

AustStab News

Industry View

Firstly, I would like to say that I am deeply honoured to be elected to the Presidency.

It was a significant milestone in the history of the association to turn 10 years old earlier this year. In this period many people have contributed a lot of hard work to build the foundation of the organisation. AustStab now has a significant array of technical information in the way of Specifications, Guidelines, Technical Notes, Construction Tips, etc.

Our challenge now is to make more decision makers aware of the cost, social and environmental advantages of stabilisation techniques. This needs to be done in conjunction with the continuing promotion and maintaining of good practice in both design and field operations. AustStab's solid position with regard to technical information can help to fulfil our aim.

Our major training initiative, the Supervisor's Training Course, which has been formulated over recent times, will also greatly assist our cause when it is completed.

Some of the more specific challenges faced by the industry are:

- We need to help people understand that road performance cannot be achieved unless the pavement is built using good design and field practices, and without cheap shortcuts.
- Patching roads using skidsteer stabilisers should be viewed as a short term fix until rehabilitation funding is allocated.
- Rural maintenance funding is declining as road funding is skewed to major and more expensive urban projects.

I would also like to take this opportunity to wish a merry and safe Christmas to all our members and clients in Australia.

Warren Smith
President

www.auststab.com.au

[ISSN 1325-8281]

Outcomes from AustStab AGM

At the recent AGM in Sydney, the Association elected Warren Smith (Stabilised Pavements of Australia) as President and Nigel Preston (Shell Australia) as Vice-President. Warren has worked in the industry for 30 years and was immediate past Vice-President. Nigel Preston will also be a great asset to the association with his work on various associations and his technical expertise in bituminous pavement design.



Warren Smith, new AustStab President

AustStab aims to spend its income on projects that benefit both the member companies and the long term viability of the industry. Although a small financial loss was incurred last year, the 2006 projection is for a neutral budget or even a small surplus with the addition of some more member companies and a strict selection of projects for the coming year. Some planned projects may also be delayed next year as AustStab continues to focus its resources on the need for improved training of supervisors involved in stabilisation works.

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A new application process for contracting members has been approved and this will now be used for both new applications and existing contracting members. AustStab also plans to use the guidelines for a prequalification system for contracting members, for both local and state roads. Any Councils or Shires wishing to use the guidelines for future tenders should contact our President.

A copy of the Presidents message can be downloaded from web site at www.auststab.com.au/pm2006.pdf

Phil Walter becomes honorary member

At the AustStab AGM in October, Phil Walter from the RTA, was presented with an honorary membership for his services to the road stabilisation industry. Phil graduated in the 1970s and joined the NSW Department of Main Roads as an Assistant Works Engineer. His experience earned him a position in the Materials and Research Section in 1974 where he continued his work for 20 years with a five year stint with RTA's asphalt section.



Warren Smith congratulates Phil Walters (left).

Phil's great word skills and work experience made him the perfect candidate for development of specifications and training. His experience in the application of insitu and plant mix stabilisation grew in the 1990s through his work on a number of ALF trials as well as the University of SA GIRD project.

A paper titled *Deep-lift recycling of granular pavements* which he co-wrote for the 17th ARRB Conference won him the Director's prize. This paper was just one of many excellent publications Phil was responsible for the last 30 years and his passion for the use of recycled materials has made him an expert in Australasia.

Failure or success?

A story told recently by a city engineer is worth repeating. He was confronted by a Councillor who asked him who was to blame for the 300 m of failed street. The city engineer confessed he was to blame and agreed that this section of the pavement was disappointing but said he also hoped to be congratulated for the other 23 km of successful stabilisation carried out in the municipality!

The story provides an important message about how we can be so easily focused on small percentages of errors and falsely conclude that the whole rehabilitation process has been a disaster. Even in the case of the conventional construction of new pavements with no traffic to consider, things can go wrong - workmanship errors, out-of-date specifications, poor delivery of materials and inclement weather can all lead to subsequent pavement distress and finger pointing!

Insitu stabilisation is an excellent rehabilitation treatment and its success relies on:

- Appropriate site investigation
- Identifying subgrade versus pavement distress
- Selecting an appropriate binder for the pavement materials and construction conditions
- Preparing and using a robust specification
- Selecting an experienced and competent contractor
- Supervising the works
- Identifying differences between expected conditions and insitu conditions
- Adherence to good design and field operation practices in general.

A poor decision on any one of these points may cause early pavement distress. A similar outcome is equally likely from new pavement construction if any of the key success criteria are compromised. Let's get to the root cause of early distress and not be lazy engineers. Best of all, keep the extent of good and poor pavements in perspective.

The New WIRTGEN WR2000 Recycler

With a working width of 2 m and a working depth of up to 500 mm, the new Wirtgen WR2000 is the smallest among the Wirtgen reclaimers. The WR2000 has been designed in such a way that it can be easily manoeuvred and transported.

Although the WR2000 recycler's design is low and compact, the operator has an optimum view - the cabin can be shifted far beyond the right edge of the machine at a touch of a button and the seat can swivel by 90°, therefore allowing the operator to observe the entire right side of the machine. Even with an

obstructed view on the mixing edge, the operator can steer the WR2000 swiftly and safely past any obstacles.



Wirtgen's new model, the WR2000

A further advantage of the WR2000 is that it can work flush to the edges of surfaces of, for example, kerbs or walls. This is possible due to the fact that the wheels on the zero side, travel inside the working width and not outside of the milled track.

The milling and mixing rotor is equipped with the patented quick change toolholder system HT3 Plus. Useful options such as the pneumatic cutting tool driver/extractor or the hydraulic drum turning device considerably facilitate and speed up the replacement of cutting tools. The upper parts of the toolholders and the tools are available with shaft diameters of 20 mm or 22 mm, making it possible to adapt the WR2000 to conditions on-site and to the pavement materials.

In addition, three steering modes make the WR2000 a highly manoeuvrable machine with a turning radius of less than 4.50 m. It can travel with front axle steering, with steering in the crab mode or with two steered axles in the coordinate mode.

The availability of this new recycler is great news and another advance is road stabilisation technology!

Austrroads projects update

Part One of the new pavement technology series was published in November. This document is available on the Austrroads web site and forms the basis of a new approach to information on the design and construction of pavements in Australia.

Austrroads has recently started a project titled Optimum Bases and aims to finalise a new national specification on the supply of granular materials for heavy duty roads. One of the benefits of the new specification will be the finalisation of the draft

Australian test method for repeated load triaxial test. This test method may be used for unbound materials, including those modified with a binder.

In some cases there is no real benefit in supplying materials better than the specified limits as the conservative design models and codes of practice restrict the use of 'strong' granular materials. So one may question the use of test methods to determine the resilient modulus and permeant deformation of pavement materials if you cannot take advantage of the extra strength. It is hope more practitioners raising their concerns to researchers will allow designers to extend the typical modulus values assigned to modified layers in a layered elastic analysis (LEA) or replace the LEA with new finite element design models.

Chemical binder application

The technology for the application of powder binders is well understood in Australia. But liquid binders need to balance binder application and extra moisture for compaction.

It is well known that mixing by a grader blade does not meet best practice principles and at worst, may lead to partial areas of stabilised materials and contribute to early pavement distress in other areas of the pavement. . This often leads many pavement engineers to erroneously conclude that the stabilisation process doesn't work. Of even more of concern, is when the liquid binder is applied directly onto the surface, and with a transverse crossfall and longitudinal grade, the binder flows out of the mixing zone! Some may argue that plant mix overcomes these deficiencies, however other problems may arise as a result of the homogeneity of the mix.

With the application of a liquid chemical binder, consideration needs to be given to the method of application and the dilution of the liquid. If the binder is applied during the mixing operations with a stabiliser/reclaimer, the application rate should not be governed by the insitu moisture content of the pavement material. The mixing operation requires two passes - the first pass allows the incorporation of the binder and the second pass allows water to be added according to any dry spots in the material. This approach should ensure that the contractor delivers the appropriate binder application rate in keeping with the laboratory test program outcomes.

Stabilisation workshops in QLD

AustStab will be running a series of workshops in Queensland in February 2006. These one-day workshops will focus on new improvements to road stabilisation and are currently planned for Cairns, Townsville, Cloncurry, Rockhampton and Caloundra. If you are one to learn what's new, don't miss out on the action! For more information refer to the web site at www.auststab.com.au/seminars/

Sealing tip warning

Austrroads/AAPA Pavement Work Tip No. 43 titled *Selection & design of primerseals* was released last year and it is aimed at sealing granular unbound materials. This Work Tip should be used with caution when dealing with modified and stabilised materials in the base layer, and this document should not be used without due reference to other Austrroads documents.

When applying primerseals to modified and stabilised base layers please note the following:

- Do not use primerseals when the grade of the road exceeds 4 to 5% for heavy trafficked routes
- Do not use 5 mm aggregate size.
- The rate of absorption will depend on the binder type and advice will sometimes have to be sought when using chemical binders.
- When applying seals to foamed bitumen materials, lower the design application rate by 10% for sprayed seals wearing surfaces and do not use both a primerseal and a tack coat for asphalt wearing surfaces to avoid excess bitumen bleeding.

Successful spray sealing of stabilised materials can be achieved when good construction processes are adopted. Primerseals provide water proofing of the

base layer and have a limited life. Where traffic levels are high reconsider other sealing options or alternatively use asphalt.

The Road & Pavement Engineering & Management Conference 2006

AustStab is supporting the Victorian Road & Pavement Engineering & Management Conference in March 2006. This roads conference will be incorporating both roads and pavements. The industrial and commercial stream is also most relevant to Councils with their involvement in the operation of public transport areas, car parks, pedestrian plazas & precincts, airfields, hardstands for works depots and waste & recycling stations etc. For more information about the conference, refer to <http://www.halledit.com.au/conferences/roads/index.htm>

AustStab supports CME2006

The Association is supporting the West Australian Construction and Mining Expo in Perth on 6 to 9 April 2006. A series of interesting seminars will be held at the expo and some of our members will also be demonstrating their products and equipment. For more information refer to www.cme2006.com.au

AustStab Member Details

The following companies are contracting or binder and equipment supplier members of AustStab. Contact details for these organisations by region, can be obtained by contacting Auststabs or visiting their website.

Contractors

Highway Stabilisers

Tel 03 9775 2202

Stabil-Lime Distributors

Tel 03 9737 0777

www.stabil-lime.com.au

Stabilised Pavements of Australia

Tel 02 4340 0111

Tel 07 3807 7600

www.stabilisedpavements.com

Works Infrastructure

Tel 02 9672 7199

Tel 03 5940 1688

Tel 08 9475 6041

www.works.com.au

Binder Suppliers

Adelaide Brighton Cement

Blue Circle Southern Cement

Coocoo Products

Huntsman Chemicals

Hyrock

Independent Cement & Lime

Pacific Lime

Polymix Industries

Shell Bitumen

Sunstate Cement

Unimin Australia

Equipment Supplier

Wirtgen Australia

State Road Authority members

Department of Infrastructure,
Energy and Resources (TAS)
Department of Infrastructure
Planning and Environment (NT)
Department of Main Roads (QLD)
Roads & Traffic Authority (NSW)
Dept. for Transport, Energy &
Infrastructure (SA)
VicRoads

The logo for AustStab, featuring the word "Aust" in a serif font and "Stab" in a bold sans-serif font, with "Stab" partially enclosed in a black square.

Those wishing to obtain further information about membership to AustStab, should contact:
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