

The background features a dark blue gradient with a series of curved, parallel lines that create a sense of depth and movement. On the right side, there is a grid-like pattern of light blue lines that recedes into the distance, giving the impression of a tunnel or a perspective view.

Special Inspections

2012 INTERNATIONAL BUILDING CODE
FIRE PROTECTION

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Chapter 2

DEFINITIONS

Definitions

- **SPECIAL INSPECTION.** Inspection of construction requiring the expertise of an *approved special inspector* in order to ensure compliance with this code and the *approved construction documents*.

Definitions

- **Continuous special inspection.** Special inspection by the *special inspector* who is present when and where the work to be inspected is being performed.

Definitions

- **Periodic special inspection.** Special inspection by the *special inspector* who is intermittently present where the work to be inspected has been or is being performed.

Definitions

- **SPECIAL INSPECTOR.** A qualified person employed or retained by an *approved* agency and *approved* by the *building official* as having the competence necessary to inspect a particular type of construction requiring *special inspection*.

Section 1604.5

RISK CATEGORIES

Risk Category

- **1604.5 Risk category.** Each building and structure shall be assigned a *risk category* in accordance with Table 1604.5.

Multiple Occupancies

- Where there are two or more occupancies with different risk categories, the highest risk category shall be used.
- If the occupancies are structurally independent with separate access and egress, they shall be classified separately.

Risk Category I

Buildings and other structures that represent a low hazard to human life in the event of failure, including but not limited to:

- Agricultural facilities.
- Certain temporary facilities.
- Minor storage facilities.



Risk Category II

Buildings and other structures except those listed in Risk Categories I, III and IV



Risk Category III

Buildings and other structures that represent a substantial hazard to human life in the event of failure, including but not limited to:

- Assembly > 300
- Education > 250
- I-2 \geq 50 residents *
- I-3
- Public Utilities **



Risk Category IV

Buildings and other structures designated as essential facilities, including but not limited to:

- I-2 Surgery/Emergency
- Fire/Rescue/Police
- Emergency Shelters
- Emergency Response
- Public Utilities*



Chapter 17

SPECIAL INSPECTIONS & TESTS

Section 1701 - General

- Scope
- New Materials
- Used Materials

Section 1703 - Approvals

- Approved Agencies
 - Listing
 - Labeling

Section 1704

- Special Inspections
- Contractor Responsibilities
- Structural Observations

Special Inspections

- Owner or Registered Design Professional
 - Exceptions
 - Minor (AHJ)
 - Group U accessory to Group R (AHJ)
 - Light Frame Steel (2211)
 - Light Frame Conventional (2308)

Special Inspector

- Qualifications
 - Written Documentation
 - Acceptable to AHJ
 - Knowledgeable in Area
 - RDP or E of R
 - Independent

Special Inspections

- Work shall remain accessible until inspection is complete
- Reports and Records

Section 1705

- Required Verification and Inspection
- Special Cases
 - Alternative Materials
 - Unusual Design
 - Materials and Systems

Section 1705.13

- Sprayed Fire-Resistant Materials
 - Based on Design or Manufacturer
 - Performed AFTER Rough-in
 - Electrical
 - Mechanical
 - Fire Protection
 - Plumbing

Section 1705.13

- Tests
 - Condition of substrate
 - Thickness of application
 - Density
 - Bond Strength
 - Condition of finished application

Section 1705.14

- Mastic and Intumescent Coatings
 - Based on Design and Manufacturer
 - Special Inspections are to be in accordance with AWCI 12-B

1705.16

- Fire-Resistant Penetrations and Joints
 - High Rise
 - Risk Category III or IV

1705.16

- Fire-Resistant Penetrations and Joints
 - Through Penetrations
 - Membrane Penetrations
 - Fire-resistant Joints
 - Perimeter Fire Barrier Systems

1705.16

- Penetration Firestops
 - Tested and Listed Systems
 - Approved Agency
 - ASTM E2174

ASTM E2174

- Latest Edition 2014b (January 2015)
 - Minimum Inspector Qualifications
 - Systems Requiring Inspection
 - Standard Guidelines and Reporting
 - Means of Compliance Verification

Inspector Qualifications

- Acceptable to AHJ
- Minimum 2 Years Experience
- Completely Independent
 - Installer, Contractor, Manufacturer, or Supplier
 - Not a competitor of above

Inspections

- Verify Materials Used
- Verify Systems are Correctly Installed
 - Observing
 - Measuring
 - Destructive Testing

Inspection Frequency

- Onsite and Witness at Least 10% of Each Type Installed
- Post Installation
 - Destructive Testing
 - At Least 2% of each system
 - Additional 2% for Failure after Repair
 - 10% Failure Inspections Stop

1705.16

- Fire-resistant Joint Systems
 - Tested and Listed Systems
 - Approved Agency
 - ASTM E2393

ASTM E2393

- Latest Edition 2010a (September 2015)
 - Minimum Inspector Qualifications
 - Systems Requiring Inspection
 - Standard Guidelines and Reporting
 - Means of Compliance Verification

Inspector Qualifications

- Acceptable to AHJ
- Minimum 2 Years Experience
- Completely Independent
 - Installer, Contractor, Manufacturer, or Supplier
 - Not a competitor of above

Inspections

- Verify Materials Used
- Verify Systems are Correctly Installed
 - Observing
 - Measuring
 - Destructive Testing

Inspection Frequency

- Onsite and Witness at Least 5% of Linear Feet for Each System Installed
- Post Installation
 - Destructive Testing
 - At Least 1 sampling per 500 feet
 - Additional sampling for Failure after Repair
 - 10% Failure Inspections Stop

Section 1705.17

- Special Inspection for Smoke Control
 - During Erection of Ductwork
 - Leakage Testing
 - Device Locations
 - Prior to Occupancy
 - Pressure Difference Testing
 - Flow Testing
 - Control Verification

Section 1705.17

- Inspector Qualifications
 - Fire Protection Engineering
 - Mechanical Engineering
 - Certified Air Balancing

Life Safety Code

- 7.2.1.15 Inspection of Door Openings
 - Panic / Fire Exit Hardware
 - Exit Enclosures
 - Electrically Controlled Egress Doors
 - Special Locking Arrangements (7.2.1.6.)

Life Safety Code

- Fire Doors (NFPA 80)
- Smoke Doors (NFPA 105)
- Not less than Annually
- Written Record of Inspection
- Competent Individuals

Minimum Elements

- Floor Space
- Forces to Open
- Latching / Locking
- Releasing Devices
- Pair Doors
- Closures
- Door Projections
- Powered Doors
- Signage
- Special Locking
- Security Devices

Questions?

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