

Questions for external interviews

Baby products

Do you think the following list covers all small upholstered baby products?

1. Prams / Push Chairs
2. Cycle Child Trailers and Strollers
3. Car Seat
4. Baby mattress
5. Cots/Cribs
6. Cot bed mattress
7. Carry cots/ Carry cribs/ Moses baskets
8. Baby travel cots / Playpens
9. Baby nests
10. Baby products supplied with an upholstered seat, harness or other support (including bouncing cradles, baby rockers, baby bouncer, baby swing, baby walking frames, baby high chairs, door bouncers, travel high chairs, booster seats, baby carriers)
11. Separately supplied upholstered products for baby/child seating comfort (including inserts/ cushions/ supports)
12. Play mat
13. Baby changing mats
14. Dresser units (with built in changing mats)
15. Children's light-up cushions

Can you educate us on any other product safety, flammability or chemical standards and regulation that apply to the above products?

How are the FFR requirements generally met for the above products?

For the upholstered components of the above products what are the fillings used?

- Is cot grade foam typically used in some/all of these products?
- What foam densities are typically used?
- Are fire-resistant interliners used in any products?
- Can you comment on the nature and extent of chemical flame retardant use in filling materials?
- What would you consider the worst-case (for fire and/or chemical safety) filling – and can you provide an example?

For the upholstered components of the above products what are the covers used?

- What inherently flame retardant materials are used?
- Is backcoating with flame retardant coatings used in products?
- Can you comment on the nature and extent of chemical flame retardant use in these materials?
- What are the waterproof materials used in some applications (changing mats) and how do these meet the FFR.
- What would you consider the worst-case (for fire and/or chemical safety) cover – and can you provide an example?

Are there any additional comments related to the above products and their fire and chemical safety that you want to bring to our attention?

Bed, cushion and pillow grouping

Do you think the following list covers all small upholstered furniture components typically found in a domestic setting?

1. Headboard
2. Footboard
3. Side-rails
4. Upholstered bed bases
5. Divans
6. Scatter cushions
7. Children's light up cushions
8. Seat Pads (example, for kitchen chair)
9. Pillows
10. Floor cushions
11. Bean bags
12. Padded stools/ Footstools / Ottomans
13. Loose covers and stretch covers for sofas/upholstered armchairs

Can you educate us on any other product safety, flammability or chemical standards and regulation that apply to the above products in the UK?

How are the 1988 FFR requirements generally met for the above products? The 1988 FFR requirements refer to the [Furniture and Furnishings \(Fire\) \(Safety\) Regulations 1988](#).

For the upholstered components of the above products what are the fillings used?

- What foam densities are typically used?
- What densities of other fillings are typically used?
- Are fire-resistant interliners used in any products?
- Can you comment on the nature and extent of chemical flame retardant use in filling materials?
- What would you consider the worst-case (for fire and/or chemical safety) filling – and can you provide an example?

For the upholstered components of the above products what are the covers used?

- What inherently flame retardant materials are used as covers, and to what extent?
- To what extent is backcoating with flame retardant coatings used in products?
- Can you comment on the nature and loading of chemical flame retardant use in these materials?
- What would you consider the worst-case (for fire and/or chemical safety) cover – and can you provide an example?

Are there any additional comments related to the above products and their fire and chemical safety that you want to bring to our attention?

- We welcome discussion of specific fire and chemical risks associate with products themselves and how they're used but we'd kindly like to discourage the sharing of any views on the FFR regulations in this instance.

Assistive care product grouping

Can you help us understand the upholstered assistive care products used in domestic settings?

- So far we are using the following definition: "Upholstered supports or living aids (including wedges, supports, rails, wheelchair seatpads and similar products".

Can you educate us on any other product safety, flammability or chemical standards and regulation that apply to the above products?

How are the FFR requirements generally met for the above products?

For the upholstered components of the above products what are the fillings used?

- What foam densities are typically used?
- What densities of other fillings are typically used?
- Are fire-resistant interliners used in any products?
- Can you comment on the nature and extent of chemical flame retardant use in filling materials?
- What would you consider the worst-case (for fire and/or chemical safety) filling – and can you provide an example?

For the upholstered components of the above products what are the covers used?

- What inherently flame retardant materials are used as covers, and to what extent?
- To what extent is backcoating with flame retardant coatings used in products?
- Can you comment on the nature and loading of chemical flame retardant use in these materials?
- What are the waterproof materials used in some applications and how do these meet the FFR.
- What would you consider the worst-case (for fire and/or chemical safety) cover – and can you provide an example?

Are there any additional comments related to the above products and their fire and chemical safety that you want to bring to our attention?

Interview Notes

Questions above are covered in black, with responses from the interviewees in green. Additional questions or comments from the interviewer are in red.

Notes from interview with expert in bed, cushion and pillow type products – TCM

Do you think the following list covers all (bed, cushion and pillow-type) small upholstered furniture components typically found in a domestic setting? Do you have any comments regarding any of these products?

1. Headboard – No upper limit of products, some boutique designers create full wall headboards that can contain the same volume of foam as most sofas.
2. Footboard
3. (Cot and cot bed mattresses) – also covered in baby product grouping
4. Side-rails - Suggested removal from scope due to inability to purchase independently, product now forms part of a connected bed base.
5. Upholstered bed bases –
6. Divans –
7. Scatter cushions – If the size is below 30cm² products are not included within the scope. Although an industry recognised upper limit for scatter cushions is 60cm², this standard is only for the front face of a pillow and therefore the depth could be significantly larger in overall size. The suggestion is that sizing is measured volumetrically and the combustible volume is measured.
8. (Children's light up cushions) – also covered in baby product grouping
9. Seat Pads (example, for kitchen chair)
10. Pillows
11. Floor cushions
12. Bean bags – Fillings must meet the requirements but the size scope is limited e.g. bean travel pillows are not included in the scope.
13. Padded stools/ Footstools / Ottomans – Logistical complexities relating to the type of sale. If a product is sold as part of a set with a bed, even though the grade of foam would be lesser, the stool must comply fully with regulation. If a product is sold separately, only the filling will be tested. It is suggestion that due to the comparative low fuel volume compared to a sofa, products should be defined and tested on an individual basis and a cut off volume should be included.
14. Loose covers and stretch covers for sofas/upholstered armchairs – clarification that a loose cover is specific to one type of a sofa but a stretch cover may be used on any sofa. If the product contains a zip it falls outside of the scope. Due to the devolved responsibility of stretch covers they are not included in the scope (although flame retardant stretch covers are available).
15. Dog beds – Some dog beds are the comparative size of a small mattress, and can also be made from foam filling (memory foam). If the same metrics of a fire safety test is used, in

particularly the 'unintended use' an individual (especially a child) could use a dog bed as a sleep surface. The problem has added complexities due to the toxic nature of flame retardants and the possibility of a dog ingesting the filling/cover. Suggestion that dog beds should be included in the scope of both toy and flammability regulation.

16. Occasional chairs – small decorative chairs. Similar to children's chairs which are included in the toy regulation. Suggestion that all child products should be included in toy regulation using the flash burn test, as this is a better quality standard of testing for flammability risk than any used for adult upholstery.

17. Support for the suggestion of OH to include padded lap trays in the scope.

18. Car seats – Due to the high volume of flame retardants used in the UK, any products imported from the EU must be modified to meet regulation. It is suggested that when a product is a necessity the level of fire regulation should be rationalised and car seats (and all baby products) should be regulated under the toy standard.

Can you educate us on any other product safety, flammability or chemical standards and regulation that apply to the above products in the UK?

How are the 1988FFR requirements generally met for the above products? The 1988 FFR requirements refer to the Furniture and Furnishings (Fire) (Safety) Regulations 1988.

For the upholstered components of the above products what are the fillings used?

- What foam densities are typically used?

Sofa have a seat density of 30-36 grade, wrapped in a polyester wrap. Arm density of high 20s-early 30s. The other areas have a density of around 24 grade.

Footstools have a density of early 20s (as the product is not sat on). An average of 350g of polyester wrap is used.

Both footstools and sofas use a polyester wrap/polyester wadding (average of 25-35mill of wadding) – the wrap provides a plush finish and wadding provides a rebound. For fire regulation these two elements in products (foam and polyester wrap) are not tested together. A suggestion was made to test these products together to understand the interaction and the overall flammability of each product.

Headboards densities are unknown as they are classed as a downstairs upholstery product.

- What densities of other fillings are typically used?
- Are fire-resistant interliners used in any products?

Interliners are tested as a composite. If wool is the filling used (a natural flame retardant) an interliner is then required under regulation. An interliner is commonly added by impregnating the wool (dipped through a system and the fabric is fuel loaded on the top), alternatively a back coat may be sprayed.

- Can you comment on the nature and extent of chemical flame retardant use in filling materials?

If a product has a low collagen scale score wool is generally used as the fill material. In theory wool could replace Dacron in use but regulation would need to change to allow for this.

Recycled polyester is currently used in quilting, which is an ignition resistant material, however due to regulation and the inability to back coat a mixed fabric to the same standard across the material this method is not currently feasible in the upholstered product sector.

- What would you consider the worst-case (for fire and/or chemical safety) filling – and can you provide an example?

COIA is a flammable filling but is not in common use.

Recycled clothing is used in some mattresses as insulator panels.

For the upholstered components of the above products what are the covers used?

- What inherently flame retardant materials are used as covers, and to what extent?

Acrylics may be added to fabrics (potentially modified acrylics) but these largely reduce the flammability of a product.

- To what extent is back coating with flame retardant coatings used in products?
- Can you comment on the nature and loading of chemical flame retardant use in these materials?
- What would you consider the worst-case (for fire and/or chemical safety) cover – and can you provide an example?

Any materials with added viscous have an increased level of flammability e.g. Polyester with added viscous will require the use of flame retardants. If a faux leather contains PVC there are both flammability risks and risk of chlorine gases (this is a particular risk with illegally supplied products that are unlikely to be tested).

- Are there any additional comments related to the above products and their fire and chemical safety that you want to bring to our attention?

It is believed that the focus flammability regulation should shift from an ignition resistance of the cover to the combustion resistance of the product as a whole. This is due to the current emergency services response time as it is understood the fire department average arrival time is 9 minutes and average call to pump is 20 minutes, therefore if a product burns for over 20 minutes, instead of doesn't burn at all, this will significantly reduce the level of chemicals and their negative impacts (through inhalation) whilst still ensuring limited impacts of the flammability of a product.

Furthermore, through testing carried out by SNG it was found that using a combination of Non-FR cover and FR filling had a low overall temperature and the foam didn't reignite even when the cover was lit – this allowed for limited chemical release and a reduced risk of both the heat risk and chemical risk of a fire. Conversely, A FR cover with a non-FR filling still burnt and created a larger hazard once the filling ignited. Therefore it is suggested that as fabric is now engineered to pass flammability tests and filling materials is the larger risk element, the focus should shift using a risk acceptance model approach to flammability regulation. This approach could be taken one step further by grouping materials into families e.g. If a weave pattern of a material changes, does this affect the burn pattern and if so should the testing of these different patterns differ to reflect this difference i.e. is the difference significant.

Important to introduce composition testing which will not only reduce the cost of testing all materials in isolation, but also increase the safety of testing as the interaction of the products will be

tested also (this is particularly important as during a FIRA review in 2013, composite testing was trailed and findings suggested products were not as safe as initially thought). A caveat to this shift in regulation could be for small factories where isolation testing is more viable.

The interviewee also believed the introduction of a set frequency of testing would increase the safety of products within the scope of the regulation as this is a grey area.

Burn through – chip board component vs. depth of foam.

Reconstituted foam – current regulations restrict the use of re-constituted foam as the origin and use of all foam blocks must be known. This has led to a shift in the production of foam with some companies producing foam to become reconstituted, as then the origin and combustion modification of the material are known (block foam is produced to chip up to create reconstituted foam). An advantage of using reconstituted foam is the product is much firmer. In France there is a push on use of reconstituted foam (with economic benefits), due to health benefits. A practical use of reconstituted foam is in sports pitches. Currently there is a large dead stock of mattresses that aren't economically beneficial to recycle, reconstituted foam represents a potential secondary market for this product.

Notes from the interview with BPA

Do you think the following list covers all small upholstered baby products?

1. Prams / Push Chairs

BS EN 1888-1:2018 Wheeled child conveyances. Pushchairs and prams (currently under review) BS EN 1888-2:2018 Wheeled child conveyances. Pushchairs for children above 15 kg up to 22 kg.

Of particular interest is Clause A3 in the rationales relating to Clause 7 Thermal hazards

2. Cycle Child Trailers and Strollers

Strollers - BS EN 1888-1:2018 Wheeled child conveyances. Pushchairs and prams (currently under review) as strollers and prams are combined within the standard.

Children's cycle trailers are not in scope of the Regulations.

3. Car Seat

United Nations Regulations ECE R44/04 and R129 apply to car seats and contain mechanical/dynamic safety, toxicity, and flammability requirements.

As car seats are heavily regulated it is suggested that they are removed from the scope. Furthermore, the flame retardants provide little benefit if a car catches fire and FR negatively affect the feel of the material.

4. Baby mattress

Cot mattresses are in scope of BS EN 16890:2017 Mattresses for cots and cribs. Safety requirements and test methods. Larger mattresses are in scope of BS 1877-10:2011+A1:2012. Domestic bedding. Specification for mattresses and bumpers for children's cots, perambulators and similar domestic articles. This was partially withdrawn when the European standard was published but remains for the remaining mattresses. It is being revised and work starts imminently.

5. Cots/Cribs

BS EN 716:2017 Children's cots and folding cots for domestic use. Parts 1 and 2.

6. Cot bed mattress

BS EN 16890:2017 Mattresses for cots and cribs. Safety requirements and test methods.

It is recommended that this product is moved to a general mattress category due to the size of the product.

7. Carry cots/ Carry cribs/ Moses baskets

BS EN 1466:2014. Child use and care articles. Carry cots and stands. Safety requirements and test methods.

8. Baby travel cots / Playpens

BS EN 716:2017 Children's cots and folding cots for domestic use. Parts 1 and 2.

BS EN 12227:2010 Playpens for domestic use. Safety requirements and test methods.

9. Baby nests

There is currently no specific safety standard for these products, however, they are currently excluded from scope of the FFS Regulations by a DTI guidance document.

10. Baby products supplied with an upholstered seat, harness or other support (including bouncing cradles, baby rockers, baby bouncer, baby swing, baby walking frames, baby highchairs, door bouncers, travel highchairs booster seats, baby carriers)

BS EN 12790:2009 Reclined cradles applies (covers bouncing cradles/baby rockers/baby bouncers).

BS EN 16232:2013+A1:2018 Infant swings.

BS EN 1273:2020 Baby walking frames. Safety requirements and test methods.

BS EN 14988:2017+A1:2020 Children's highchairs. Requirements and test methods.

BS EN 14036:2003. Child use and care articles. Baby bouncers. Safety requirements and test methods.

BS EN 16120:2012+A2:2016. Child use and care articles. Chair mounted seat (covers booster seats/travel highchairs).

BS EN 13209-2:2015. Child use and care articles. Baby carriers. Safety requirements and test methods. Soft carriers.

Baby walking frames, table mounted seats and baby carriers are not included within the scope of the safety standards.

Stand alone highchairs are included within the scope of the safety standards.

A potential addition to the scope is baby gliders/sliders which are heavily upholstered, these items could be included within the standard as a small child container.

11. Separately supplied upholstered products for baby/child seating comfort (including inserts/ cushions/ supports)

Separately supplied products such as these are not currently in scope of the Regulations.

12. Playmat

Not covered by a specific safety standard but if they have play value (i.e., are child appealing) then they are in scope of BS EN 71-1 :2014+A1:2018. Safety of toys. Mechanical and physical properties, BS EN 71-2:2020. Safety of toys. Flammability and BS EN 71-3:2019+A1:2021 Safety of toys. Migration of certain elements.

13. Baby changing mats

Not covered by a specific safety standard but BS EN 12221:2008+A1:2013 Changing units for domestic use. Parts 1 and 2 are currently being revised and these could be drawn into scope.

14. Dresser units (with built in changing mats)

BS EN 12221:2008+A1:2013 Changing units for domestic use Parts 1 and 2

- **Children's light-up cushions**

Not covered by a specific safety standard but if considered to have play value (i.e., are child appealing) then they are in scope of BS EN 71-1 :2014+A1:2018. Safety of toys. Mechanical and

physical properties, BS EN 71-2:2020. Safety of toys. Flammability and BS EN 71-3:2019+A1:2021 Safety of toys. Migration of certain elements as well as BS EN IEC 62115:2020+A11:2020. Electric toys. Safety.

Can you educate us on any other product safety, flammability or chemical standards and regulation that apply to the above products in the UK?

All current safety standards are listed above. Although the standards are a suggestion for manufacturers to comply with GSPR regulations (post Brexit) most manufacturers align with the current standard as this is the most cost-effective method to demonstrate compliance with GSPR. All standards are informed by infant accident reports.

Generally, if a product contains a child appealing function (design, fabrics or hanging toys) the product is included within the toy safety regulations and is therefore tested for flammability.

How are the 1988 FFR requirements generally met for the above products? The 1988 FFR requirements refer to the [Furniture and Furnishings \(Fire\) \(Safety\) Regulations 1988](#).

The 1988 FFR standards include only the foam element of products.

Toy products are not considered under the regulation as there is no substantial evidence base to support this.

For the upholstered components of the above products what are the fillings used?

Generally, a blend of materials is used within the products as a whole, although sometimes a product can be 100% one material. Polyester wadding is commonly used for the fill material.

Inherently FR materials can be used in products such as plain polyester (not commonly used as not a fashionable material) and some cotton/wool, all these products are prohibitive in common use due to high costs.

Examples of Pushchair/Swings material (general a mix of materials) - polyester mix, cottons, wool, acrylic, nylon

Wheeled goods – Materials in UK goods are harsher and more rigid as the backcoating of products with FR treatment changes the properties of the materials, this is not preferred by the consumer.

- ***Is cot grade foam typically used in some/all of these products?***

Cot grade foam is a marketing term used within the industry, the foam used in upholstered baby products is combustion modified high resilient foam, the same as other upholstered products. Some baby mattresses do not include TCPP as the phosphates in TCPP are linked to cot death, these products instead typically use melamine.

- ***What foam densities are typically used?***

25-35 kilos per cubic meter.

- ***Are fire-resistant interliners used in any products?***

n/a

- ***Can you comment on the nature and extent of chemical flame retardant use in filling materials?***

n/a

- ***What would you consider the worst-case (for fire and/or chemical safety) filling – and can you provide an example?***

Foam baby mattresses are the worst-case scenario as most baby products contain minimal upholstered elements of a small volume.

For the upholstered components of the above products what are the covers used?

Materials used in cover materials are the same list as those for the filling material. Polyester wadding is also used in cover materials.

For wipeable cover fabrics PVC/Polyurethane materials are used. If PVC caught fire there is an additional risk of chlorine gas release – though these materials tend to melt away from flame in practice.

- ***What inherently flame retardant materials are used?***

Flame retardant cover materials are the same as those listed for filling materials.

- ***Is backcoating with flame retardant coatings used in products?***

Historically brominated compounds were used as backcoating (although some of these compounds have been banned whole chemical families have not). The type of backcoating used is dependent on the fibre content of the material, as materials become more lightweight a high percentage of backcoating is required to ensure flames are prevented from reaching filling materials (e.g., foam).

- ***Can you comment on the nature and extent of chemical flame retardant use in these materials?***

n/a

- ***What are the waterproof materials used in some applications (changing mats) and how do these meet the FFR?***

Materials are wipeable and are again PVC/polyurethane materials.

- ***What would you consider the worst-case (for fire and/or chemical safety) cover – and can you provide an example?***

n/a

Are there any additional comments related to the above products and their fire and chemical safety that you want to bring to our attention?

Since the fire safety regulation was introduced consumer habits have changed and it is suggested that regulations should reflect these changes.

The UK fire regulations result in an additional £65mill due to the backcoating requirements, high volume of flame retardants required (compared to Europe where many products do not fall within

the scope) and the higher operational costs of production of these smaller volumes of products compared to those mass produced in accordance with the rest of the world's guidance.

User vulnerability is assessed within the standards but those relating to disabled children do not influence the standards due to the complex and individual nature of these user's needs.

The wider negative impacts of chemicals must be assessed when considering the need for flame retardants within baby products. In addition to those listed within the questions policy makers must consider the frequency that child products are washed and therefore the reduced longevity of flammability treatment. Related to this the harmful chemicals that are potentially leaked into the environment must be investigated.

In the current landscape of the UK, parents are more aware of the potential damaging impacts of chemicals used in flame retardant baby products supplied in the UK (and the composition of products and their feel due to the flame retardants) there has been an increase in grey streams of products into the UK that meet the European standard but not the UK standard. The current standards and regulations in the UK are far greater than those used in the rest of the world (e.g., USA has banned the use of flammability chemicals in all baby products) this shift in the global content and consumer behaviour should be considered when informing on the current UK regulations and potential suggestions to improve on these.

Notes from the interview with Mamas and Papas

Do you think the following list covers all small upholstered baby products?

1. Prams / Push Chairs

SFR – EN 71 PT 2 TOY STANDARDS

BS EN 1888-1:2018 Wheeled child conveyances. Pushchairs and prams (currently under review)

BS EN 1888-2:2018 Wheeled child conveyances. Pushchairs for children above 15 kg up to 22 kg. Of particular interest is Clause A3 in the rationales relating to Clause 7 Thermal hazards

2. Cycle Child Trailers and Strollers

Strollers – It was an understanding that strollers is the American term for a pushchair. If the product is referring to a tricycle stroller this product is intended for outdoor use, to align with the current outdoor use classification of the cycle child trailers.

Strollers - BS EN 1888-1:2018 Wheeled child conveyances. Pushchairs and prams (currently under review) as strollers and prams are combined within the standard.

3. Car Seat

The current UN regulation refers to the restraints of the product not the seat cushion. The FFR (through the extended scope of the DTI) includes car seats with a handle that are likely to also be used for inside use. Large car seats without a handle are not included within the scope.

United Nations Regulations ECE R44/04 and R129 apply to car seats and contain mechanical/dynamic safety, toxicity, and flammability requirements.

4. Baby mattress

EN19890 Standard – both toy standard ignition tests are applicable.

EN 597 – Cigarette test

Cot mattresses are in scope of BS EN 16890:2017 Mattresses for cots and cribs. Safety requirements and test methods. Larger mattresses are in scope of BS 1877-10:2011+A1:2012. Domestic bedding. Specification for mattresses and bumpers for children's cots, perambulators and similar domestic articles. This was partially withdrawn when the European standard was published but remains for the remaining mattresses. It is being revised and work starts imminently.

5. Cots/Cribs

DTI excludes all bedding and decoration elements of products.

BS EN 716:2017 Children's cots and folding cots for domestic use. Parts 1 and 2.

6. Cot bed mattress

EN19890 Standard – both toy standard ignition tests are applicable.

EN 597 – Cigarette test

BS EN 16890:2017 Mattresses for cots and cribs. Safety requirements and test methods.

7. Carry cots/ Carry cribs/ Moses baskets

BS EN 1466:2014. Child use and care articles. Carry cots and stands. Safety requirements and test methods.

8. Baby travel cots / Playpens

Travel cots fall under the same standard as cots.

Opinion of interview that travel cots can contain heavily upholstered elements over metal bars at the top of the product.

Potential inclusion of travel sleepers that attach to a bed for inclusion in the scope.
BS EN 716:2017 Children's cots and folding cots for domestic use. Parts 1 and 2.
BS EN 12227:2010 Playpens for domestic use. Safety requirements and test methods.

9. Baby nests

These products are a very recent addition to the market.

Several terms for the product e.g. sleep positioners or snuggle downs. This change in definition should be flagged within the findings of the report.

In the DTI guide the guidance is that baby nests are excluded from the match test (most severe test) but they are included in the cigarette test and the fillings must be tested. *(Baby nests are exempt from the match resistance tests, and need only meet the requirements for fire-resistant filling material and cigarette-resistant upholstery) – DTI Guide.*

10. Baby products supplied with an upholstered seat, harness or other support (including bouncing cradles, baby rockers, baby bouncer, baby swing, baby walking frames, baby high chairs, door bouncers, travel high chairs booster seats, baby carriers.

DTI findings - The Regulations apply to the nursery equivalents of domestic upholstered furniture and beds, and to other upholstered products which are designed to contain a baby or small child. These include baby seats/bouncing cradles/baby rockers ... baby walking frames ... highchairs ... chair harnesses.

The Regulations also apply to upholstered liners which are supplied with any of the above items. The interviewees understanding of inclusion of products within the scope is any product a child can be held in that they can sleep/relax in, however this causes problems within the market as products are categories by type and some do not include upholstered elements. All child appealing elements of a product must also be covered by the relevant toy standard.

The Regulations also apply to: upholstered liners which are supplied with any of the above items
BS EN 12790:2009 Reclined cradles applies (covers bouncing cradles/baby rockers/baby bouncers).

BS EN 16232:2013+A1:2018 Infant swings.

BS EN 1273:2020 Baby walking frames. Safety requirements and test methods.

BS EN 14988:2017+A1:2020 Children's high chairs. Requirements and test methods.

BS EN 14036:2003. Child use and care articles. Baby bouncers. Safety requirements and test methods.

BS EN 16120:2012+A2:2016. Child use and care articles. Chair mounted seat (covers booster seats/travel high chairs).

BS EN 13209-2:2015. Child use and care articles. Baby carriers. Safety requirements and test methods. Soft carriers.

11. Separately supplied upholstered products for baby/child seating comfort (including inserts/ cushions/ supports)

If a product is supplied separately it is excluded from the scope of FFR.

12. Play mat

Playmats are categorised as a child-appealing product (not element) and therefore the whole product must be tested in line with the relevant toy standard.

Not covered by a specific safety standard but if they have play value (i.e., are child appealing) then they are in scope of BS EN 71-1 :2014+A1:2018. Safety of toys. Mechanical and physical properties, BS EN 71-2:2020. Safety of toys. Flammability and BS EN 71-3:2019+A1:2021 Safety of toys. Migration of certain elements.

13. Baby changing mats

Baby changing mats are excluded from the scope of the FFR (stated in the DTI guide).
Not covered by a specific safety standard but BS EN 12221:2008+A1:2013 Changing units for domestic use. Parts 1 and 2 are currently being revised and these could be drawn into scope.

14. Dresser units (with built in changing mats)

Baby dresser units are excluded from the scope of the FFR (stated in the DTI guide).
BS EN 12221:2008+A1:2013 Changing units for domestic use Parts 1 and 2

15. Children's light-up cushions

Not covered by a specific safety standard but if considered to have play value (i.e., are child appealing) then they are in scope of BS EN 71-1 :2014+A1:2018. Safety of toys. Mechanical and physical properties, BS EN 71-2:2020. Safety of toys. Flammability and BS EN 71-3:2019+A1:2021 Safety of toys. Migration of certain elements as well as BS EN IEC 62115:2020+A11:2020. Electric toys. Safety.

Can you educate us on any other product safety, flammability or chemical standards and regulation that apply to the above products in the UK?

In all EU standards at least one thermal hazard requirement is included. Products either are required to pass a surface flash test where an ignition source is placed onto the top surface material of a product to see if the flame spreads to the base of the product or a surface maximum rate of spread of flame, which must be below 50mm/second.

Within all EN70 Part 2 standards a flammability test is also included.

The aim of the standards is not for the product to not ignite but to reduce the risk of burning, through a low flammability that will allow the child to distance themselves, or be distanced by a carer, from the flame.

How are the 1988 FFR requirements generally met for the above products? The 1988 FFR requirements refer to the [Furniture and Furnishings \(Fire\) \(Safety\) Regulations 1988](#).

n/a

For the upholstered components of the above products what are the fillings used?

Typically a polyester or foam filling is used. Thermally bonded wadding can also be used but this is a form of polyester.

Both foam and non-foam fillings (usually polyester) are tested under the regulation for mattresses. On travel cots expanded polystyrene may be used.

Natural fibres (wool or silk) are not used on a large scale within the industry due to their durability, restrictions on design and high costs.

- ***Is cot grade foam typically used in some/all of these products?***

n/a

- ***What foam densities are typically used?***

Typically, 23kg/cubic meter foam density is used.

- ***Are fire-resistant interliners used in any products?***

Typically interliners are not used in baby products as they are typically for heavy duty products. Due to the small volume of upholstery in baby products, often manufacturers are able to save on the additional cost of interliners as polyester performs well with the flammability tests. As natural fibres are not frequently used within the baby products market interliners are not required for many products.

Can you comment on the nature and extent of chemical flame retardant use in filling materials?

Bromides, phosphate

New flame retardants are used with hesitancy as new retardants that are related to ones in REACH may be used and subsequently banned.

- **What would you consider the worst-case (for fire and/or chemical safety) filling – and can you provide an example?**

Any products with a high volume of foam filling.

For the upholstered components of the above products what are the covers used?

n/a

- **What inherently flame retardant materials are used?**

Polyester

- **Is backcoating with flame retardant coatings used in products?**

Backcoating of products increases when a lighter fabric is used e.g. pushchairs.

Can you comment on the nature and extent of chemical flame retardant use in these materials?

n/a

- **What are the waterproof materials used in some applications (changing mats) and how do these meet the FFR.**

PVC products are used for their wipeable quality and require a backcoating. Softer PVC materials may be applied with a flame retardant chemical also.

All products with PVC are tested against standards for heavy metals testing.

- **What would you consider the worst-case (for fire and/or chemical safety) cover – and can you provide an example?**

n/a

Are there any additional comments related to the above products and their fire and chemical safety that you want to bring to our attention?

Many products within the baby product grouping have a relatively small volume of filling material compared to general household products. This factor combined with the reduced severity of testing required in the standards overall reduces the volume of flame retardants required.

Currently with gliders and rockers there is a conflict of opinion on whether to remove the fillings and therefore remove the products from the scope.

Generally all products are able to pass the cigarette test without the use of flame retardants, the severity of the match test usually forces the use of flame retardants.

Many states in America have not only banned the use of flame retardants in baby products but also in general upholstered products. We restrict FR in REACH, but America changed the testing standard and then banned the use of all FR except for a crib 5 test for foam. (crib 5 for foam in the US)

M&P representative's amendments to the safety standard list (as per email 14/07/2021)

- In other consideration section N the wording is incorrect as it should state 'prams and pushchairs for child up to 15kg, pushchair between 15kg and 22kg'

- If Strollers are in fact prams and pushchairs should these not be in section N separate from cycle child trailers?
- In other consideration section P it should state 'apply to Group 0+ car seats for infants up to 15 months with a handle for carrying into the house'
- In section Q standards there is also a British standard for the flammability of mattresses which is BS 7177:2008+A1:2011.
- There is also a safety standard for Cribs in section R. The standard number is BS EN 1130:2019.
- In Section W of standards remove reference to 'baby bouncers' after 'baby rockers'.
- According to the DTI guidance document baby bouncers (BS EN 14036:2003, which I believe are also door bouncers) are out of scope of the FFSR.
- In other consideration section W it states that 'Table mounted high chairs is a better more specific term for travel highchair'. I'm not sure this is correct and there also is a specific safety standard for table mounted chairs which is BS EN 1272:2017. I would say that a travel highchair can be a chair mounted seat or a table mounted chair.

Interview notes with experts in bed, cushion and pillow type products – Silentnight

Do you think the following list covers all (bed, cushion and pillow-type) small upholstered furniture components typically found in a domestic setting?

1. Headboard
2. Footboard
3. (Cot and cot bed mattresses) – also covered in baby product grouping
4. Side-rails - **are these still actually produced/sold?** Yes, if it's a bedstead you'd quite often get them upholstered and we have been looking at some in NPI fairly recently as ideas.
5. Upholstered bed bases
6. Divans
7. Scatter cushions - **<30cm not included in FFR regs – is this industry practice and do you know if there is there any reference to this I can use?** There isn't a reference anywhere – very much like the scatter cushions, it is all industry standard. The flammability regs don't really have anything about sizes, re. cushions, it's fairly vague on definitions ... they state:

“cushions” (except in (a) of the definition of “relevant ignitability test” in this paragraph) means scatter cushions and cushions of the kind commonly used on the seats of wooden chairs;

(a) consists solely of polyurethane foam in slab or cushion form means the test specified in Part I of Schedule 1 to these Regulations;

(3) A cushion may include filling material which does not pass the ignitability test specified in Part I or Part II (or both such parts) of Schedule 2 to these Regulations if the cushion has a primary cover and, with that cover, passes the ignitability test in Part III of that Schedule.
(4) A pillow may include filling material which does not pass the ignitability test specified in Part I or Part II (or both such parts) of Schedule 2 to these Regulations if the pillow, when tested with its primary cover, passes the ignitability test in Part III of that Schedule.
8. (Children's light up cushions) – also covered in baby product grouping
9. Seat Pads (example, for kitchen chair)
10. Pillows
11. Floor cushions – **What would you consider a reasonable maximum size for a floor cushion – is there any industry rule-of-thumb?** The general rule of thumb is that, if it's big enough to sit on, then it's a floor cushion so anything over 45 x 45cm would definitely be a floor cushion and not just a large scatter cushion.
12. Bean bags
13. Padded stools/ Footstools / Ottomans
14. Loose covers and stretch covers for sofas/upholstered armchairs
15. Duvets
16. Mattresses

17. Depends how far you want to go with small upholstered furniture really – dining chairs / sofas / arm chairs / dog beds / Moses baskets / children’s tent canopy beds ... - FYI many of these are already in scope but I didn’t include in the list I sent you as I tried to focus on the ones SNG are involved in. We do have licensed/branded pillows and duvets and even sleeping bags so they’re probably worth bearing in mind on that front.

Can you educate us on any other product safety, flammability or chemical standards and regulation that apply to the above products in the UK?

General Product Safety Regulations - No producer shall place a product on the market unless the product is a safe product.

REACH - The REACH Regulations came into force in 2006 and are intended to regulate the use and supply of chemicals found to be hazardous to human health. However, as a consequence of the regulation it has allowed the consumer greater access to information although they are rarely aware what we are actually required to disclose.

The regulations are concerned with hazardous chemicals, classified as “Substances of Very High Concern” (SVHCs). These will include those that are toxic, carcinogenic, mutagenic, reproductive toxins and harmful to the environment. There are currently 144 chemicals on the candidate list.

The regulations state that if you supply articles containing a SVHC included in the “Candidate List” you will be obliged to provide your customers with at least the name of the substance and also any necessary instructions for its safe use and disposal. This information must be provided to business customers as soon as a substance that is included in the “Candidate List” of SVHCs is identified at >0.1% by weight of the supplied item (and within 45 days to consumers on request). This obligation applies to any items including free samples, spare parts, accessories and packaging. Suppliers would ideally need to know in advance if their products contain substances that are likely to be classified as SVHCs.

Am I right in thinking no commonly used FRs or other chemicals used in upholstery currently fall in to the SVHC candidate list?

Currently none of the common FR chemicals are on the candidate list although one of them; TCPP, has been being looked into with a view to it joining the list and the work has primarily been delayed by Covid restrictions.

BS 7177 – Mattresses and Bed Bases – The requirements for ignition resistance are covered in this standard and testing is done in accordance with BS EN 597 Parts 1 and 2 (the cigarette and match test) .

How are the 1988FFR requirements generally met for the above products? The 1988 FFR requirements refer to the Furniture and Furnishings (Fire) (Safety) Regulations 1988.

The 1988 Flamm Regs only apply to the fillings in Mattresses and bed bases – so composite fillings are tested using a Sc-2 ignition test, Foams are tested in their own right to Schedule 1 Part 1 which is an L-Shaped rig test with a Sc-5 ignition source, Latex is tested on its own to Schedule 1 Part 3 using an L-Shape Sc-2 as are non-foam fillings used on their own in accordance with Schedule 2 Part 4.

The Flamm Regs do apply to the cover fabric on headboards and all other upholstered furniture including chairs and stools – so they are water soaked and tested in accordance with Schedule 4 and Schedule 5 using a match and cigarette test on an L-Shape Rig. The match test is carried out over non-FR foam so it’s quite a severe test. The Cigarette test is carried out over the actual fillings used

in the product. There is a similar but subtly different test for the ROI Flammability Regulations which uses EN 1021 Parts 1 and 2 where water soaking remains an element of the test but both the match and cigarette tests are carried out over the actual fillings in the product, we are in the process of preparing to test all our headboard fabrics in accordance with these regulations post Brexit so it will be interesting to see what results we get back, previous testing for a different purpose would suggest it would be possible to substantially reduce the amount of chemicals applied to the upholstery fabrics if these latter test methods were adopted – however it would still be necessary in most cases to have some form of Flame retardant treatment for foam if it is used in close proximity to the surface of the product. Or incorporate an interliner. **Interesting about the change in the ROI – no estimate of likely reduction in FR loadings yet?** No, it's almost impossible to have any reduction unless we adopt the same test methods here – otherwise we'd need one low dose fabric for ROI and a full dose for us. I would guess you could significantly reduce the amount of FR if we did move to the same test (but only on fabric, not on foam fillings).

There is an allowance for fabrics which are 75% or more natural fibres. They can be used over an interliner so the cover fabric itself only has to satisfy the L-Shape Cigarette test – but the interliner has to satisfy an L-Shape Sc-5 test over non-FR foam instead.

How are the interliners typically flame retarded? There are two main types in our industry – you can have an interliner which has wool in it and isn't FR treated or you can have a cotton interliner which has a treatment called Proban on it. The only issue with the Proban treatment is that it is a water soluble treatment so if you were to get it wet it would cease to have any effect whatsoever.

Pillows and Cushions which come with a non-removable primary cover are tested to Schedule 1 Part 3 – essentially an L-Shape Sc-2 test but with the cover in place.

There are no requirements under the 1988 Flamm Regs to test duvets or throws and small cushions used decoratively are generally viewed as exempt with only larger cushions which could be used as seating being subject to testing to Schedule 1 Part 3.

It is possible the light up children's pillows would be considered as toys and come under BS EN 71-2 for resistance to surface flash ignition? This is also the requirement for cot mattresses which do not come under the requirements of the 1988 Flamm Regs but are covered separately by BS EN 16890.

Bean Bags seem to generally be covered by the requirement for loose / removable covers – which would be the same as Schedule 1 Part 1 – the L-Shape Sc-1 Match test after water soaking over non-FR foam ... but it's not an area I have ever come across and I don't believe the majority of bean bag covers would ever pass this test – the filling definitely wouldn't pass any of the above tests for fillings so it looks like they have fallen outside of the regulations reach.

Thanks for flagging this – will have to look into polystyrene bead flammability in a bit more detail

For the upholstered components of the above products what are the fillings used?

Bearing in mind – I can only speak for the mattress industry – not upholstered furniture generally – You are likely to see foam (potentially in crumb form), latex and polyester in the majority of products and quite often felt pad spring / frame insulators made from recycled rag flock. But you can potentially find more natural fillings such as horse hair, wool, cotton felt, and coir fibre.

- **What foam densities are typically used?**

Generally 24 to 33 density foams are used as mattress fillings. We don't use foam in any of our cot mattresses at all. In the furniture industry i.e. sofas and chairs you would expect to see much higher density foam being used.

- **What densities of other fillings are typically used?**

We use polyesters which tend to be specified on weight (g/m^2) rather than by density – so we would use fillings from 300g/m^2 all the way up to 2750g/m^2 in the case of a full fibre core.

That's an annoying unit – (we're after volume and density)! Are you able to estimate the thickness of the polyester wadding? Or is the 2750g/m^2 polyester 8x thicker than the 300g/m^2 type.

Ok well on a loft front the weight doesn't generally correlate with the thickness. You can get very dense polyesters that are only a few millimetres thick (like a 375g Microbond which is between 6-12mm in thickness and has a density of around 31kg/m^3) and some very light polyesters that are quite lofty and low density (like a 350g highloft which is between 17 – 22mm and has a density of around 15kg/m^3). A 2750g/m^2 polyester would be around 100mm thick and around 30kg/m^3 density, a 300g would be 15-20mm and 16kg/m^3 density, a 1200g would be 38-43mm and 30kg/m^3 , a 600g memory wool polyester blend would be 18-22mm and around 30kg/m^3 , 500g is 19-23mm and 25kg/m^3 .

Unfortunately, due to the manufacture process of PET wadding thickness to grammage isn't 1:1. The fiberised PET is sprayed onto a moving conveyor and baked to bind the fibres together. The speed at which the conveyor moves dictates the grammage. Because its and continuous process the higher grammage waddings spend longer in the oven causing them to melt and settle more. Increasing their density and hardness with oven time.

I have been using the combustion behaviour of upholstered furniture protocols to look at the fire behaviour of upholstered products. There protocol specifies that when using PET wadding in combination with other foams 'If the un-compressed polyester fibre layer is 20 mm thick or less, it shall be compressed to 1/2 of that thickness in the final assembly.' So effectively you would be doubling the density

300 gsm PET wadding is about 18 mm thick uncompressed (Density: 16.67 kg m^{-3})

1200 gsm PET wadding is between 45 and 50 mm uncompressed (25.53 kg m^{-3})

- **Are fire-resistant interliners used in any products?**

We don't use interliners on any of our products at this moment in time but they could be used as discussed with 75% or more natural fibre cover fabrics on headboards / sofas / chairs, etc if required. For the products we make those sort of fabrics aren't commercially viable.

- **Can you comment on the nature and extent of chemical flame retardant use in filling materials?**

Polyester fillings do not have FR treatments in them, Our latex has a graphite coating which acts as a fire barrier, many natural fillings like wool are naturally flame resistant and we use wool blends in all our natural fillings for this reason. Foam does require a chemical Fr treatment which can vary between suppliers and some do use melamine as an Eco friendly alternative.

- **What would you consider the worst-case (for fire and/or chemical safety) filling – and can you provide an example?**

Foam – without a shadow of a doubt – that’s why the test for foam is so severe. Non FR treated foam is extremely flammable, if you spray it with water in an effort to extinguish the fire it fires molten flaming sticky foam back at you, the smoke is very thick and definitely toxic...but the problem being that FR treated foam ... whilst it does resist ignition and won’t be the cause of the fire (bearing in mind that in a house fire, once you have got beyond a certain point, no matter how much FR treatment you have uses, everything will ignite) ... FR foam gives off more toxic smoke when it does burn than non-FR foam and smoke inhalation is probably the primary cause of death in a house fire. So you have the 1980’s issue that non FR foam ignited readily and burnt ferociously and will burn until there is literally nothing left resulting in the loss of many more lives than had ever been seen previously, or in an age of smoke detectors and central heating you have a foam which will not rapidly ignite but it will smoke as it melts away from the flames and potentially kill your family silently.

For the upholstered components of the above products what are the covers used?

We use a lot of 100% Polyester synthetic fabrics but fabrics with Cotton, Rayon, Viscose, polypropylene are commonly used in upholstery.

• **What inherently flame retardant materials are used as covers, and to what extent?**

Approximately 75% of the products we supply are inherently flame retardant (i.e. have no chemical FR treatment applied to them) – these would generally be 100% polyester knits.

• **To what extent is back coating with flame retardant coatings used in products?**

Backcoating is used on headboard fabrics and in the other upholstered furniture areas – there is currently little choice when using synthetic fabrics other than to apply some kind of flame retardant back coating treatment. The majority of immersion treated fabrics with a % of natural fibres would not be able to pass the L-Shape Sc-1 test over non-FR foam after water soak (the treatment would just wash off). But again we have moved to fabrics with graphene back coating rather than the traditional chemical back coating where available and are actively trialling other upholstery fabrics with alternative treatments not reliant on flame retardant chemicals

• **Can you comment on the nature and loading of chemical flame retardant use in these materials?**

Typically in traditional back coated fabrics you would expect to see 80 to 100g/m² of finish – although this would not necessarily all be FR treatment, there are binding and general finishing treatments included in that weight.

Any estimate of how much of that 80-100 gsm of backcoating is made up of FRs would be really useful. Also any high-level info on type of FRs used would be interesting – even just chemical family rather than individual chemical types.

Brominated Flame Retardants (BrFRs): Act in the gas phase to reduce the oxygen present for a fire. Historically PBDE (polybromo diphenyl ethers), but since their ban by REACH (sunset date March 2018) now decabromo diphenyl ethane. BrFRs have a history of regrettable substitution where one chemical has been shown to be a PBT substance (persistent, bio-accumulative and toxic) causing it to be banned by regulatory bodies only to be replaced by the a chemical whose structure is near identical. One of the other key issues with BrFR is the source of bromine, bromine mining of inland seas and brine wells is incredibly destructive to the environment. As the upholstery industry is becoming more environmentally and sustainability minded, along with consumers being more

chemophobic and environmentally minded, we are seeing more alternative FR treatments entering the market. Typical backcoating formulations contain 50-60 % BrFR. However, can be as low 40 %.

Intumescent: expand on exposure to heat to create a thermal barrier between the heat source and fuel. We use expandable graphite which expands 30-400 times its initial size. Fabric has a layered structure visible side of the fabric a layer of expandable graphite, finally a backing fabric which keeps the FR treatment in place. Cannot always be okeo-tex as upholstery industry is a relatively small buyer for the proportion of graphite sales. The graphite can be contaminated with other chemicals and heavy metals. Estimated 7 gsm.

Red Phosphorous: reacts with oxygen to remove it from a fire. We don't currently use this treatment. Can only be used on dark coloured fabrics due to red colour leaching through.

Organophosphate FR (OPFRs): Act in the gas phase to reduce the oxygen present for a fire. An umbrella term that includes halogenated-OPFRs such as TCPP (used in foam). OPFRs are added to fabrics by emersion treatment. Between BrFRs and OPFRs cover the most common fire retardants, often due to their attractive price point. However, are often PBT chemicals with a history of regrettable substitution. In foams TCPP is typically 5-10 % w/w, Greenfr.co.uk: currently looking at this. But its not something I have covered above as it is halogen free, organophosphate free, white (so can't be red phosphorous), it is not a PBT substance, Okeo-tex and ZDHC compliant.

- **What would you consider the worst-case (for fire and/or chemical safety) cover – and can you provide an example?**

The worst case scenario would be a batch of fabric which initially failed testing, was retreated with additional FR back-coating and resubmitted. In that case you have a very highly treated material, probably more highly treated than is necessary to pass the test, which is extremely difficult to process as part of a piece of upholstered furniture.

Are there any additional comments related to the above products and their fire and chemical safety that you want to bring to our attention?

I would personally leave testing of mattresses as it is and opt for the adoption of the ROI test route for upholstered furniture including headboards but specifically apply it to the primary contact area of the product – the biggest negative about that standard for most upholstered furniture producers is you would need to test each area of fabric filling combination separately and there are a lot of different combinations across the surface of a sofa, including area where the fabric is over a void – the current Regs only demand you test the fabric over standard fillings which dramatically reduces testing required and fabrics can be engineered to pass the test. If you specified the seating surface / the face of the headboard / the top of a padded ottoman/ etc. then you are dealing with the area of prime concern. There has never been a requirement to test the vertical sides of an upholstered divan ... which are the only visible areas ... and yet they have never been the cause of any recorded death or injury... instead we test the top of the divan which we can't even see during use, let alone access. That adoption would likely make furniture safer, reduce chemical reliance and be as affordable for the manufacturers to comply with as the current regulations but potentially a lot less confusing. Equally whole product testing as in BS 7177 does not rely on testing filling materials, just the whole combination the customer receives, and we use very few chemicals in our mattresses (with the exception of foam) – Adopting EN 1021 and removing the need to test inaccessible fillings would both be beneficial and sensible.

Notes from interview with 'upholstered medical devices for domestic use' expert – 17/08/21

General comments:

- The key understanding is whether a product is a medical device or not as medical devices are excluded from the FFR
- Medical devices conform to their own Medical directive and medical device regulations.
- Wheelchairs and wheelchair cushions are assessed based on the individual risk of fire vs. the individual being sat down for too long and the bone working through the flesh, which would be enabled by the toxic flame retardants which breaks down tissue e.g. cyanide gas in FRs and not biocompatible.
- The type of product affects the fire risk as a 'support/wheelchair' has a lower risk that a fire will start whilst you're sit on the product; whereas an 'arm support of a chair/belt/harness' is more likely to have an ignition source come into contact with the product when it is no longer in use. Therefore for the first grouping of products is required, whereas for the latter a flame test is required.
- The flame test was removed for wheelchairs as the risk is very low – the risk is electrical devices over heating (standards and regs are in place to mitigate this risk) and clothing near a flame whilst using a wheelchair. Neither of these risks are the product itself and therefore the flame test was removed from regulation. The cigarette test (required in regulation 1680 part 10 requires a heat profile of 57^oC for 1 minute.
- It is the view of the interviewee that: aflame test is redundant as if a product fails the cigarette test it will also fail a flame test, crib tests are arbitrary and not standardized, the butane flame test lacks consistency, FFR requires a junction between the back and seat of a product which isn't feasible for a wheelchair. The interviewee believes that all testing should be standardised.
- Wheelchair seating standards have been adapted to mimic the cigarette test from the FFR. However, individual materials are not tested in isolation due to the glue used for these types of products that affects the composition and subsequent flammability of the products.
- Foam composite of cushions must still comply with the FFR regulations.
- Some examples of fill materials are - composites, air, elastomers and gel.
- In the past medical grade products were required to pass a crib 5 test if there intended use was hospitals, due to the increased risk of oxygen, alcohol and an ignition source (in operating theatres) in hospitals.
- The interviewee is unsure if medical devices should be included within the FFR as the composition materials are not common and therefore current testing approaches are not appropriate. Some procurement teams at hospitals require the FFR testing. If included all medical products would require a crib 5 test.
- A product is only a medical device if claims made for the benefits of a product can be proven.
- There is a grey area for medical device certification for products with dual use e.g. cots/beds/reclining chairs that alleviate mobility problems
- Additional test is required for medical pillows as the bacteria from flatulence accelerates the degradation of the cover and the filling material (as the cover must be permeable).
- Time individuals spend on products is taken into account through toxicity testing.
- The main standard is 1680 part 10.

Standards for mattresses:

- Issue as there is a continuum from domestic mattress to sophisticated medical mattresses.
- Within medical mattresses there intended location is also an impact (institutional use where there is no smoking allowed vs. prisons where riots could mean products are intentionally set alight).
- High specification foam mattress – not a legitimate term.
- High range of mattress products with medical benefits for different ailments.
- Mattresses have a higher risk as there is possibility of ignition from below or the sides.
- In the US regulations take into account the environment/building and not the user. The use of flame retardants can be reduced further if the products are likely to be used in an area where sprinklers are also present.

Question specific points:

- Safety rails must meet the same requirements of the mattresses, as from the risk viewpoint the source of flammability will be the same.
- Hoists and slings are seen as upholstered even if only 1 sheet of material.
- Assistive products for tissue integrity – mattresses, overlays for mattresses, toppers and slings.
- Foam densities used – [BHTA-1.pdf](#)
- Worst filling possible is liquid gels.
- Cover material is often PU materials that restrict liquids from reaching fill materials. Some nylon is also still used. Slings are often made of a canvas material.