



Rated Load program for fixed height chair certification now fully operational

By Ian Burton, Furntech-AFRDI Technical Manager

AFRDI Standard 151, Rated Load testing for Fixed Height Chairs meets industry requests for testing fixed height chairs, for use in both public spaces (where every chair must be able to cope with its anticipated population of users - including occasional use by very heavy individuals) and bariatric facilities (where every chair must be able to cope with intensive use by a population of very heavy individuals).

Testing under AFRDI 151 is offered for people up to 135, 160 and 185 kg, with a bariatric option at 300 kg.

AFRDI 151 contrasts with the AFRDI Rated Load standard for height adjustable office chairs (AFRDI 142), where frequently a chair is used by only one individual, meaning that a chair can be tailored to the user's weight, and the anticipated duty cycle. AFRDI 151 is designed for populations of users – either a normal population of users in the case of the 135, 160 or 185 kg levels or a bariatric population of users in the case of the 300 kg bariatric option.

To cope with the rigours of higher than usual testing forces, AFRDI has designed and built in-house a new testing machine.

Charges for testing under AFRDI 151 are slightly more than those charged for AS/NZS 4688, reflecting increased testing time and complexity.

What chair loadings do we recommend?

It's a question we often receive in correspondence, and by way of phone enquiries, and until now, we have not been in a position to offer a full range of options.

Before AFRDI 142 (the Rated Load standard for height adjustable office chairs) came on the scene, we tested height adjustable chairs almost exclusively to AS/NZS 4438, where **continuous use by a person with a body mass of up to 110kg was (and still is) considered appropriate, if not explicitly stated in the standard. Continued on Page 2.**

What chair loadings do we recommend? continued

And similarly for AFRDI 151 (the Rated Load standard for fixed height chairs) where we have up until now tested almost exclusively to AS/NZS 4688 which carries a suggested limit of "...for no more than occasional use by people over 100kg".

Both AS/NZS 4438 and 4688 standards are based on anthropometric data at least three decades old and even casual observation suggests that while human height has not changed much over that period, human **weight** has increased, and quite considerably.

People whose weight once placed them towards the upper limit of society now are approaching the mainstream. The good news is that because both standards have been around for a long time, many manufacturers have designed a range of chair components able to give acceptable longevity when used by people up to about 110kg.

However, in our opinion many chairs which have previously qualified as Level 4, 5 or even Level 6 chairs under 4438 or 4688 will not offer acceptable longevity – or may indeed fail outright – if tested at any of the (4) Rated Load user levels as described in the Rated Load Standards.

The research and testing used in the development of our rated load standards has also strengthened our belief that many advertising claims about what, to us, are extreme load capabilities claimed for certain chairs, are unlikely to stack up when the talk ends and the test begins.

See page 8 for our recommendations for both height adjustable swivel chairs and fixed height chairs testing i.e. what standard we think is best for what application.

Manufacturing is coming back home, at least in some major overseas markets

It's a process that's being referred to as onshoring, reshoring and even backshoring. The Americans are calling it the Rust Belt Revival. Whatever it is that's in a name, the process is driven by a simple premise: bring manufacturing closer to the end market place to reduce transport costs, the problems of having to rely on working at arm's length with foreign manufacturers, of having to buy in what passes for commercial quantities in another marketplace.

It may be simplistic to think that what works for the United States or for the United Kingdom will necessarily have application in the Australian context, but then again...who knows?

One example recently concerns computer giant Lenovo, who took over the IBM brand. Jay Parker, Lenovo's president for North America, said his division needed the flexibility to assemble units for speedy delivery across the country. He went on to say that while it remains cheaper to build things in China, the famously low Chinese wages have been rising steadily, eroding the cost advantage that once applied. In Lenovo's case, they are finding that they can offset the still lower than US pay rates with cheaper logistics within North America.

Jay Parker says people have a right to be sceptical at this stage, but factors such as increased worker productivity are also adding to the balance in favour of indigenous manufacturing plus, in the case of North America, many former plants which were moth-balled years ago, and the real estate, if not the current technology, are still available and ready to be re-commissioned.

In Britain, hopes for a revival in local manufacturing are being pinned on mid-sized firms – this category because of its supposed agility, ability to be close to customers, and yet still having enough size and availability of funds to undergo fundamental changes in the way they work.

An increasing focus on sustainability, reducing emissions and the need for accountability if you are buying from countries which don't pay much attention to these factors, coupled with the development of new technologies such as 3D printing, are showing the way towards a capability of manufacturing items in relatively small production runs that make offshore production seem like a costly exercise. **Read more on Page 4 – Getting The Best from R&D.**

ISSUES OF INTEREST

The Australian Cot Standard (AS/NZS 2172:2013) has been updated, effective immediately.

The mandatory requirements of the Consumer Protection Notice (CPN No. 6 of 2005) have **not** been changed i.e. the minimum requirements applicable to a cot for it to be legally sold in Australia have not been affected by the release of AS/NZS 2172:2013.

Accordingly, there is no legal necessity for you to take any immediate action, unless you are supplying under a contract specifying compliance to the **current** Australian Standard. In this case you will need to update your certification to compliance to the new standard as soon as possible.

For other clients, the new Standard will be applied as a running change – that is, no immediate action is required, but when renewal comes, you will have to have your item re-tested to the 2013 standard. If your renewal date is some time off, you may wish to consider re-testing earlier, to maintain your compliance with market expectations.

The effects of the new Standard will be as follows:

- All **new** testing to AS/NZS 2172 will be done to AS/NZS 2172:2013

- All **renewals** of products currently certified to AS/NZS 2172:2010 will be assessed against AS/NZS 2172:2013.

If your existing certificate covers the CPN only... You don't need to do anything

If your existing certificate covers both the CPN and earlier versions of AS/NZS 2172 you don't need to do anything **unless** you are supplying under a contract that requires compliance to the current Australian Standard. Contact us for a quotation.

If you choose not to update your certification now, you will still need to consider what to do when your product is due for certification renewal. If, at renewal, you wish to maintain your certification to AS/NZS 2172, your cot will need to be re-assessed to the requirements of the latest release of the standard (2013). We'll outline further details in the documents we send to you at renewal time.

If you're a new customer or have a new cot ready for assessment

If you want to test to the requirements of the CPN - **no change**. If you want to test to the requirements of AS/NZS 2172 then **testing will now be done to the latest release** of the standard (2013).

If you want to upgrade to AS/NZS 2172:2013 now

If you do want to upgrade your certification to meet the requirements of AS/NZS 2172:2013 but are unaware of how the standard has changed or how these changes may affect the compliance of your cot, we recommend purchasing a copy of the standard (available online [here](#) via the Furntech-AFRDI Website).

LASRA, the Leather and Shoe Research Association, based in New Zealand, has published encouraging results of initial research into the use of biochar as a means for solid waste disposal.

Biochar is the product of pyrolysis (*the thermochemical decomposition of organic material at elevated temperatures*) of biomass created in the absence of oxygen. The anaerobic process causes carbonisation of waste products and encapsulates non-volatile elements within the carbonised structure of the product, rather than producing an ash with leachable materials.

As well as producing biochar, pyrolysis produces a gas fraction that can be used to fuel the heating process, typically involving temperatures of around 600 deg. C.

There's interest in the biochar process because waste disposal from leather processing – trimmings from hides plus the chemicals used in tanning - has long been a headache for the leather industry.

AFRDI readies for new tests

Readers would probably know that a new Standard exists for the testing of domestic cots, AS/NZS 2172:2013.

What is less well known is that there is another new Standard, **AS/NZS 8811.1**, which is referenced in 2172, and relates to mattresses for cots – testing them for firmness.

AFRDI is well aware of the implications regarding infant safety relating to mattress firmness, and the ability of a mattress to both keep an infant comfortably supported, but also to prevent entrapment between a mattress and the sides and ends of a cot should the two not fit together adequately.

We are set up to test to these new standards, and can give advice on mattress and cot issues.

Please contact us if you wish to conduct testing.

Emphasizing the D in R&D in times of economic constraint

In recent issues, we've talked about AFRDI's research and development capabilities, but to take a leaf out of other countries' experience in the current economic climate, we may have been missing an opportunity – and that's to talk more about the development side of R and D.

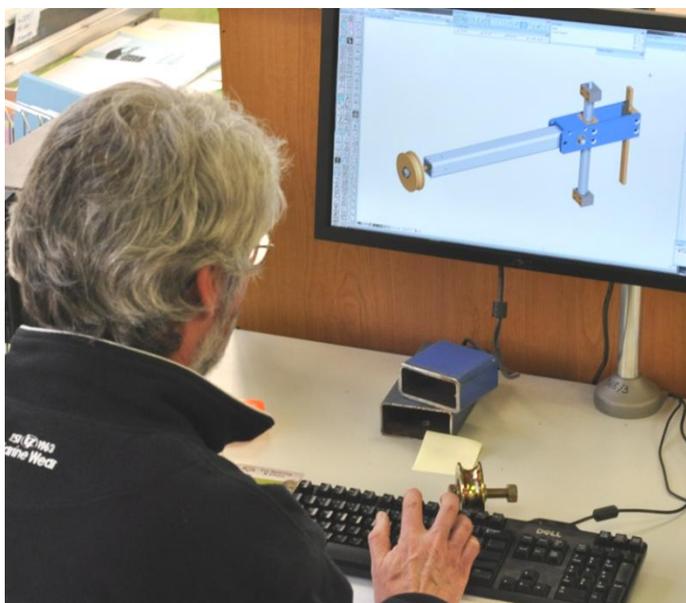
Scanning overseas publications, and in particular North America, it seems the trend is not so much to innovate – with its associated high risk and uncertain outcomes – but to develop what's already in place, bearing in mind that full economic recovery may still take some years to come about: blue sky thinking, however desirable it may be theoretically, is not necessarily the way to risk precious capital at the moment.

It's certainly AFRDI's experience that changing just a couple of fasteners can make the difference between pass and fail for a chair or table under test. Empirically, we can say the fastener broke, or pulled out: we can't, without a lot of additional work, necessarily say how the item might be re-designed to make it work properly every time. We see that as development work, something we would not normally undertake.

But if our clients should ask us to do that development work on their behalf, that may be an entirely different matter, depending ultimately on how the Taxation Office judges applications which are more focused on development than the research which normally partners the process. The essential test is whether the testing/research involves a high degree of commercial risk, because of uncertain outcomes.

Another example of the way that AFRDI can help by way of the development side of R&D is in chair mechanisms, where actual testing of prototypes coupled with our long experience can help improve design. Testing experience would also indicate that there may be room for development work on height adjustable tables, where mechanisms sometimes are not up to the task, and the method of attaching legs and other fixtures sometimes is not well thought through, indicating a need for further product development.

It is a requirement for companies to prepare R&D plans for all R&D activities for them to be eligible for the R&D Tax Concession. A deduction is not allowable for activities that are not included in an R&D plan authorised by the company, in accordance with the Guidelines issued by Innovation Australia (the Board). Companies do not need to submit their R&D plans to the Board. However, they must keep them as part of their records and make them available upon request by AusIndustry.



Industrial designer Guy Manley works closely with AFRDI's technical manager Ian Burton and other technical staff in the design and manufacture of specialised testing machines.

As a Registered Research Agency (RRA) Furntech-AFRDI can undertake R&D work for you on various furniture products and components. Contact us at info@furntech.org.au or (03) 6326 6155

Illegal logging prohibition regulations registered

Registration of the Illegal Logging Prohibition Regulation Amendment 2013 is complete however, there is a long lead time before their commencement in November 2014.

“Illegal logging is a serious global problem, causing forest degradation, loss of habitat and biodiversity and contributes to climate change,” said Minister for Agriculture, Fisheries and Forestry, Senator Joe Ludwig.

“It is already an offence to import or process illegally logged timber or timber products. These regulations prescribe the due diligence steps that importers and processors can take to inform themselves of the legality of the product they are importing. The regulations also specify the products for which the due diligence requirements apply, which include furniture, pulp and paper.”

Over the last 12 months, the Department of Agriculture, Fisheries and Forestry has conducted extensive consultation with importers, processors, trading partners and civil society about the due diligence requirements. The department will continue those consultation activities to ensure that all in the timber supply chain have the opportunity to become informed of the new requirements until the commencement date of the regulations.

The regulation also lists timber legality frameworks that have been recognised for their ability to demonstrate a product has been legally logged.

Source: Timberbiz.

UK to be a driver of future manufacturing profit growth

The UK has been ranked in the top three world nations in terms of global manufacturing future profit growth.

KPMG’s fourth annual Global Manufacturing Outlook saw the country emerge ahead of established economies such as Japan and Germany, while businesses are also looking to the nation for key skills and resources.

As part of the study, 335 executives were interviewed globally and asked about their views on the global manufacturing sector. In terms of where they expect their profits to come from over the next two years, the UK ranked third (14 per cent), behind the US (40 per cent) and China (27 per cent).

Some 16 per cent of respondents expect to source more in the UK than any other nation, putting it ahead of everywhere except China and the US. Research and development appears to be the primary focus, with 92 per cent who expect to increasingly source from the UK doing so for this reason.

Source: BSI Web News

EPA Proposes Rules to Protect Americans from Exposure to Formaldehyde

It has been a long time coming in the US but there is finally two national formaldehyde rules being proposed that is modeled after the CARB Formaldehyde Rule to assure a uniform approach to the issue.

BIFMA worked for passage of legislation in 2008 along with allies in the supply chain (Composite Panel Association) and the Sierra Club to make the "CARB Rule" nationwide rather than approaching formaldehyde on a state by state basis.

The U.S. Environmental Protection Agency's (EPA) first proposal sets limits on how much formaldehyde may be released from hardwood plywood, medium-density fiberboard, particleboard and finished goods containing these products that are sold, supplied, offered for sale, manufactured, or imported in the United States

The second proposal establishes a third-party certification framework designed to ensure that manufacturers of composite wood products meet the TSCA formaldehyde emission standards by having their composite wood products certified through an accredited third-party certifier.

Pre-publication versions of both rules are available [here](#) at the TSCA Title VI Website.

ACCC contribution on Australian Consumer Law penalties



By ACCC Deputy Chairman Dr Michael Schaper

Misleading consumers can land you in hot water. The Australian Consumer Law (ACL) provides the Australian Competition and Consumer Commission with a range of remedies and tools to deal with the false or misleading representations.

Whether it is claims about an industry standard or the type of fabric used, under the ACL it is illegal for a business to make statements which are incorrect or likely to create a false impression. The law applies to all forms of advertising and promotions as well as statements from sales staff.

In deciding what matters to investigate and what action to take the ACCC considers a range of factors set out in our *Compliance and Enforcement Policy*. Among other things the ACCC focuses on conduct which harms the competitive process or results in widespread consumer detriment.

The ACL carries serious penalties which can be ordered by the Federal Court. For unfair practices such as false or misleading representations, the maximum penalty is \$1.1 million for corporations and \$220,000 for individuals.

Since April 2010, when these penalty provisions were introduced, penalties totalling more than \$1 million have been imposed for contraventions of the consumer protection provisions of the ACL on seven separate occasions. For example, the Federal Court imposed penalties by consent totalling \$1 million against Cotton On Kids Pty Ltd in relation to its supply of unsafe children's nightdresses and pyjamas. The nightwear supplied between September and December 2010, did not comply with the mandatory product safety standard for children's nightwear and had attached a misleading 'low fire danger' label.

These types of penalties not only demonstrate that the rights of consumers are being protected, but they also have an important deterrent effect on corporate behaviour. The outcomes also level the playing field by ensuring that businesses compete on their merits.

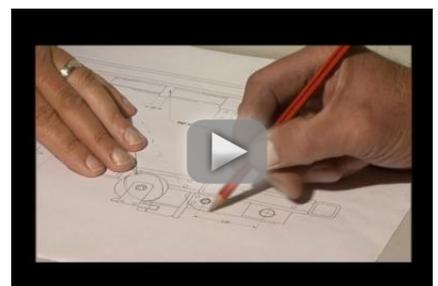
At the other end of the spectrum, the ACL allows ACCC to issue infringement notices, set at \$10,200 for corporations and \$102,000 for publicly listed companies, for certain consumer protection matters including false or misleading representations.

Retailers and small business owners seeking more information about the ACL and dealing with consumers can now access the ACCC's free competition and consumer law education program at www.ccaeducationprograms.org

AFRDI VIDEO



Visit the *FurntechAFRDI* YouTube channel or [here](#) on our own Website to view 2 new videos, which feature the performance of chair and other testing



STANDARDS UPDATE

Recognition for CS-003 Committee (Safety Requirements for Children's Furniture)

Each year, Standards Australia recognises a select group of committee members and one committee for their meritorious contribution to standardisation in their field.

Committee CS-003 was selected to receive the 2013 Standards Australia Committee Award for Outstanding Service to standardisation.

Technical Manager, Ian Burton is a member of CS-003.

In the last year the committee has revised and published AS/NZS 2172:2013 Cots for household use and developed (the first in the world) standard AS/NZS 8811.1 to test cot mattresses for firmness, the aim being to minimise cot deaths due to suffocation.

Review and update of AS/NZS 3813 (plastic monobloc chairs)

Standards Australia committee CS-088 last met on the 25 of March.

Committee Draft 7 of the standard was fully reviewed and a number of minor changes made.

The new ignitability section was accepted.

The new UV and weathering section was discussed at length and further research is being undertaken. The plan is to use proxies (crazing, chalking, cracking or blistering) in place of mechanical testing (bending or tensile testing) to determine failure after the polymer samples have been through the weathering process.

Main remaining work items are:

- write the Preface and Foreword;
- write the marking and labelling section; and
- develop and write the new test methods for the legs sideways and legs forwards tests.

With respect to the latter we are now retesting samples with the aim of finalising the vertical and horizontal forces.

A draft for public comment should be available later in 2013.

Review of AS/NZS 4442 Office desks and AS/NZS 4443 Office panel systems - Workstations

Standards Australia have accepted a proposal coordinated by AFRDI to review the above standards.

The first meeting will be held when Standards Australia have confirmed the Working Group (WG) membership.

We are pleased that a number of our members have indicated their willingness to participate in the WG.

Review of AS/NZS 4386 (Domestic kitchen assemblies)

This review was approved by Standards Australia in 2011. An Industry meeting was held in February 2012, however the committee (of which we are a member) is yet to meet.



RATED LOAD



RECOMMENDED CHAIR LOADINGS

Height adjustable swivel chairs

Standard	Uses	Duty
AS/NZS 4438 levels 4 - 6	Recommended* for individuals up to 110 kg	L4 – normal commercial L5 – heavy commercial L6 – severe commercial
AFRDI 142 135 SS	Rated** for individuals up to 135 kg	8/5 (normal – heavy)
AFRDI 142 135 MS	Rated** for individuals up to 135 kg	24/7 (heavy – severe)
AFRDI 142 160 SS	Rated** for individuals up to 160 kg	8/5 (normal – heavy)
AFRDI 142 160 MS	Rated** for individuals up to 160 kg	24/7 (heavy – severe)

Fixed height chairs

Standard	Uses	Duty
AS/NZS 4688 levels 4 - 6	Not for more than occasional use by people over 100 kg	L4 – general commercial L5 – heavy commercial L6 – severe commercial
AFRDI 151 option 135	Rated ** for a normal population of people up to 135 kg	L6 +
AFRDI 151 option 160	Rated** for a normal population of people up to 160 kg	L6 +
AFRDI 151 option 185	Rated ** for a normal population of people up to 185 kg	L6 +
AFRDI 151 option 300	Rated** for Bariatric use (for people up to 300 kg)	N/A

* = inferred, although not explicitly stated in the standard, as fact

** = the standard is specifically designed for users up to that mass limit