



# CODE UPDATES: COMBUSTIBLE EXTERIOR WALL COVERINGS



build safe | live safe

*presented by*  
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# PRESENTATION DESCRIPTION

In this presentation, in an effort to protect the health, safety and welfare of the building occupants and the surrounding neighborhood, the significant changes in the 2022 Building Code as they pertain to combustible materials on exterior walls are reviewed. Areas of the Code that will be covered shall include Chapter 7 (Fire and Smoke Protection Features), Chapter 14 (Exterior Walls), Chapter 26 (Plastics), and Chapter 17 (Special Inspections). Significant updates to the 2022 Building Code's chimney and vent provisions will also be discussed.

# AGENDA

- **Combustible Exterior Walls**

- Mediation Overview
- BC 718.2.6: Fireblocking
- Chapter 14: Exterior Walls and Combustible Materials
- BC 1407, 1408, 1409, 2603: MCM, EIFS, HPL and Foam Plastic Insulation
- BC 1705.16: Special Inspections of Combustible Exterior Wall Coverings

- **Chimneys and Vents**

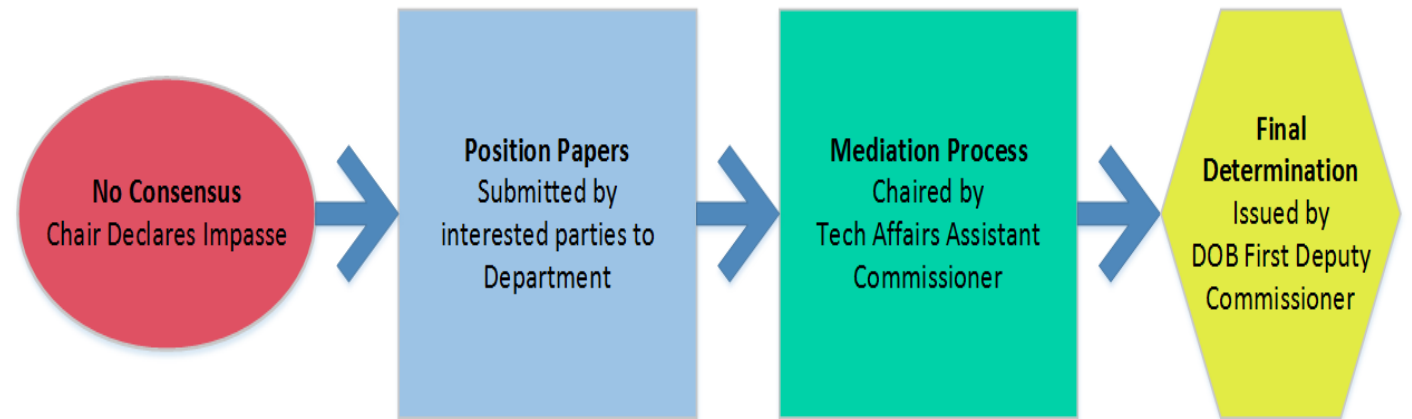
# CRM COMMITTEE MEDIATION: MEDIATION PROCESS

## What is a mediated item?

A mediated item is any code related issue, subject, or provision that has reached an impasse during a **technical** committee's review.

## What is mediation?

Is when a technical committee cannot come to consensus on an issue, the Chair declares an impasse and requests mediation from the Department.



# CRM COMMITTEE MEDIATION: PARTICIPANTS



# COMBUSTIBLE EXTERIOR WALLS: COVERED TOPICS



SOURCE: [wallsystems.master-builders-solutions.com](http://wallsystems.master-builders-solutions.com)



SOURCE: [wallsystems.master-builders-solutions.com](http://wallsystems.master-builders-solutions.com)

- All exterior walls made from combustible materials required to undergo testing to industry standards (NFPA 285).
- Filing details and special inspection review for all buildings using exterior walls made from combustible materials.
- All exterior walls made from combustible materials require non-combustible fire blocking installed periodically.
- In existing buildings, 3-foot horizontal band made of non-combustible material (brick) must be installed to separate each floor of combustible material when not protected by full-building sprinkler system.

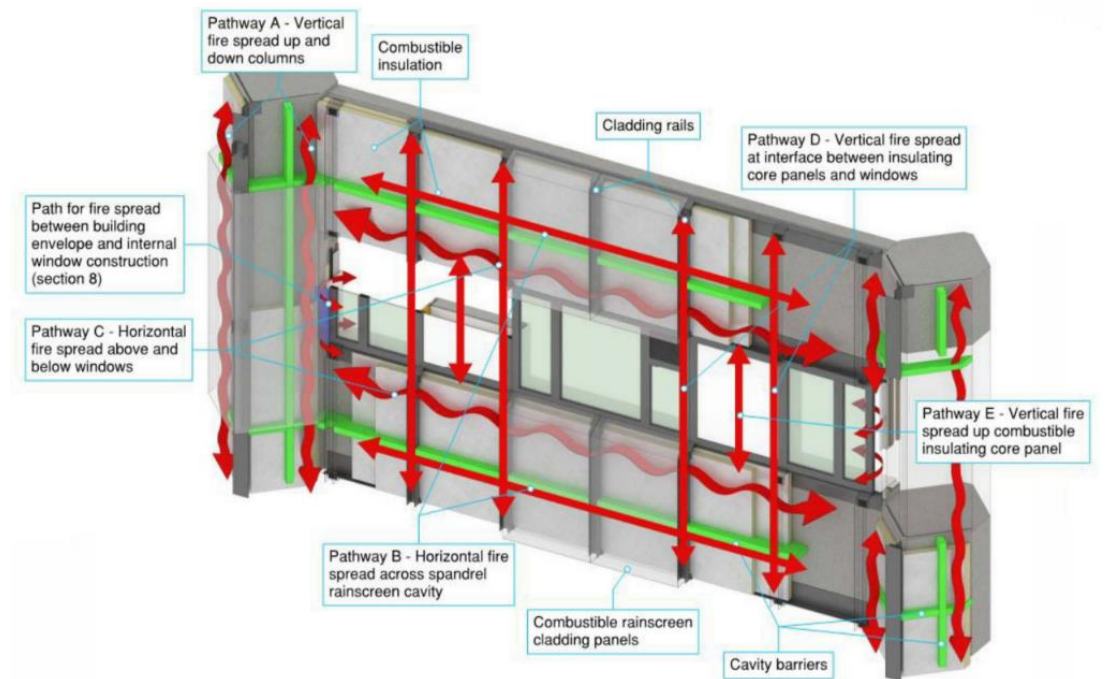


# COMBUSTIBLE EXTERIOR WALLS

## *BC 718.2.6: Fireblocking*

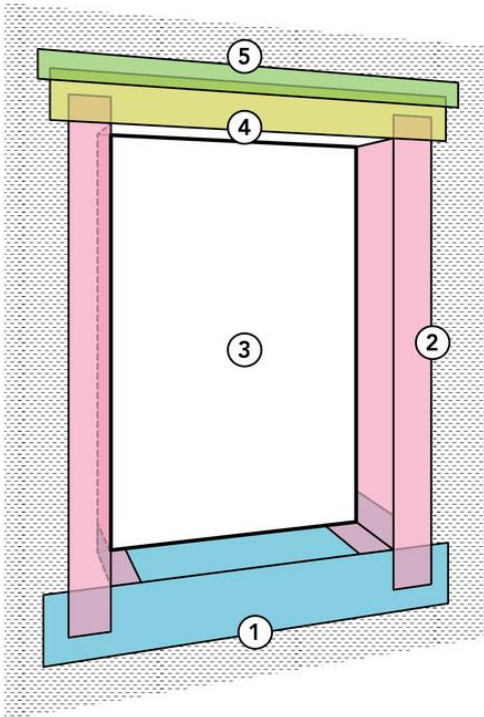
# BC 718.2.6: COVERED TOPICS

- **BC 718.2.6**  
Overall Fireblocking Scope and Exceptions
- **BC 718.2.6.1**  
Fireblocking at Exterior Walls with Plastics, MCM, and HPL
- **BC 718.2.6.2**  
Fireblocking at Exterior Walls with Foam Plastic Insulation



SOURCE: Grenfell Tower – fire safety investigation. Report of Dr Barbara Lane, Phase 1 Report – Section 10

# BC 718.2.6: ARCHITECTURAL TRIM



SOURCE: [poahbod.org](http://poahbod.org)

**718.2.6 Architectural trim.** Fireblocking shall be installed within concealed spaces of exterior wall coverings and other exterior architectural elements where permitted to be of combustible construction as specified in Section 1406 or where erected with combustible frames, at maximum intervals of 20 feet (6096 mm) so that there will be no open space exceeding 100 square feet (9.3 m<sup>2</sup>). Where wood furring strips are used, they shall be of approved wood of natural decay resistance or preservative treated wood. If non-continuous, such elements shall have closed ends, with at least 4 inches (101.6 mm) of separation between sections. **For the purposes of this section, fenestration products, and flashing of fenestration products and water-resistive barrier flashing and accessories at other locations, including through wall flashings and attachment accessories, shall not be considered combustible construction.**

## **ANALYSIS:**

*As part of larger text changes for combustible exterior wall coverings, added new text to clarify that minor, non-contiguous, combustible components are not considered combustible construction.*

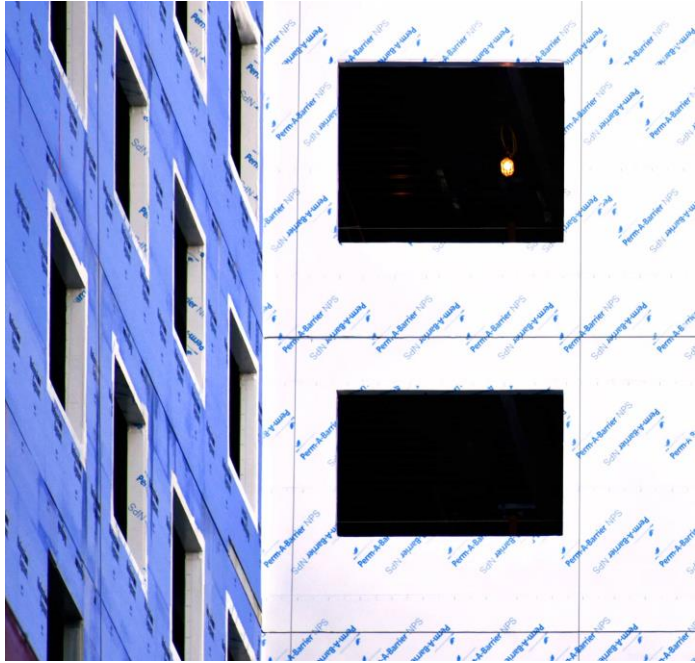
# BC 718.2.6: EXCEPTIONS



SOURCE: [gcpat.com](http://gcpat.com)

1. Fireblocking of cornices is not required in single-family dwellings. Fireblocking of cornices of a two-family dwelling is required only at the line of dwelling unit separation.
2. Fireblocking shall not be required where the exterior wall covering does not contain plastic or foam plastic insulation, is installed on noncombustible framing and the exterior wall covering is one of the following materials:
  - 2.1. Aluminum siding having a minimum thickness of 0.019 inch (0.5 mm).
  - 2.2. Corrosion-resistant steel siding not less than 0.016 inch (0.4 mm) at any point.

# BC 718.2.6: EXCEPTIONS



SOURCE: [gcpat.com](http://gcpat.com)

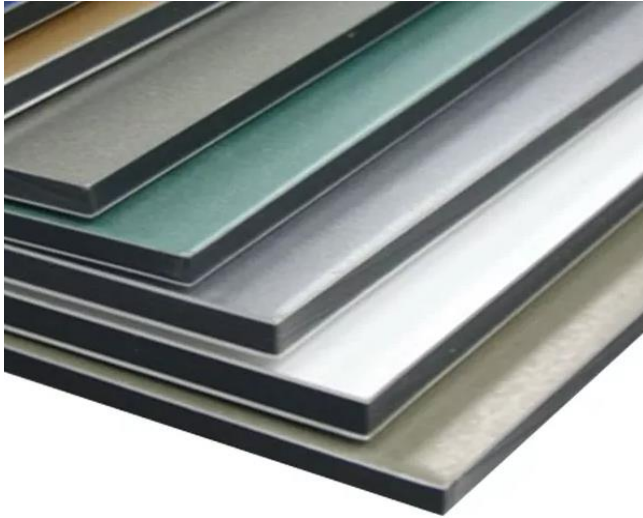
**2.3. Walls in which the water-resistive barrier is the only combustible component, and the exterior wall has a wall covering of brick, concrete, stone, terra cotta, stucco or steel with minimum thicknesses in accordance with Table 1405.2.**

**3. Exterior wall coverings containing plastics, metal composite materials (MCM) or high-pressure decorative exterior-grade compact laminates (HPL) panels shall comply with Section 718.2.6.1.**

## **ANALYSIS:**

*As part of larger text changes for combustible exterior wall coverings, modified Exc. 2 and 3 to exempt fireblocking when used with non-combustible exterior wall coverings and direct combustible exterior wall coverings to BC 718.2.6.1.*

# BC 718.2.6.1: PLASTICS, MCM & HPL ON EXTERIOR WALLS



SOURCE: [novatechwallsystems.com](http://novatechwallsystems.com)

**718.2.6.1 Exterior wall coverings containing plastics, metal composite materials (MCM) or high-pressure decorative exterior-grade compact laminates (HPL) panels.** Exterior wall coverings containing plastics complying with Chapter 26, metal composite materials (MCM) or high-pressure decorative exterior-grade compact laminates (HPL), shall be fireblocked.

**718.2.6.1.1 Locations.** Noncombustible fireblocking materials shall be required at all of the following locations to cut off concealed spaces within the exterior wall covering:

1. Around wall openings.
2. In alignment with the slab edge, for a height of not less than 8 inches (203.2 mm), and at maximum intervals of 20 feet (6096 mm) vertically.
3. Between different occupancy groups, horizontally or vertically, as applicable.

## **ANALYSIS:**

*As part of larger text changes for combustible exterior wall coverings, new text added to require fireblocking at specific locations when using combustible exterior wall coverings*

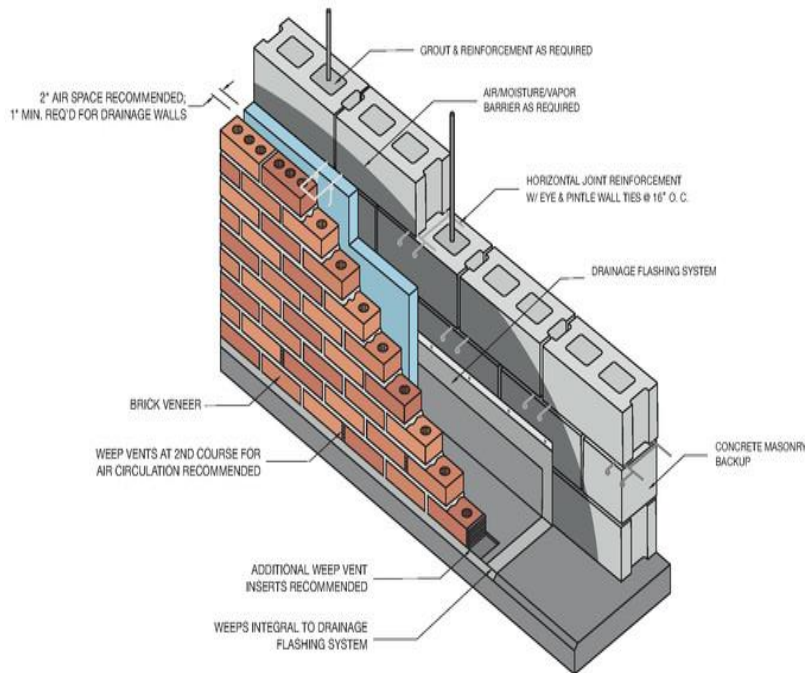
# BC 718.2.6.1.2: FOAM PLASTIC INSULATION

**718.2.6.1.2 Foam plastic insulation.** Foam plastic insulation in the exterior wall covering shall be interrupted with noncombustible materials approved for fireblocking at locations specified in Section 718.2.6.1.1.

## EXCEPTIONS:

1. One-story buildings complying with Section 2603.4.1.4.
2. Fireblocking shall not be required at each floor level and interrupt the foam plastic insulation provided the foam plastic insulation has a flame spread index of not more than 25 as determined in accordance with ASTM E 84 or UL 723 and comply with the following conditions:

**2.1. Concrete and masonry veneer.** Fireblocking material shall not be required at each floor level for concrete or masonry veneer installed less than 75 feet (22 860 mm) above grade as part of an exterior wall covering containing foam plastic insulation, with or without air space, and installed on masonry or concrete backup walls.



SOURCE: [archdaily.com](http://archdaily.com)

# BC 718.2.6.1.2: FOAM PLASTIC INSULATION

- 2.2 Exterior insulation and finish systems (EIFS). Fireblocking material shall not be required at each floor level for EIFS containing foam plastic insulation installed less than 75 feet (22 860 mm) above grade and installed on masonry or concrete backup walls.
3. Detached one- and two-family dwellings. Fireblocking of foam plastic insulation shall not be required at each floor level in detached one- and two-family dwellings of Type V construction that do not exceed three stories or 40 feet (12 192 mm) in height above grade plane.

## **ANALYSIS:**

*As part of larger text changes for combustible exterior wall coverings, new text added to require that foam plastic insulation used in combustible exterior wall coverings to be interrupted with non-combustible materials, i.e., fireblocking.*

*Exceptions provided for 1-story buildings and detached 1-/2-family buildings. Also, where concrete/masonry veneer or EIFS is installed on masonry or concrete backup walls and the building is a non-high-rise building, fireblocking at floor slabs is not required.*



SOURCE: [stocorp.com](http://stocorp.com)



# COMBUSTIBLE EXTERIOR WALLS

## *Chapter 14: Exterior Walls and Combustible Materials*

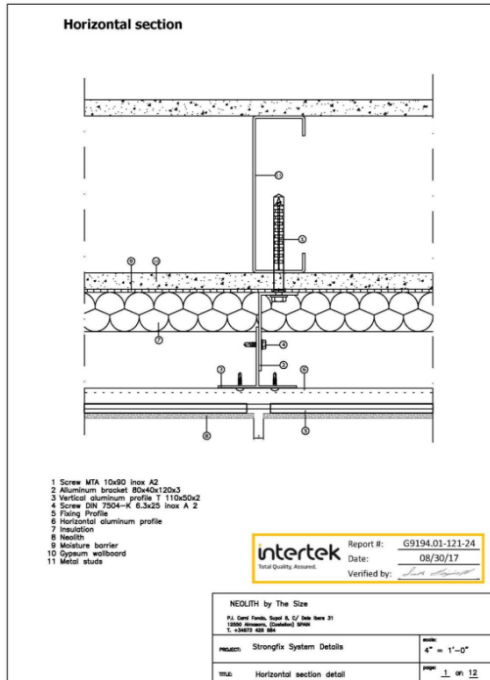
# BC CHAPTER 14: COVERED TOPICS

- **BC 1401.2**  
Construction Document Requirements (NFPA 285)
- **BC 1403.5**  
NFPA 285 Requirements
- **BC 1406.2**  
Combustible Exterior Wall Coverings
- **BC 1406.3**  
Exterior Balconies and Similar Projections
- **BC 1406.5**  
Retrofits of Existing Buildings



SOURCE: Mercury & NFPA 285

# BC 1401.2: CONSTRUCTION DOCUMENTS



SOURCE: Intertek

## ANALYSIS:

*New requirement that construction documents include more specific information consistent with the assembly tested per NFPA 285. The information shown on construction documents will be verified during construction by the special inspector. Applicant of Record or another registered design professional must approve deviations that occur during construction*

**1401.2 Construction documents.** Construction documents for exterior wall coverings required to be tested in accordance with NFPA 285 pursuant to this code shall include the following data and information:

1. Design documentation of the NFPA 285 tested assembly from the manufacturer shall be included in the construction documents. This shall include section and elevation drawings that identify materials and components of the tested assembly, including panel sizes and joint locations. All components used in the tested assembly shall be clearly identified. Material thicknesses, relative locations of components and offsets shall be fully dimensioned.
2. Information shall be provided for verification in accordance with Sections 1706.16 and 1705.20 special inspections.
3. A certification by the applicant that “Any deviation which occurs during the course of installation will be evaluated and approved by the applicant of record or registered design professional. No deviation shall be approved that would result in an assembly that would otherwise fail to pass the acceptance criteria of NFPA 285.”

# BC 1403.5: VERTICAL & LATERAL FLAME PROPAGATION

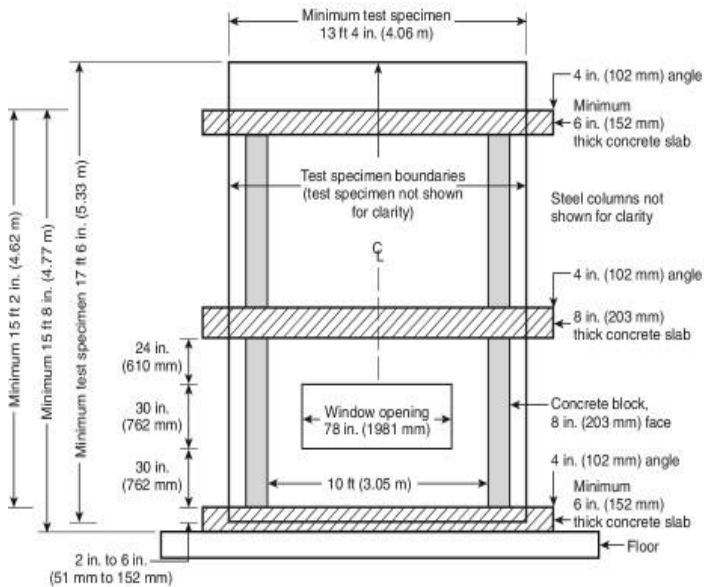


FIGURE 5.2(a) Front View of Test Specimen Superimposed over Test Apparatus (not to scale).  
SOURCE: NFPA 285: Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components

**1403.5 Vertical and lateral flame propagation.** Exterior walls that contain foam plastic insulation including exterior insulation and finish systems (EIFS), metal composite material (MCM) systems, high pressure decorative exterior-grade compact laminates (HPL), and fiber-reinforced polymer (FRP) shall be tested in accordance with and comply with the acceptance criteria of NFPA 285.

Foam plastic insulation assemblies and FRP shall be tested in accordance with Section 2603.5.5. MCM systems shall be tested in accordance with Section 1407.11. HPL systems shall be tested in accordance with Section 1409.11. Approved NFPA 285 tested assembly design documentation shall be included on the submitted construction documents complying with Section 1401.2.

Deviation from the NFPA 285 tested design shall be approved by the registered design professional and additional documentation shall be provided if requested by the department. Combustible exterior wall coverings shall comply with Section 1406 of this code. Exception: Fiber-reinforced polymer (FRP) where permitted by Section 2613.5 not to be tested

## ANALYSIS:

*New section with updated NFPA testing requirements for combustibles exterior walls containing EIFS, MCM, HPL and FRP. All exterior wall assemblies containing the aforementioned materials are subject to full scale testing (regardless of height above grade or square footage). A few exceptions are in place for limited FRP and foam plastic insulation applications.*

*Exterior wall assemblies greater than 40 feet in height above grade with combustibles water-resistive barriers are subject to the acceptance criteria of NFPA 285.*

# BC 1403.5: VERTICAL & LATERAL FLAME PROPAGATION

TABLE 1405.2  
MINIMUM THICKNESS OF WEATHER COVERINGS

COVERING TYPE	MINIMUM THICKNESS (inches)
Adhered masonry veneer*	0.25
Aluminum siding	0.019
Anchored masonry veneer	2.625
Asbestos-cement boards	0.125
Asbestos shingles	0.156
Cold-rolled copper <sup>d</sup>	0.0216 nominal
Copper shingles <sup>d</sup>	0.0162 nominal
Exterior plywood (with sheathing)	0.313
Exterior plywood (without sheathing)	See Section 2304.6
Fiber-cement lap siding	0.25 <sup>c</sup>
Fiber-cement panel siding	0.25 <sup>c</sup>
Fiberboard siding	0.5
Glass-fiber reinforced concrete panels	0.375
Hardboard siding <sup>c</sup>	0.25
High-yield copper <sup>d</sup>	0.0162 nominal
Lead-coated copper <sup>d</sup>	0.0216 nominal
Lead-coated high-yield copper	0.0162 nominal
Marble slabs	1
Particleboard (with sheathing)	See Section 2304.6
Particleboard (without sheathing)	See Section 2304.6

**1403.5.1 Exterior walls with water-resistive barriers.** Exterior walls on buildings of Type I, II, III, or IV construction that are greater than 40 feet (12 192 mm) in height above grade plane and contain a combustible water-resistive barrier shall be tested in accordance with and comply with the acceptance criteria of NFPA 285. For the purposes of this section, fenestration products and flashing of fenestration products and water-resistive barrier flashing and accessories at other locations, including through wall flashings and attachment accessories, shall not be considered part of the water-resistive barrier.

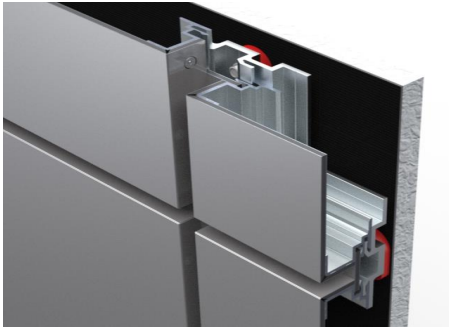
**EXCEPTIONS:**

- Walls in which the water-resistive barrier is the only combustible component, and the exterior wall has a wall covering of brick, concrete, stone, terra cotta, stucco or steel with minimum thicknesses in accordance with Table 1405.2 of this code.
- Walls in which the water-resistive barrier is the only combustible component and the water resistive barrier has a peak heat release rate of less than 150 kW/m<sup>2</sup> (203.9 hp/m<sup>2</sup>), a total heat release of less than 20 MJ/m<sup>2</sup> (18 956 BTU/m<sup>2</sup>) and an effective heat of combustion of less than 18 MJ/kg (17 060 BTU/lb) as determined in accordance with ASTM E 1354 and has a flame spread index of 25 or less and a smoke-developed index of 450 or less as determined in accordance with ASTM E 84 or UL 723. The ASTM E 1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at a incident radiant heat flux of 50 kW/m<sup>2</sup>.

**ANALYSIS:**

*Per exception 1, NFPA 285 testing is not required for exterior walls with water-resistive barrier assemblies if they are covered with a material (at its respective minimum thickness) listed in table 1405.2*

# BC 1406.2: COMBUSTIBLE EXTERIOR WALL COVERINGS



**1406.2 Combustible exterior wall coverings.** Combustible exterior wall coverings, including architectural trim, shall comply with this section.

*EXCEPTIONS:*

1. **(HPL) Plastics** complying with Chapter 26.
2. **Metal composite materials (MCM)** complying with Section 1407.
3. **High pressure decorative exterior grade compact laminates** complying with Section 1409.



SOURCE: Sobotec

*ANALYSIS:*

*Specific combustible materials were added under the exceptions. The requirements for these materials are found in other locations in the code.*

# BC 1406.2.1: TYPE I, II, III & IV CONSTRUCTION



SOURCE: [reviewpush.com](http://reviewpush.com)

## 1406.2.1 Type I, II, III and IV Construction

In buildings of Type I, II, III and IV construction, exterior wall coverings shall be permitted to be constructed of combustible materials in accordance with Section 1406.2.1.1, subject to the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area on any given story. Such combustible exterior wall covering shall not be permitted on exterior walls where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane, regardless of the fire separation distance.



SOURCE: [naturallywood.com](http://naturallywood.com) Credit: KK Law

# BC 1406.2.1: TYPE I, II, III & IV CONSTRUCTION



SOURCE: [reviewpush.com](http://reviewpush.com)

## 1406.2.1 Type I, II, III and IV Construction *(continued)*

4. Wood veneers shall comply with Section 1405.5.
5. Combustible exterior wall coverings shall not be permitted on buildings of Type IV construction utilizing CLT or SCL complying with Section 602.4.
6. Combustible exterior wall coverings shall not be permitted at exterior balconies in accordance with Section 1406.3.

### **ANALYSIS:**

*New requirements have been added that limit the use and extents of combustible exterior wall materials*



SOURCE: [naturallywood.com](http://naturallywood.com) Credit: KK Law



# BC 1406.3: EXTERIOR BALCONIES & SIMILAR PROJECTIONS



Courtesy: Daily Mail

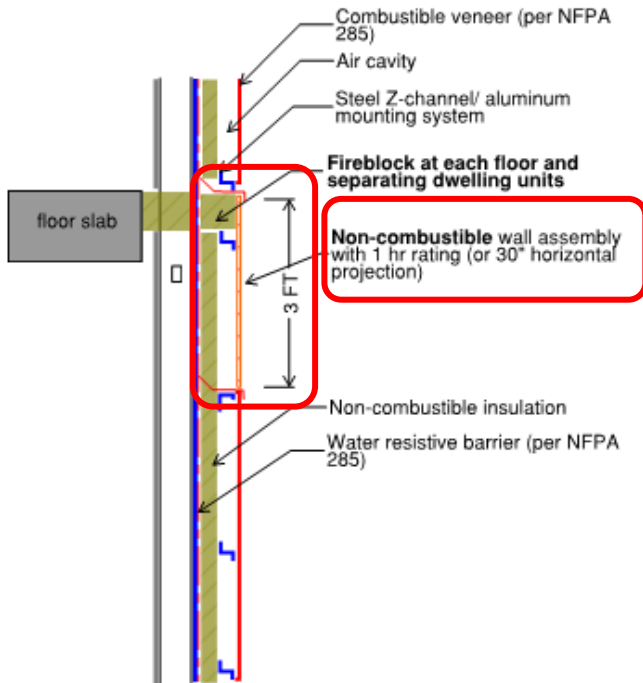
**1406.3 Exterior balconies and similar projections.** Exterior wall covering on walls abutting balconies, and cladding on the sides and underside of balconies, shall be constructed of noncombustible materials. Exterior walls abutting balconies shall be noncombustible up to 12 feet (3657.6 mm) above the walking surface or to the underside of the balcony above, whichever is less. On cantilevered balconies, the exterior wall abutting the balcony, plus 3 feet (914.4 mm) on each side, shall be constructed of noncombustible materials. On recessed and semi-recessed balconies, the exterior walls abutting the balconies shall be constructed of noncombustible materials.

*EXCEPTION:* Combustible exterior wall coverings shall be allowed on balconies in Type V construction with a fire separation distance greater than or equal to 5 feet (1524 mm).

## **ANALYSIS:**

*Noncombustible materials must be used at exterior balconies and their surrounding construction.*

# BC 1406.5: RETROFIT OF EXISTING BUILDINGS



Courtesy: Vidaris

**1406.5 Retrofit of existing buildings.** Combustible materials shall not be permitted for use at the outermost surface of the exterior wall covering for exterior envelope retrofits of existing nonsprinklered buildings over 75 feet (22 860 mm), unless the following conditions are satisfied:

1. The outermost surface of the combustible exterior wall covering shall be interrupted by a noncombustible material at least 3 feet (914.4 mm) high between the top of one opening and the bottom of the opening immediately above to form a continuous band across building elevations.
2. On walls without openings, a 3 feet (914.4 mm) high noncombustible band shall interrupt the outermost surface of the combustible exterior wall covering at least every 15 feet (4572 mm) vertically

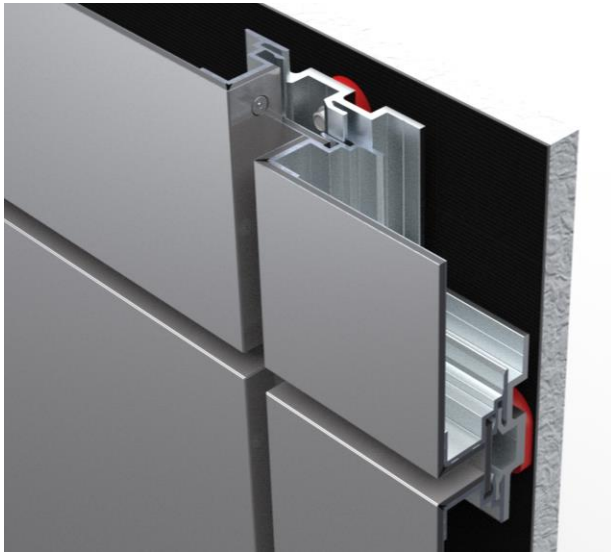
## **ANALYSIS:**

*Combustible materials are permitted to be used on retrofits under 75 feet. For buildings 75 feet combustible material use is conditionally permitted by including provisions to interrupt combustible facade construction in retrofits with 3-foot bands of noncombustible materials.*

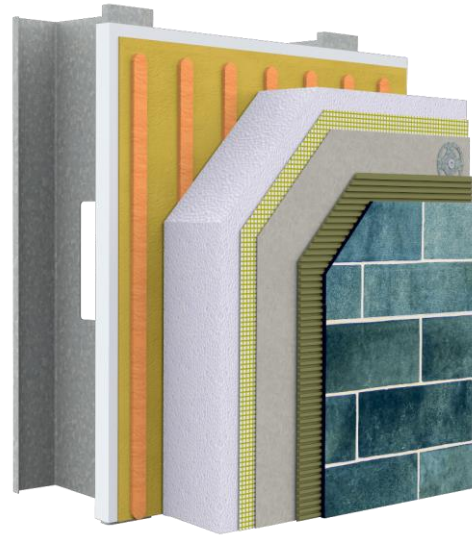
# COMBUSTIBLE EXTERIOR WALLS

*BC 1407, 1408, 1409, 2603: MCM, EIFS, HPL and  
Foam Plastic Insulation*

# BC 1407, 1408, 1409, 2603: MCM, EIFS, HPL, PLASTICS



SOURCE: [sobotec.com](http://sobotec.com)



SOURCE: [stocorp.com](http://stocorp.com)



SOURCE: [sobotec.com](http://sobotec.com)



SOURCE: [sika.com](http://sika.com)

# BC 1407.1.2, 1408.1.1, 1409.1.1, 2601.2: PROHIBITED LOCATIONS



SOURCE: [naturallywood.com](http://naturallywood.com)



Courtesy: FDNY

The use of **[MCM, EIFS, HPL, plastics]** in exterior wall coverings is subject to the following limitations:

1. **[MCM, EIFS, HPL, plastics]** is prohibited in exterior wall coverings in Type IV construction utilizing cross-laminated timber (CLT) or structural composite lumber (SCL) complying with Section 602.4.
2. **[MCM, EIFS, HPL, plastics]** is prohibited in exterior wall coverings at exterior balconies in accordance with Section 1406.3.

## **ANALYSIS:**

*Restrictions on the use of combustible materials were added to Type IV construction utilizing CLT/SLC and exterior balconies*

# BC 1407.10, 1408.9, 1409.10, 2603.5.2: THERMAL BARRIER



SOURCE: [gpractice.com](http://gpractice.com)

[MCM, EIFS\*, HPL, foam plastic insulation\*] shall be separated from the interior of a building by an approved thermal barrier consisting of **5/8-inch (15.9 mm) Type X** gypsum wallboard or equivalent thermal barrier material that will limit the average temperature rise of the unexposed surface to not more than 250°F (121°C) after **20 minutes** of fire exposure in accordance with the standard time-temperature curve of ASTM E 119 or UL 263.

The thermal barrier shall be installed in accordance with criteria established by testing in accordance with UL 1715, where the thermal barrier shall remain in place for 20 minutes.

*\*EIFS and foam plastic insulation have additional testing options (FM 4880, UL 1040, NFPA 286)*

## **ANALYSIS:**

*Updated requirements for the installation of thermal barriers to separate combustible materials from the interior of the building. Updates include the use of 5/8" Type X GWB and increasing the fire exposure duration to 20 minutes.*

# BC 1407.11, 1409.11: FULL SCALE TESTING (MCM, HPL)



SOURCE: [retrofitmagazine.com](http://retrofitmagazine.com)

[MCM, HPL] system shall be tested in accordance with, and comply with, the acceptance criteria of NFPA 285. Such testing shall be performed on the [MCM, HPL] system with the [MCM, HPL] in the minimum and maximum thicknesses intended for use, including any required fireblocking.

Approved NFPA 285 tested assembly design documentation of the [MCM, HPL] system shall be included on the submitted construction documents complying with Section 1401.2 of this code.

Deviation from the NFPA 285 tested design shall be approved by the registered design professional and additional documentation shall be provided if requested by the department.

## **ANALYSIS:**

*Full scale testing requirements have been added for all MCM and HPL exterior wall applications.*

# BC 1408.8, 2603.5.5: FULL SCALE TESTING (EIFS, FOAM PLASTIC INSULATION)



SOURCE: Owens Corning Enclosure Solutions

**2603.5.5 Vertical and lateral fire propagation.** The exterior wall assembly shall be tested in accordance with and comply with the acceptance criteria of NFPA 285. **NFPA 285 design documentation of the tested exterior wall assembly shall be included on the submitted construction documents complying with Section 2601.2.1.**

## **EXCEPTIONS:**

1. One-story buildings complying with Section 2603.4.1.4.
2. **Wall assemblies where the foam plastic insulation is covered on each face by not less than 1 inch (25 mm) thickness of masonry or concrete and meeting one of the following:**
  - 2.1. There is no airspace between the insulation and the concrete or masonry.
  - 2.2. The insulation has a flame spread index of not more than 25 as determined in accordance with ASTM E airspace between the insulation and the concrete or masonry is not more than 1 inch (25 mm).

## **ANALYSIS:**

*Full scale testing requirements have been expanded for EIFS. The requirements for foam plastic insulation applications have been updated to include documentation requirements. New exceptions have been added to this section.*



# BC 2613.5: FIBER-REINFORCED POLYMER EXTERIOR USE



SOURCE: [fiberglass-afi.com](http://fiberglass-afi.com)

Smooth sanded(1) sanded(2) sanded(3) machined(1) machined(2) machined(3)



SOURCE: [sciencedirect.com](http://sciencedirect.com)

**2613.5 Exterior Use** Fiber-reinforced polymer shall be permitted to be installed on the exterior walls of buildings of any type of construction when such polymers meet the requirements of Section 2603.5. **Fireblocking shall be installed in accordance with Section 718.**

*EXCEPTIONS:*

1. Compliance with Section 2603.5 is not required when all of the following conditions are met:

**1.1** The fiber-reinforced polymer shall not exceed an aggregate total of 20 percent of the area of the specific wall to which it is attached, and no single architectural element shall exceed 10 percent of the area of the specific wall to which it is attached, and no contiguous set of architectural elements shall exceed 10 percent of the area of the specific wall to which they are attached.

**1.2** The fiber-reinforced polymer shall have a flame spread index of 25 or less. The flame spread index requirement shall not be required for coatings or paints having a thickness of less than 0.036 inch (0.9 mm) that are applied directly to the surface of the fiber-reinforced polymer.

1.3

# BC 2613.5: FIBER-REINFORCED POLYMER EXTERIOR USE



SOURCE: [fiberglass-afi.com](http://fiberglass-afi.com)

Smooth sanded(1) sanded(2) sanded(3) machined(1) machined(2) machined(3)



SOURCE: [sciencedirect.com](http://sciencedirect.com)

*(continued)*

## EXCEPTIONS:

- 1.3 Fireblocking complying with Section 718.2.6 shall be installed.
- 1.4 The fiber-reinforced polymer shall be installed directly to a noncombustible substrate or be separated from the exterior wall by one of the following materials: corrosion-resistant steel having a minimum base metal thickness of 0.016 inch (0.41 mm) at any point, aluminum having a minimum thickness of 0.019 inch (0.5 mm) or other approved noncombustible material.

## ANALYSIS:

*Section 2613.5 provides requirements that specifically address the use of FRP on the exterior of buildings. This section allows FRP to be used on the exterior of buildings of all types of construction when it meets specific requirements*

# BC 2613.5: FIBER-REINFORCED POLYMER EXTERIOR USE



SOURCE: [architizer.com](http://architizer.com)

*(continued)*

## *EXCEPTIONS:*

2. Compliance with Section 2603.5 is not required when the fiber-reinforced polymer is installed on buildings that are 40 feet (12 190 mm) or less above grade when all of the following conditions are met:

**2.1 The fiber-reinforced polymer shall meet the requirements of Section 1406.2.**

2.2 Where the fire separation distance is 5 feet (1524 mm) or less, the area of the fiber-reinforced polymer shall not exceed 10 percent of the wall area. Where the fire separation distance is greater than 5 feet (1524 mm), there shall be no limit on the area of the exterior wall coverage using fiber-reinforced polymer.

# BC 2613.5: FIBER-REINFORCED POLYMER EXTERIOR USE



SOURCE: [architizer.com](http://architizer.com)

*(continued)*

## **EXCEPTIONS:**

2.3 The fiber-reinforced polymer shall have a flame spread index of 200 or less. The flame spread index requirements do not apply to coatings or paints directly to the surface of the fiber-reinforced polymer.

2.4 Fireblocking complying with Section 718.2.6 shall be installed.

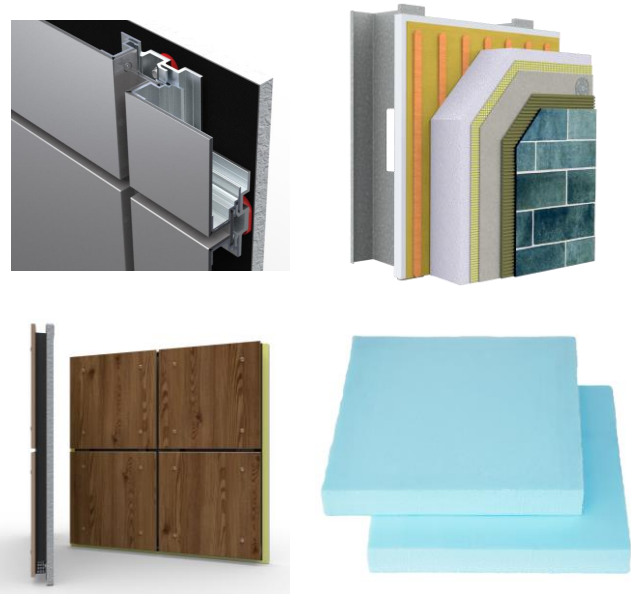
## **ANALYSIS:**

*Exception 2 recognizes that FRP can be used on buildings up to a height of 40 feet (12 190 mm) in a manner consistent with other combustible exterior wall coverings.*

# COMBUSTIBLE EXTERIOR WALLS

*BC 1705.16: Special Inspections of Combustible Exterior Wall Coverings*

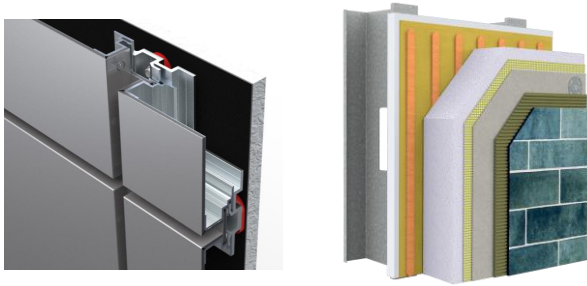
# BC 1705.16: COMBUSTIBLE EXTERIOR WALL COVERINGS



SOURCE: [sobotec.com](http://sobotec.com), [stocorp.com](http://stocorp.com), [sika.com](http://sika.com)

**1705.16 Combustible exterior wall coverings.** Special inspections shall be required for all exterior wall coverings containing combustible materials installed more than 15 feet (4572 mm) above adjacent finished grades and alterations to existing exterior wall coverings containing combustible materials installed more than 15 feet (4572 mm) above adjacent finished grades. Exterior insulation and finish system (EIFS) applications, metal composite materials (MCM), high-pressure decorative exterior-grade compact laminates (HPL) and exterior wall covering containing combustible veneers, combustible framing, combustible water-resistive barriers and foam plastic insulation installed more than 15 feet (4572 mm) above adjacent finished grades and alterations to existing installations more than 15 feet (4572 mm) above adjacent finished grades **shall be inspected in accordance with Section 1705.16.1.**

# BC 1705.16: COMBUSTIBLE EXTERIOR WALL COVERINGS



## EXCEPTIONS

1. Water-resistive barriers that are the only combustible component in the exterior wall covering satisfying the requirements of Exceptions 1 or 2 of Section 1403.5.1.
2. Type VB construction up to 40 feet (12 192 mm) or less in height above grade.

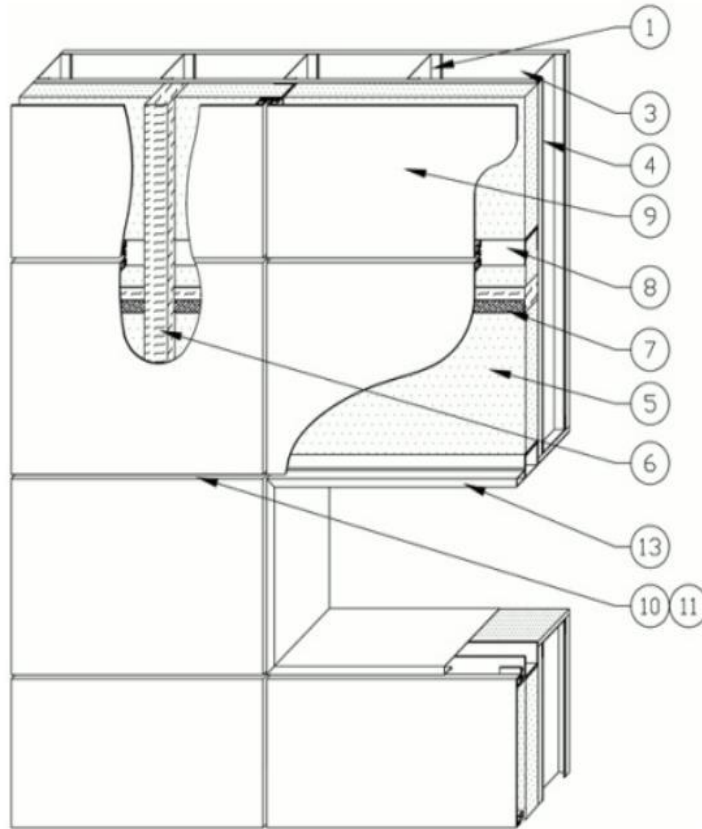
## ANALYSIS:

*Special inspection requirements have been added for several types of combustible wall materials.*



SOURCE: [sobotec.com](http://sobotec.com), [stocorp.com](http://stocorp.com), [sika.com](http://sika.com)

# BC 1705.16.1: INSPECTION PROGRAM



SOURCE: UL FWFO EWS0036

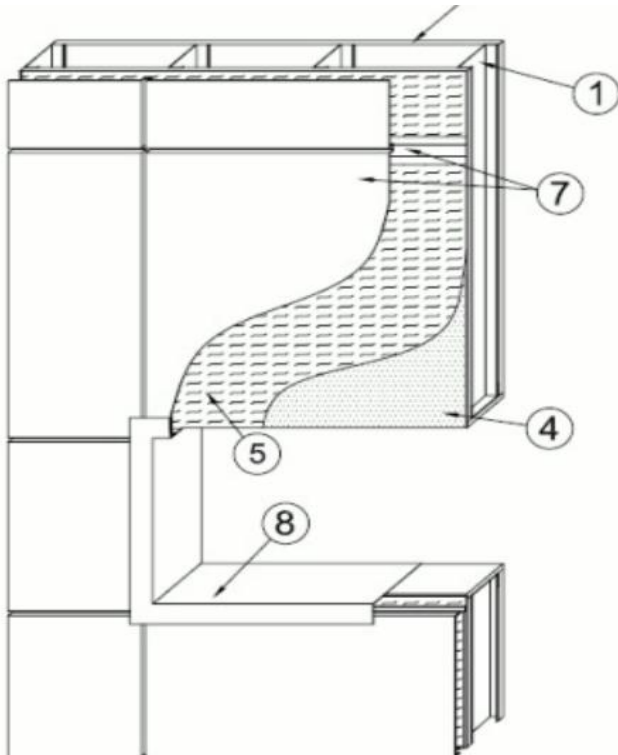
**1705.16.1 Inspection Program** The special inspection shall include verification of compliance with the approved construction documents for the following: attachment to structure; **component properties; thicknesses, orientation, cavity sizes and location of thermal barriers, fireblocking and cavity closures;** installation of waterproofing membranes, weeps, drains, mold prevention features are as specified; and conformance with the manufacturers' installation instructions, and **NFPA 285 tested assembly design documentation.** The special inspector shall verify that individual components required to be labeled in accordance with this code do bear such labels.

## **ANALYSIS:**

*Additional inspection criteria have been included to align with the new code requirements. These include inspection for physical properties as well as verification of compliance with submitted assembly design documentation.*



# BC 1705.16.2, 1705.16.3, 1705.16.4: WATER-RESISTIVE BARRIER, THERMAL BARRIER, FIREBLOCKING



SOURCE: UL FWFO EWS0037

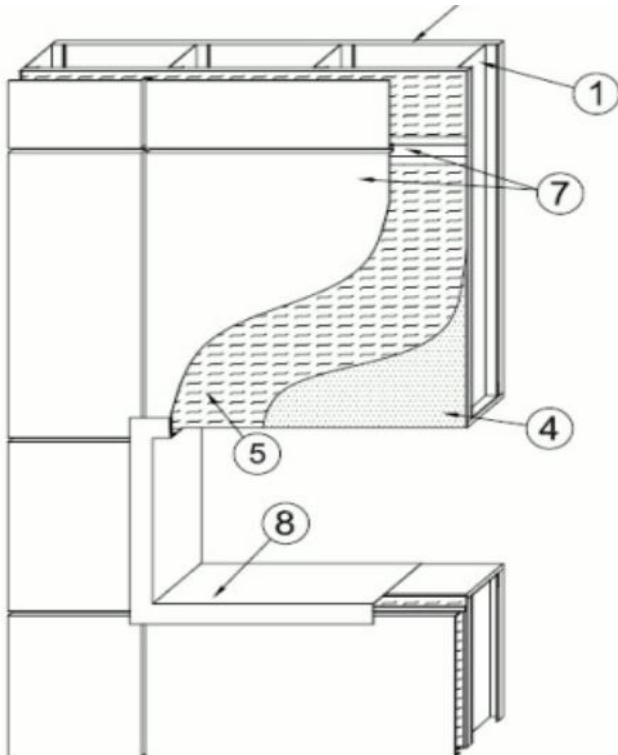
**1705.16.2 Water-resistive barrier coating.** A water-resistive barrier coating complying with ASTM E 2570 requires special inspection of the water-resistive barrier coating when installed over a sheathing substrate. **Inspection of water-resistive barrier coating must verify conformance with approved construction documents, manufacturer's installation instructions, and NFPA 285 tested assembly design documentation.**

**1705.16.3 Thermal barrier.** The special inspector shall confirm the installation of the thermal barrier is in accordance with the approved construction documents, manufacturer's installation instructions, and NFPA 285 tested assembly design documentation.

*EXCEPTION:*

Foam plastic insulation installation on one-story buildings not required to have thermal barrier complying with Section 2603.4.1.4 of this code.

# BC 1705.16.2, 1705.16.3, 1705.16.4: WATER-RESISTIVE BARRIER, THERMAL BARRIER, FIREBLOCKING



SOURCE: UL FWFO EWS0037

*(continued)*

**1705.16.4 Fireblocking.** The special inspector shall confirm the installation of fireblocking is in accordance with Chapter 7 of this code, the approved construction documents, manufacturer's installation instructions, and NFPA 285 tested assembly design documentation.

*EXCEPTION:*

EIFS systems and exterior wall coverings not required **to have** fireblocking pursuant to Section 718.2.6.1 of this code.

**ANALYSIS:**


*Additional special inspection criteria have been added to the code. These new criteria include tested assembly (NFPA 285) requirements for thermal barriers, fireblocking, and water resistive membranes.*

# EXTERIOR COMBUSTIBLE MATERIALS SUMMARY: NEW vs UPDATED REQUIREMENTS

	Prohibited Locations	Fireblocking	Thermal Barriers	Full Scale Testing	Special Inspections
Metal Composite Materials (MCM)	(1407.1.2)	(718.2.6.1.1) (1407.16)	(1407.10)	(1403.5) (1407.11)	(1407.15) (1705.16)
Exterior Insulated Finish Systems (EIFS)	(1408.1.1)	(1408.7)	(1408.9)	(1403.5)	(1408.6) (1705.16)
High Pressure Laminates (HPL)	(1409.1.1)	(718.2.6.1.1)	(1409.10)	(1403.5) (1409.11)	(1409.15) (1705.16)
Fiber-reinforced Polymer (FRP)	(2601.2)	(2613.5)	(2613.5) (2603.5)	(1403.5)	(1705.16)
Foam Plastic Insulation	(2601.2)	(718.2.6.1.2) (2603.5.5.1)	(2603.5.2)	(1403.5) (2603.5.5)	(1705.16) (2603.5.8)
Water-resistive barrier	-	-	-	(1403.5.1)	(1705.16.2)


 New Requirement  
 Updated Requirement

# UPDATES & CLARIFICATIONS: BUILDINGS BULLETIN



**buildings**  
**2022-0XX**  
**bulletin**  
TECHNICAL  
ISSUANCE DATE  
May XX, 2022

**Draft Only**  
Comment period ends May 27, 2021 5 pm  
Submit comments to:  
[bulletins@buildings.nyc.gov](mailto:bulletins@buildings.nyc.gov)



**ISSUER:** Joseph Ackroyd, P.E., CFM  
Assistant Commissioner  
Technical Affairs & Code Development

**PURPOSE:** This bulletin clarifies and describes the 2022 NYC Building Code requirements for fireblocking of combustible wall assemblies.

**SUBJECT(S):** Combustible Exterior Wall Assembly, fireblocking, NFPA 285, Deviations, Water Resistive Barrier

**RELATED CODE SECTIONS & RESOURCES:** BC 718.2.6, BC 718.2.6.1, Exception # 3, BC1401.2, BC 1403.5

**I. Background**

The 2022 NYC Construction Codes are effective November 7th, 2022 and includes new fireblocking requirements applicable to exterior wall coverings, specifically those composed of combustible materials. This bulletin clarifies and describes the 2022 NYC Construction Code requirements for fireblocking of combustible wall assemblies.

**II. Specifics**

**A. Exterior wall coverings:**

Exterior wall coverings are defined as follows in BC 202:

EXTERIOR WALL COVERING. A material or assembly of materials applied on the exterior side of exterior walls for the purpose of providing a weather-resisting barrier, insulation or for aesthetics, including but not limited to, veneers, siding, exterior insulation and finish systems, architectural trim and embellishments such as cornices, soffits, fascias, gutters and leaders.

This definition is consistent between the 2014 and 2022 codes and continues to apply to materials used at the outermost layer of an exterior wall as well as any components used in conjunction with the outermost layer, e.g. water-resistive barriers or framing.

**B. Fireblocking:**

Section BC 718.2.6 outlines the requirements for fireblocking within concealed spaces of exterior wall coverings, including the conditions and locations requiring fireblocking. Fireblocking must be installed within exterior wall assemblies that contain combustible components even when such wall assembly has previously passed the National Fire Protection Association, Standard Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies containing Combustible Components

Eric A. Ulrich, Commissioner nyc.gov/buildings

## Upcoming Buildings Bulletin to clarify fireblocking and performance testing requirements



# CHIMNEYS & VENTS

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# AC §28-104.13: CHIMNEY/VENT ALTERATIONS



**§28-104.13 Construction Documents for Extension, Alteration or Relocation of an Existing Chimney or Vent.** Where an owner of a new or altered taller building is required by section 2113 of the New York city building code, section 801 of the New York city mechanical code or section 501 of the New York city fuel gas code to extend, alter or relocate an existing chimney or vent on an affected building, such work shall be filed under a separate application for the affected building.

## **ANALYSIS:**

*This new provision clarifies that chimney extensions or relocations should be filed under a separate application. Such application would be filed for the building served by the chimney.*

# AC §28-118.23: EXT, ALT OR RELOCATION OF CHIMNEYS & VENTS

**NYC** Buildings *Certificate of Occupancy* Page 1 of 2  
CO Number:

This certifies that the premises described herein conforms substantially to the approved plans and specifications and to the requirements of all applicable laws, rules and regulations for the uses and occupancies specified. No change of use or occupancy shall be made unless a new Certificate of Occupancy is issued. This document or a copy shall be available for inspection at the building at all reasonable times.

<b>A. Borough:</b> Address: Building Identification Number (BIN):	<b>Block Number:</b> Lot Number(s): Building Type:	<b>Certificate Type:</b> Effective Date: Expiration Date:
This building is subject to this Building Code: 1968 Code		
For zoning lot metes & bounds, please see B15Web.		
<b>B. Construction classification:</b> Building Occupancy Group classification: Multiple Dwelling Law Classification:		
<b>C. Fire Protection Equipment:</b>	No. of stories:	Height in feet:
<b>D. Type and number of open spaces:</b>	No. of dwelling units:	
<b>E. This Certificate is issued with the following legal limitations:</b>		
Outstanding requirements for obtaining Final Certificate of Occupancy:		
Borough Comments:		

Borough Commissioner Commissioner  
DOCUMENT CONTINUES ON NEXT PAGE

No certificate of occupancy shall be issued until all chimneys and vents required to be extended, altered or relocated by section 2113 of the New York city building code, section 801 of the New York city mechanical code or section 501 of the New York city fuel gas code have been so modified.

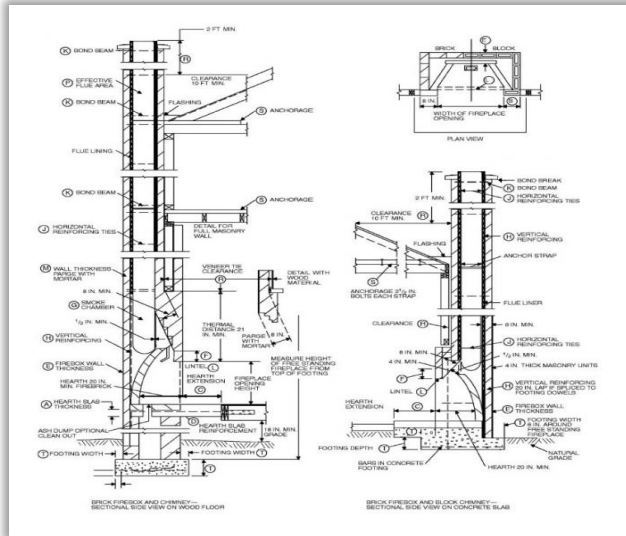
## EXCEPTIONS:

1. A certificate of occupancy may be issued to the new or altered taller building where access is granted and conditions are observed that result in a determination that chimney or vent alteration is not required and a revised chimney or vent plan is submitted pursuant to section 107.18 of the New York city
2. A certificate of occupancy may be issued to the new or altered taller building where one or more of the chimneys or vents requiring alteration has not been altered or proven to comply with the applicable requirements of the New York city fuel gas code or New York city mechanical code as required when the following conditions have been met:
  - 2.1. The owners of the affected buildings have provided their refusal of consent in writing, or the owner of the affected buildings failed to grant consent after the owner of the new or altered taller building has made all the required notifications to the affected building owners; and
  - 2.2. The owner of the new or taller building demonstrates to the department in the form of a written statement from a registered design professional that there is no hazard to the occupancy in whole or in part of the new or altered building from the continued operation of the chimneys or vents in question.

## ANALYSIS:

Certificate of Occupancies will not be issued until chimney extension, alteration or relocation work will be complete with certain exceptions, including conditions for where the owner of an affected building did not grant consent for alterations of their chimney .

# BC 107.18: CONSTRUCTION DOCUMENTS... EXISTING CHIMNEY OR VENT



SOURCE: 2015 IRC

**107.18 Construction documents for extension or relocation of an existing chimney or vent.**

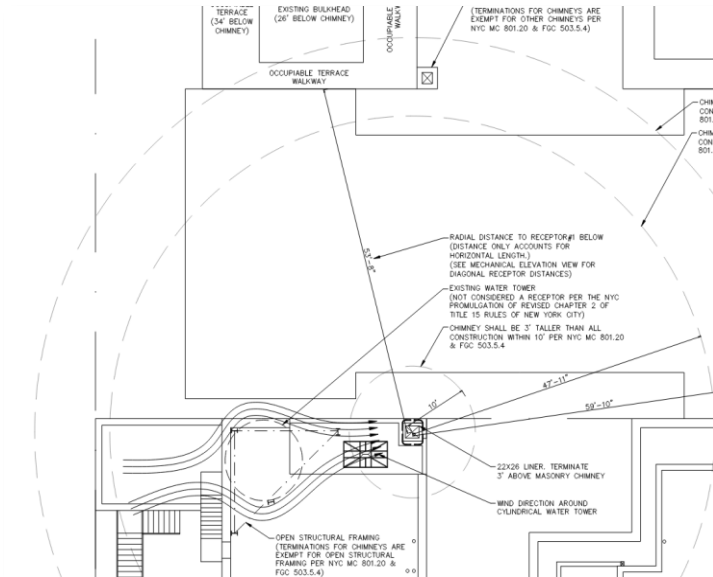
Where an owner of a new or altered taller building is required by Section 801 of the New York City Mechanical Code, Section 501 of the New York City Fuel Gas Code, or Section 2113 of this code, to extend, alter or relocate an existing chimney or vent on an affected building, the construction documents for the new or altered taller building shall comply with the requirements of Section 107.18.1 of this code.

## **ANALYSIS:**

*Construction documentation is now required for extensions or relocations of existing chimneys and vents of affected buildings .*



# BC 107.18: CONSTRUCTION DOCUMENTS... EXISTING CHIMNEY OR VENT



**107.18.1 Chimney and vent plan.** At the time of initial filing for construction, a chimney and vent plan shall be included as part of the construction documents. Such chimney and vent plan shall include the following information for all chimneys and vents within 100 feet (30 480 mm) of construction:

1. **A drawing identifying the location of each existing chimney and vent.**
2. **A chimney and vent schedule** containing the following information for each chimney and vent:
  - 2.1. The cross-sectional area of the chimney or vent outlet.
  - 2.2. The horizontal distance measured from the adjacent construction to the outlet
  - 2.3. The elevation of the outlet.
  - 2.4. The appliance, mechanical system, or fireplace to which the chimney or vent is attached, including the flue gas temperature, or a notation that this information is not yet known.
  - 2.5. If extension, alteration, or relocation is required and describing the expected work.
3. **Calculations** demonstrating which chimneys and vents require no alteration based on the termination requirements including but not limited to those found in Section 503.5.4 of the New York City Fuel Gas Code and Section 801.20 of the New York City Mechanical Code.

## ANALYSIS:

*Construction documents shall include drawings, schedules and calculations for all chimney and vents within 100' of construction .*

# BC 1705.32: SPECIAL INSPECTION OF CHIMNEYS & VENTS



SOURCE: [libertychimney.com](http://libertychimney.com)

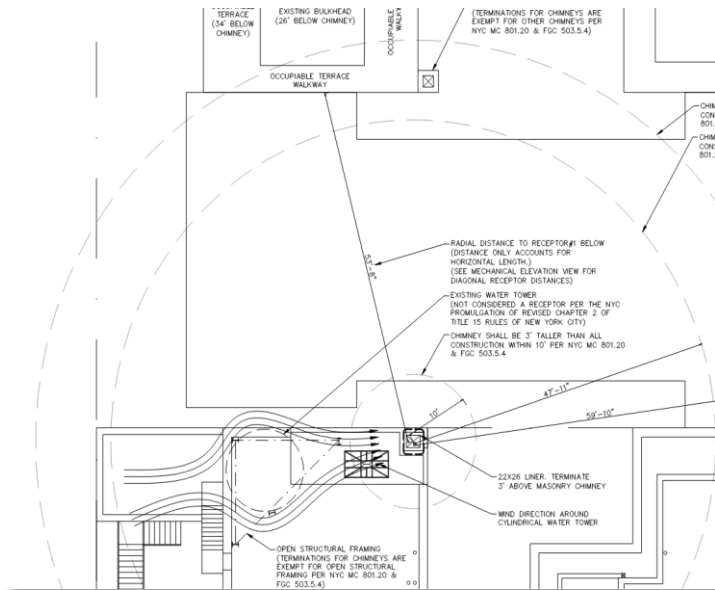
**1705.32 Chimneys and Vents.** New and altered chimneys and vents, replacing an existing appliance in accordance with Section 503.5.6 of the New York City Fuel Gas Code, or change in appliance in accordance with Section 507 of the New York City Fuel Gas Code and Section 807 of the New York City Mechanical Code shall be subject to special inspection. The chimney or vent shall be inspected to verify compliance with the approved construction documents, and proper clearance or isolation from adjacent combustible construction. Testing of the chimney or vent shall be performed as applicable in accordance with Section 810 of the New York City Mechanical Code and Section 503.5.6 of the New York City Fuel Gas Code. Special inspection of seismic bracing shall be performed in accordance with Section 1705.12 of this code. Exception: A pressurized smoke test need not be performed on existing and new Listed Type B gas vents and Type L vents. Listed Type B gas vents and Type L vents shall be visually inspected for the presence of a continuous inner wall, proper installation, and no damage or deterioration via readily accessible areas of the vent system, such as the appliance, tee caps, cleanout openings, or termination. The vent system shall be inspected for proper clearances, protection and damage.

**1705.32.1 Reuse of Existing Chimneys** When a new heating system appliance is installed, the special inspector shall verify the condition of the existing chimney lining and breaching. Deficiencies shall be reported as required by Section 1704.1.1.2.

## **ANALYSIS:**

*Text in this section is newly clarified as applicable to new & altered chimneys; replaced appliances; and changes in appliances (i.e., oil to gas conversions). A new special inspection has been added to verify the condition of an existing chimney lining and breaching when a new heating system appliance is installed.*

# MC 801.1.1: EXISTING CHIMNEYS & VENTS



## MC 801.1.1 Existing chimneys and vents.

Existing chimneys and vents shall comply with the requirements of Section 28-104.13 of the New York City Administrative Code and Sections 801.1.1.1 through 801.1.1.8 of this code.

### 801.1.1.1.1 Chimney and vent plan.

Applications for a new or altered building shall include a chimney and vent plan submitted pursuant to Section 107.18 of the New York City Building Code.

## ANALYSIS:

*Section modified to include cross references to newly added administrative and Administrative Building Code provisions, regarding construction documents for extension, alteration or relocation of existing chimneys and vents.*

# FGC 501.1.1.3: WRITTEN NOTIFICATION, PLANS & REQUIRED DOCUMENTS

The owner of the new or altered building shall notify the owner of any building that may require a chimney or vent to be altered. Notification, plans and required documents shall comply with the requirements of Sections 501.1.1.3.1 through 501.1.1.3.3.

**501.1.1.3.1 First notice.** Written notice in a form acceptable to the department shall be provided to the building owner not less than 60 days prior to a request for permit for construction on the new or altered building. Such notice shall include a request for access to determine the need to alter the existing chimney or vent and a description of such work. Notice shall be sent by regular mail and certified mail, return receipt requested. A copy of such return receipt shall be filed with the department.

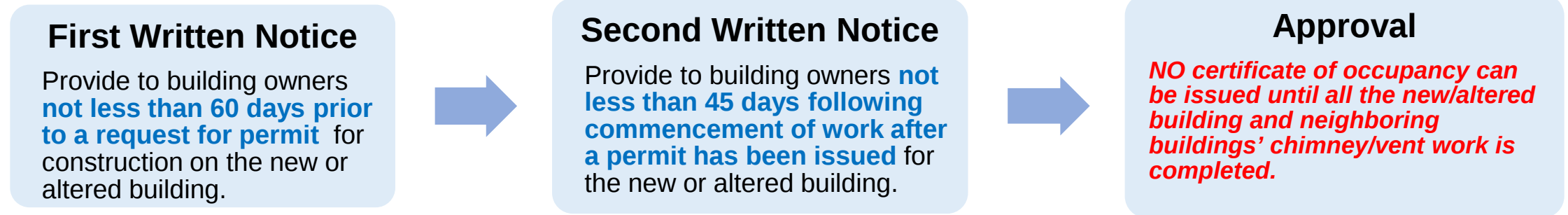
**501.1.1.3.2 Second notice.** Written notice in a form acceptable to the department shall be provided to the building owner not more than 45 days following commencement of work after a permit has been issued for the new or altered building. Such notice shall include a request for access to determine the need to alter the existing chimney or vent and a description of such work. Notice shall be sent by regular mail and certified mail, return receipt requested. The second notice shall also be posted by a licensed process server at the public entrance of the building requiring a chimney or vent to be altered. A copy of such return receipt and proof of service by the licensed process server shall be filed with the department.

Exceptions:

1. A second notice shall not be required where an application to alter the affected chimney or vent has been filed with the department.
2. A second notice shall not be required where access is granted and conditions are observed that result in a determination that chimney or vent alteration is not required and a revised chimney and vent plan is submitted to the department.

**501.1.1.3.3 Plans and required documentation for alteration work.** Where access is granted and conditions are observed that result in a determination that chimney or vent alteration is required, plans for such alteration work shall be provided to the owner of the existing building and a request for written consent to submit construction documents and perform such work shall be made.

# FGC 501.1.1.3: WRITTEN NOTIFICATION, PLANS & REQUIRED DOCUMENTS



## **ANALYSIS: Section expands requirements concerning the need to provide two written notifications to neighbors**

- *Second Notice requirement added*
- *More details added concerning requirements for both notices*
- *Neighbors of adjacent buildings shall be provided with plans and other documentation describing planned alteration, as well as describing adjacent owners' requirements for altering their chimneys/vents to ensure code compliance.*
  - ✓ *Access to neighbors' properties, needed to ascertain chimney/vent work scope, must also be requested by building owner performing planned alteration work.*
- *Similar to MC 801.1.1.3*

# FGC 501.1.1.4: ALTERATION OF CHIMNEY & VENT FILING REQUIREMENTS/APPROVAL

## FGC 501.1.1.4 Approval.

It shall be the obligation of the owner of the new or altered building to:

1. Prepare and submit a chimney and vent plan to the department pursuant to Section 107.18 of the New York City Building Code.
2. Provide required notification pursuant to Section 501.1.1.3 of this code.
3. Provide plans pursuant to Section 501.1.1.3.3 of this code.
4. Prepare and submit construction documents to the department pursuant to Section 28-104 of the Administrative Code for the alteration of existing chimneys or vents which conform to the requirements of this chapter;
5. Obtain permit(s) for the proposed work in accordance with Section 28-105 of the Administrative Code;
6. ...

## ANALYSIS:

- *Section was expanded to include new/modified procedural requirements and cross references discussed in previous slides*
- *Similar to MC 801.1.1.6.*

# FGC 501.1.1.6: ALTERATION OF CHIMNEY & VENT PROCEDURE REQUIREMENTS

**FGC 501.1.1.4 Procedure.** The construction documents for the proposed chimney extension, alteration or relocation shall be submitted to the department pursuant to Section 28-104 of the Administrative Code. No certificate of occupancy shall be issued for the new building pursuant to Section 28-118.23 of the Administrative Code until the work associated with the construction documents for the proposed chimney extension, alteration or relocation has been signed-off by the department.

## *EXCEPTIONS:*

1. A certificate of occupancy may be issued where access is granted and conditions are observed that result in a determination that chimney or vent alteration is not required and a revised chimney or vent plan is submitted pursuant to Section 107.18 of the New York City Building Code documenting such.
2. A certificate of occupancy may be issued in accordance with Section 28-118.23, Exception 2 of the Administrative Code.

## *ANALYSIS:*

*Section modified to include cross references to added administrative code and building code Chapter 1 administrative provisions regarding filing procedure and with new requirement that no certificate of occupancy can be issued until all of the new/altered building and neighboring buildings' chimney/vent work is completed.*

- *The exceptions permitting issuance of certificate of occupancy in specific instances where safety concerns are addressed.*
- *Similar to MC 801.1.1.4.*

# FGC 501.15: EXISTING CHIMNEY & VENT-TESTING

**FGC 501.15 Existing chimneys and vents.**

## **501.15.5 Testing.**

Testing of existing chimneys shall be in accordance with Section 1705.32 of the New York City Building Code.

### ***ANALYSIS:***

*NEW section added to clarify that required testing of existing chimneys shall comply with New York Code Building Code provisions.*





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