



# BUILDINGS 2024-004 BULLETIN TECHNICAL

ISSUANCE DATE  
June 5, 2024



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Code & Zoning Interpretation

**PURPOSE:** This Bulletin provides clarification to the specific requirements of Section BC 602.4 regarding mass timber construction.

**SUBJECT(S):** Solid wood, Glue-laminated timber (glu-lam), Structural composite lumber (SCL), Cross-laminated timber (CLT), Concealed spaces, Mass timber, Type IV-HT, Type IV, Heavy timber, interior walls and partitions

## RELATED CODE SECTIONS & RESOURCES

**2022 BC 602.4, 2022 BC 718, 2022 MC 602, 2021 IBC 602.4.4.3**

### I. BACKGROUND

The 2022 NYC Building Code allows the use of mass timber materials, including cross laminated timber (CLT) and structural composite lumber (SCL) to be categorized as Type IV construction, in addition to solid wood, glue-laminated timber, and heavy timber (HT), which have been allowed in previous NYC Building Codes. Mass timber construction is categorized as Type IV construction and can include the building elements described above or a combination of those elements.

Section BC 602.4 outlines several conditions for Type IV construction. This bulletin provides clarification regarding the specific requirements of this section. Other methods of complying with Section BC 602.4 that are not addressed in the bulletin will be reviewed on a case-by-case basis through the Department's determination process.

### II. MASS TIMBER MUST BE FILED AS TYPE IV CONSTRUCTION

The 2022 NYC Construction Codes include provisions that specifically address the unique characteristics of Type IV construction in New York City. The requirements are intended to provide a greater degree of safety in relation to relatively new materials and construction methods. These requirements include but are not limited to special inspections and construction site safety provisions. To ensure that the relevant provisions are applied, any building using mass timber elements must file the building as Type IV construction.

Mass timber buildings that are filed as other construction types will be subject to audits and may trigger the need to be re-filed as Type IV construction.

*NOTE: Type IV construction projects that are professionally certified are subject to review by the Department.*

### III. CONCEALED SPACES IN TYPE IV CONSTRUCTION

Section BC 602.4 states, in part, as follows with emphasis added:

**“602.4 Type IV.** Type IV construction is that type of construction in which the exterior walls are of noncombustible materials or other materials permitted by Section 602.4.1 or 602.4.2, and the interior building elements are of solid wood, glue-laminated timber, heavy timber (HT), structural composite lumber (SCL), or cross-laminated timber (CLT) **without concealed spaces.**”

BC 202 definition of **CONCEALED SPACES**

“Enclosed spaces within partitions, walls, floors, roofs, stairs, furring, pipe chases, and column enclosures and other similar spaces.”

#### **IV. CONCEALED SPACES INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING COMPONENTS IN TYPE IV CONSTRUCTION**

- A.** Enclosed and semi-enclosed suspended ceilings. An enclosed and semi-enclosed suspended ceiling is an interior finish ceiling system, sometimes referred to as a cloud ceiling, that physically and/or visually conceals building components.
- B.** Access floor and raised floor systems. An access floor is a system of tiles supported by a grid structure such that adjustable pedestals support the walking surface.
- C.** Spaces within furred out chase walls, framed dropped ceilings or similar areas.

#### **V. CLARIFICATION REGARDING WHAT IS NOT CONSIDERED CONCEALED SPACE IN TYPE IV CONSTRUCTION**

The following building components are not considered concealed spaces for the purposes of Section BC 602.4, and therefore, are allowed in Type IV construction. Such spaces remain subject to other applicable NYC Construction Code provisions with respect to concealed spaces, including the requirements of NFPA 13.

- A.** Noncombustible shaft enclosures constructed pursuant to Section BC 713.
- B.** Spaces within interior non-bearing walls and partitions with a 1-hour or greater fire-resistance rating complying with Section BC 2304.11.2.2 (BC Table 601, BC 2304.11.2.2).
- C.** Where combustible shaft enclosures are not prohibited pursuant to Section BC 602.4 Exception 1, spaces within shaft enclosures that are constructed in accordance with Section BC 713.

#### **VI. PATH OF COMPLIANCE FOR CONCEALED SPACE IN TYPE IV CONSTRUCTION**

Concealed spaces exist in all construction types. The Department recognizes the practical difficulty of the disallowance of concealed spaces in Type IV construction. The Department will accept concealed spaces that fully comply with the following construction details as providing an equally safe alternative to the code requirement:

- A.** Concealed spaces must not contain combustible materials other than building elements and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with NYC Mechanical Code 602.
- B.** Concealed spaces must comply with applicable provisions of Section BC 718 (Concealed Spaces).

- C. Mass timber surfaces within the concealed space must be fully sheathed with not less than 5/8-inch Type X gypsum board. In addition, concealed spaces must be protected in accordance with one of the following:
1. The building must be sprinklered throughout in accordance with Section BC 903.3.1.1 and automatic sprinklers must be provided in the concealed spaces.
  2. The concealed spaces must be completely filled with noncombustible insulation.

## **VII. TYPE IV CONSTRUCTION INTERIOR NON-BEARING, NON-FIRE RESISTANCE RATED WALLS AND PARTITIONS**

Section BC 602.4 states, in part:

“Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with Section 2304.11.2.2 shall be permitted.”

BC Table 601 refers to BC 602.4.6 for interior non-bearing walls and partitions, however, the accurate reference is BC 2304.11.2.2.

BC 2304.11.2.2 states:

“Interior walls and partitions shall be of solid wood construction formed by not less than two layers of 1-inch (25 mm) matched boards or laminated construction 4 inches (102 mm) thick, or of 1-hour fire-resistance-rated construction.”

For non-bearing interior walls and partitions where 1-hour fire-resistance-rated construction is elected, the following are deemed compliant with the intent of the sections, and therefore are not treated as fire walls, fire barriers, fire partitions, smoke barriers, or smoke partitions subject to the requirements of Sections BC 706 through 710 and BC 714 and BC 715:

- A. An interior non-bearing wall or partition that is constructed with minimum 1-hour fire-resistance-rated construction.
- B. An interior non-bearing, glazed partition that is constructed in accordance with BC Appendix Q102.1 Section 8.15.26.

*NOTE: The above only addresses interior walls and partitions that are otherwise not required to be fire-resistance-rated by other sections of the code. In cases where a fire wall, fire barrier, fire partition, smoke barrier, or smoke partition is required (for example, public corridors), such construction must comply with relevant sections of BC Chapter 7.*

## **VIII. TYPE IV CONSTRUCTION EXTERIOR WALLS, EXTERIOR WALL COVERINGS, EXTERIOR BALCONIES AND SIMILAR PROJECTIONS**

CLT may be used to construct exterior walls only in limited circumstances where permitted by BC 602.4. However, in such circumstances the exterior surface of the CLT panels must be clad in accordance with BC 602.4.2.

Furthermore, notwithstanding the provisions of BC 705.2.2, exterior balconies and other similar exterior projections and features constructed with CLT must also be protected per the provisions of Section BC 602.4.

*NOTE: CLT must be manufactured and identified in accordance with ANSI/APA PRG 320-18, which indicates that “CLT panels shall be used in dry service conditions...”*

In addition to the above provisions, the following are prohibited exterior wall coverings for Type IV construction utilizing CLT in accordance with BC Chapter 14:

- Combustible exterior wall coverings
- Metal Composite Materials (MCM)
- Exterior Insulated Finish Systems (EIFS)
- High-Pressure Decorative Exterior-Grade Compact Laminates (HPL)
- Plastics