



Smoke Protection Features - Maintenance

In this issue, we look at the maintenance and inspection provisions for smoke barriers and smoke partitions provided in the 2020 Fire Code of New York State (FCNYS) and the 2020 Property Maintenance Code of New York State (PMCNYS). Maintaining a building's fire and smoke protection features is crucial to the safety of a building's occupants. The provisions of the 2020 FCNYS require that *"the fire-resistance rating and smoke-resistant characteristics of smoke barriers,"* (Section 701.3) and *"the smoke-resistant characteristics of smoke partitions"* (Section 701.4) be maintained; these provisions are mirrored in Section 703.2 of the 2020 PMCNYS.

Owner's responsibility. Inspection and maintenance of the components covered in Chapter 7 of the 2020 FCNYS are the owner's responsibility, and the scope of that responsibility is provided in Section 701.6 of the 2020 FCNYS and Section 703.3 of the 2020 PMCNYS, which includes, but is not limited to, the following:

- Maintaining an inventory of the smoke barriers and smoke partitions;
- Maintaining an inventory of the construction covered in Sections 703 through 707 of the 2020 FCNYS, which includes but is not limited to all associated, penetrations, joints, voids, door and window openings, duct and air transfer openings, fireblocking, and draftstopping;
- Visually inspecting all smoke barriers and smoke partitions for damage, alteration, breaches, or penetration, on an annual basis;
- Properly repairing, restoring, or replacing smoke barriers and smoke partitions where damaged, altered, breached, or penetrated;
- Ensuring that *"materials, systems and devices used to repair or protect breaches and openings"* in smoke barriers and smoke partitions are also maintained (see openings and breaches below); and
- Maintaining records of all inspections and repairs.

Openings and breaches. The provisions of Section 701.5 of the 2020 FCNYS require the maintenance of all materials, systems and devices used to repair or protect breaches and openings that are associated with smoke barriers and smoke partitions. If openings and breaches required protection when the building was originally constructed, then those protections are required to be inspected and maintained in accordance with the 2020 FCNYS. Materials, systems, and devices that require maintenance include, but are not limited to, the following:

- Materials and firestop systems used to protect membrane and through penetrations. These shall comply with Section 703.
- Materials and systems used to protect joints and voids. These shall comply with Section 704.
- Door and window openings in smoke barriers. These shall comply with Section 705 and the applicable inspection and maintenance provisions of NFPA 80 (2016) and NFPA 105 (2016).
- Door and window openings in smoke partitions. These shall comply with Section 705 and the applicable inspection and maintenance provisions of NFPA 105 (2016).
- Dampers protecting ducts and air transfer openings. These shall be inspected and maintained in accordance with Section 706 and the applicable inspection and maintenance provisions of NFPA 80 (2016) and NFPA 105 (2016).

Additionally, any new openings, penetrations, or breaches shall be protected in accordance with the code.

How to locate. Existing smoke barriers and smoke partitions may be difficult to identify in the field. If the original building plans are available, they should show the locations and construction details of these walls and partitions, and any associated penetrations and openings. The code provides the following to ensure they are kept track of, and if necessary, identifiable during a fire safety and property maintenance inspection:

- Owners are required to maintain an inventory (as indicated above).
- Occupancies, uses, or outdoor locations required by Section 403 of the 2020 FCNYS to have a fire safety plan shall indicate the locations of smoke barriers on such plan (Section 404 of the 2020 FCNYS).
- Smoke barriers and smoke partitions shall be indicated on the schematic building plans that are required in a fire command center (Section 508 of the 2020 FCNYS).
- Smoke barriers and smoke partitions constructed after the effective date of the 2016 Uniform Code update, will be marked as such in the adjacent concealed floor, floor-ceiling, or attic spaces to identify their presence (Section 703.7 of the 2020 BCNYS). This was required only when there is access to the concealed space.

Unsafe conditions. If the components covered in Chapter 7 of the 2020 FCNYS are not *"maintained and do not function as intended or do not have the fire resistance or the resistance to the passage of smoke required by the code under which the building was constructed, remodeled or altered,"* then the components *"shall be deemed an unsafe condition, in accordance with Section 108,"* as indicated in Section 701.7 of the 2020 FCNYS. Similar provisions are found in Section 703.2 of the 2020 PMCNYS.

Note. Smoke barriers that are components of smoke control systems are constructed and tested more rigorously; they are not covered in this issue. (See Section 909 of the 2020 FCNYS).