Caravan quality: a new beginning

As Bailey launches a new quality standard for caravan furniture manufacture, **Val Chapman** assesses its potential impact upon the caravans we buy

Oscillating pads are testing upholstery fabric for durability

WHAT happens when a can of baked beans falls from a caravan head locker onto a kitchen surface? Or when you slam a cupboard door 20,000 times. Or sit down hard on a caravan settee 25,000 times?

Furniture fatigue, impact and durability can now be measured – and caravans made better as a result. Sounds simplistic. But it's actually complex, and immensely important. And the impact on the caravan manufacturing industry – and for you when you're ready to buy – is potentially enormous.

Puzzled? Enter a new phrase in caravan parlance: did you know that you were staying in a "leisure accommodation vehicle?" And enter a new standard, the Certification Scheme for Leisure Accommodation Vehicles. Bailey's 2009 Ranger and Ranger GT60 are the first to be accredited with this tongue-twister of a standard and the Bailey Senator range will be next.

Which Caravan's visit to the FIRA laboratory in Stevenage gave us an introduction to the fascinating world of caravan furniture testing. Join us on our guided tour…

We're in the textiles laboratory now and a machine is attempting to stretch to breaking point a piece of Bailey Ranger seating fabric. It passes the test – as do all of the Bailey components tested here. But it wasn't always as simple as that. Several modifications were made to the Ranger models as a result of FIRA testing. Among them is the introduction of a simple plastic lip to prevent shower water from escaping down the door in combined shower-toilet compartments.

The Ranger seating fabric is also being subjected to an abrasion test – a series of oscillating weighted circles are passing over fabric to test durability. Failure equates to colour changes and more than three broken threads. But the colour and the threads both pass the test.

Sunfade is tested, too, by fabric being subjected to four days of ultra-violet light that simulates five years of life in which there would be normal exposure to sunlight.

Winter conditions, especially humidity, take their toll on caravan interiors, too. The hydroscopic properties of interior woodwork test is carried out by subjecting a caravan shower room door to humidity of up to 85 per cent to simulate extreme winter conditions. Any distortion of the door is measured and recorded.

Heat can cause delamination. Tests involve subjecting kitchen work-surfaces and doors to adhesion tests of up to 60°C for three days.

The delamination issue was the starting point for the whole idea of FIRA caravan standards. Bailey encountered delamination problems on kitchen work-surfaces and called in FIRA to advise on how to cure them. Bailey claims that the results virtually eliminated warranty work on kitchen surface delamination.

Locker doors were next on the list for the FIRA microscope, then soft furnishings. More warranty bills reduced. From a business stand-point, Bailey tells us that its fees to FIRA are covered, in the long term, by reduction in warranty costs. Good news because less goes wrong, as Bailey's Marketing Director, Simon Howard, explained to *Which Caravan*: "Before our involvement with FIRA, kitchen surface delamination resulted in 29 per cent of Bailey's warranty claims. Now it's nil." Win-win – and win. "It should be cost-negative for us. Plus we improve customer satisfaction, which you can't put a price on."

Durability testing on a caravan mattress

We've reached the "finishers' lab" now and kitchen worktops are being daubed with acetone and other unpleasant substances that test durability. While most of us try to avoid spilling nail varnish remover anywhere in a caravan and especially in the kitchen, the test does represent chemicals of similar destructive powers.

More pertinent to most of us is the heat test. A heated block is applied (think coffee percolator or oven dish) and the temperature measured. This is how a given surface is proved to be able to withstand heats to a given temperature. Lacquer coatings have a different ability to withstand heat; they're tested, too.

The "liquid attack test" involves fruit juice, tea and coffee. Is there a stain after the liquid has been left half an hour? If not, the surface passes the test.

The tests turn on the olfactory senses now. There's a room where mould is deliberately created to test its impact. The door is opened but I move on as fast as possible for the smell is horrid. Next: I smell cigarettes and someone tells me I am in the smoking room. Had FIRA turned back the working environment clock several years or did cigarettes have a bizarre place in this comprehensive laboratory? FIRA's Head of Commercial Services, Phil Reynolds, is quick to explain: "We purchase cigarettes from abroad that would be of too high a strength to be legally sold in the UK now, but these are the only ones that will do the work here." The "work" is a flamability test. A lighted cigarette is placed (in a chamber, I hasten to add) against upholstery to determine whether it would set upholstery alight.

More smoke – and some fire, this time, in more chambers. This time it's a flame against a unit of upholstery that represents a mattress. It must cease flaming in two minutes to pass the test.

Mattresses get another form of test, too, in a different section of the laboratory. A weighted roller is being passed over a fixed-bed mattress 30,000 times. It represents 40 years' use…

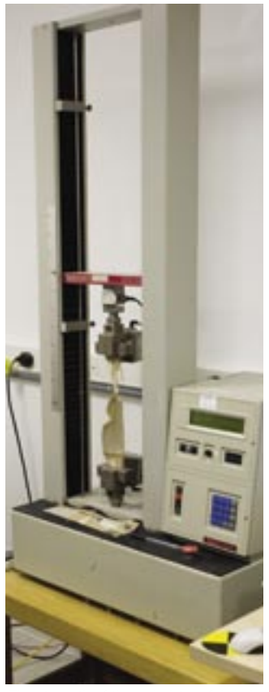
In the same upholstery durability test area some Bailey Ranger settee units are under a device designed to represent a heavy human sitting down many thousands of times.

Drawer and cupboard catches get the multiple-use test by machine, too. And wall cupboards are loaded with many times the weight they are designed to take – just to make sure they are not going to fall off the wall of the caravan.

And those baked bean cans? FIRA doesn't actually use a baked bean can to test whether a work-surface would damage if one fell from an overhead locker. A ball-bearing does the work instead of the beans can. By establishing with FIRA the Certification Scheme for Leisure Accommodation Vehicles, which will be rolled out to all its ranges, Bailey has clearly not only scored a UK-first but has initiated a sea-change in the industry." ■

Upholstery foam is flame-tested to ensure it will not catch fire

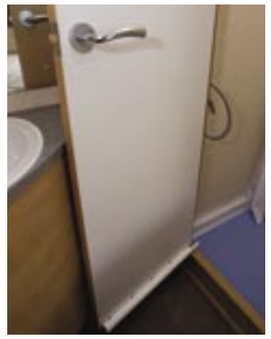
Even the glue that sticks the veneer onto the wood is humidity and temperature tested



The strength of the upholstery fabric is tested to breaking point

Wall cabinets are loaded to the limit to see if they will bow, then the weight is doubled, just to make sure

The match test checks that the fabric is fire resistant



FIRA recommended a modification to the shower door, to prevent the possible escape of shower water

What is FIRA?

THE Furniture Industry Research Association was founded in 1949 with a brief to improve competitiveness in the UK furniture market. It's an independent organisation, with a testing laboratory in Stevenage and its commitment is to add value to businesses by improving furniture construction standards.

Testing is carried out on a sample of furniture items representative of the Ranger series – and also on three Ranger models currently residing at FIRA in Stevenage.

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Caravan quality standard

Since initial work with Bailey, FIRA has launched itself into the caravan manufacture industry with a series of talks with other manufacturers in a quest to widen its influence on caravan furniture standards.

Terry Woods, FIRA's Business Development Manager, told *Which Caravan*: "We've met with all the major British caravan manufacturers now and have received a very good response from them all. We're just waiting for decisions now."

What does it take to pass the test?

- Bed edge durability will take half a day, requires 5000 cycles and a specific load of 1000N for one minute
- Static bed load test: 10 applications on any area on the bed slats
- Impact on beds: 10 impacts
- Hinge lifter mechanism on double beds: 10,000 cycles
- Seating fatigue: 25,000 cycles of impact
- Mattress roller: 30,000 cycles
- Drawer fatigue: 20,000 cycles
- Door fatigue: 20,000 cycles