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# TECHNICAL BULLETIN

## Limited Combustible Codes and Standards

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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.

### A non-combustible material:

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:**

- 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.

**Black Label™ 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.