



Some FAQs on Model Fire Resistant Legislation

Relative Cost

Q. Does fire safe construction built using non-combustible materials cost more?

A. Yes, safer buildings do cost more. Our research indicates the cost can be as much as 3% more in Maryland for non-combustible construction.

Q. How do you determine the cost of non-combustible construction?

A. Our independent third-party study indicates that the cost differential for non-combustible construction over combustible construction ranges from a reduction of 4% to an increase of 3% (NOT a 30% increase as erroneously reported to the committee by a developer) depending on building location (see Figure 1). The study was conducted by:

- Architect & Engineer: Haas Architects Engineers
- Code Official: Tim E. Knisely
- Cost Estimation: Poole Anderson Construction

The building model chosen for the study was a 4-story multi-family residential structure encompassing approximately 25,000 gross square feet of building area per floor. The following construction types and alternates were included in the evaluation:

- Combustible Type V wood framing with Type V wood floor system
- Non-combustible framing with fire-rated non-combustible floors (concrete on steel deck)
- Fire-rated load bearing non-combustible construction with fire rated non-combustible floor system (block and plank)

The cost estimate for each building model included the complete fit out of each building with the exception of movable appliances and furniture. In Towson and Frederick, Maryland (see Figure 1) there is only a 3% incremental increase to build a safer, more resilient building using concrete and steel, over more combustible products.

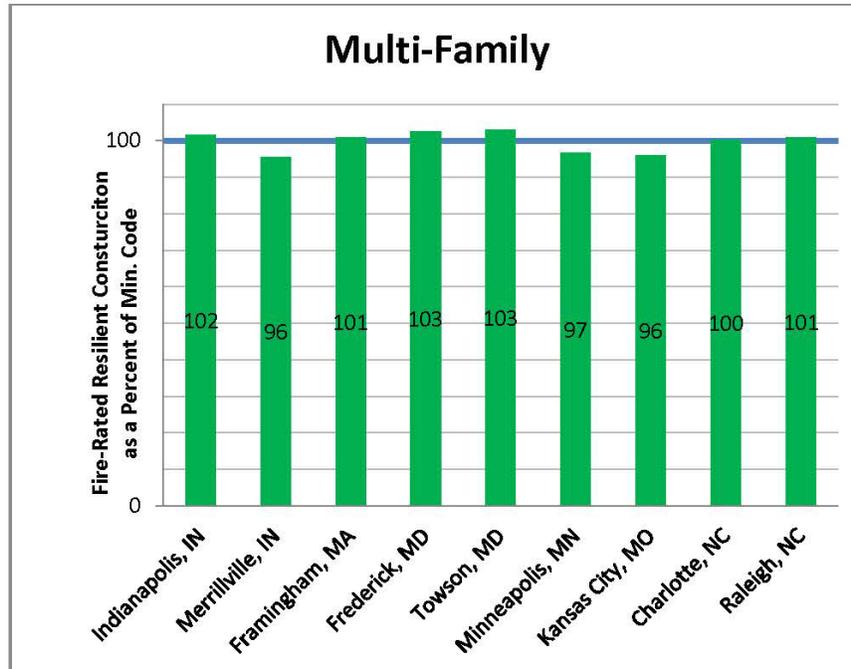


Figure 1

Population Density

Q. Why is population density used to delineate when Type V combustible construction is permitted and when it is not permitted?

A. Type V combustible construction is most dangerous to building occupants and fire fighters in densely populated areas. Buildings are usually taller, larger and more closely spaced in densely populated areas, making it more difficult for occupants to exit a building and more difficult for fire fighters to fight a fire mainly because of restricted space surrounding the buildings. In addition, there is greater danger of a fire jumping to an adjacent building. New York City and Chicago specifically identify “fire districts” that prohibit Type V combustible construction. Fire districts are specifically identified as densely populated areas. The concept of the legislation is that a jurisdiction would modify the state adopted building code and specifically identify “fire districts” that are over 5,000 people per square mile and restrict this dangerous form of construction in those areas.

Q. Why is Type V combustible construction permitted in areas that have population density of less than 5,000 people per square mile? Aren’t these people in need of fire safe construction also?

A. Type V combustible construction is less dangerous in more lightly populated areas since the buildings are typically smaller, not as tall and have more access for fire fighters. However, the legislation does recognize the danger of Type V combustible construction even in lightly populated areas and provides

additional restrictions on the use of Type V combustible construction including a height limit of 3 stories and floor area limit of 36,000 square feet. In addition, these buildings must have more robust fire sprinklers, and have 2-hour non-combustible fire separations between floors and units to prevent the spread of fire from one unit to the next, thus reducing the probability of a catastrophic fires.

Which Code and What Buildings

Q. What kinds of buildings are affected by this legislation?

A. The legislation affects what is called residential occupancy group R-1 and R-2 in the International Building Code. Residential Group R-1 is residential occupancies containing sleeping units where the occupants are primarily transient in nature, including:

- Boarding houses (transient) with more than 10 occupants
- Congregate living facilities (transient) with more than 10 occupants
- Hotels (transient)
- Motels (transient)

Residential Group R-2 is residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, including:

- Apartment houses
- Boarding houses (nontransient) with more than 16 occupants
- Congregate living facilities (nontransient) with more than 16 occupants
- Convents
- Dormitories
- Fraternities and sororities
- Hotels (nontransient)
- Live/work units
- Monasteries
- Motels (nontransient)
- Vacation timeshare properties

Q. Why should the legislature get involved in building code issues? Isn't the International Building Code developed by technical experts?

A. In fact, the building code development process is more political than legislative activities. Legislators are elected by the people and are compelled to protect their constituents. People involved in building codes are hired by special interest groups and are not held to any standard. Usually lowest cost is what prevails.

Fire Watch and Signage

Q. Why a 24-hour fire watch for Type V combustible buildings under construction?

A. During construction is the most dangerous time for these wood structures.

Q. What's the purpose of the signage on the outside of the building?

A. The purpose of the signage is not a "SCARLET A". This is to give the Fire Dept. the opportunity to know EXACTLY what the building is made out of so they can make a more strategic decision about how to enter it in the event of a fire. Much like you would place a sticker on the bedroom window indicating there are children in a single family home...

Q. Will the requirement for fire watch and signage cost the state money since the office of the state Fire Marshall needs to train fire watch and verify signage?

A. No, any cost of training should be covered by the building developer.

Other issues...

Q. Are most developers in favor of this legislation?

A. Likely not. Keep in mind most developers are interested in quick profits. That means build it, rent it out, and sell the building, usually in less than 3 years. There is little interest in building a safe, durable, and quiet building since they are typically not the long term owners of these buildings.