



Quality Control Procedures.

Furrytails prides itself on its factory having one of the strictest quality control procedures within the Soft Toy Industry.

These procedures include Safety Testing, Internal Quality Control and Independent Testing and are explained in more detail below

Firstly it's important to remember that there is a significant difference between Safety & Quality with respect to Soft Toys.

Only ONE sample created in a production environment is required to be tested by law to deem an item safe so long as the remaining products are manufactured in exactly the same manner and with the same fabric specification.

The design of the item is directly related to Quality Control if the product is poorly designed and unable to be mass produced then this will cause Quality issues.

Furrytails design each item bearing in mind the ability to be mass produced.

I detail below firstly the statutory requirements – which also cross reference to ASTM.

PRODUCT SAFETY TESTING –(STATUTORY)

EN71 Parts 1, 2 & 3 – Compliance enables the item to carry the CE symbol and ASTM standards

The product would be tested by UKAS approved company - STR Laboratories in Reading and the product would be tested for ages 0+ (unless any advisory statements are added by the laboratory)

There are three main areas to EN71 and I detail the main elements below.

Part 1 – Mechanic and Physical Properties (revised 1998)

The Toy is subjected to pull tests on all non-detachable components such as Eyes, Nose & any Tag on the collar.

The pull test is conducted to a pulling strength of 90 Newton 's (10kg) and is applied randomly.

If a component did get removed or tear then its placed in a cylinder that represents a Childs throat if it goes through it would fail unless the components is made from a pliable material such as Felt, Cardboard etc. – If it does not fit into the cylinder then its classed as a pass. (Most Eyes and Noses if removed would pass through the cylinder and would fail)

Sharp Edges – All components are tested to see if they have any sharp edges (e.g. sharp edged zips)

Seams are tested on a random basis to 70 Newton 's

Legal markings on the Safety Labels and packaging (plastic bags).

MECHANICAL HAZARDS –LIST OF EXAMPLES

Hazard	EN 71 Part 1
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Drop	1.4m (4.5ft), 10 drops
Bite	445N (100lbs), 10 secs
Compression	133N (30lbs), 10 secs
Flexure	67N (15lbs) over 120°, 30 cycles (1 per sec), a 20 sec rest, then a further 10 cycles
Torque	0.45Nm (4in-lbs), 10 secs clockwise, and anticlockwise
Tension (follows torque)	90N (20.2lbs) parallel, 67N (15lbs) perpendicular
Small parts	Parts shall not fit into the test cylinder (43 x 51 mm) under their own weight before & after abuse testing
Sharp edges	Must not include a hazardous edge
	Must not include a hazardous point

Use & Abuse (EN71-1 1998)

Test sequentially one sample of each item.

Hazard	(EN 71 Part 1 1998)
Drop	1.4m (4.5ft), 10 drops (<i>Clause 8.5</i>)
Torque	0.45Nm (4in-lbs), 10 sacs (<i>Clause 8.3</i>)
Tension	90N (20.2lbs) parallel, for 10 sacs. 67N (15lbs) perpendicular for 10 secs. (<i>Clause 8.4</i>)
Compression	133N (30lbs), 10 secs (<i>Clause 8.8</i>)
Impact	1kg (2.2lbs) over an area of diameter 80mm (3.15in) through a distance of 100mm (3.94in). (<i>Clause 8.7</i>)
Bite	445N (100lbs), 10 secs (<i>1550.53(C)</i>)

Part 2 – Flammability (revised 1993)

Samples of all materials are taken to a chamber where they are attempted to be set alight and the rate of spread of flame is monitored.

If a Toy has a rate of spread of flame of over 30mm per second it has failed.

Material type	(EN 71 Part 2)
Solids	Burn rate 30mm/sec (<0.1in/sec), along major axis.
Paper	i) Thickness <16 points, burn rate < 7.6mm/sec (0.3in/sec) ii) Thickness >16 points 30mm/sec (0.1in/sec)

Part 3 – Toxicity (revised 1994)

All elements of the Toy are soaked in a chemical solution that releases the chemical composition of the materials and these are measured in parts per million.

HEAVY METAL REQUIREMENTS (*Soluble, unless stated*).

Element	EN 71 Part 3 Limits Parts Per Million
Arsenic (As)	25
Mercury (Hg)	60
Selenium (Se)	500
Antimony (Sb)	60
Lead (Pb)	90
Cadmium (Cd)	75
Barium (Ba)	1000
Chromium (Cr)	60

The above are the statutory tests that have to be conducted but Furrytails believe that these are no assurance of quality as its reliant on just one item so we employ a

comprehensive Quality Control system and independent Quality Inspection along with a batch code system during production which can isolate smaller parts of a production run.

Both of these are based on Boots plc toy testing requirements which are beyond EN71 and are recognised as one of the strictest companies with regards to Toy Testing and compliance to their standards would normally mean compliance to most retailers' requirements and we are happy to incorporate any specialist tests that any particular retailer may have.

Furrytails as a manufacturer to Boots are wholly compliant with their Quality Control procedures and we implement them for every order no matter who the client is and the volume concerned.

We also use TECS International who is a specialist testing laboratory to conduct pre shipment inspections –they are recommended by Boots.

Online Quality Control Procedures

As all Toys are essentially handmade its imperative that the factory has the correct amount of supervisors, serviced machinery that's correctly calibrated and that the factory has an established quality control system.

Our factory is ISO 9002 accredited as shown below and many Soft Toy Factories are not able to attain this standard.



- All materials are tested to EN71 prior to main start of production

- All fabrics and components compared to approved samples

- All Eyes produced are from NEW moulds (if you use old mould there is a danger that the stem of the eye (which is ridged) may not grip the washer
- Washers used are Polypropylene - if you use the 'Hard' Nylon washers then there is a risk of the washer cracking under the stress of insertion.
- The plastics used for the Eyes (Polythene) and Nose (ABS) are known to be very durable
- We melt the back of the stems of the eyes and nose for extra security
- We do not use the cheap inferior fabrics that can cause production issues
- We do not use the cheap two piece eyes (the pupil is separate from the iris and this can weaken the eyes)
- We conduct random on line drop tests - a hot wire is melted into the eye/nose and a 90newton (10kg) weight is attached and this is left - most other factories operate the policy that if you cant grip the eye with grippers that its safe - some don't test at all - that is nonsense so we use the hot wire test.
- We use pneumatic locking machines that insert the washer onto the eye with precision and the ball of the eye is held still in a special 'cup'
- We then check the eye as each stem is melted to ensure the washer is secure.
- Tolerance samples approved by the client are positioned around various departments at the factory.
- Approved samples are positioned around the factory as the items are manufactured inside out and it's important that the workers understand how the item is supposed look and each department has detailed sketches of areas that need to be looked after.

- Experienced Line Supervisors are responsible for the following amongst other duties:
 - Checking Quality of Work based on AQL Levels (see below)
 - Checking Raw Materials
 - Ensuring Pattern pieces are cut correctly
 - Check Cutting moulds
 - Ensuring workstations are clean
 - Ensuring that there is a continual supply of raw materials and components between departments to ensure continuity
 - Assisting workers with any areas they need assistance with
 - Liaising with factory designers to ensure products are being created correctly with regards to finishing and the final 'look'.
 - Ensuring that any machinery defects are reported to the factory maintenance crew immediately
 - Ensuring that any metal particles found are recorded in the metal particles book
 - Conducting Needle procedures – ensuring that all needles handed out are returned at the end of a shift 100% intact – If any needles are not complete or missing then the factory stops until all elements are found
 - Conduct Eye Pull and Drop tests to 90 Newton 's
 - Conduct Seam burst tests to 70 Newton 's
 - Six Metal Detectors are tested every hour by passing a plastic card with 2mm through the detectors.

INDEPENDENT FINAL INSPECTION

All shipments are inspected by TECS international a Taiwanese company who specialise in pre shipment inspections and are used by Boots.

When each shipment is 80% complete TECS conduct a final inspection on each shipment based on an internationally approved sampling created by SGS International procedure AQL-MIL-STD-105E equivalent to BS6001 sampling plan level 2.

This is a procedure that inspects all parts of the shipment - packed goods, goods on finishing line etc...and the products are inspected for minor, major and critical defects we work to AQL Levels Critical=0 Major =2.5 and Minor =4.0 .

TECS will pull random samples and amongst the tests that they do are as follows:

Drop test on eyes / nose for 90 Newton 's for 5mins

Pull Test on eyes / nose for 90 Newton 's for 10secs

Measure gap between stem and washer of 2mm

Metal detect random samples

Check that label markings are correct

The former is to test the durability and the latter to test the components to immediate stress- if any of the samples fail then the whole shipment is rejected as this would be a critical defect.

Tecs also perform a very specialist test for us which is stress cracking - every plastic component is test both 'fixed' i.e. washer on eye and also 'loose' components not under stress and they are immersed in a specialist solution which artificially ages the components by around 5 years to ensure the durability - if the components become brittle and break then they are defective and the whole batch has to be scrapped.

They also conduct fabric seam burst tests to 70 Newton's to ensure that the insides are not accessible and all bean items have an inner bag that replicates the outside skin to ensure that the beans are contained should the outer fabric be pierced in any way .

ADDITIONAL INFORMATION.

Furrytails continually assesses its Quality Control techniques and as we are fully aware of any potential consequences we have Product Liability insurance to the value of £5,000,000 in the aggregate .

Our factory has been independently audited on several occasions with regards to production quality and also employee ethics and welfare and on each occasion we have complied.

We are always happy to incorporate any specific client requirements with regards to Quality Control and we can incorporate any of these requirements into the design and production when created.

Ultimately the factory needs to be fully aware and accountable of its responsibilities to the client and as its our Joint Venture Factory everyone is aware of these requirement.

Furrytails Ltd

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