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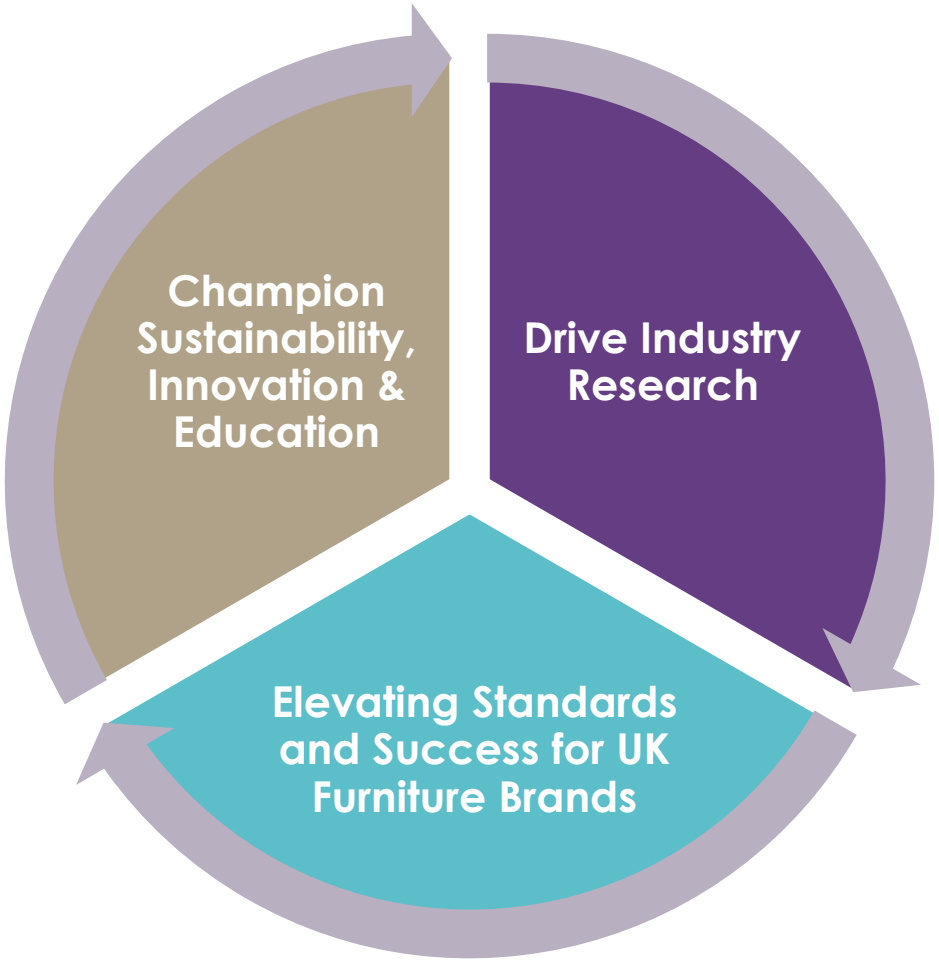
Furniture Industry Research Association

THE FURNITURE INDUSTRY RESEARCH ASSOCIATION

Research that leads, Insight that lasts

HIGH-IMPACT RESEARCH, INFORMING GOVERNMENT, GUIDING BUSINESSES, AND SPOTTING WHAT'S NEXT



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DELIVERING INSIGHTS THAT RAISE STANDARDS, SHAPE POLICY, AND UNLOCK FUTURE INNOVATION

Raise standards

Shape policy

Unlock future innovation

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ESPR & DIGITAL PRODUCT PASSPORTS

John Hubbard - Sustainability Expert

EU ECO-DESIGN FOR SUSTAINABLE PRODUCTS REGULATION (ESPR)

- To improve the sustainability of products placed on the EU market by improving their circularity, energy performance, recyclability and durability
- To develop a well-functioning single market for sustainable products in the EU
- Establish a framework for Setting eco-design requirements on specific product groups
- Avoid diverging national legislation in member states
- Create economic opportunities for innovation and job creation particularly in remanufacturing, maintenance, recycling and repair

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STANDARDS BEING DEVELOPED FOR ESPR COMPLIANCE

- Design for disassembly
- Design for repair including availability of spare parts
- Materials used - chemicals, recycled content
- Product environmental footprint

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ADDITIONAL REQUIREMENTS

- Digital Product Passports
- Ban on the destruction of unsold apparel, clothing accessories and footwear
- Enhanced sustainability requirements for public procurement:
  - *50 % allocated to 'green' products*
  - *15-30% of awarding score for sustainability criteria*

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DIGITAL PRODUCT PASSPORTS

- Information which will follow a product through its lifecycle containing important information
- Each product will be traceable to origin
- Full breakdown of composition including the presence of chemical additives
- Technical performance
- Information for end of life (repair information, recycling options, chemical limitations)

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TIMESCALE

- During 2025 decisions will be taken on the roll out of Digital Product Passports
- Batteries are the first group to utilise DPPs mandated for implementation in first quarter 2027
- Four sectors have been identified as priority groups for implementation in the Ecodesign for Sustainable Products and Energy Labelling Working Plan 2025-2030:

1. Textiles & Apparel (2027)
2. Furniture (2028)
3. Tyres (2027)
4. Mattresses (2029)

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FURNITURE - CIRCULARITY

Levent Çaglar - Senior Ergonomist, Head of Consultancy

FURNITURE - CIRCULARITY

The core of the circular economy lies in the longevity of products and the supporting measures and strategies to extend the lifespan of products

ESPR - Ecodesign for Sustainable Products Regulations (June 2024)

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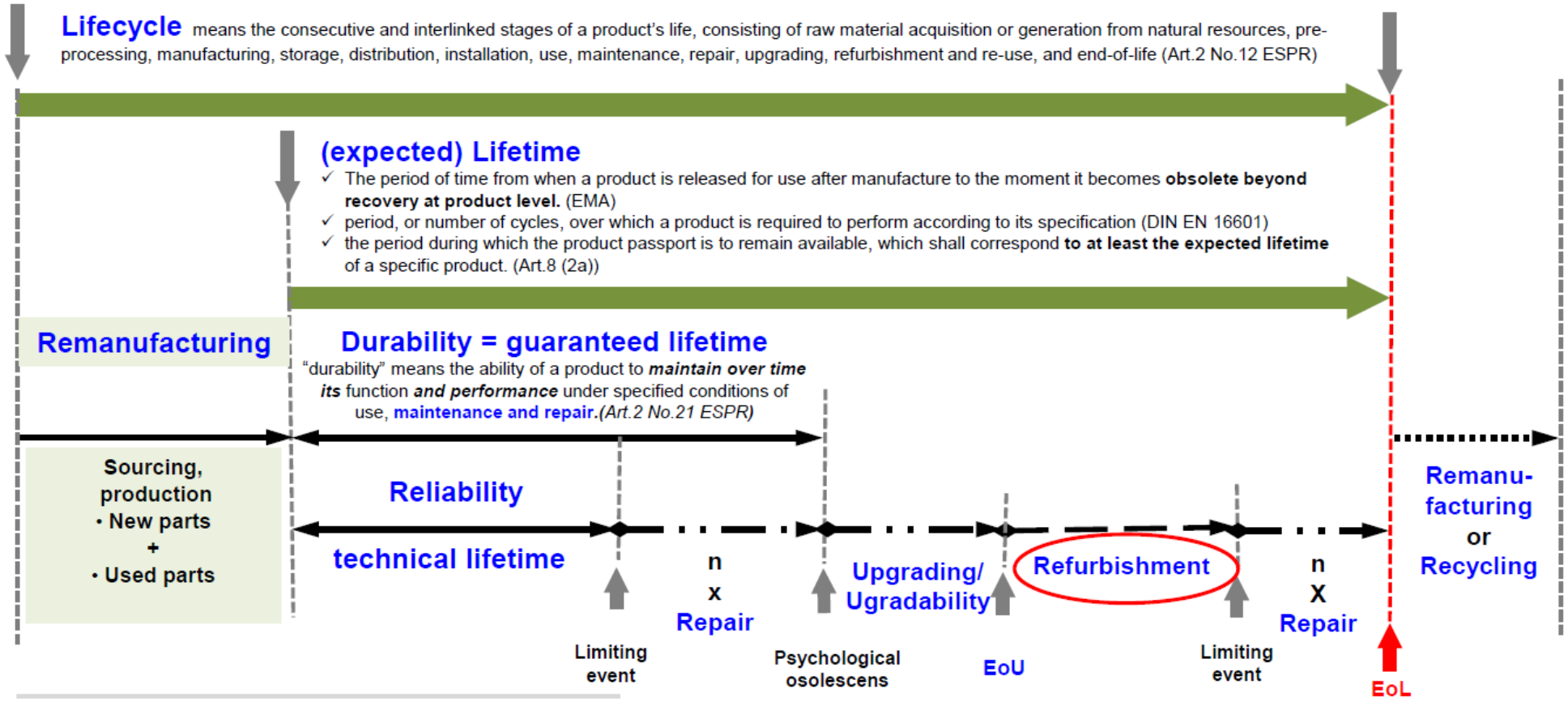
RELATIONSHIPS/DEPENDENCIES BETWEEN THE ESPR TERMS



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(EU) 2024/ 1781 ESPR - DEFINITIONS

Term	Definition	Source
reliability	means the probability that a product functions as required under **given conditions** for **a given duration** without *an occurrence which results in a primary or secondary function of the product no longer being delivered*;	Art.2 (22), ESPR
limiting event	occurrence which results in a primary or secondary function no longer being delivered Note 1 to entry: Examples of limiting events are failure, wear-out failure or deviation of any analogue signal.	DIN EN 45552:2020; 3.1.1.3
durability	means the ability of a product to *maintain over time its* function *and performance* under specified conditions of use, **maintenance and repair.**	Art.2 (21), ESPR
maintenance	means ***one or several actions*** carried out to keep a product in a condition where it is able to ***fulfill its intended purpose***	Art.2 (19), ESPR
repair	means ***one or several actions carried out to return*** a defective product or waste to a condition where it fulfils its intended use;	Art.2 (20), ESPR
refurbishment	means ***actions carried out to prepare, clean, test, service and, where necessary repair*** an object that is waste or a product ***in order*** to restore its performance or functionality within the intended use ***and*** range of performance originally conceived at the design stage ***at the time of its placing on the market***	Art.2 (18), ESPR
remanufacturing	means a process in which a **new product** is produced from objects that are waste, products or components and in which **at least one change** is made **that substantially** affects the **safety, performance, purpose or type of the product**.	Art.2 (16), ESPR
Technical lifetime	[…] **technical lifetime, mean time between failures**, indication of real use information on the product, resistance to stresses or ageing mechanisms	Annex I Abs.1 a, ESPR
Guaranteed lifetime	**durability and reliability** of the product or its components **as expressed through the product's guaranteed lifetime** [….]	Annex I Abs.1 a, ESPR
Expected lifetime	the **period** *during* which the **product passport** *is to* **remain available**, *which shall correspond to at least the* ***expected lifetime*** *of a specific product*. [Note: The context of this text is Article 8 "Product passport"]	Art.8 2h ESPR

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STANDARDS BEING DEVELOPED FOR ESPR COMPLIANCE

Available:

- EN 17902: 2023 Furniture - Circularity - Evaluation method for dis/re-assembly capability

In development:

- EN XXXX: Furniture - Circularity - Evaluation method for maintenance, repair and refurbishing capability
- EN YYYY: Furniture - Circularity - Guidance on reliability
- EN ZZZZ: Furniture - Circularity - Assessment methods for remanufactured furniture

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EN 17902: 2023 FURNITURE - CIRCULARITY - EVALUATION METHOD FOR DIS/RE-ASSEMBLY CAPABILITY

Table 1 — Classes for instructions availability

Class	Description
A	dis/re-assembly instructions are supplied with the product/parts and/or available by free access via the internet
B	dis/re-assembly instructions are supplied with the product/parts and also available for a charge via the internet
C	dis/re-assembly instructions are supplied only with the product/parts
D	dis/re-assembly instructions are not available

Table 2 — Classes for content of instruction

Class	Description
A	Complete and correct display of all individual dis/re-assembly steps (3.6) (3.7) of a part, divided into individual work steps, displayed in such a way that they are comprehensible to the user in the correct sequence
B	Display of the product structure as an exploded drawing of the necessary parts, without going into detail about individual work steps for dis/re-assembly
C	Incomplete, incorrect or no display of the work steps or product structure

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EN 17902: 2023 FURNITURE - CIRCULARITY - EVALUATION METHOD FOR DIS/RE-ASSEMBLY CAPABILITY

Table 3 — Classes for skill level

Class	Description
A	**Layperson**, without specific experience or related qualifications
B	**Trained/educated person** in furniture handling *without* specific authorization by manufacturer
C	**Specialist**, from manufacturer or authorized by manufacturer with specific training and experience

Table 4 — Classes for number of persons

Class	Description
A	1 person
B	2 persons
C	> 2 persons

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EN 17902: 2023 FURNITURE - CIRCULARITY - EVALUATION METHOD FOR DIS/RE-ASSEMBLY CAPABILITY

Table 6 — Classes for tools complexity

Class	Description
A	no tools are required for dis/re-assembly
B	standard household or commercially (DIY shops or online platforms) available tools can be used for dis/re-assembly
C	dis/re-assembly cannot be carried out with standard household tools and the tools needed are not available commercially (DIY shops or online platforms)
D	no available tools to dis/re-assemble the priority part non destructively

Table 7 — Classes for number of tools

Class	Description
A	≤ 2 tools
B	> 2 to ≤ 5 tools
C	> 5 tools

Table 11 — Classes for dis/re-assembly depth

Class	Description
A	≤ 5 steps
B	> 5 to ≤ 15 steps
C	> 15 steps

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AN EXPLORATION OF EDUCATIONAL PROCUREMENT – A PILOT STUDY

Claire Clark - Head of Ergonomics, FIRA International

PROJECT BACKGROUND

- Why am I doing this research?
- Why should you care?
- What is my end goal?

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PROJECT OVERVIEW

PHASE

1. UNDERSTAND THE STATUS QUO
2. UNDERSTAND THE IMPACT THE STATUS QUO HAS ON PUPILS AND TEACHERS
3. EXPLORE WHERE AND HOW CHANGES CAN BE MADE TO MAKE IMPROVEMENTS

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PILOT STUDY – HIGH LEVEL FINDINGS

Financial constraints:

- Tight budgets limit furniture options
- Reliance on ad hoc funding (e.g., PTA fundraising) leads to short-term decisions
- Furniture is often a low priority in school planning

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PILOT STUDY – HIGH LEVEL FINDINGS

Lack of knowledge and ergonomic awareness:

- Limited understanding of ergonomics among purchasers
- Choices driven by familiarity, not functionality
- Minimal input from students and teachers

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PILOT STUDY – HIGH LEVEL FINDINGS

Procurement challenges:

- Restricted product ranges in catalogues
- Assumption that catalogue items are fit for purpose
- Limited time, expertise, and resources for informed decisions
- Sample products rarely requested, despite availability

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PILOT STUDY – HIGH LEVEL FINDINGS

Impact of standards and compliance:

- BS EN 1729 heavily influences design but is not mandatory
- Schools often prioritise cost over compliance
- Lack of clarity on whether products meet current standards

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NEXT STEPS

Validate findings from pilot study:

- Interview wider range of manufacturers
- Interview wider range of suppliers
- Interview broad range of other stakeholders
- Nationwide survey of schools
- Engage with policy makers

Clearly map out the problem

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FIRA INTERNATIONAL LTD (PART OF THE ELEMENT GROUP)

The service provider to the Furniture Industry Research Association

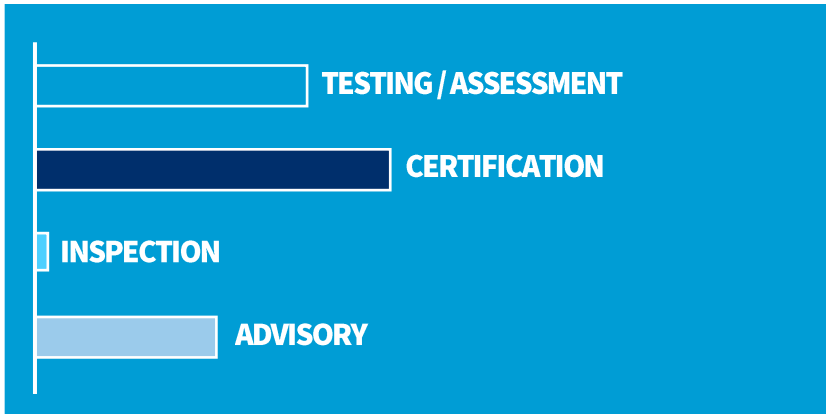
BUILT ENVIRONMENT FIRA TESTING

Making tomorrow safer than today

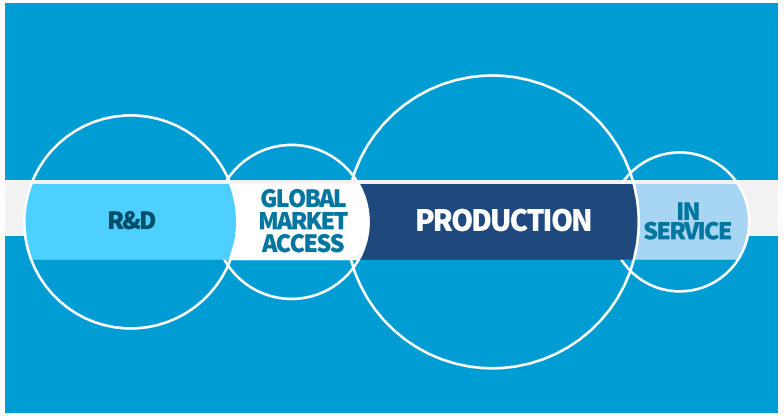
OUR BUSINESS BRANDS AND SERVICES

ELEMENT
OUR BUSINESS

SERVICE MIX



PRODUCT CYCLE



REGULATORY

REGULATORY

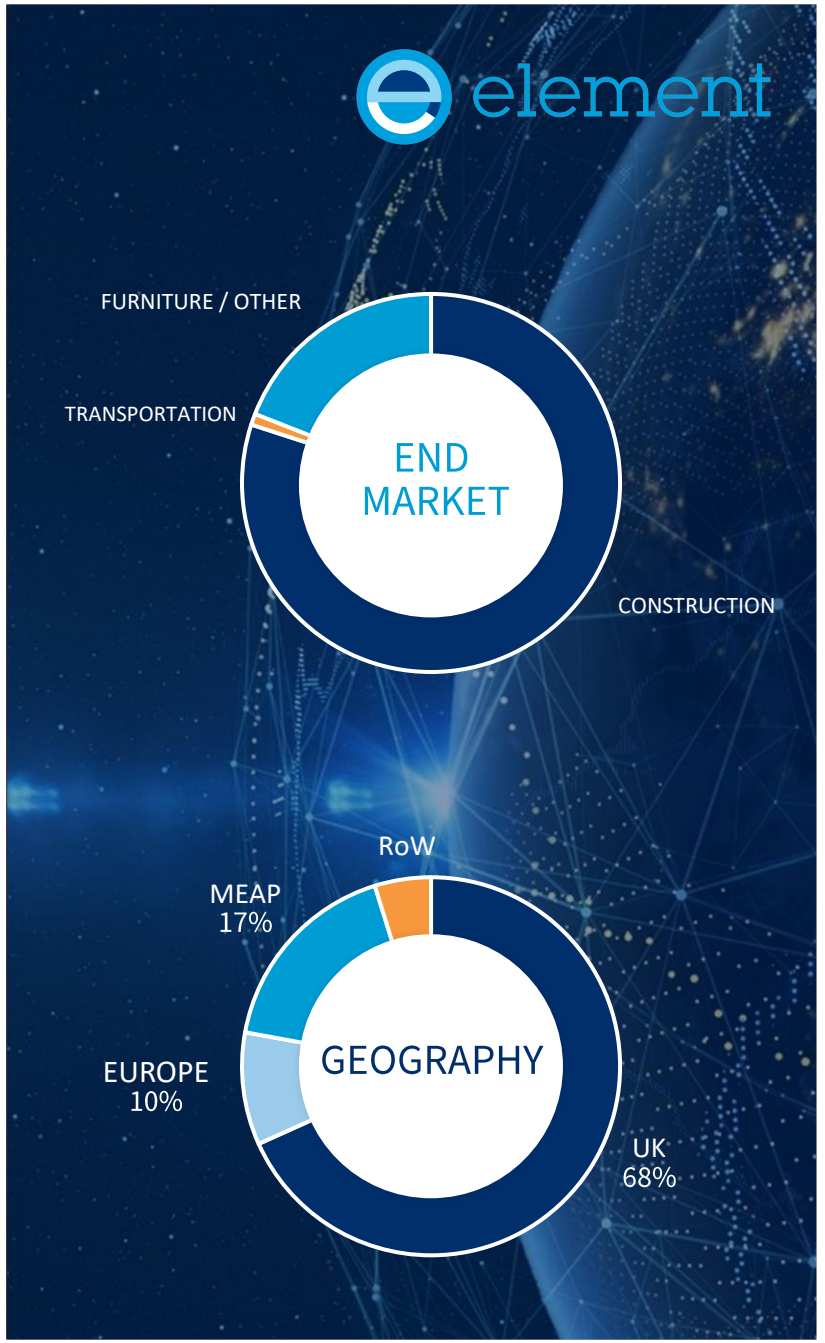
NON-REGULATORY

Building Safety Act 2022

APPROVED DOCUMENT B

UKCA

UKAS



OUR GLOBAL LAB FOOTPRINT - 2025

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120+
THE AMERICAS

110+
EUROPE

10+
MIDDLE EAST & AFRICA

20+
AUSTRALASIA & ASIA

OUR BRANDS

Leaders in chosen markets.

Respected, accepted, specified.

Seen as technically excellent.

Passport to trade to customers.

Master brands

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Proud to be part of element

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Certification brands

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bmtrada bmtrada Q-MARK CERTIFICATION

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OUR SERVICES

Delivering complex solutions.

Building assurance.

This is some of what we do…

Fire Resistance Testing
British Standards and EU Classification

Reaction to Fire Testing
British Standards and EU Classification

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Smoke Testing
Seal Penetration

Hardware Performance
Cyclical Testing

Acoustics Testing
High Wycombe

Security Testing
PAS 24

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Locations

Gent
Belgium

Singapore
Singapore

High Wycombe
UK

Warrington
UK

Hong Kong
Hong Kong

Dubai
UAE

London
UK

Doha
Qatar

Birchwood
UK

Stevenage (FIRA International)
UK

FIRA

Flammability Testing
UKAS accredited flammability testing on all types of upholstery, fabrics, foams, feathers and fillings
READ MORE

Upholstery Testing
Upholstery tests focus on fabric, foam, flammability and structural
READ MORE

Seating Testing
Strength and stability testing for all types of seating, to ensure fitness for purpose
READ MORE

Bed and Mattress Testing
Beds, mattresses and components (springs, toppers, foams)
READ MORE

Table and Desk Testing
We test tables (including glass) and desks for safety, stability, strength and durability
READ MORE

Storage Furniture Testing
Our experts can test all types of storage furniture and components for safety, strength and durability
READ MORE

Kitchen Testing
Kitchens must be fit for purpose, our tests replicate regular and even occasional misuse
READ MORE

Children's Furniture Testing
We test a wide range of childcare products including pushchairs, high chairs, changing units, cots and beds
READ MORE

Engage With an Expert
Our Technical Experts are available for one-to-one support with individuals and organisations.
READ MORE

Training
Find out more about our training portfolio, delivered by our team of technical experts.
READ MORE

Ergonomic Services
Ergonomic expertise including research, consultancy and testing services for all products, from monitor arms to train seating, across the furniture industry.
READ MORE

Reaction to Fire

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Active Fire Testing
Find out more how our accredited laboratory can provide active fire testing to the BS 8458:2015
LEARN MORE

Aerospace Fire Testing
Find out more about our aerospace fire testing, which operates out of our fully accredited reaction to fire laboratory in Warrington.
LEARN MORE

Automotive Fire Testing
Find out more about our automotive fire testing, which operates out of our fully accredited reaction to fire laboratory in Warrington.
LEARN MORE

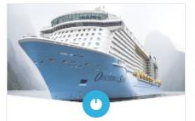
Building Cladding Testing
Find out about our BS 8414 building cladding testing capabilities in Dubai and Gent.
LEARN MORE

Cone calorimetry testing
Find out more about our cone calorimetry testing which is a cost-effective way to research the fire performance of products during the developmental stage.
LEARN MORE

Construction Fire Testing
Find out more about our construction fire testing across a variety of standards and test methods, with accredited laboratories placed across the globe.
LEARN MORE

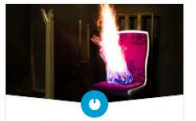
Defence Fire Testing
Find out more about our defence fire testing services and how we are experienced working with the defence industry's demanding requirements.
LEARN MORE

Insulation Flammability Testing
Flammability testing for thermal insulation is provided by Warringtonfire to BS 5803-4, as well as fire resistance tests under BS 476-1 and BS EN 13501-1
LEARN MORE



Marine Fire Testing
Find out more about our marine fire testing, performed across our fully accredited laboratories in the UK and Belgium.
LEARN MORE

Plastics and Surface Materials
Learn how Warringtonfire can help test how your plastics and surface materials will react in a real-life fire situation, to ensure the products you develop are fit for purpose.
LEARN MORE



Rail Fire Testing
Find out more about our comprehensive range of independent rail fire testing services, performed from our UKAS and BELAC accredited laboratories.
LEARN MORE

Roof Testing
Find out more about roof testing for reaction to fire, provided by our Gent and Warrington laboratories.
LEARN MORE

Single Burning Item
Find out more about Single Burning Item testing, a key method for assessing the reaction to fire performance of construction products.
LEARN MORE

Textiles Fire Testing
Find out more how our engaged experts operate textiles fire testing from our accredited laboratory in Warrington.
LEARN MORE

Timber Panel Products Testing
Timber panel products need to be tested for both reaction to fire and fire resistance. Find out how we can help
LEARN MORE

THANK YOU

element | warringtonfire

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UNDERSTANDING YOUR TEST REPORT

More than just a pass or fail

STRUCTURE OF STANDARDS

Standards for complete items of furniture, applicable to both domestic and non-domestic settings, cover:

- Safety
- Stability
- Strength
- Durability
- Information for use and user guides

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SAFETY REQUIREMENTS

- Edges which are in contact with the user are rounded or chamfered
- All other edges accessible during use shall be free from burrs and/or sharp edges
- Ends of hollow components are closed or capped
- Movable and adjustable parts shall be designed so that injuries and inadvertent operation are avoided
- Shear and squeeze points during use
- Children's and nursery furniture – Accessible gaps and openings, small parts, snagging hazards, toxicity, thermal hazards

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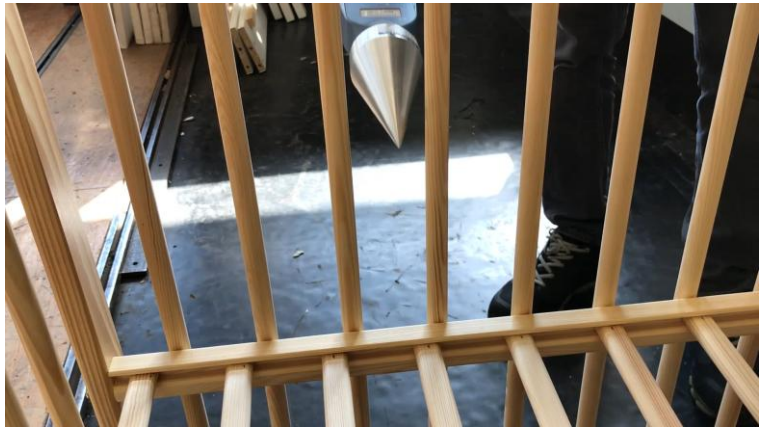
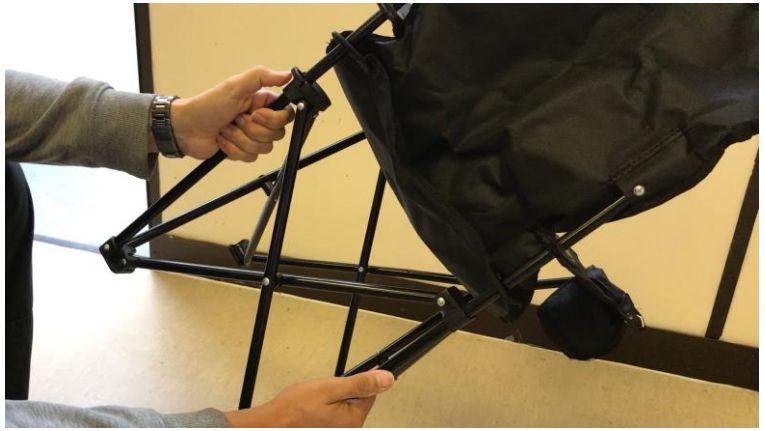
SAFETY REQUIREMENTS





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SAFETY REQUIREMENTS

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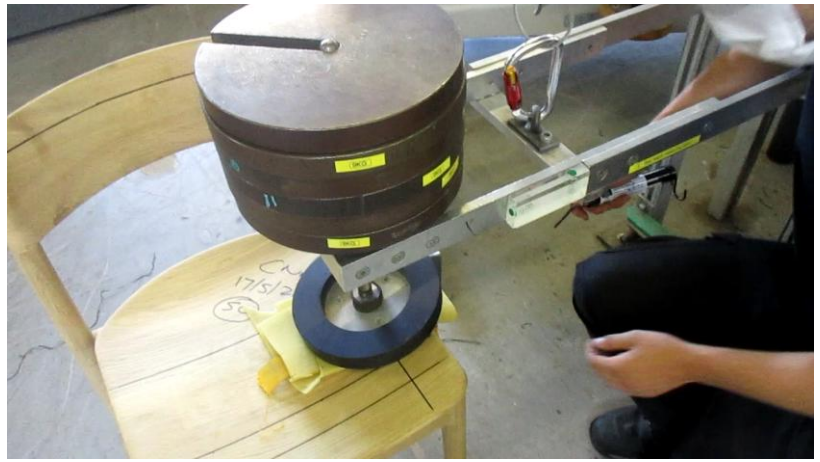
STABILITY REQUIREMENTS

Stability tests to assess whether the item is likely to overturn



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STRENGTH REQUIREMENTS

Static Load Testing

Tests with high levels of loading and only a low number of cycles – to represent loading that may only occasionally occur during the product life cycle

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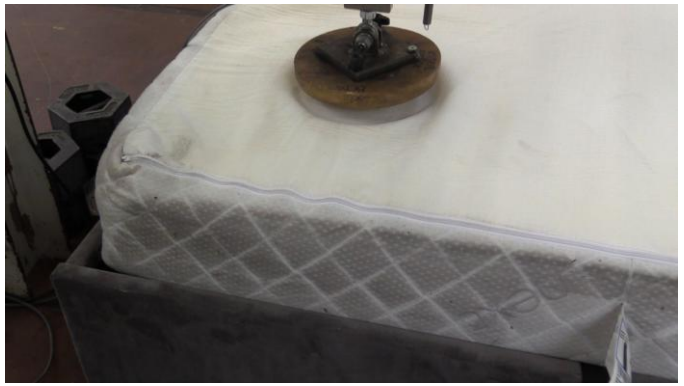
DURABILITY REQUIREMENTS

Tests that replicate typical daily use during the product life cycle, considering its intended purpose



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PRODUCT USE INFORMATION

Should be provided in the language of the country in which the product will be delivered to the end user and contain at least the following details:

- Information regarding the intended use
- If fitted with adjusting mechanisms, instructions for their operation
- Assembly instructions, where applicable
- Instruction for care and maintenance

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INFORMATION FOR USE - CHILDREN'S AND NURSERY FURNITURE

Instructions should be headed:

'IMPORTANT, RETAIN FOR FUTURE REFERENCE: READ CAREFULLY'

Letters should not be less than 5mm high

Warnings:

The instructions for use shall include the following warnings:

The instructions for use shall include the following statements:

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THE TEST REPORT

TECHNICAL REPORT

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Unit 3 Cockerell Close
Stevenage
Hertfordshire
SG1 2EW

T: +44(0) 1438 777 700

Address of Company

Our Ref: Unique report no.
Date: **07 October 2019**
Delivery Date: 04 June 2019
Test Dates: 04 June 2019 - 04 October 2019

For the attention of Contact name

SAMPLE(S) SUBMITTED FOR TEST AND IDENTIFED BY CUSTOMER AS:

One. Sample

TEST(S) AS REQUESTED BY CUSTOMER: **RESULT:**

BS 8474: 2013 160kg User Level **PASS/FAIL – Point 3**

DESCRIPTION

Item: Sample

Supplied by: Name

Number of Photos: One to Four – Point 4

Qty	Item – Point 2	Material- Point 2
1	Seat	4 x 3mm Diameter Metal S-Springs
1	Back	18mm Thick Wood
2	Arms	80mm Thick Wood
1	Mechanism	Metal – Various Sizes
1	Base with Castors	2mm Thick Metal
	Joints	Bolted

BS 8474: 2013 - Furniture – Chairs With Electrically Operated Support Surface – Requirements

Initial Inspection: No apparent faults

Clause	Test	Result
4	**General requirements**	
4.1	Edges and corners	Pass
4.2	Tubular components accessible during use	Fail – point 3

Clause	Test	Result
5	**Strength and durability**	
6.4	Seat static load test	Pass
6.4	Back static load test	Pass

Clause	Test	Result
5.3	**Stability**	
6.2	Forwards overbalancing, all seating.	Pass

Clause	Test	Result
7	Control system requirements	Pass
7.2	Control devices	Pass
8	Marking	Fail – Point 3
9	Information to be supplied by the manufacturer	Pass

CONCLUSION

The Sample, as previously described, failed to satisfy the applicable test requirements of BS 8474: 2013 160kg User Level.

Tested by: A person
Reported by: A person
Approved by: A person
Section Head - Structural Testing

THE TEST REPORT

- **Date of the report** - Ensure that the test date is valid and does not relate to something tested many years ago that may no longer be valid or representative
- **Description of the product -** Ensure all the relevant information is given to the test laboratory for them to put in the report
- **The results -** Gain an understanding of the test requirements and how they relate to your product
  - If there is a failure, what does it mean?

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THE TEST REPORT

Within the report several potential outcomes can be reported:

- **N/A - Not applicable -** The selected clause is not applicable to the product
- **N/T - Not tested -** The product has not been tested to an applicable clause - reasons could include:
  - Customer request
  - Due to a failure
  - Unable to test
  - Covered by another test report

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THE TEST REPORT

- **Not supplied** - Generally applied to information for use, assembly instructions or safety information
- **Informative** - Some standards do not provide any pass or fail criteria
- **Inconclusive (very rare)** - If the result is considered marginal then it may be recorded as inconclusive

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THE TEST REPORT

The test report conclusion:

- **Pass** - The sample tested has met all applicable requirements of the standard
- **Pass*** - The sample has met all applicable requirements with some exclusions
- **Fail** - The sample tested has failed to meet one or more of the applicable clauses

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