

MATTRESS FIRE SAFETY FACTS AND QUESTIONS

Are there flame retardants in my mattress?

The U.S. mattress industry does not spray finished mattresses with any fire-retardant chemicals to meet federal standards for residential mattresses. Instead, U.S. mattress manufacturers meet consumer safety requirements by using fiber or fabric barriers that enclose the interior core of the mattress, where most of the combustible material is found.

The mattress industry opposes standards that require use of fire-retardant foams, including those that contain brominated fire retardant chemicals, such as PBDEs, chlorinated tris and their substitutes in residential mattresses. U.S. mattress manufacturers are not required to use and do not use these chemicals to pass the federal standards.

When the federal government developed these standards, the U.S. Consumer Product Safety Commission (CPSC) found that these materials “are not likely to present a hazard to consumers, workers, or the environment.”

Which fire standards apply to mattress used by consumers?

Residential mattresses are subject to two federal flammability standards administered by the CPSC. These standards are codified in the code of federal regulations at 16 C.F.R. Parts 1632 and 1633, and are commonly called Parts 1632 and 1633.

Why were these standards adopted?

The CPSC issued Part 1632 in the 1970s to address fires ignited by smoldering cigarettes, which at that time was the leading cause of deadly mattress fires.

In 2007, the CPSC implemented Part 1633 to address fires ignited by open-flame heat sources (such as lighters, matches, and candles), which by then had become an important factor in residential fire safety. In establishing Part 1633, the CPSC concluded that about one-third of all fatalities from residential mattress fires occur when the fire becomes large enough to “flashover” from the bedroom to other rooms of the home.

To address this concern, Part 1633 limits the peak amount of heat that a mattress fire can release during the initial phase of a fire, thus reducing the risk of flashover, allowing people more time to escape the fire and saving lives. The CPSC estimated that once consumers replace their current mattresses with those that meet Part 1633, up to 75% of the deaths and injuries that result from mattress fires will be eliminated, substantially improving consumer product safety.

How do mattress manufacturers meet these standards?

The largest amount of fuel in most mattresses is the upholstery material inside a mattress which provides the consumer with comfort and support. The upholstery material is typically made of natural or synthetic fibers, latex foam and polyurethane foam, or various combinations of those different materials, all of which can burn. The upholstery materials also often contain steel innersprings, which are not combustible. To meet these standards, manufacturers protect the combustible upholstery materials from being ignited.

In the case of Part 1632, manufacturers enclose the interior upholstery materials with materials that do not allow smoldering cigarettes to burn through the finished mattress surface to the interior materials. Most U.S. mattress manufacturers meet the standard by using an outer fabric made from various conventional fibers (for example, polyester, polyolefin, wool, silk) that will resist ignition from a smoldering cigarette.

To meet the more demanding requirements of Part 1633, the mattress industry urged CPSC to adopt performance criteria that would not require manufacturers to use fire-retardant foam. As a result, manufacturers meet the performance requirements using fabric or fiber barriers to protect the interior foam and other material from igniting. The barriers are designed to block either heat, oxygen or both from reaching the upholstery material that the barriers encase. These barriers may be in the form of woven or knit fabrics, or non-woven fiber pads. They may either be sewn into the mattress between the ticking cover and the interior upholstery material, or be part of the outer fabric cover. The barriers are made from a variety of natural and synthetic fibers that have been tested extensively and used safely for decades in a variety of fire protection and other applications.

Did the CPSC review the safety of the materials used in these barriers?

Yes. Prior to formally issuing Part 1633, the CPSC carefully considered the safety of the various fibers used in these barriers. In doing so, the agency studied possible ways that consumers could be exposed to these materials (including skin, oral, and inhalation exposure).

The CPSC concluded that all available data show that these materials “are not expected to present any appreciable risk of health effects to consumers who sleep on the mattresses that comply with the standard.” In fact, the CPSC found that these materials “are not likely to present a hazard to consumers, workers, or the environment.”

The CPSC also found nothing in its research to suggest that exposure to the barrier materials would contribute to or exacerbate allergies, asthma or multiple chemical-sensitivity in consumers.

Some news reports claim that fire-retardant foam is used to meet the mattresses federal flammability standards, or that finished mattresses are sprayed with or soaked in harmful fire retardant chemicals. Are these reports true?

No.

As noted above, U.S. mattress manufacturers meet flammability standards using barriers that are sewn into the products during manufacture. They do not spray or soak the finished mattress in any fire retardant chemical of any kind.

Finally, the mattress industry has a history of strongly resisting any federal flammability standard that requires the use of fire-retardant foams including those that contain various types of so-called brominated fire retardant chemicals, such as penta or deca bromodiphenyloxide (BDEs) and their substitutes. As a result, neither Part 1632 nor 1633 require the use of fire retardant foam.