TESTING AND COMPLIANCE

Pineapple



We have over 50 years of experience transforming high risk environments.

The last 50 years has taught us that even the smallest of details can have serious implications for the safety of residents, staff and visitors. That's why we have fully integrated safety and durability testing into our product development process.

Internal test processes are conducted early in a product's development, ensuring robustness and dependability is built in from the beginning.

Prior to being made available for sale, our products undergo rigorous strength and stability testing, in full compliance with stringent international test standards. Mindful of the extreme treatment our products can face, we often elect to exceed the required safety benchmarks, giving further peace of mind.

As test standards are updated and product improvements are made, we conduct further routine tests to ensure our products are up-to-date with the latest safety requirements.



IN-HOUSE TESTING

Our team of dedicated testing professionals brings together decades of hands-on experience in both product and material testing, ensuring every product meets the highest standards of safety and performance.



HOW WE GO FURTHER

Our products are designed for use in challenging environments like mental health hospitals and custodial facilities.

In order to maximise safety for residents and staff, we conduct extensive internal testing, focusing on more extreme treatment than is typically covered in common test standards.

We have tested some of our products to **500,000** durability cycles (300,000 more than required to pass).

If a person sits on the chair 10 times per day, that equates to over 130 years of use!

How we go further

TESTED TO WITHSTAND **ITONNE**



Extreme static load

To ensure our products can withstand enthusiastic use, we choose to exceed the typical 160kg static load applied for standard tests.

We have tested many of our seating ranges to withstand 1000kg (1 tonne) of static load with no signs of wear or damage.



Ligature risks

Our products are designed to minimise ligature risks, protecting people from harm.

Throughout the product development process we conduct internal ligature testing to ensure the product is as safe as possible before entering production.

240

strikes

Extreme impact

For products designed for high risk environments, we conduct sustained impact tests, striking the product with a sledge hammer for a duration of 5 minutes with approximately 240 forceful strikes.

IN-HOUSE TESTING

Our in-house testing programme reflects the different levels of risk associated with each intended environment.

LOW SECURE

- \rightarrow 500kg Static Load (bariatric)
- ightarrow Design assessment
- \rightarrow Surface test
- \rightarrow Scratch test (hard surfaces)
- \rightarrow Abrasion test (fabrics)
- \rightarrow Mini impact (hard surfaces)

MEDIUM SECURE

- ightarrow 500kg Static load (bariatric)
- ightarrow Design assessment
- ightarrow Surface test
- \rightarrow Scratch test (hard surfaces)
- \rightarrow Abrasion test (fabrics)
- \rightarrow Mini impact (hard surfaces)
- ightarrow Custodial kick-test
- ightarrow Ligature risks
- ightarrow Concealment risks
- \rightarrow Stab test (soft materials)
- ightarrow Minor attack test

HIGH SECURE

- \rightarrow 500kg Static load (bariatric)
- \rightarrow Design assessment
- \rightarrow Surface test
- \rightarrow Scratch test (hard surfaces)
- \rightarrow Abrasion test (fabrics)
- \rightarrow Mini impact (hard surfaces)
- ightarrow Custodial kick-test
- ightarrow Ligature risks
- ightarrow Concealment risks
- \rightarrow Stab test (soft materials)
- \rightarrow Minor attack test
- ightarrow Attack test rubber mallet
- \rightarrow Big impact
- ightarrow Tip test

VERY HIGH SECURE

- \rightarrow 500kg Static load (bariatric)
- \rightarrow Design assessment
- ightarrow Surface test
- \rightarrow Scratch test (hard surfaces)
- \rightarrow Abrasion test (fabrics)
- \rightarrow Mini impact (hard surfaces)
- ightarrow Custodial kick-test
- \rightarrow Ligature risks
- ightarrow Concealment risks
- \rightarrow Stab test (soft materials)
- ightarrow Minor attack test
- ightarrow Attack test rubber mallet
- ightarrow Big impact
- ightarrow Tip test
- \rightarrow Attack test sledgehammer

SEATING

International test certification

The table below shows some of the certification our products have attained from accredited testing facilities across the world. These tests are designed to simulate years of use, ensuring our products are built to last.

Region	Product type	Test	Weight	Description
UK & EU	Seating	BS EN 16139-2	110kg / 242 Lbs	Specifies requirements for safety, strength and durability of all types of non- domestic seating. Our products are generally tested to Level 2, denoting "extreme use", which features more rigorous tests.
UK & EU	Seating	BS EN 1728	110kg / 242 Lbs	Test methods for the determination of strength and stability (irrespective of intend- ed use). Many tests in this standard are referenced in BS EN 16139.
USA	Seating	ANSI/BIFMA X5.4	125kg / 275 Lbs	Test standard covering strength, durability and stability for seating typically found in indoor public spaces.
USA	Seating	ANSI/BIFMA X5.41	181kg / 400 Lbs 272kg / 600 Lbs	A version of BIFMA X5.4 adapted to test for larger occupants.



CABINETRY & TABLES

International test certification

The table below shows some of the certification our products have attained from accredited testing facilities across the world. These tests are designed to simulate years of use, ensuring our products are built to last.

Region	Product type	Test	Description
UK & EU	Storage	BS EN 16121:2013	A European standard that sets out the performance, safety, strength, durability, and stabili- ty requirements for non-domestic storage furniture, such as cabinets, lockers, and shelving units used in commercial, public, and institutional environments.
UK & EU	Tables	BS EN 15372:2008	Testing standard which assesses strength, durability and safety for non-domestic tables.
USA	Desks and tables	ANSI/BIFMA X5.5-2021	This standard provides a common basis for evaluating the safety, durability and structural performance of desk and table products intended for use in commercial office, institutional and educational environments; including retail spaces, restaurants, and cafeterias.
USA	Storage units	ANSI/BIFMA X5.9-2019	Provides test methods for freestanding, mobile, and wall-mounted storage units.



How we go further:

We go beyond standard testing by simulating extreme, one-off events to ensure maximum durability and safety. For tables, we conduct tip-over testing, side-loading with excessive weights, and singular static load tests of 500kg, 750kg, and even higher. For cabinetry, we perform singular static loads and kick testing on high-risk or innovative designs. These advanced tests are designed to replicate the most demanding real-world conditions, giving you complete confidence in the strength and reliability of your furniture.

MATERIALS

International test certification

Region	Product type	Test	Туре	Description
UK	Materials	REACH	Chemical compliance	Requires manufacturers to provide detailed information about the chemical substances present in their products, and to ensure they are within safe levels.
UK	Materials	RoHS	Chemical compliance	Similar to REACH, RoHS restricts the use of certain chemical substances but solely covers Electronics and Electrical equipment.
USA	Materials	ANSI/BIFMA M7.1	Chemical compliance	Samples are tested in a sealed chamber to measure volatile organic compounds (VOCs) which are released to ensure that they meet health and safety standards.
International	Textiles	ISO 12947-2:2016	Abrasion	Determination of the abrasion resistance of fabrics by the Martindale method.
International	Textiles	ISO 105-B02:2014	Colour fastness	Colour fastness to artificial light: Xenon arc fading lamp test.
International	Textiles	ISO 4674-1:2016	Strength	Determination of tear resistance of rubber or plastic-coated fabrics.
International	Textiles	ISO 20743	Antibacterial	A quantitative test used to determine the antibacterial activity of all antibacterial textile products. It is designed to test the ability of fabrics that have been treated with antimicrobial agents to prevent microbial growth and to kill microorganisms.



When a person sits down, their clothing will rub against the seating material, causing subtle wear and tear. Abrasion testing is used to simulate this action thousands of times to assess the long-term durability of a material.

For commercial use a "rub test" of 30,000 or more rubs is recommended to provide adequate durability.

How we go further:

For high traffic areas, or where extreme treatment is expected, we specify fabrics which have been tested to more than **300,000 rubs**.

In the EU, REACH and RoHS are prominent regulations which restrict the use of hazardous substances to protect human health and the environment.

We carefully consider the materials that are used in our products, and ensure they do not contain harmful substances such as:

- → Persistent Organic Pollutants (POPs)
- → Heavy metals (lead, cadmium, mercury)
- → Volatile Organic Compounds (VOCs) within tolerance

FLAMMABILITY

International certification

Region	Product type	Test	Terms	Description
UK	Upholstered furniture	BS 5852	Source 0 (cigarette) Source 1 (match) Crib 5	The ignition source is applied to the test fabric and foam. Measurements are taken including the time taken to self-extinguish and to cease smouldering.
	Mattresses	BS 7177 / BS 6807	Crib 7	
UK/EU	Beds	BS EN 597	Source 0 (cigarette) Source 1 (match)	Assessment of the ignitability of mattresses and upholstered bed bases. Igni- tion source smouldering cigarette.
International	Building materials & plastics	UL 94	Spread of flame	This test can be conducted horizontally or vertically, a blowtorch applied for certain amount of time and then removed and the rate of flame spread is measured.
Germany	Upholstered materials	DIN 66084	Fire	A paper cushion is burned on the test sample, the flames must extinguish in- dependently within 15 minutes. The flame height must not exceed 45cm above the backrest and must not reach the edges of the seat.
France	Building materials	M (French NF P92 503 507)	Spread of flame	A flame is held against a vertically positioned sample. The after-flame time is recorded and the flame spread is calculated by determining the time for the flame to spread between the two reference marks.
USA	Upholstered furniture	CAL TB 117	Fire	Assessment of the resistance of upholstered furniture component assemblies to combustion after exposure to smouldering cigarettes under specified condi- tions in an closed test chamber.
USA	Building materials	ANSI/UL723	Fire	The material is mounted so that it forms the ceiling of a tunnel. A flame is applied to one end of the tunnel along with airflow and the rate of flame spread is measured.
Germany	Building materials	DIN 4102-1:1998-05	Fire	Fire behaviour of building materials and building components.

Unlike domestic furniture regulations, the nature of non-domestic environments dictates how flame retardant the furniture must be.

A real-world example

Source 0 - Cigarette (low hazard)

A lit cigarette is placed on the item and allowed to burn along its length. If no smouldering or flames occur, the item passes.

Source 1 - Match (low hazard)

A simulated lit match is applied to the item for 20 seconds and removed. If no flaming or smouldering occurs, the item passes.

Educational institutions and offices are mostly considered to be "low hazard" – occupants should be awake and familiar with the building, and fire exits are readily available.

Source 5 (medium hazard)

A wooden "crib" with 5 tiers is ignited and left to burn for 10 minutes. The crib must self-extinguish within the time-frame without burning through the material.

Hospitals, student accommodation and hostels are considered to be "medium hazard" – occupants may be asleep or under the influence of alcohol, drugs or medication.



Source 7 (high hazard)

A 7-tier wooden structure (with larger pieces than Source 5) is ignited and left to burn. The heat intensity is approximately 4 times that of Source 5.

In high dependency healthcare environments, secure accommodation and other areas which cannot be quickly evacuated, upholstered furniture should comply with the high hazard category. This image shows the aftermath of a fire at a customer's psychiatric hospital in Marseille, France. The images below show a Ryno chair and

hospital in Marseille, France. The images below show a Ryno chair and desk which were inside the room during the fire. After being cleaned, the products were found to be unaffected by the heat and smoke.



See for yourself...

To arrange a demonstration or book a visit to our showroom, please call +44 (0)1622 237830

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