundations.

When selecting a special inspection firm be sure that the firm is qualified to perform all the testing on required on your project and get personal referrals for reputable companies.

Make sure you understand what is being tested and what is not being tested when reviewing proposals. Additionally, be aware that only a minimum amount of testing is required by code. As the owner, you have the ability and the right to increase the amount of testing for your project based on your comfort level and particular needs. By working closely with your architect, structural engineer, and contractor, you may determine that some specific items not included on the typical list of inspections are important to your project's future performance, and therefore deserve additional inspection and testing.

Consider some contingency for additional testing due to a prolonged construction schedule, and unforeseen conditions that may arise during construction.



Lastly, make sure you receive proper documentation of all testing and inspections performed on the project for your records. Documentation of Special Inspections in the form of final letter is often required to obtain a certificate of occupancy.

Make sure the selected special inspection firm will provide the necessary final documentation in a timely manner.

**Next Month: Construction Phase Primer, Part One**

I encourage you to contact me personally with any questions you may have.

Sincerely,

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