

# TECHNICAL BULLETIN

## Limited Combustible Codes and Standards

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Fire safety is a critical component of building regulations and standards, which meticulously evaluate the flammability of construction materials. It is important to understand what qualifies as a non-combustible material, a limited combustible material, and whether fire-retardant-treated wood falls into the category of limited combustibility. Examining the relevant codes can provide clarity on these distinctions.

### **Non-combustible Material:**

According to the 2015 International Building Code (IBC), Section 703.5 outlines two key criteria for a material to be classified as non-combustible:

1. **ASTM E136 Compliance:** The material must meet the specifications outlined in ASTM E136, which tests the behavior of materials in a vertical tube furnace at 750°C.
2. **Non-Combustible Core with Limited Facing Thickness:** The material must have a non-combustible core, as verified by ASTM E136, and the facing must be no thicker than 1/8 inch. Additionally, the facing should achieve a flame spread index of 50 or less when assessed 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 relies on the ASTM E136 test to assess material combustibility. Materials that do not pass this test may be categorized as limited combustible materials.

**A limited combustible material:**

A material is classified as limited combustible if it meets the following criteria:

- **Heat Potencial:** It must have a potential heat of 3500 Btu/lb or less, according to NFPA 259 (Standard Test Method for Potential Heat of Building Materials).
- **Flame Spread and Combustion Resistance:** The material, in its form and thickness, should not exceed a flame spread index of 25 or show evidence of progressive combustion when tested according to ASTM E84 or ANSI/UL 723. This standard applies to all exposed surfaces, including those revealed by cutting through the material on any plane.

The 2006, 2009, 2012, 2015, and 2018 editions of the Life Safety Code allow the use of limited combustible materials in situations where non-combustible materials are typically required.

Black Label™ hardwood products, being solid and non-composite, are categorized as limited combustible materials. They meet the criteria by having a flame spread index of 25 or less and showing no evidence of continued progressive combustion when tested according to ASTM E84 or ANSI/UL 723, including any exposed surfaces.