Performance Based
FIRE PROTECTION ENGINEERING

How to Conduct a Smoke Control Special Inspection

A smoke control special inspection is a thorough examination mandated by building codes to assess and verify the design, installation, and functionality of smoke control systems within a building. Carried out by a qualified "special inspector" who has demonstrated competence in the testing and inspection of smoke control systems, the inspector ensures the smoke control systems operate as designed (and permitted) to enhance the safety provided to building occupants in the event of a fire. **Below is a general overview of the process**.

Pre-Special Inspection Phase

SCRA

- A qualified fire protection engineer (FPE) prepares the Smoke Control Rational Analysis. The FPE can also serve as the designated special inspector.

PLANS

- The Engineer of Record, who is usually a mechanical engineer, prepares plans and obtains smoke control system permits for construction.

CONTRACT

- The owner, developer, or general contractor hires the special inspector.

CONSTRUCTION OF THE BUILDING COMMENCES

Special Inspection Phase

STEP 1

The special inspector requests and reviews approved documentation: Smoke Control Rational Analysis, mechanical plans, fire alarm plans, electrical plans, etc.

STEP 2

The special inspector prepares the special inspection testing plan, or Smoke Control Test Plan, based on the system requirements contained within the provided documentation.

STEP 3

The special inspector issues the testing plan and reviews it with the project team to discuss roles and responsibilities and establish the timeline for construction /inspection.

STEP 4

On-site testing commences. The special inspector facilitates ductwork leak testing before concealment and confirms the proper installation of equipment, devices, and smoke barriers.

STEP 5

The special inspector issues a testing day report documenting any identified deficiencies.

STEP 6

More on-site testing occurs. This time, the special inspector facilitates functional testing in accordance with the issued testing plan to confirm the sequence of operations and performance criteria.

STEP 7

The special inspector issues a testing day report documenting any identified deficiencies.

STEP 8

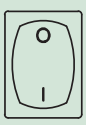
If necessary, the special inspector will facilitate the final testing of the smoke control system for the fire official to witness.

STEP 9

The special inspector prepares the final report certifying the as-built performance of the smoke control system to submit to the fire official for final approval.

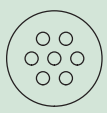
CONSTRUCTION OF THE BUILDING IS COMPLETE

Post-Special Inspection Phase



PERIODIC TESTING

The special inspector conducts periodic testing of the smoke control system to confirm performance as originally designed.



REEVALUATION

Any building modifications will undergo reevaluation of the smoke control system design and performance testing.

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