

# Limited Combustible Codes and Standards

The control of fire in structures is one of the elements of building codes and standards. As a result, codes and standards closely examine the combustibility of materials. From a code's point of view, what constitutes a non-combustible material? What is a limited combustible material? Is fire-retardant-treated wood a limited combustible material? To understand the difference between the materials, a look at the provisions in the codes is necessary.

In the USA, Canada, European Union (EU) and others regions there are several codes and standards related to fire safety and the classification of building materials in terms of their combustibility. These regulations aim to ensure the safety of buildings and reduce the risk of fire spread. Here are some key codes and standards related to limited combustibility:

## **A Non-combustible Material**

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Currently, the International Building Code, 2015 edition (IBC) in Section 703.5 has two criteria for acceptance of material as non-combustible.

- 1. Any material meeting the requirements in ASTM E136 - "Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C."
- 2. Materials with a non-combustible core (as tested with ASTM E136) with a facing not more than 1/8 inch thick. The facing must have a flame spread index of 50 or less when tested with ASTM E84 - "Standard Test Method for Surface Burning Characteristics of Building Materials" or UL723 - "Standard for Test for Surface Burning Characteristics of Building Materials."

The National Fire Protection Association (NFPA) also uses the ASTM E136 test to determine a material's combustibility. If a material cannot pass E136, it may be considered a limited combustible material.

## **A Limited Combustible Material**

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- Meets Part 2 in the IBC and has a potential heat of 3500 Btu/lb. or less as classified in NFPA 259 - "Standard Test Method for Potential Heat of Building Materials," or;
- The material shall be composed of materials that, in the form and thickness used, neither exhibit a flame spread index greater than 25 nor evidence of continued progressive combustion when tested in accordance with ASTM E 84 or ANSI/UL 723 and are of such composition that all surfaces that would be exposed by cutting through the material on any plane would neither exhibit a flame spread index greater than 25 nor exhibit evidence of continued progressive combustion when tested in accordance with ASTM E 84 or ANSI/UL 723.

2006, 2009, 2012, 2015, and 2018 editions of the Life Safety Code permit the use of a "limited combustible material" in many instances where a non-combustible material is required.

thePRIMEWOOD naturally durable hardwood products being solid non-composite materials are rated as a limited combustible material being composed of materials that, in the form and thickness used, neither exhibit a flame spread index greater than 25 nor evidence of continued progressive combustion when tested in accordance with ASTM E 84 or ANSI/UL 723 and are of such composition that all surfaces that would be exposed by cutting through the material on any plane would neither exhibit a flame spread index greater than 25 nor exhibit evidence of continued progressive combustion when tested in accordance with ASTM E 84 or ANSI/UL 723.

If you require detailed and up-to-date information on limited combustibility codes and standards for a specific country, it is recommended to consult the local building authorities, fire safety experts, or professional associations specializing in fire safety and construction regulations in that country.

