NEWSLETTER JULY 2002

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AWTA TEXTILE TESTING NEWSLETTER – JULY 2002

BREAKING STRENGTH & EXTENSION

There have been some updates to the Australian Standard for Tensile Strength of Textile Materials – both Strip and Grab Methods, to bring them into line with ISO Test Methods. The major change from AS 2001.2.3-1988 is the separation of the Strip and Grab methods into separate standards. The strip method is now AS 2001.2.3.1-2001 (AWTA Test Code T11A) and the grab method is AS 2001.2.3.2-2001 (AWTA Test Code T11B).

The strip method now offers a range of gauge lengths and rates of extension, which are likely to impact on results. This may vary from one fabric construction to another and it is important to note that fabrics with a high extension (greater than 75%) now use a gauge length of 100mm. The majority of fabrics will, however, be tested under similar conditions to those specified in AS 2001.2.3-1988, i.e. with a gauge length of 200mm at a rate of extension of 100mm/min.

The pre-tension applied to the specimen has also changed as it is now based on the fabric mass instead of a percentage of the nominal breaking force. This is unlikely to significantly affect the test result.

The grab method also varies in relation to the selection of gauge length and rate of extension, and Appendix ZZ lists the variations for Australian Conditions. AWTA Textile Testing is now applying these conditions, unless our clients request otherwise. The standard test conditions are now; gauge length: 75mm and rate of extension: 300 mm/min.

If you have any questions in relation to the new tensile testing methods, contact one of our Technologists on 03 9371 2126.

MARTINDALE ABRASION - AS 2687-1997 UPHOLSTERY FABRICS FOR DOMESTIC AND COMMERCIAL USE

This standard provides a choice of either the Wyzenbeck Test (AS2001.2.30-1994) or the Martindale Test (AS 2001.2.25-1990) to determine the abrasion resistance of non-pile woven fabrics. When the Martindale Test is selected, the testing laboratory is required to determine the *mechanical end point* (two broken threads on the test piece). A result of greater than 30,000 cycles is deemed to meet Classification 5 Commercial Heavy Duty.

It is important to note that during the course of testing, if an unacceptable change in appearance occurs, the number of cycles is recorded at this point and a new set of test specimens are placed on the machine to run to *mechanical end point* or 30,000 cycles. The laboratory is required to also report any colour change that may occur during the test. Where applicable all three end points (mechanical, colour and appearance) are reported on our Test Reports.

AWTA Textile Testing recommends that our customers take into account an unacceptable change in appearance result, as this may be the cause for complaint, leading to dissatisfied consumers. Examples of unacceptable change in appearance are; loss of chenille fibre, loss of slub effects, or 'polished' effects on suede fabrics.

TESTING UPHOLSTERED FURNITURE AND BEDDING

Upholstered furniture and bedding present their own problems in testing. Mattresses are usually straightforward, as a mattress is sold as a complete entity and it is unusual to want to test mattress ticking separately.

Upholstery fabric is more complex, as fabric suppliers want to test their fabric as they sell it. AS 3744.1 and AS 3744.2 for cigarette and match ignition require testing of a fabric and foam combination as a mock-up seat. While this obviously simulates the situation in use, it poses some

problems to fabric suppliers and to AWTA. It is essential that foam or other filling is supplied with the fabric, and the results apply only to that fabric and filling combination.

Alternatively you can test to AS/NZS 4088.1 for the smouldering cigarette test. This method specifies a type of foam over which a fabric can be tested. This foam is borderline pass foam and so only low flammability fabrics will pass this test.

In Australia we do not have an equivalent to the British Standards BS 7176:1995 and BS 7177:1996 which specify the requirements for different end-uses of upholstered furniture and bedding respectively. These methods grade the end use by hazard, using low, medium, high and extra high hazard grading and specify increasingly severe heat sources as the hazard increases. This would be a very useful addition to the range of standards in Australia.

A version of AS 3744 dealing with more severe sources of heat, similar to Crib 5 and 7 in BS 5852 would also be useful. AWTA Textile Testing regularly tests to BS 5852 cribs 4 to 7, but we have to modify the test, as the wood specified in the standard is not available in Australia. An Australian equivalent, using wood readily sourced here, would be useful to the industry, especially those supplying upholstered furniture and bedding to commercial and healthcare markets.

If you wish to discuss this further please contact Dr Reg Hamilton on (03) 9371 2122.

TESTING COATED FABRICS

Standards Australia has released a series of standards for testing coated fabrics, replacing the AS 1441 series, withdrawn in 1997. These standards have been designated AS 4878 Methods of test for coated fabrics, released in 2001, and range from Part 2 to Part 11.

All parts have been based on ISO standards, so they can be more easily related to tests performed overseas.

All tests in the series can be performed at AWTA Textile Testing, except for AS 4878.2-2001, which requires the measurement of complete rolls of coated fabrics. For AS 4878.9-2001 Determination of resistance to damage by flexing, only method B can be tested at AWTA Textile Testing. This is the test popularly known as ‘flex cracking’.

Flammability testing is now seen as relating to the application rather than the component products, so there is no coated fabric flammability standard to replace AS 1441.13. An appropriate flammability test should be chosen based on the end-use of the product.

While AWTA Textile Testing can still test to AS 1441, it has been withdrawn. Unless there is a special reason, such as the requirements of a particular specification, AS 4878 is preferred.

TESTING FOR THE AUTOMOTIVE INDUSTRY

AWTA has tested for the automotive industry for many years but recent moves have paved the way for the company to become one of the biggest suppliers in this field and probably the most complete testing one stop shop in the country.

In a major move for the company we have purchased a 14 m^3 Environmental Chamber that will take any auto component including a complete headliner and jig for the largest station wagon. This chamber, which will arrive in October, is digitally controlled to run cyclically or to set conditions and will be supplied with an accessory infrared lamp array.

The move to testing full size large components is the most significant step toward achieving our goal of supplying a testing service for every component inside the car, a service that we believe to be unique in Australia.

On our way to optimising this service in the past 12 months we have installed a Windscreen Fogging tester, upholstery Seam Durability Tester, a Scratch Tester and a second Xenon Arc Weatherometer (with a third on order).

It is our ongoing intention to obtain equipment where feasible to perform the remainder of tests for inside the car with particular attention to tests that currently must be sent overseas.

While testing for the auto industry might be thought of as an engineering discipline it is in fact our expertise and equipment in Textile Testing that has put us in our current market situation. We regularly use at least 14 different pieces of textile testing equipment to achieve the services now provided to the suppliers of paint, plastics, boards, rubber, metals, glass and adhesives.

It will be this strength and background in textile testing when combined with the newer non-textile testing procedures that will allow the company to be the major testing one stop shop envisaged

FABRICS FOR OUTDOORS USE

At AWTA Textile Testing we have a steady stream of requests to test fabrics for use outdoors, as awnings, textile structures and in other applications. Unfortunately there is no recognised Australian Standard for these fabrics. There are also no international standards that we can easily use.

The question of colourfastness to light and resistance to degradation under exposure to sunlight are particularly important. However, these cause the greatest problems as there is no accepted correlation between accelerated exposure to light and expected life in the field and no recognised method of testing for outdoor products.

The shade-cloth industry has been active by including a UV degradation test in their standards. AS 4174-1994/AMDT 1-1996 allows us to test some of the key requirements for shade-cloth, including a measure of degradation due to sunlight. The Geotextiles industry is currently considering the use of the Xenon Arc Weatherometer to provide UV stability data for geofabrics.

It would be of benefit to the whole industry if an industry group were to get together and develop an appropriate standard for the evaluation and specification of outdoor fabrics. As well as allowing test houses to test fabrics to a recognised standard, it would facilitate marketing of outdoor fabrics.

The Xenon Arc allows testing to a light source that closely simulates the spectrum of daylight. The Atlas Weatherometer allows testing to take place in a variety of humidity and temperature conditions to simulate natural exposures, using a Xenon Arc.

There are two Atlas Weatherometers in use at AWTA Textile Testing and a third machine has been ordered. All that remains is for the industry to get together and agree on a standard to enable us to help you market your products.

If you wish to discuss this further please contact Dr Reg Hamilton on (03) 9371 2122.

OWNERSHIP OF TEST REPORTS

Under clause 13 of our Terms for Textile Testing and Consulting Services, AWTA Ltd promises not to disclose confidential information, including your test results, to a third party without first obtaining your written consent. This is subject to certain exceptions, for example where the information is already in the public domain, or we are required to disclose it by law.

AWTA Ltd has decided that this rule needs to be modified where 2 parties are involved in having a test carried out. For example, one party may request the test, but ask for the test to be put in another party's name, or for another party to be invoiced. AWTA Ltd has adopted a new policy to assist our clients in such situations. Where 2 parties are involved, both copies of the test report will be provided to the party who requests the test or, at their request, one copy may be sent to each party. Both parties will be entitled to discuss the test results with AWTA Ltd (after of course supplying sufficient information for us to be satisfied of their identity). In addition, where a test report has been issued in the name of one party only, the other party will be entitled to obtain a reissued report in its own name, after paying the appropriate fee. We believe that this arrangement will generally meet the commercial expectations of both parties.

However, in these circumstances, some clients may wish to keep the results confidential from the other party. AWTA Ltd will respect this wish as long as the client makes it clear when requesting the test. Clients wishing to keep results confidential in this way should make sure that they are the party

actually making the test request. Parties who are only involved in paying for the test, or in supplying the sample, will not have the right to exclusive access to the test results unless they are also the party who requests the test under these circumstances.

NEW TECHNICAL SERVICES MANAGER FOR THE DIVISION

Dr Reg Hamilton joined the team at AWTA Textile Testing in October last year. Reg has for the past 4 years, ran his own consulting business providing product and market development services to the Textile industry. Immediately prior to that he spent 12 years with Norwellan Textiles where he was involved in product development for the automotive and upholstery textile areas. He has also worked for the Australian Wool Corporation in Melbourne and the International Wool Secretariat at Ilkley in England. Reg graduated from the University of NSW with a BSC with 1st Class Honours in Textile Technology and completed a PhD in Textile Physics at the same University.

Reg's appointment increases the textile knowledge base available to our clients to assist in the interpretation of text data and the development of programs to suit your specific needs. Reg can be contacted via email at reg.hamilton@awta.com.au and by phone on (03) 9371-2122.

PROPOSED CHANGES TO THE BUILDING CODE OF AUSTRALIA

The Australian Building Codes Board (ABCB) is currently examining proposals to make some significant changes to the regulation of the fire performance of internal lining materials in buildings. The proposals are to replace the current requirement for testing to AS/NZS 1530.3 with different requirements for floorcovering and wall and ceiling linings.

As reported in previous editions of this newsletter, it is proposed that floorcoverings will be regulated using the ISO 9239-1 test method measuring the Critical Radiant Flux.

Wall and ceiling linings are proposed to be regulated using the AS/NZS 3837:1998, the Cone Calorimeter test. This test measures the heat release rate from the product using oxygen depletion calorimetry and smoke using a light extinction method.

The Building Code of Australia (BCA) will be amended to provide performance criteria against the two methods listed above based on the likely risk of the class of building.

The ABCB are undertaking Regulatory Impact Statements for these proposed changes as this article is being written. The outcome of these assessments is currently unknown but will be available later in 2002. It is likely that the changes to the BCA will occur during 2003 if the RIS recommend that the changes should proceed.

TESTING OF TOYS

Standards Australia is currently in the process of updating a range of standards for the testing of toys. These updates will eventually have significant impact on the regulatory requirements for toy testing and the testing of flotation toys and devices.

At present the performance of toys are specified in AS 1647 Parts 1-4 while flotation toys are specified in AS 1900:1991.

Standards Australia is adopting the ISO test methods for toys and is progressively issuing the AS 8124 series of standards. These standards are identical to the ISO 8124 series but each has an appendix ZZ listing modifications to the standards for Australian conditions. At the time of writing AS 8124-1 has been issued while AS 8124-2 relating to flammability and AS 8124-3 relating to the migration of certain elements are in development.

AS1900 has been completely rewritten and issued as AS1900:2002. This new version of the standard now covers a wider range of flotation aids including adult flotation aids but no longer covers flotation toys. The new standard directs users to AS1647 for flotation toys. This redirection is now obviously incorrect with AS1647 being replaced by AS 8124 (see above) and so potential users are likely to be confused by the direction given. To further complicate the issue, AS 8124 does not have any specific requirements for flotation toys apart, perhaps, from labelling requirements. It is a pity that

better co-ordination between the various Standards committees could not have been achieved so that the specification of flotation toys could have been implemented in a logical manner.

In relation to the regulatory requirements for toys, advice from ACCC is that until the new standards are gazette by the Commonwealth and State Governments, the old standards (AS1647 series and AS1900: 1991) are still the legal requirements for regulatory purposes. A change is not anticipated for some time yet.

AWTA Textile Testing can test to the requirements of AS 1647.3 (Flammability), ISO 8124, AS 1900:1991 and most parts of AS 1900:2002 with the balance of AS 1900:2002 being added progressively.

Readers should make their own enquiries of the regulators about likely changes to the regulations. A good place to start is the ACCC website at www.accc.gov.au and follow the prompts to Product Safety.

NEW ADDRESS FOR AWTA Ltd OFFICES

In July 2002 AWTA Ltd opened a brand new laboratory complex at Bibra Lake in Western Australia to replace the ageing building in South Fremantle. The new laboratory is close to the major wool clients in Western Australia and provides an up-to-date, purpose-designed building which will serve the company well into the future.

Rob Hallion, the Client Service Controller in Western Australia, will continue to handle all Textile Division matters for the State from the new location. As at present, all testing for Textile Division clients will continue to be conducted in Melbourne.

Due to new Australia Post requirements mailing addresses for premises must now include a street number. Descriptions such as “Cnr” (corner) are no longer acceptable. This requirement means that the mailing addresses for our Sydney and Adelaide offices will change, although the Post Office Box addresses remain unchanged.

In the case of Sydney and Adelaide, the addresses have changed but the locations have not. You can still find our offices where they have always been.

The new address details for these offices are:

Fremantle Laboratory
AWTA Ltd
Lot 100 Sudlow Road
PO Box 1546
Bibra Lake WA 6163
Phone: (08) 9418 5333
Fax: (08) 9418 7838

Sydney Laboratory
AWTA Ltd
71-81 Byron Road
PO Box 190
Guildford NSW 2161
Phone: (02) 9681 1200
Fax: (02) 9632 4035

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CLIENT DETAILS

If this newsletter is addressed incorrectly, or you no longer wish to receive it, please complete the form below and return it to AWTA Textiles Testing, PO Box 240, North Melbourne, 3051 or fax to (03) 9371 2102.

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