

## Are Fire Sprinklers Required for Your Canopy?

"Does this canopy need sprinklers?" "Are sprinklers required below the porte-cochere?" "I have a residential balcony; does it need sprinklers?"

It's one of the most common design questions in commercial buildings with fire sprinkler systems; you've undoubtedly encountered it yourself.

The decision isn't something that is taken lightly, either. In climates where freezing occurs, dry-sidewall sprinklers are often used for shorter-length projections. With new antifreeze systems are not an option (antifreeze must be a listed, pre-mixed solution which is not currently available), larger exterior projections could require dry sprinkler systems with increased cost, maintenance, and greater susceptibility to corrosion.

### Good Design Judgement

Before diving in on whether sprinklers are required or not, remember that good design judgement is always important. Just because certain code verbiage or annex material exists does not mean you, as a designer, engineer, or review authority, should forfeit good judgment or common sense. These are life safety systems and you were blessed with the ability to think analytically for good reason.

Soapbox aside; canopies, overhangs, and porte-cocheres provide a unique challenge in that they can compromise a building by (1) subjecting the building to trapped convective heat, (2) radiate heat down to the base of the fire and encourage further growth, (3) provide a continuous fuel path to the building.

NFPA 13 addresses exterior projections in Chapter 8 (2002 Edition: Section 8.14.7, 2007-2016 Editions: Section 8.15.7). There are five paragraphs in this section, and while they appear straightforward there are two critical words that tend to throw a figurative wrench into every situation.

### Two Words that Complicate Everything: "Combustible Storage"

NFPA 13 8.15.7.5 (2016): Sprinklers shall be installed under exterior projections greater than 2 ft (0.6 m) wide over areas where combustibles are stored.

What constitutes combustible storage? Storage of any item that can burn? What about temporary placement or handling of items – would they not burn in the same fashion that long-term storage would?

While not enforceable unless specifically adopted by a jurisdiction, annex material within NFPA 13 offers guidance in interpreting what is considered "combustible storage".

Temporary or short-term items, such as parked vehicles or delivered packages, while combustible, would not be considered 'storage' (NFPA 13 2007-2016 Annex A.8.15.7.2 and A.8.15.7.5).

Minor amounts of combustibles may also not justify sprinklers, such as planters, newspaper machines, or combustible furniture on balconies for occupant use (NFPA 13 2002 Annex A.8.14.7.4, 2007-2016 Annex A.8.15.7.5).

### Justified Situations

Conversely, an exterior loading dock is designed to accept incoming shipments which inevitably end up residing below canopies while loading and unloading occurs, even if only temporary. While long-term storage might not occur, it could be reasonably argued that enough shipping items, pallets, boxes, or other items could collect to be considered "combustible storage".

Projections above the only means of egress or exterior ceilings where the building is occupied above is also suggested to require sprinklers (NFPA 13 2007-2016 Annex A.8.15.7.2). Either of these arrangements, if not protected, could reasonably compromise the egress ability or occupied areas above and could be justification for providing sprinklers.

Parking areas that are not used for pickup and drop-off are another example of combustibles that would be present long-term, which the annex does not exclude.

### Judgement by the Designer and Authority Having Jurisdiction (AHJ)

If so much of the guidance is provided in the unenforceable annex material and the body of NFPA 13 is vague about combustible storage, how do we determine when sprinkler protection is required? Ultimately, the determination of whether a situation requires sprinklers due to the amount of combustible storage is up to the Authority Having Jurisdiction. It is a judgement call that is based on the amount of combustibles and length of time where combustibles would be present.

Joseph Meyer, Posted February 15, 2018 at [www.MeyerFire.com](http://www.MeyerFire.com)

# CANOPY, OVERHANG & EXTERIOR PROJECTION FIRE SPRINKLER REQUIREMENTS OF NFPA 13

In order to qualify as a separate building, there must be a minimum separation distance (IBC 602), firewall (IBC 706), or a rated exterior wall and minimum separation distance (IBC 602).

Porte-cocheres often fall under Miscellaneous U Type Occupancy, which typically do not require sprinkler systems (see IBC 903.2)

Long-term parking is generally considered combustible storage; Annex material does not exclude long-term parking

NFPA 13 Annex A.8.15.7.2 (2007-16) / A.9.2.3.2 (2019): Areas serving as the only means of egress should not be excluded from sprinkler protection

NFPA 13 Annex A.8.15.7.2 (2007-16) / A.9.2.3.2 (2019): Areas under exterior ceilings where the building is sprinklered should be protected due to the occupancy above.

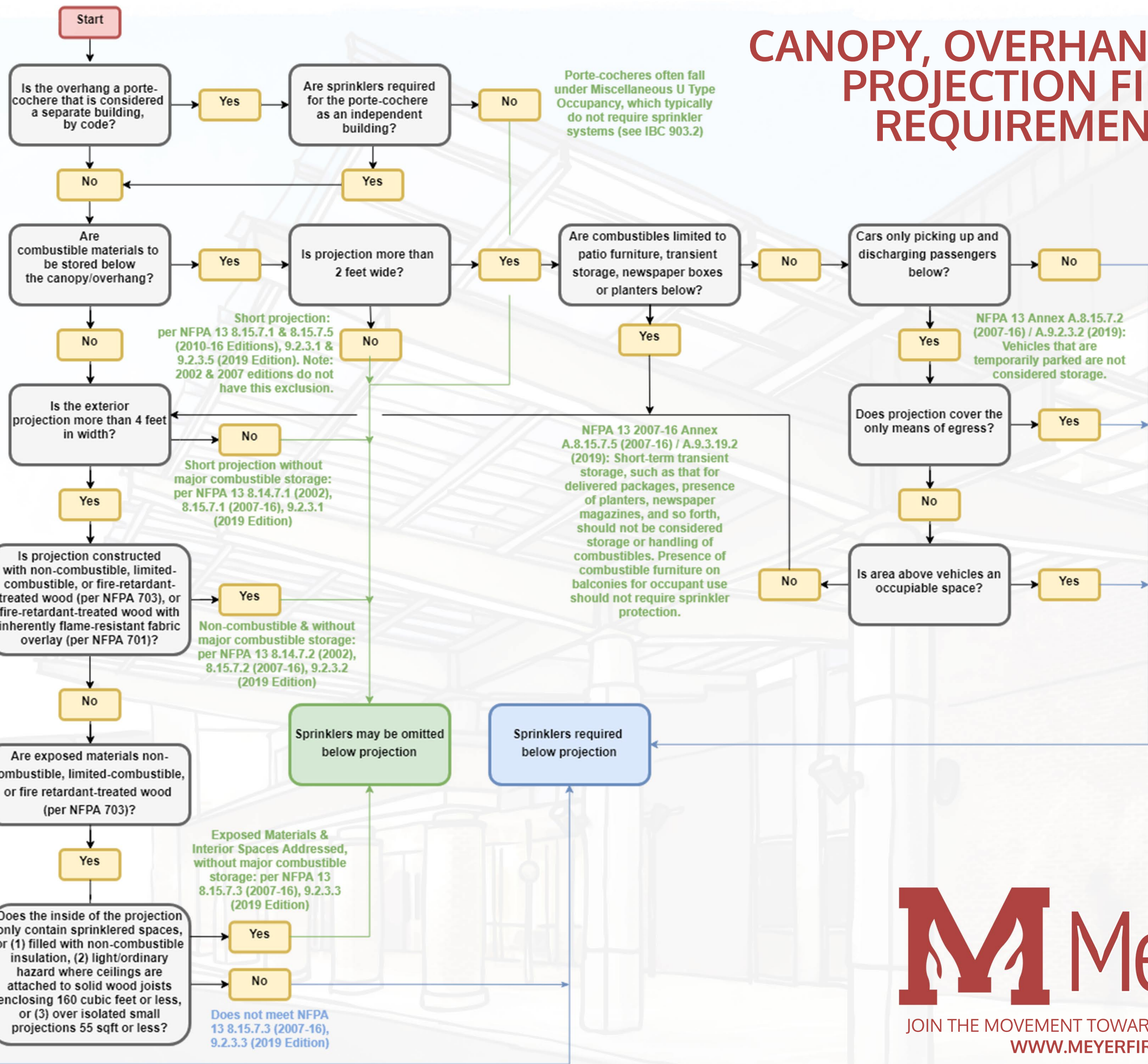
Short projection: per NFPA 13 8.15.7.1 & 8.15.7.5 (2010-16 Editions), 9.2.3.1 & 9.2.3.5 (2019 Edition). Note: 2002 & 2007 editions do not have this exclusion.

Short projection without major combustible storage: per NFPA 13 8.14.7.1 (2002), 8.15.7.1 (2007-16), 9.2.3.1 (2019 Edition)

Non-combustible & without major combustible storage: per NFPA 13 8.14.7.2 (2002), 8.15.7.2 (2007-16), 9.2.3.2 (2019 Edition)

NFPA 13 2007-16 Annex A.8.15.7.5 (2007-16) / A.9.3.19.2 (2019): Short-term transient storage, such as that for delivered packages, presence of planters, newspaper magazines, and so forth, should not be considered storage or handling of combustibles. Presence of combustible furniture on balconies for occupant use should not require sprinkler protection.

NFPA 13 Annex A.8.15.7.2 (2007-16) / A.9.2.3.2 (2019): Vehicles that are temporarily parked are not considered storage.



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