



# BUILDINGS 2022-013 BULLETIN TECHNICAL

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**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, BC 718.2.6.1.1, BC 718.2.6.1.2, BC1401.2, BC 1403.5

### I. BACKGROUND

The 2022 NYC Building Code (BC) will be effective November 7, 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 BC requirements for fireblocking of combustible wall assemblies and for construction documents and deviations of such assemblies. Section V also discusses the testing of combustible exterior wall assemblies where required by the 2022 BC.

### II. DESCRIPTION OF EXTERIOR WALL COVERINGS & FIREBLOCKING

#### 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, facias, gutters and leaders.

This definition of exterior wall coverings is the same in the 2014 and 2022 Building Code.

#### B. Fireblocking

Section BC 718.2.6 outlines the requirements for fireblocking within concealed spaces of exterior wall coverings, including the conditions and locations where fireblocking is required. 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 (NFPA 285)<sup>1</sup>. See section V below.

<sup>1</sup> NFPA 285-2012 edition as listed in BC Chapter 35 of the 2022 New York City Building Code

There are three exceptions to these fireblocking requirements in BC 718.2.6. *EXCEPTION 1* addresses cornices in single-family and two-family dwellings. *EXCEPTION 2* describes conditions where the exterior wall covering does not contain plastic or foam plastic insulation and is installed on non-combustible framing. The outermost layer of the exterior wall covering must also be non-combustible as outlined in *EXCEPTIONS 2.1* (aluminum siding), *2.2* (corrosion-resistant steel siding) and *2.3* (brick, concrete, stone, terra cotta, stucco or steel). Also, *EXCEPTION 2.3* allows the water-resistive barrier to be the only combustible component in an otherwise non-combustible exterior wall covering.

*EXCEPTION 3* addresses exterior wall coverings containing plastics, metal composite materials (MCM) or high-pressure decorative exterior-grade compact laminates (HPL) panels. Such exterior wall coverings are not subject to the general fireblocking requirements of BC 718.2.6 (i.e., 100 square feet maximum of open space), and are subject to the more specific fireblocking requirements of BC 718.2.6.1.

### **C. Exterior wall coverings containing plastics, metal composite materials (MCM) or high-pressure decorative exterior-grade compact laminates (HPL) panels**

BC 718.2.6.1 requires fireblocking in exterior wall coverings that contain plastics complying with Chapter 26, metal composite materials (MCM) or high-pressure decorative exterior-grade compact laminates (HPL). Additionally, note that requirements for fireblocking are repeated in specific material sections as follows:

- BC 1406.2.3 for combustible exterior wall coverings
- BC 1407.16 for MCM
- BC 1408.7 for EIFS
- BC 1409.16 for HPL
- BC 2603.5.5.1 for foam plastic insulation
- BC 2613.5 for FRP

BC 718.2.6.1.1 requires noncombustible fireblocking at the following locations: 1. Around wall openings; 2. At the floor level for a height of not less than 8 inches; and 3. Between different occupancy groups, vertically or horizontally as applicable. The fireblocking shall be of adequate thickness to cut off concealed gaps and form an effective barrier.

There are three exceptions to fireblocking for exterior wall coverings using foam plastic insulation allowed in BC 718.2.6.1.2. *EXCEPTION 1* applies to one-story buildings and *EXCEPTION 3* applies to detached one- and two- family dwellings, both of which address smaller buildings. *EXCEPTION 2* outlines the conditions for concrete and masonry veneer and EIFS, where fireblocking is not required at each floor level provided the foam plastic insulation has a flame spread index of not more than 25 in accordance with ASTM E 84 or UL 723. The exterior wall covering must also be installed less than 75 feet in height as measured from grade plane and on masonry or concrete back-up walls.

### **III. ACCEPTABLE FIREBLOCKING MATERIALS FOR LOCATIONS PRESCRIBED BY BC 718.2.6.1.1**

Where fireblocking is required in locations prescribed by BC 718.2.6.1.1, it must be noncombustible. While BC 718.2.1 lists acceptable fireblocking materials generally, for the purpose of compliance with

BC 718.2.6.1.1, only noncombustible blocking is acceptable. BC 718.2.1, Item # 8 lists “other materials acceptable to the commissioner” and would allow the Department to review materials not specifically listed in BC 718.2.1. An applicant may either submit an application with the Department’s Office of Technical Certification and Research or file a construction code determination for consideration of other fireblocking materials.

#### **IV. CONSTRUCTION DOCUMENTS & DEVIATIONS**

Where exterior walls are required to be tested in accordance with NFPA 285, BC 1401.2 requires that the construction documents include documentation of the NFPA 285 tested assembly from the manufacturer for the proposed exterior wall assembly. Documentation must identify materials and components used in the proposed exterior wall assembly as well as indicate panel size or joint locations. Horizontal and/or vertical section details from the test report are acceptable to meet this requirement, and the entire test report is not required to be on the construction drawings. The construction documents must also indicate where the NFPA 285 tested assembly will be used on the building exterior and include details identifying the same components from the tested assembly. Such documentation must be part of approved plans submitted to the Department prior to installation.

Construction documents must also include the following statement:

*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.*

Such certification shall apply to the proposed design on plan approval documents as well as changes made to approved construction documents during construction and installation.

Where an NFPA 285 test specimen includes fireblocking at the time of testing, the applicant may choose to evaluate relocated fireblocking as a deviation that would not otherwise cause the assembly to fail the NFPA 285 test and shall certify on the construction documents such deviation. In evaluating whether a deviating condition results in the failure to pass NFPA 285 testing, the applicant may rely on their own professional judgement and education, or recommendations prepared by a subject matter expert in the field of material testing or fire protection engineering.

Where an NFPA 285 test specimen does not include fireblocking at the time of testing, adding fireblocking to such tested assembly is not an acceptable deviation. Such an assembly must be re-tested and pass the NFPA 285 with fireblocking.

#### **V. NFPA 285 TESTING**

Section BC 1403.5 states that exterior walls that contain foam plastic insulation (including exterior insulation and finish systems (EIFS)), metal composite material (MCM) systems, high pressure decorative exterior grade laminates (HPL) and fiber reinforced polymer (FRP) shall be tested in accordance with the acceptance criteria of NFPA 285. Specific sections for MCM, BC 1407.11, and HPL, BC 1409.11, also require that the tested assembly include any required fireblocking. Further, BC 1403.5.1 requires exterior walls with combustible water-resistive barrier to be tested in accordance with NFPA 285 with limited exceptions.

While BC 1403.5 does require exterior walls containing combustible materials, as described above, to be tested and comply with the acceptance criteria of NFPA 285, the 2022 BC does not prescribe how test specimens for the NFPA 285 test are to be assembled, including the exact location of any required fireblocking. NFPA 285 section 5.7.2 states the following:

*Details of the construction of the test specimen shall be in accordance with the manufacturer's instructions.*

Further, the corresponding explanatory text, section A.5.7.2, states the following:

*The construction of the wall assembly should be typical of actual product use.*

Test specimens are required to be representative of the intended exterior wall covering to be installed, including the type and location of fireblocking used in the NFPA 285 tested assembly. It is not the intent of sections BC 1403.5, 1407.11 or 1409.11 to locate fireblocking in a manner that would obstruct or cover thermal couples required to measure temperature. Furthermore, it is not the intent of this section that fireblocking be located in a manner or arrangement that would result in significant deviation from the test specimen requirements of NFPA 285.

During testing, it shall be the manufacturer's responsibility to ensure that the tested fireblocking location is consistent with the intended use in accordance with NFPA 285 section 5.7.2. The manufacturer may coordinate with a registered design professional or subject matter expert in the field of material testing or fire protection engineering to confirm that any relocation of fireblocking is an acceptable deviation consistent with Section IV and typical of actual product use. For example, when an assembly is proposed for use in a location that will separate different occupancy groups, such assembly shall have been tested with noncombustible fireblocking located horizontally or vertically consistent with the proposed use.

BC 1403.5 and NFPA 285 do not require manufacturers to perform project specific NFPA 285 testing for each job application where the installation is consistent with the intended use in accordance with NFPA 285 section 5.7.2.