

U.S. Consumer Product Safety Commission

Overview of U.S. Mattress Requirements Jacqueline Campbell



MARCH 2018

This presentation was prepared by CPSC staff, has not been reviewed or approved by, and may not reflect the views of the Commission.

The slides in this presentation are intended to be used in a training event with verbal elaboration by a knowledgeable presenter. The slides highlight key U.S. product safety requirements for this discussion. The text is not a comprehensive statement of legal requirements or policy and should not be relied upon for that purpose. You should consult official versions of U.S. statutes and regulations, as well as published CPSC guidance when making decisions that could affect the safety and compliance of products entering U.S. commerce. Note that references are provided at the end of the presentation and a handout on phthalates prohibitions in children's toys and child-care articles is also available.

Topics

- What Is a Mattress?
- U.S. Mattress Requirements
 - Flammability, Labeling, and Recordkeeping
 - Certification
 - Chemical Content
 - Tracking Labels
- Designing for Safety
- CPSC Mattress Resources

What Is a Mattress?

- Regulatory Definitions and Scope:
 - A ***mattress*** is:
 - A ticking filled with a resilient material used alone or in combination with other products intended or promoted for sleeping upon, including mattresses that have undergone renovation.
 - Subject to both 16 C.F.R. parts 1632 and 1633.
 - A ***mattress pad*** is:
 - A thin, flat mat or cushion, or ticking filled with resilient material for use on top of a mattress.
 - Subject to 16 C.F.R. part 1632 only.

What Is a Mattress?

- The definition of mattress includes (but is not limited to):
 - Traditional mattresses, in all sizes, with flat or pillow top, single or double sided
 - Crib mattresses
 - Futons
 - Mattresses in sleeper sofas and campers
 - Water bed and air mattresses
 - If they contain upholstery material between the ticking and mattress core
 - Otherwise, exempt from requirements
- See §§1632.1(a) or 1633.2(a)-(c) or contact CPSC Compliance staff for more information

U.S. Mattress Requirements

- Flammable Fabrics Act (FFA)
 - Mattresses and Mattress Pads
 - Mattress Sets
- Federal Hazardous Substances Act (FHSA)
 - Lead Content
- Consumer Product Safety Act (CPSA)
 - Limitation on levels of Lead in Paint and Surface coatings
 - Limitation on limits of certain Phthalate Content
 - Certification Requirements
 - Tracking Labels

Flammable Fabrics Act (FFA)

- Primary authority for CPSC-regulated textiles
- Focused on flammability performance
- Regulations
 - General wearing apparel (16 CFR part 1610)
 - Vinyl plastic film (16 CFR part 1611)
 - Children's sleepwear (16 CFR parts 1615/1616)
 - Carpets and rugs (16 CFR parts 1630/1631)
 - **Mattresses and mattress pads (16 CFR part 1632)**
 - **Mattress sets (16 CFR part 1633)**

Flammable Fabrics Act (FFA)

- Standard for the Flammability of Mattresses and Mattress Pads (16 CFR part 1632)
 - Applies to both mattresses and mattress pads
 - Cigarette ignition test
- Standard for the Flammability (Open-Flame) of Mattress sets (16 CFR part 1633)
 - Applies to mattress sets (mattress alone or with foundation)
 - Open-flame ignition test

For mattresses, both standards must be met before the product can be entered into commerce in the U.S.

Mattresses and Mattress Pads

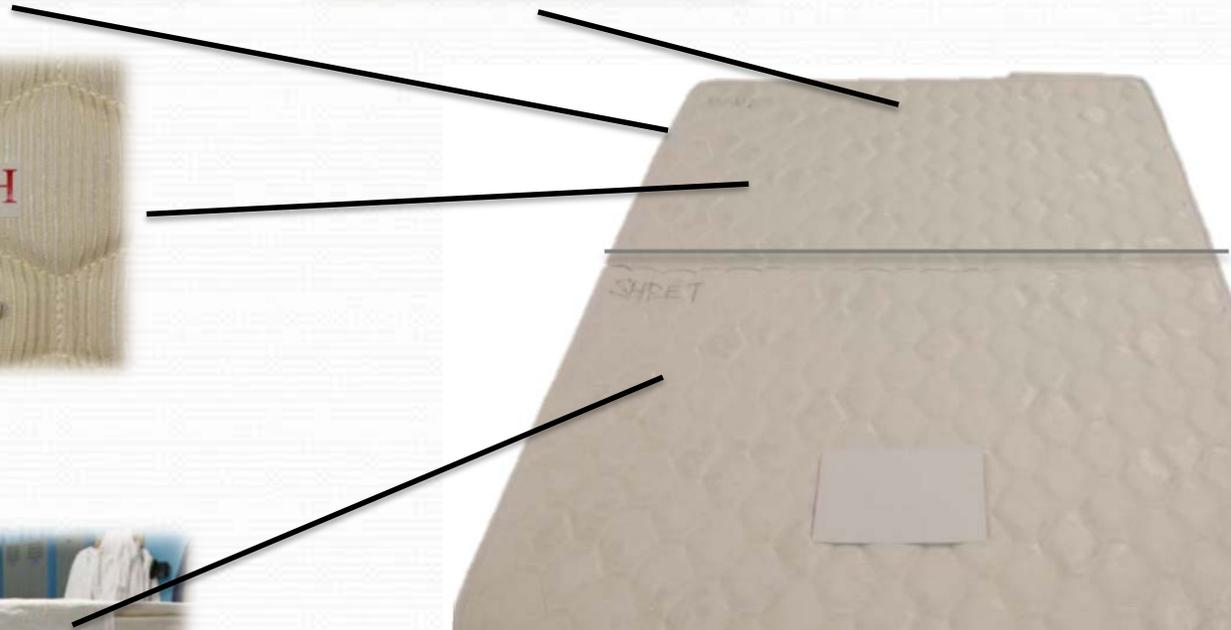
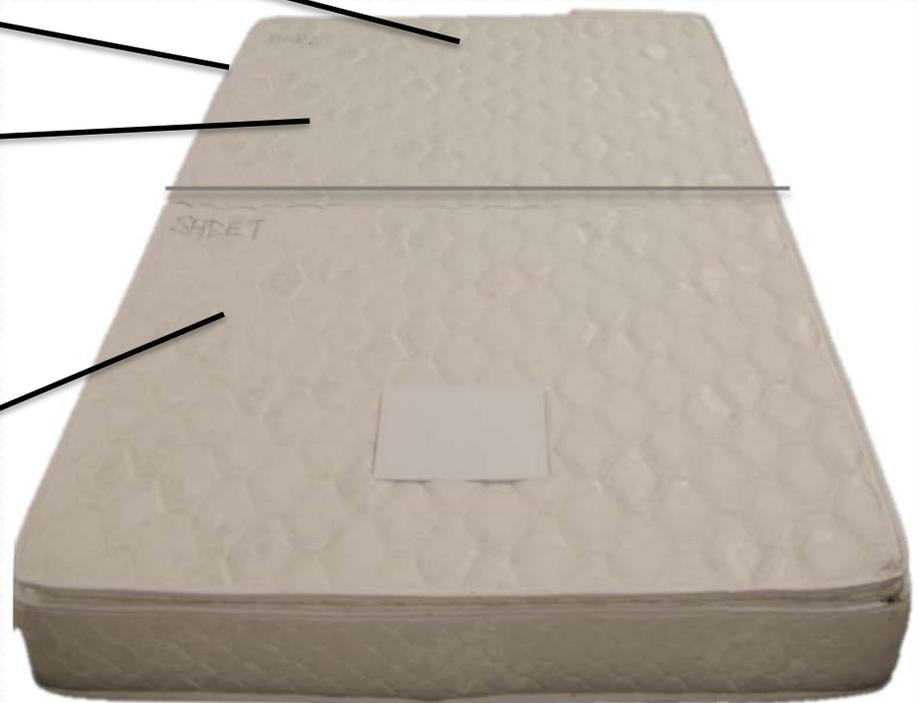
- Purpose of Regulation (1973)
 - To improve ignition resistance of mattresses and mattress pads to smoldering cigarettes
- Uses prototype testing scheme
 - A design that is the same as production units with respect to materials, components, design, and method of assembly.
 - New prototypes and material changes require testing
 - Substitution tests exist for some material changes

Mattresses and Mattress Pads

- 6 surfaces (interim policy covering 2 surfaces)
- Test design features
 - Smooth surface, tape edge, quilting or tufting
- Bare and with sheeting (2 layers)
- SRM cigarette ignition source
 - Total of 36 observations for interim testing policy
 - 18 locations on each test specimen
 - 9 locations on each of bare and sheeting

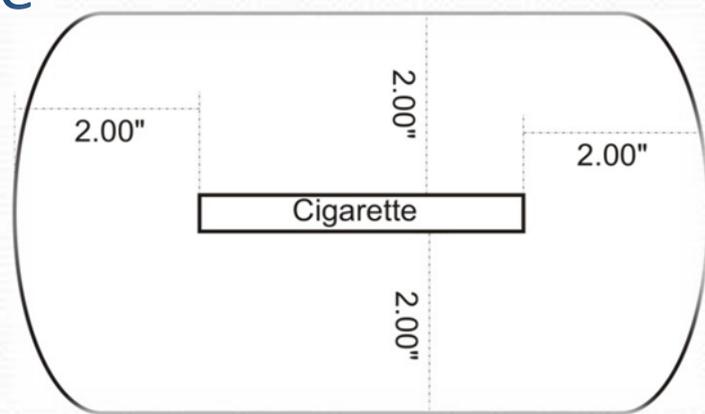
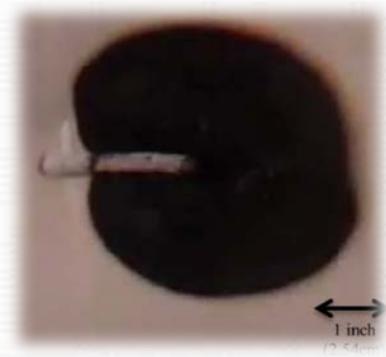
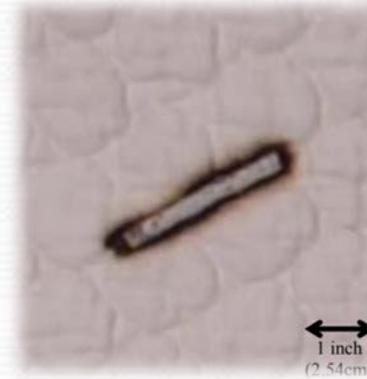


Mattresses and Mattress Pads



Mattresses and Mattress Pads

- Test criteria:
Charring may not extend greater than 2 inches in any direction from the ignition cigarette



Mattresses and Mattress Pads

- Labeling Requirements
 - Date of manufacture (MM/YYYY)
 - Manufacturing location
 - Include all company manufacturing locations by street address
 - If a FR treatment is used:
 - Mark with “T”.
 - Include precautionary care instructions to maintain FR efficacy.

**Note that there may be additional state requirements for labeling.*

Mattresses and Mattress Pads

- Recordkeeping Requirements
 - Manufacturing specifications and descriptions
 - Test details and results
 - Photographs (before and after testing)
 - Other information in §1632.31(c), as applicable
 - Must be maintained while prototype is in use and for 3 years after

Mattresses and Mattress Pads

Hollander Sleep Products Recalls Mattress Pads Due to Violation of Federal Flammability Standard; Sold Exclusively at Bed Bath & Beyond



Wamsutta Dream Zone cotton 800 thread count mattress pads

Name of product:

Wamsutta Mattress Pads

Hazard:

The mattress pads fail to meet the mandatory federal flammability standard for mattresses and mattress pads, posing a fire hazard.

Remedy:

Refund

Recall date:

May 26, 2016

Recall number:

16-180

Hazard:

The mattress pads fail to meet the mandatory federal flammability standard for mattresses and mattress pads, posing a fire hazard.

Mattress Sets

- Purpose
 - To limit fire intensity
 - To increase time for discovery and escape by preventing or delaying flashover
- Effective in 2007
- Uses prototype testing scheme

Mattress Sets

- Number of tests depends on stage of prototype tested
- Prototype/test as intended to be used
 - Mattress alone
 - Mattress and foundation
- Open flame ignition source
 - Pair of gas burners
 - Top surface ignited for 70 seconds
 - Side surface ignited for 50 seconds
 - Ignition source intended to approximate burning bedclothes on a mattress
- Performed under an instrumented hood



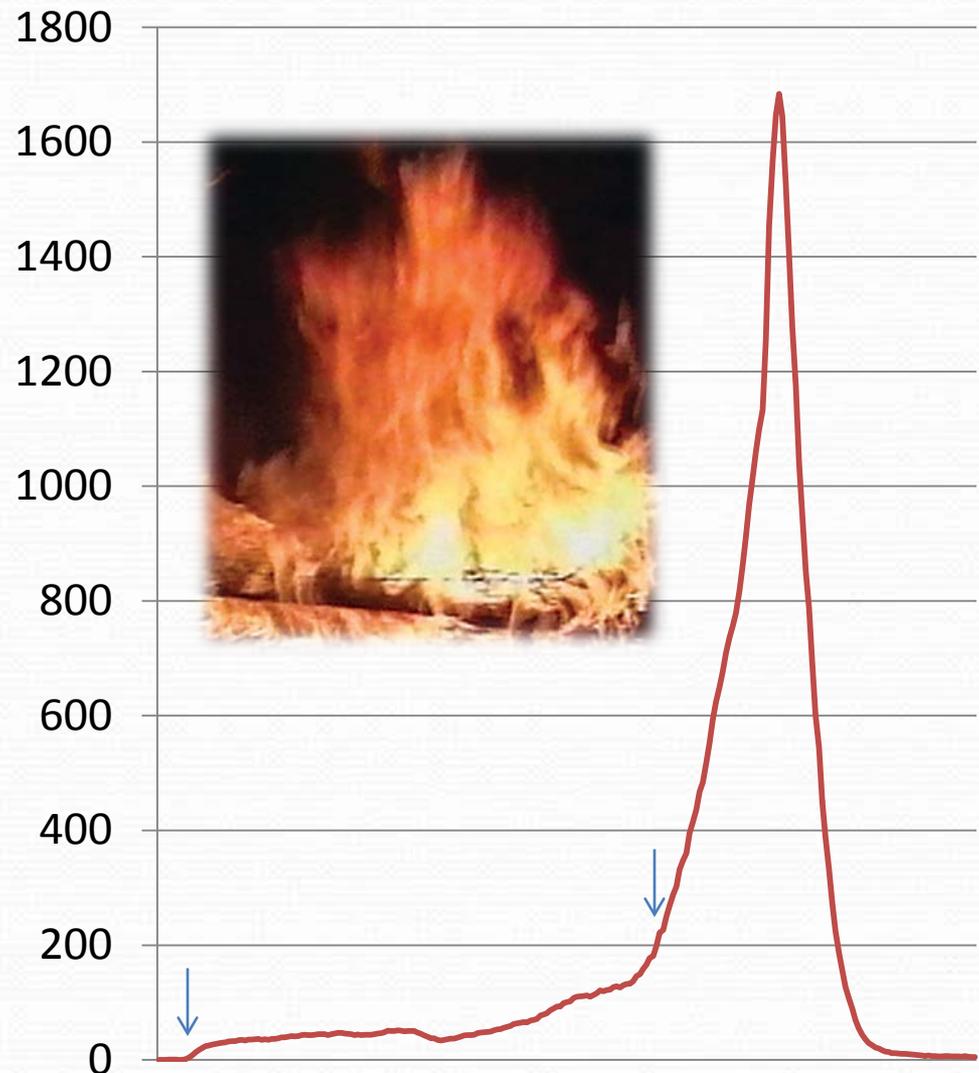
Mattress Sets



3 Minutes

Mattress Sets

- Test Criteria:
 - Test lasts 30 minutes
 - Total heat release may not exceed 15 MJ in first 10 minutes of test
 - Peak heat release rate may not exceed 200 kW



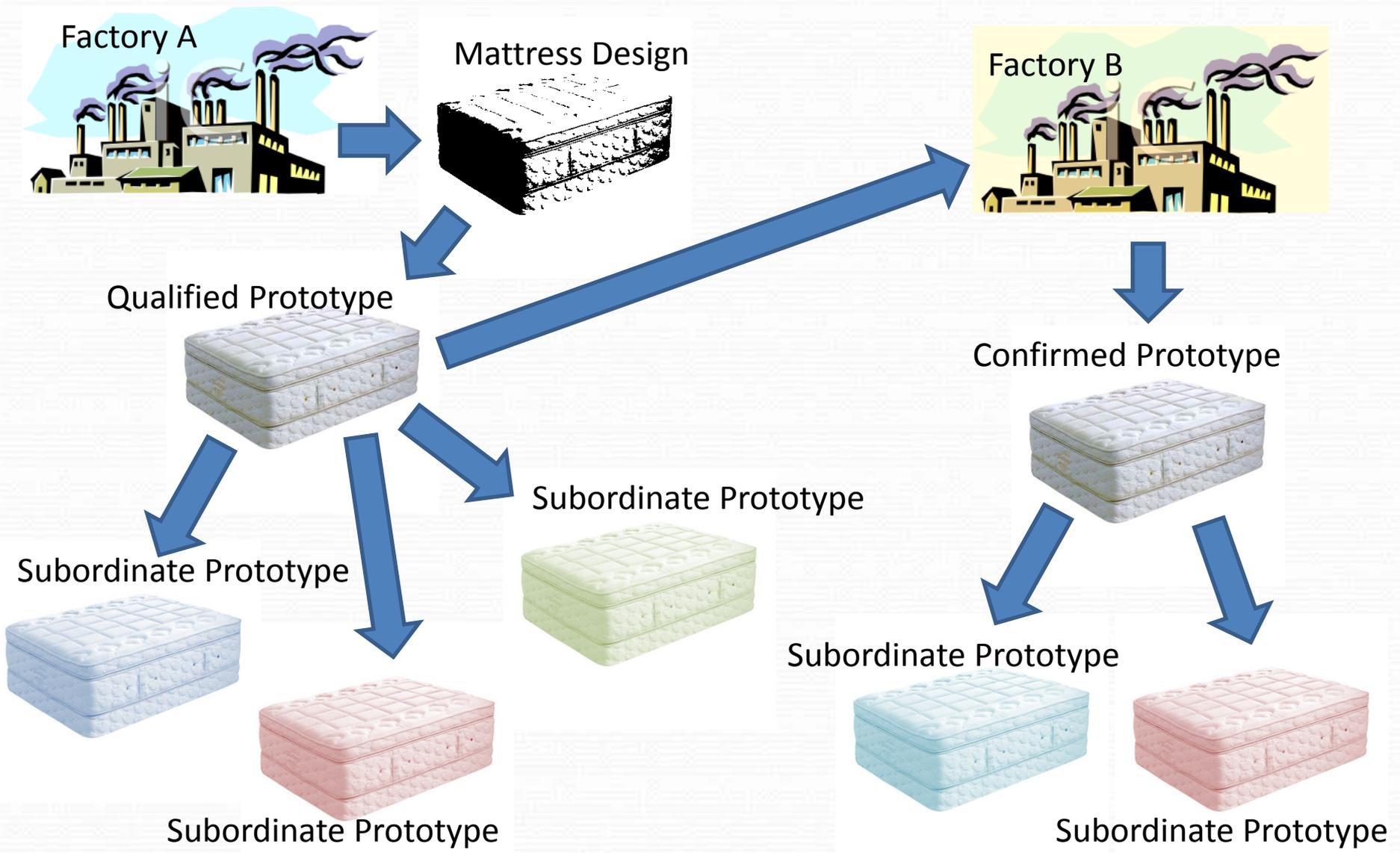
Mattress Sets

- Qualified Prototype
 - Initial design tested according to §1633.4(a) that meets flammability requirements
 - Minimum of 3 consecutively tested specimens
 - Any failures disqualify prototype
- Confirmed Prototype
 - Same as qualified prototype
 - Minimum of 1 test per manufacturing location
 - Intended to check manufacturing and confirm same as qualified
- Subordinate Prototype
 - Some limited differences allowed from qualified or confirmed prototypes
 - No testing required

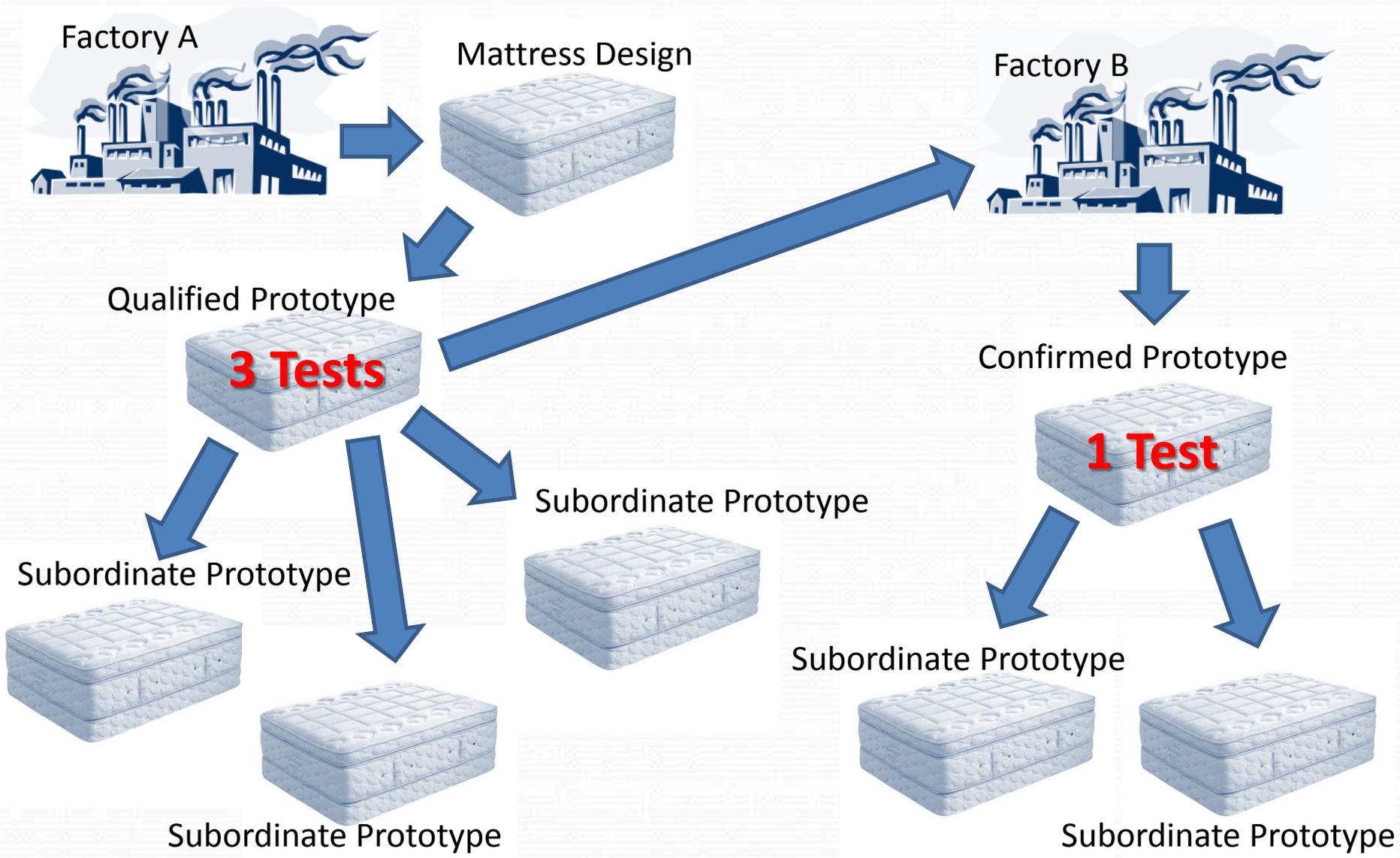
Mattress Sets

- Purpose of prototype scheme
 - Lower testing burden by using a qualified prototype on which confirmed or subordinate prototypes can be based, also called *prototype pooling*
- Qualified/confirmed vs. subordinate
 - Mattress size
 - Ticking
 - Other components that are not expected to change flammability performance based on *reasonably objective criteria*
- Reasonably objective criteria
 - Evidence-based, demonstrable

Mattress Sets



Mattress Sets



Mattress Sets

Labeling: Mattresses

Stitch Line

Manufactured by:
Foreign Company Name
Street
City, State
Country

Date of Manufacture:
MM/YYYY

Importer/U.S. Records Location:
Importer Name
Street
City, State ZIP

Model: <Model ID>

Prototype ID: <Prototype ID>
<Prototype ID>

This mattress meets the requirements of 16 CFR §1633 (federal flammability (open flame) standard for mattress sets) when used without a foundation or with foundations <ID>

**THIS MATTRESS
IS INTENDED TO BE USED
WITHOUT A FOUNDATION
OR
WITH FOUNDATION(S):
<FOUNDATION ID>**

Stitch Line

Manufactured by:
Foreign Company Name
Street
City, State
Country

Date of Manufacture:
MM/YYYY

Importer/U.S. Records Location:
Importer Name
Street
City, State ZIP

Model: <Model ID>

Prototype ID: <Prototype ID>

This mattress meets the requirements of 16 CFR §1633 (federal flammability (open flame) standard for mattress sets) when used without a foundation.

**THIS MATTRESS
IS INTENDED TO BE USED
*WITHOUT A FOUNDATION***

Mattress Sets

Labeling: Foundations

Stitch Line

Manufactured by:
Foreign Company Name
Street
City, State
Country

Date of Manufacture:
MM/YYYY

Importer/U.S. Records Location:
Importer Name
Street
City, State ZIP

Model: <Model ID>

Prototype ID: <Prototype ID>

This mattress meets the requirements of
16 CFR §1633 (federal flammability
(open flame) standard for mattress sets)
when used with foundation <ID>.

THIS MATTRESS IS INTENDED TO
BE USED WITH FOUNDATION(S):

<FOUNDATION ID>

Stitch Line

Manufactured by:
Foreign Company Name
Street
City, State
Country

Date of Manufacture:
MM/YYYY

Importer/U.S. Records Location:
Importer Name
Street
City, State ZIP
Model: <Model ID>

Prototype ID: <Prototype ID>

Foundation ID: <ID>

Mattress Sets

- Recordkeeping Requirements
 - Test records
 - Test results, video, pictures
 - Prototype records
 - Unique IDs, detailed description of components and manufacture, models and production lots, subordinate prototypes
 - Pooling (Confirmation) records
 - Quality Assurance records
 - Procedures, production test records, production lot
 - Must be maintained while prototype is in use and for 3 years after
 - All records must be maintained in English in the U.S.

See §1633.11 and <https://www.cpsc.gov/Business--Manufacturing/Business-Education/Business-Guidance/Mattresses/Suggested-Recordkeeping-Forms-for-16-CFR-1633/> for more information

Mattress Sets

Quality Foam Recalls Mattresses Due to Violation of Federal Mattress Flammability Standard



Recalled Quality Foam mattress (Black)

Name of product:

Quality Foam mattresses

Hazard:

The mattresses fail to meet the mandatory federal flammability standard for mattresses, posing a fire hazard.

Remedy:

Replace
Repair

Recall date:

July 25, 2017

Recall number:

17-194

Remedy:

Consumers should immediately stop using the recalled mattresses and contact Quality Foam or the place of purchase for instructions on receiving a free mattress cover to bring the mattress into compliance with the federal standard.

Certification Requirements

- General Use Product
 - General Certificate of Conformity (GCC)
 - Does not require third party testing
- Children's Product
 - Children's Product Certificate (CPC)
 - Requires third party testing by a CPSC-accepted laboratory for all regulations to which the product is subject
 - Applies to crib and children's mattresses and mattress pads

Issued by manufacturer (if domestic) or importer of record. An importer can rely on testing performed by a manufacturer to issue a certificate as long as due care is exercised and all CPSC requirements are met.

Certification Requirements

- Testing for general use products
 - A test of each product or a reasonable testing program
- Testing for children's products
 - Must be performed by a CPSC-accepted laboratory
<https://www.cpsc.gov/cgi-bin/labsearch/>
 - Stages of Testing
 - Initial certification (Prototype)
 - Material change/Component part
 - Periodic (§1107.21)
 - At least once a year with a periodic test plan
 - Every 2 years with a production testing plan
 - Every 3 years with ongoing testing by an ISO/IEC 17025:2005(E) laboratory

Chemical Content Requirements

For crib and children's mattresses and mattress pads:

- Lead Content (FHSA)
 - Products designed and intended primarily for children 12 years or younger
 - Concentration may not exceed 100 ppm
- Lead in Paint and Surface Coatings (CPSA)
 - Products designed and intended primarily for children 12 years or younger and some general use furniture
 - Concentration may not exceed 90 ppm
- Phthalate Content (CPSA)
 - Children's toys and *child care articles* (products used to facilitate sleeping and feeding for children 3 years or younger)
 - Only certain phthalates
 - Concentration may not exceed 0.1 %

Third party testing by a CPSC-accepted laboratory is required

Tracking Label Requirements

For crib and children's mattresses and mattress pads:

- For products designed and intended primarily for children 12 years or younger, a permanent, distinguishing mark (tracking label) must:
 - Be affixed to the product and its packaging, and
 - Provide certain identifying information.
- The existing required mattress labeling meets this requirement (mattress pads may not).

Designing for Safety

- Know and comply with all applicable safety requirements.
- Conduct required testing (or exercise due care in accepting test results from another party).
- Maintain consistent procedures and retain records.
- Monitor components and suppliers.
- Confirm materials and component specifications .
- Maintain consistent methods of assembly.
- Report problems early.

Include safety in your product design from the beginning of your manufacturing or sourcing process.

CPSC Mattress Resources

- Mattress Information Page

<https://www.cpsc.gov/Business--Manufacturing/Business-Education/Business-Guidance/Mattresses>

(English) https://www.cpsc.gov/s3fs-public/pdfs/blk_pdf_mattqa.pdf

(Chinese) https://www.cpsc.gov/s3fs-public/pdfs/blk_pdf_openflame_ch.pdf

- Regulations

1632 <http://www.ecfr.gov/cgi-bin/text-idx?SID=59ceb81a60d382bcc84bf00de2828ad9&node=16:2.0.1.4.98&rgn=div5>

1633 <https://www.ecfr.gov/cgi-bin/text-idx?SID=80fb5cb965175b6f41f2637cf585bad1&mc=true&node=pt16.2.1633&rgn=div5>

- Laboratory Manuals

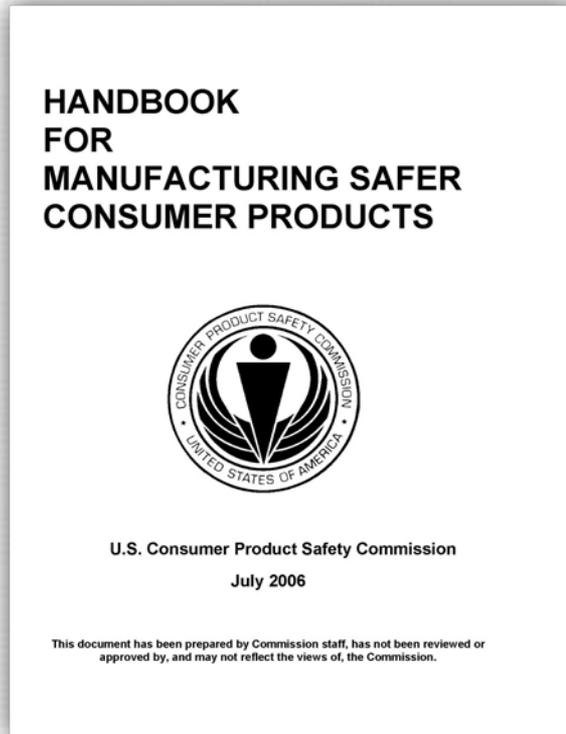
1632 https://www.cpsc.gov/s3fs-public/pdfs/blk_media_testmatt.pdf

1633 https://www.cpsc.gov/s3fs-public/pdfs/blk_media_labmanual.pdf

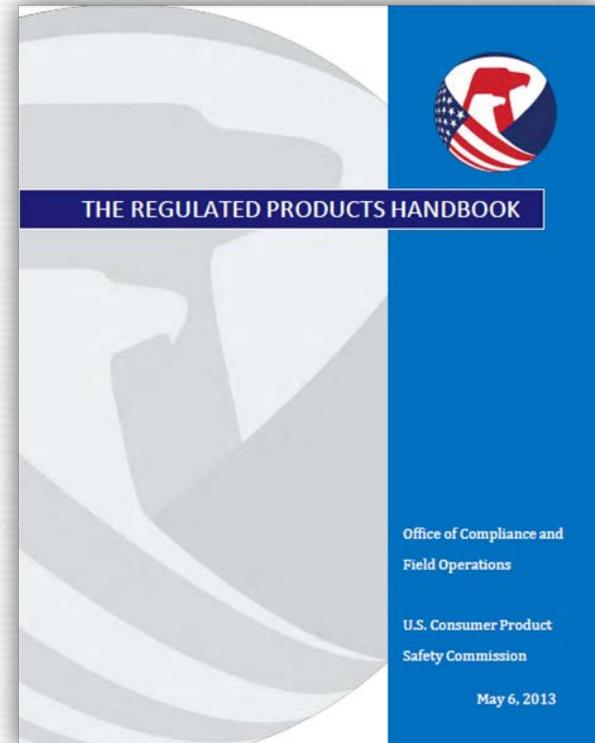
- Recent Mattress Webinar (September 2017)

<https://www.cpsc.gov/Newsroom/Video/cpsc-small-business-office-webinar-series-mattresses>

CPSC Manufacturing Resources



<http://www.cpsc.gov//Global/Business-and-Manufacturing/Business-Education/RegulatedProductsHandbook.pdf>



https://www.cpsc.gov/s3fs-public/pdfs/blk_pdf_HandbookforManufacturing.pdf

Contact Information

U.S. Consumer Product Safety Commission



Lisa Scott

Fire Protection Engineer

**Directorate for Laboratory
Sciences**

**Office of Hazard Identification
and Reduction**

301-987-2064

lscott@cpsc.gov

Jacqueline Campbell

Senior Textile Technologist

**Directorate for Engineering
Sciences**

**Office of Hazard Identification
and Reduction**

301-987-2024

jcampbell@cpsc.gov

Justin Jirgl

Compliance Officer

Regulatory Enforcement Division

**Office of Compliance
and Field Operations**

301-504-7814

jjirgl@cpsc.gov

www.CPSC.gov