Where - Risk Category IV Buildings

Towers, Control Centers & Emergency Hangers

Structures for National Defense

Material Storage
Exceeding Table 307.1 (2)

What About Other Occupancy Types?

...including but not limited to:

Applies to ANY Occupancy

2015 IBC 1705.1.1

...in the opinion of the building official... unusual in its nature... such as...

...systems to be installed according to manufacturers instructions & requirements... not contained in this code

Applies to ANY Occupancy

110.3.8 Other inspections. In addition to the inspections specified above, the building official is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code and other laws that are enforced by the department of building safety.

...authorized to make or require other inspections of any construction work...
Read the Firestop spec

Look for it during Plan Review

Inform during Plan Review!

Who Pays?

1704.2 Special Inspections and tests

"...owner or owner's authorized agent, other than the contractor, shall employ..."

REVIEW

1. It Will NOT Happen Without YOU!
2. Current Failure Rates are 90%+
3. Sections 1702 & 1705 Are Your Authority
4. Can Fail Visually, Cannot Pass Visually
What Are The Inspection Standards?

Inspectors MUST be Approved Beforehand

How Inspections Should Be Conducted

What Reports Shall Be

All Special Inspections

1705.2.1 Special inspector qualifications.

The special inspector shall submit documentation to the building official demonstrating their competence and relevant experience or training. Experience or training shall be considered relevant when the documented experience or training is relevant in complexity to the type of special inspection to be provided. Qualifications shall include knowledge of building codes and materials qualities. These qualifications may be in addition to qualifications specified in other sections of this code.

“Before the start of construction...”

Shall provide written documentation of...

...competence

...relevant experience

...training

Considered relevant when...

...related in complexity

...same type of inspection

...projects of similar complexity

How Do You Evaluate All of That??

How Do You Spot A Qualified Inspector?
ASTM Standard E3038

Defines who is qualified based on clear criteria

Pre-requisite experience

In firestop...
...inspection – 2 yrs
...engineering – 2 yrs
...installation – 4 yrs

Geo/Tech is Not...

Concrete Testing is Not...
**Weld Inspection is Not...**

Training cards ≠ certification!

IFC requires 8 hours + exam

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**ASTM Standard E 3808**

Qualifications

Standardized firestop industry training and examinations

Designated Responsible Individual (DRI)

Certificate Holder

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**ASTM Standard E 3038**

Training

Training cards ≠ certification!

IFC requires 8 hours + exam

---

**ASTM Standard E 3038**

Conflict of Interest Affidavit

Divested from & not a competitor of the:

- Installer
- Contractor
- Distributor of products
- Manufacturer of products

Manufacturer reps CANNOT inspect!
Who are you going to allow to be an extension of you??

In accordance with ASTM E2174 - E2393

Are You Getting Code Required Reports??

Know & Follow the Inspection Standards?

Independent – No Conflict of Interest

AHJ Approved – Beforehand!

Checklist & Commentary & Questionnaire

Protocol #1 – Installation Observation

Randomly observe installation of 10% of each type of firestop per 10,000 sq. ft.

…OR
Why Destructive Testing?

5/8" Gypsum removed
Chemically bound H₂O
Replaced with what?
How much?

1 1/4" ?
2 hr

1 1/4" ?

F-Rating
1 or 2 hours

Minimum 5/8" depth
Why Destructive Testing?

How Much Destructive Testing?
Through Penetrations
Minimum 2%, not <1 of each TYPE.
Per floor or per 10,000 sq ft.
One wrong? Do one more...
...up to 10% of total.

What Reports Should You Get?

How Long Should Inspections Take?

Chronological Within 2 days
order % of deficiencies per
type 1 page per system
Each Within 1 Total as
deficiency day % of all
Executive penetrations
Summary Type & quantity of each
Four Possible Inspection Phases

- Floor penetrations
- Head of Wall
- Through penetrations
- Low Voltage
### Daily Summary is Key

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<th>System</th>
<th>Total Quantity</th>
<th># Sampled</th>
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<th># Deficient</th>
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<th># Repaired</th>
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<td>5%</td>
<td>3</td>
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<td>3</td>
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<td><strong>8%</strong></td>
<td><strong>7</strong></td>
<td><strong>14%</strong></td>
<td><strong>6</strong></td>
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</table>

1248 openings inspected

841 systems inspected = 1248 openings

12,000+

18 inspections
416 beds - 4 floors
118,700 sq. ft.
12,800 penetrations
10,000 LF joints
28 inspections

3 Stage Approval Process

Must Notify During Plan Review
Require Qualifying Documents
ASTM E 3038
Bidders
Confirmed By Reports Submitted

Preventing Bad Inspection
Caulk cannot cover collar
Wrong material
Installed over joint compound

Preventing Bad Inspection
No GWB lid
No collars at all
Wrong material
Preventing Bad Inspection

Seriously???

Preventing Bad Inspection

Correct material!
Nothing in annular space

Preventing Bad Inspection

No sealant
IN
The annular space

Preventing Bad Inspection

Installer: “It was hard to get to”
Inspector: “It was hard to get to!”
REVIEW

1. ASTM Standards are Now Code
2. AHJ Must Approve the Inspector
3. No One Can Inspect From the Floor!!
4. No One Can Inspect Just Visually!!

90% Failure
75% Smoke
60% Outside

Mock Up Review
Wrapping it all up!

8 slides left!

Please complete sign in form
Certificate & CEU Reporting
Check boxes for items you want:
✓ ASTM 3808 Checklist & Questionnaire
✓ Monthly Newsletter
✓ Sample Inspection Reports

Please complete evaluation form

Systems Rule!
Without systems installers are just smearing “red stuff”
No basis for inspection
90% deficient
Need Total Enforcement

Special inspection of firestopping is a culture change, not just a code change

Set the Rope!!
Who Gets In
Who Stays Out

Section 1705.17
Section 1705.2
ASTM 3038

What’s Right
What’s Wrong
Systems
Systems
ASTM 2174/2393
If Not Now, When?
If Not You, Who?
Help Me Help You

Final Questions??
Thank you. Thank you very much!