Fire Safety is one of the single, most important qualities in any modern dormitory mattress. Lives depend on it. This is especially true today with students using hot electronics while sitting or falling asleep on their beds.

All dorm mattress suppliers should be following very specific fire safety codes – to the letter of the law. And not all burn, flame and smolder tests are equal – they are not all conducted in the same manner, and positive results for one test doesn’t mean that the results from the next test will fare as well.

Mattress construction must be such that these safety codes are met, and all suppliers should be able to provide to buyers verifiable, legal documentation of compliance.

Let’s look at the three most common test from most stringent – and, thus, most important – to least.

1. **Boston Fire Department IX-11 Full Composite Burn Test**

   *This fire test is the most stringent and should be a requirement for all mattresses placed in a dormitory.* This test is a full scale test of mattress assembly consisting of specified bedding and, where applicable, a box spring. If any of the bedding on the mattress ignites, the mattress fails the test.

   Moreover, instrumentation continuously measures and records carbon monoxide and oxygen, and carbon dioxide may also be measured. Mass loss and the temperature four inches below the ceiling are continuously measured and recorded. Smoke obscuration is measured and recorded at the 4 ft. height level. Instrumentation continuously calculates the rate of heat release and the total heat released in the test.

   *Source: City of Boston, Massachusetts; www.CityofBoston.gov*
2. California Technical Bulletin #129 Open Flame Test

This fire test procedure evaluates mattresses intended for use in public buildings and measures a variety of fire-test responses when the mattress is subjected to a specified flame ignition source.

The most important fire-test response characteristic scrutinized is the rate of heat release, which measures the intensity of the fire generated. This kind of fire is typical in arson or common accidental fires in public buildings.

*Source: State of California Department of Consumer Affairs, Bureau of Home Furnishings and Thermal Insulation; www.bhfti.ca.gov*

3. Federal Standard 16 CFR 1633 Open Flame Burn Test

This fire test procedure evaluates a mattress’s fire growth-rate of smaller fires, which reduces the possibility of a flashover. The Consumer Product Safety Commission’s federal standard, which requires mattresses to resist open-flame ignition from sources such as candles, matches or cigarette lighters, estimates that mattresses that pass this test will result in significant annual reductions in death and injuries associated with mattress fires.

This test places additional responsibilities on manufacturers and importers, including everything from prototype testing for new product designs to keeping detailed records of all prototype tests (including test records, invoices, quality control documentation and photos or videos of tests performed, with records kept in English).

*Sources: Consumer Product Safety Commission; www.cpsc.gov*

*State of California Department of Consumer Affairs, Bureau of Home Furnishings and Thermal Insulation; www.bhfti.ca.gov*

**Additional Requirement Suggestions**

Make sure the manufacturer sews each end of the fire barrier. Some manufacturers buy a fire barrier where only one side is sewn and the other is open. They will fold the open end of the fire barrier under the mattress core to save time and money. If that end comes loose and foam is exposed, that is a huge fire hazard.

Don’t buy mattresses where the fire barrier is laminated to the back of the cover. If there is a tear in the cover, then core of the mattress is exposed. This is a potentially deadly fire risk. Make sure your foam mattresses are encased in a fire barrier sock that is securely sewn on both ends.