IN•TOUCH

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Understanding The U.S. Open Flame Mattress Flammability Standard

The U.S. Consumer Product Safety Commission (CPSC) approved 16 CFR Part 1633, the Federal Open-Flame Mattress Standard, on February 16, 2006. The standard was the result of active participation and support of many members of the U.S. mattress industry, barrier suppliers, and the flexible polyurethane foam (FPF) industry, who all had a hand in helping to shape the standard.

The standard addresses stringent manufacturing, testing and document retention requirements. It also preempts states from setting different mattress flammability rules. The standard applies to residential mattresses and foundations (boxsprings) manufactured, imported or renovated on or after that date.

The mattress standard offers manufacturers flexibility since it is a performance test.

Flexibility Is Key

A key advantage of the mattress standard is that it requires **composite performance**. Instead of being a test of individual components, the standard provides flexibility, leaving it up to the manufacturer to find the best way to comply.

The performance-based standard leaves the door open for continuous innovation and product improvements. Mattresses often include a high-performance FPF component to meet consumer comfort, support, and appearance retention demands of eight-hour-a-night use in conditions of elevated temperatures and humidity. Many mattress manufacturers comply with the flammability standard by adding an ignition-resistant barrier material between the outside cover, or ticking fabric, and the interior, built-up component materials. Using this approach, manufacturers can continue to use better quality foam cushioning materials without flame retardant additives, which offer all the comfort, support and lasting physical performance required of a good mattress product.

Good Science: A History Of The Standard

The national standard was based on a California mattress flammability standard adopted in 2005, which was developed with substantial input from the bedding industry and its suppliers. The standard was

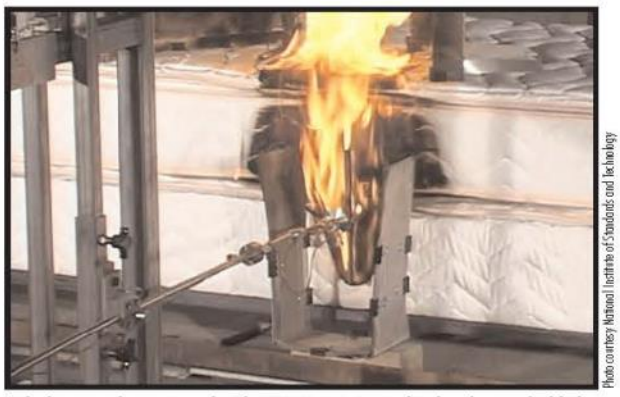

Photo courtesy National Institute of Standards and Technology

A dual propane burner is used in the CPSC test rig to simulate how burning bedclothes (heat flux and duration) may affect a mattress and box spring or a mattress alone.

based, in part, on research performed by the National Institute of Standards and Technology (NIST). Throughout the California standard development process, stakeholders voiced the belief that, to be effective, any mattress flammability standard must be based on good science and research representing the entire composite mattress product. Synergistic interaction during combustion affects all components used in mattress construction.

Proactive industry groups such as the International Sleep Products Association (ISPA) and the Sleep Products Safety Council (SPSC) collaborated closely with the CPSC on developing the new standard. PFA provided information to the CPSC on the ignition and combustion performance of FPF materials when used in mattress construction.

The standard incorporated a number of important elements that were part of the public comments filed on behalf of the mattress industry by the ISPA and the SPSC. These include:

1. The standard applies to imported mattresses.
2. The standard applies to renovated mattresses.
3. After verified testing, manufacturers are not required to maintain physical samples.
4. Foreign manufacturers have the same compliance responsibilities as domestic manufacturers including product recalls if necessary.
5. The standard preempts state mattress flammability rules, making compliance easier for manufacturers.
6. The standard clarified and added definitions regarding prototype development (parties other than manufacturers can develop prototypes) and responsibilities for prototypes.

Compliance Is Not Optional

All stakeholders in the mattress industry must work diligently to comply with the national standard. It creates opportunities for product innovation at all levels of supply and product design.

The industry groups involved in developing the federal mattress flammability standard have been available since its inception to assist retailers, vendors, consumers, environmental regulators and others with questions regarding compliance with the standard.

Information on compliance can be found under "Flammability FAQs" on the ISPA website at www.sleepproducts.org.

Mattresses and FPF Fillings Flammability The Role of Flexible Polyurethane Foam

Flexible polyurethane foam (FPF) is often used in manufacturing mattresses to provide lasting comfort and support. While a room fire usually involves many combustible home furnishing items, the foam component inside a mattress is rarely the first thing to ignite.

16 CFR Part 1633 At A Glance

Duration of Test	30 Minutes
Peak Heat Release	200 kW
Total Heat Release for 1st 10	15 mega joules
Recordkeeping Requirements	Yes. Manufacturers must maintain records concerning prototype testing, pooling and confirmation testing, and quality assurance procedures and any associated testing for as long as mattresses/sets based on prototype are in production and must be retained for three years thereafter.
Test Method	Same as California TB 603 except: Sample room conditioning standards narrower than CA TB 603 Test parameters narrower than CA TB 603

While having a national flammability standard may add a measure of fire safety, we know that, despite having a standard in place, there will still be fires involving mattresses. Cushioning components, fabric, fiberfill, down, and foam, have the potential to burn if exposed to sufficient heat or source of ignition.

Flexible polyurethane foam is an organic material and, like all organic materials, will burn. Organic materials include a variety of common substances including wood, paper, cotton, wool, nylon, polyester, polyethylene, and polystyrene and other plastic materials. For more than 35 years, PFA has provided up-to-date information about FPF flammability to members and stakeholders.

One potential danger of flammability standards is that consumers could develop a false sense of security when they see labels on mattresses and foundations indicating that the components in the bedding are in compliance with a flammability standard.

In fact, the best protection and first line of defense against fire is to practice responsible fire prevention in the home. Families can help prevent household fires by:

1. Keeping burning cigarettes away from sofas, chairs, mattresses and foundations.
2. Keeping matches, lighters and candles away from children.
3. Installing smoke detectors and testing them often.
4. Having an emergency evacuation plan and conducing drills to help children learn how to escape a fire situation.

Summary

- The U.S. Consumer Product Safety Commission (CPSC) approved 16 CFR Part 1633, the new Federal Open- Flame Mattress Standard, on February16, 2006. It was developed with the active participation and support of many members of the U.S. mattress industry.
- Proactive industry groups such as the International Sleep Products Association (ISPA) and the Sleep Products Safety Council (SPSC) worked with the CPSC on developing the new standard. PFA provided information on the ignition and combustion performance of FPF mattress materials.
- The regulation is largely modeled on a standard adopted in California in 2005.
- A key advantage of the national performance-based mattress standard is its flexibility. It requires composite performance and leaves it up to the manufacturer to find the best way to comply.
- Compliance with the standard is not optional.
- The best protection and first line of defense against fire is to practice responsible fire prevention in the home.

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