BILL SUMMARY

An Act Relative to Safe Building Materials

Fast Facts

- Recent devastating fires have ravaged Boston, Waltham, Dorchester, and Weymouth used light-frame, combustible wood materials.
- Non-combustible building materials **cost approximately 20% less on average** than those made with wood, according to local historical data.
- **According to and RS Means based model, for a typical four story, 100,000 square-foot apartment** in Massachusetts, apartments made with non-combustible materials **cost 1.9% less** than those made with wood.

What does this bill do?

- Strengthens the building code by clarifying the use of light-wood frame building materials in the construction of mid-rise (4-7 stories) buildings and promoting the use of non-combustible building materials.
- Updates the specialized codes in Section 96 of Chapter 143 to include light frame construction.
- Updates Chapter 148- Fire Prevention by creating a new section for Combustible, Light-Framed Construction.
- Increases fire protections for new residential construction containing more than two dwelling or sleeping units:
  - Requires National Fire Protection Association (NFPA) 13 commercial sprinkler package (interstitial spaces, unprotected attics, bathrooms and closets). Current code calls for NFPA 13R residential package which only mandates sprinklers in the sleeping spaces;
  - Requires fire partitions be constructed with noncombustible materials or fire-retardant treated wood and have a fire-resistance rating of at least ONE hour;
  - Requires horizontal assembly installed between floors separating dwelling or sleeping units be constructed of noncombustible materials or fire-retardant treated wood and have a fire-resistance rating of at least ONE hour;
  - Requires fire walls to be constructed of noncombustible materials or fire-retardant treated wood and have a fire-resistance rating of at least TWO hours;
  - Mandates a fire watch warden present 24 hours a day during construction.
- Measures all structures from grade plane. Limits any unprotected light-framed combustible construction to THREE stories or 60 feet above grade. Limits any protected light-framed combustible construction to FOUR stories or 70 feet above grade.

- Requires the Fire Marshall to promulgate rules and regulations for emblems affixed to the front of newly constructed, large residential structures and at the fire panel to aid firefighters in understanding the building's structural systems in the case of a fire.

Frequently Asked Questions

QUESTION: Do these bills ban wood construction for traditional single or multi-family residences?
ANSWER: No. This legislation does not ban wood construction at all. Wood frame construction will still be allowed in your typical single and multi-family residences. These bills simply require mid-rise buildings, 4-7 stories, be built with non-combustible materials for NEW construction (not retroactive and anything permitted or in the pipeline will also be grandfathered). Wood is still allowed in mid-rise construction (4-7 stories), but that wood must be fire-treated.

QUESTION: Isn't building with wood much cheaper?
ANSWER: Traditionally, the material cost of wood is cheaper than other non-combustible products. However, the National Association of Home Builders has reported in October 2020 that the price of wood has increased 170% since April of 2020. Additionally, when building in the mid-rise sector, the additional cost to structurally secure the wood, insulate the structure, and mitigate moisture and insect damage negates any costs savings even when using previous wood costs.

QUESTION: What is the cost of these changes and will they make development of mid-rise construction prohibitively more costly?
ANSWER: Using non-combustible materials has been proven to saves lives; hence why high-rise construction is only allowed to be built using non-combustibles. But too many communities have been relying on wood construction because they believe it saves money for multifamily buildings. Analyses from Dodge Data & Analytics (DDA) and RS Means highlight the affordability of non-combustible construction in Massachusetts, where the costs are the same or less than building with wood. A historical cost analysis looking at DDA data from 2014-2019 and representing over 375 buildings found that non-combustible buildings cost approximately 20% less to build than combustible wood buildings. A comprehensive cost estimate using RS Means for a typical four-story, 100,000 square-foot apartment building in Massachusetts found that the costs for non-combustible construction are nearly 2% less than combustible wood construction. The results mean local construction and developers thrive, while residents and businesses stay protected.

QUESTION: What kinds of materials and specific practices make a difference in fire protection?
ANSWER: This measure is about addressing vulnerabilities that exist in combustible, light-framed structures and ensuring safer standards for the community and fire safety professionals. Wood burns, and the height and area limitations promulgated in the International Building Code since 2006 have trade-offs of "passive" fire protection that contain the fire spread for "active" systems with combustible construction. The result is fires like the ones in Dorchester, Waltham, and Weymouth which caused millions of dollars of damage, not to mention the displacement, inconvenience, and economic losses during reconstruction.

QUESTION: Isn't building with wood more environmentally friendly?
ANSWER: Wood is a renewable resource that sequesters carbon, but only a small amount (between 18-30%) of the carbon originally stored in a living tree makes its way into long-lasting building products such as dimensional lumber or cross laminated timber. Wood and wooden building materials that are taken to landfills emit methane, which is almost 28 times more potent for climate change than carbon dioxide. The real question should be, "How much carbon would have been saved if the forest of trees was not chopped down to make the framing in the first place?".