

ASSOCIATION connections

australasian slag (iron & steel) association newsletter

www.asa-inc.org.au

editorial comment

A NEW LOGO AND UPDATED WEBSITE are signs of a much deeper change that has taken place at Australasian Slag Association. The Association has a clear focus on slag co products from the iron and steel making industry. The characteristics of these materials are well known and products developed from them have a long history of use in the construction industry.

With its red and orange colours representing iron, steel and slag production and the blue and green representing the earth and recycling the new logo is a powerful symbol. It underlines the significant economic benefit from the appropriate use of this valuable resource around 2 million of which is produced annually at Port Kembla. Other sources are available from iron and steel production centres in Whyalla, Melbourne, Western Sydney, Newcastle and New Zealand.

Education is central to the Association's work

and the website is an important contributor to the task. Around 1500 references in the on line library database attract visitors to the site from around the world. This remains an important part of the updated website. New features include enhanced functionality, updated content.

Success of the Association depends on the contributions made by individuals as they represent the member companies. Dr Ihor Hinczak has been recognised for his contribution to the Association and the slag industry becoming the seventh Honorary Life member.

This issue's Slag Insider focuses on pavements an application where slag products have a long history of successful use. Examples in this issue give a sense of slag product versatility and its reputation as a material of choice. This versatility is further demonstrated in our follow up story from New Zealand where melter slag is used to remove heavy metals and



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phosphorus from waste water. It is also underlined in the recognition of Ecoblend by the Environmental Labeling Association Inc making it an important component of sustainable construction. **C**

"The sense of this process is captured in our fresh new logo. The red colour represents the iron and steel processes in which slag is formed, orange the molten slag and blue and green the earth into which this new material flows."



a new direction and new logo

LOGOS ARE OFTEN THE SIGNATURE OF AN ORGANISATION embodying its hopes and dreams, creating a clear point of recognition. At the heart of Australasian Slag Association's new direction is recognition not only of product technical attributes but also of its contribution to our living standards and environmental aspirations.

As a co product of the manufacture of iron and steel, slag production has been described as "an endless quarry". Each day, new molten rock is produced with opportunity to turn it into "tailored" products to suit specific end markets.

From the original iron ore mines and limestone quarries, this new rock is made available without the need for further excavation.

The sense of this process is captured in our fresh new logo. The red colour represents the iron and steel processes in which slag is formed, orange the molten slag and blue and green the earth into which this new material flows. Together these colours and shape take up the theme of iron and steel slag and the environmental technical and social benefits from its use. **C**

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Connections Editorial Team
Connections is published by ASA
The Australasian Slag Association Wollongong NSW 2500 Australia
Ph: 02 4225 8466 • Fax: 02 4228 1777
Email: info@asa-inc.org.au Web: www.asa-inc.org.au
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Art Director Martin Costanzo **Design & Print** Creativjuice Advertising
Contributors: ASMS, Bill Bourke – SteelServ NZ, David E. Jones, Craig Heidrich, Port Kembla Port Corporation, Steel Cement & Simon Hodsden – Multiserv.
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Dr Hinczak newest life member of ASA

THE BOARD OF ASA took the decision to award life membership of the Association to Dr. Ihor Hinczak — in recognition of his significant contribution to the Association and the Australian Slag industry over many years. In recent times, Dr Hinczak served as the Associations Technical Committee Chair.

He has been involved in the development and marketing of Ground Granulated Blast Furnace Slag in the Australian Market over many years and has worked for Monier, Blue Circle Southern Cement, James Hardie and Australian Steel Mill Services. Dr Hinczak has served on Standards Australia Committees for Cement and Supplementary cementitious Materials (Ground Granulated Blast Furnace Slag, Fly Ash and Amorphous Silica). He is now consulting generally to industry as Cementech Pty Limited.

Dr Hinczak joins Peter Hanley, Wayne



Dr. Ihor Hinczak receives the award from Executive Director Craig Heidrich.

James, David Jones, Brian Heaton, Doug Prosser and Martin Venour on the roster of life members, many of whom still actively support the Association. **C**

Baton change for education and promotion committee

SIMON HODSDEN HAS TAKEN OVER FROM MARC FURLONG as the Chair of the Education and Promotion Committee. At the AGM in March this year Marc was elected as chair of this committee. However, he subsequently decided to move to Melbourne for family reasons resigning his position with Australian Steel Mill Services.

The Association wishes Marc well with his move and welcomes Simon Hoddsden to take on the task of leading the Education and Promotion Committee. Simon is Business Development Manager for member company MultiServ and works from their Wollongong office. He is also Hon treasurer of the Association and a member of the Executive Committee. **C**



Simon Hoddsden

MetServ now MultiServ – A new identity for a global organization

METSERV HAS BEEN A MEMBER OF AUSTRALASIAN SLAG ASSOCIATION SINCE 1990, with operations in Port Kembla, Melbourne, Whyalla and New Zealand. It is part of Harsco Corporation's MultiServ division, the world's single largest provider of on-site, outsourced mill services to the steel and metals industries, which has just announced the realignment of its worldwide operations as a unified, global organization.

The division will be centrally headquartered in Leatherhead, UK, with principal responsibilities for overall strategic direction and technology development. A network of regional offices in Europe, the United States, Latin America, South Africa and Australia will continue to focus on these key operating sectors, reporting to the central headquarters. As a single global team, MultiServ expects to become even stronger and more competitive in support of its customers, and has ambitious plans to grow its scope of services and geographic spread through continued expansion.

According to MultiServ division president and CEO Geoffrey D. H. Butler, the unified MultiServ team comprises an unparalleled wealth of knowledge and experience in the

field of specialized mill services. Employing nearly 10,000 people, the company operates at more than 160 mills in more than 30 countries, providing the world's leading steelmakers with a comprehensive range of services that support and enhance virtually every phase of the steelmaking operation.

To support its unification, the division has established an integrated communications network that enables each location to share its best practices and ensure that MultiServ's worldwide customers and operations benefit from the application of its global experience. MultiServ has also successfully implemented a division-wide Six-Sigma process improvement methodology, an initiative that will now be even further accelerated through this consolidation.

To accompany these changes, the new MultiServ name and visual identity have also been introduced. The new symbol will appear familiar to many, and reflects the distinguished history of the division and its predecessors over the past 100 years.

The red stripes portray the fire of the metals industry, whilst the green stripes signify MultiServ and the environment. Together they symbolise the partnership between MultiServ and its customers. The MultiServ name reflects a total commitment and focus at all levels and all geographic locations, to bring value to customers through the delivery of high quality mill services.

More information about the MultiServ division and its services can be found at www.multiservgroup.com. MultiServ is a division of the U.S.-based Harsco Corporation.

Harsco is a diversified \$2.1 billion worldwide industrial services and

products company employing approximately 17,500 people in more than 40 countries of operation. Harsco's market-leading businesses provide mill services, access services, gas and fluid control products, and other infrastructure products and services to customers worldwide.

For more information please contact Simon Hoddsden, Business Development Manager, MultiServ Tel: +62 (0) 2 4226 3400



Steelstone Mix 3 for Wallarah Peninsula Interchange



Approximately 60,000 m² of fill is to be hauled across the Pacific Highway under traffic control with minimal disruption to both the local residents and the traveling public.

IN OCTOBER 2003 SEYMOUR WHYTE CONSTRUCTIONS won the tender for the design and construction of the Wallarah Peninsula Interchange, the first stage of the 10 year development of the Wallarah Peninsula by Lensworth. The project involves the construction of an underpass bridge across the Pacific Highway, on and off ramps, drainage, pavements, lighting and associated works for the interchange.

Kellog, Brown and Root was engaged for the design of the project in compliance with Lake Macquarie City council and Roads and Traffic Authority guidelines.

To date the project is well underway and on track for completion in early 2005. The majority of the transverse drainage has been completed and the bulk earthworks have commenced. Approximately 60,000 m² of fill is

to be hauled across the Pacific Highway under traffic control with minimal disruption to both the local residents and the travelling public.

Excavation of the insitu material has been a slow process because of the presence of weathered conglomerate rock. Currently a Komatsu 375 A dozer is ripping and stockpiling the material for later use as select material in the lower pavement layers. The remaining pavement layers are made up approximately 15,000 tonnes of Steelstone Mix 3 – slag based bound pavement course, complying with the RTA QA Specification RN73, and asphalt on the ramps with sub-base and steel reinforced fibre base in the roundabouts.

Many services have also needed relocation. The main Sydney-Brisbane fibre optic cable runs along the shoulder of the old Pacific

Highway and has been shifted to allow the completion of earthworks in the area. Power lines have also required relocation in the same area. Water and sewer relocations have been designed and are waiting approval to commence relocation.

Bridge construction recently commenced with the drilling of the first wing wall piles by Hyatt Ground Engineering. Traffic is to be diverted around the bridge site to enable excavation and construction of the bridge by Civilbuild who have been subcontracted to carry out this work.

This project is the first of what Seymour Whyte hopes will be a successful move into the New South Wales civil construction market, including the future development of the Wallarah Peninsula with Lensworth. **C**



slag INSIDER

Port Kembla pavement material supplied to 80k South of Goulburn

Slag pavements have long been a construction material of choice for the NSW Roads and Traffic Authority (RTA). Characteristics of the material can be tailored to suit the end use application from unbound, to lightly bound to heavily bound. In this case, the long transport distances make unit mass an important component.

ASMS is supplying 20,000 tonne of a DGB 20 slag roadbase which includes some basalt fines. The material was chosen on the basis of its density $2t/m^3$ compared to $2.5t/m^3$ for conventional pavement materials. Another important characteristic is its ease of compaction. Inclusion of the basalt fines does not unduly reduce the pavement capacity to be placed in all weathers, which was an important consideration for this

location in winter.

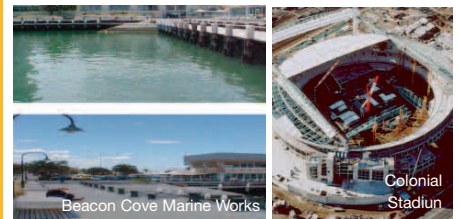
The ability to produce a range of blends each tailored to meet a specific end use application has made slag pavement a "material of choice". Since the 1970's its use has moved from the immediate vicinity of Port Kembla through to the greater Sydney region and West to Penrith as well as to the South of Goulburn.

One of the earliest commercial uses of Slag Pavement was for construction of the freeway from Waterfall to Wollongong. It has since been used widely including as sub base for construction of Sydney Airport's third runway in the 1990's.

The application South of Goulburn is just another indication of the versatility of slag pavements. **C**



ICL achieves environmental accreditation for Ecoblend



ICL's ECOBLEND AUSTRALIAN BUILDERS (type GB) and Steel Cement has achieved the Good Environmental Choice declaration offered by the Australian Environmental Labeling Association Inc. (AELA). Third party accreditation to ISO 14.024 Environmental Product Declaration verifies Ecoblend's

- Environmental preference characteristics
- Fitness for purpose
- Meeting environmental best practice
- Manufacturer's compliance to a high standard with worker obligations.

A number of high profile construction projects have been completed in Melbourne using Ecoblend style concretes including Colonial Stadium Melbourne where high slag cement blend concrete (65%slag cement) was used for its low heat properties, reducing stresses due to heat of hydration of the concrete.

Beacon Cove Marine Works Port Melbourne in which 50 MPa at 28 day concrete was specified used Ecoblend (65% slag cement), its low heat properties important for this job also. **C**

membership

Company Members

A primary role of our Association is to bring together Slag Producers, Processors, Customers and Suppliers to the Slag industry. Our activities cover Technical Developments, Plant Operations and Processes, Education and Promotion. If you would like more information on the Association and how you can become involved, just complete the information section at the end of this newsletter. Current membership is as listed below.

Australian Steel Mill Services Pty Ltd
BlueScope Steel Ltd (Port Kembla)

Blue Circle Southern Cement Ltd
Brambles Equipment Ltd
Brambles Industrial Services Ltd (Whyalla)
Concrete Pty Ltd
CSIRO CMIT
Gough & Gilmour Pty Ltd
Heckett Multiserv (UK)
Hunter Mill Services Pty Ltd
Komatsu Australia Ltd
Mahaffey Associates Pty Ltd
Metserv Australasia Pty Ltd
Milburn New Zealand Ltd
OneSteel Limited (Whyalla)
University of Newcastle – Mr Stephen Fityus

University of Wollongong – Dr Denis Montgomery
Premium Tyre Service Pty Ltd
Readymix Holdings Pty Ltd
Roads & Traffic Authority of NSW
Slag Cement Sdn Bhd, Malaysia
Smorgon Steel Ltd (Melbourne)
Smorgon Steel Ltd (Newcastle)
Steel Cement Ltd
SteelServ Ltd (NZ)
Steelstone Services (Aust) Pty Ltd
Sunstate Cement Ltd
Wormald Fire Systems Ltd
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Gregory, G
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Jones, D E (Hon.)
Heaton, B (Hon.)
Maric, M
Prosser, S D (Hon.)
Venour, M (Hon.)

Related Associations

National Slag Association (US)
Nippon Slag Association (Japan)
European Slag Association (EU)



New Zealand Steel Melter Slag Filter Bed Sparks keen interest

LAST ISSUE OF CONNECTIONS FEATURED the use of Melter Slag as filter medium for removing heavy metals and phosphorus from waste water. Knowledge of this particular capability of slag has been around for many years, similar trials being carried out with iron blast furnace slag at the University of Western Sydney during last decade. However the most recent active research and product application outside North America has been carried out in New Zealand using melter (iron making) slag.

New Zealand Steel recently decided to further treat a limited volume of storm water from their largest settling ponds, which is either discharged into the Waiuku Estuary or reused on site. Although NZ Steel already met the conditions set by the Auckland Regional

Council for discharge for suspended solids, heavy metals and other elements, local Maori had asked the company to consider further treatment of water passing into the estuary.

The installation featured in last issue was installed to treat site run off water from the New Zealand Steel plant, further removing Zinc and suspended solids. Performance of the newly installed plant is in line with expectations removing around 80% of the Zinc.

With approximately 80% of the zinc being removed and virtually all of the remaining suspended solids, New Zealand Steel is very pleased with the results, with the company already installing a second and larger unit, with a third one planned.

Installation of the filter bed on the

steelworks site has given SteelServ engineers and consultants the opportunity to monitor water flows, contact time with filter media, input and output levels of phosphorous, heavy metals and suspended solids, plus volume and size of slag material employed.

Current performance data suggests that the current installation is treating around 500 million litres of water per annum. The minimum expected life of the unit is currently unknown and this is one aspect that New Zealand Steel and SteelServ will be closely monitoring. However to date the unit has proved to be a very cost effective low maintenance installation compared to systems that require daily chemical dosing.

This has sparked interest from other industries considering ways of treating site run off or final polishing of waste water before discharge to the environment.

Performance of the existing Waiuku wastewater treatment beds (which also used melter slag aggregates and were installed almost 10 years ago), shows that although their phosphorous reducing capabilities dropped off after about 5 years, they are continuing to remove algae and suspended solids after almost 10 years continuous operation.

//Source: Bill Bourke SteelServ Ltd NZ – bbourke@multiserv.com//

presentations

A key focus of the Association is ensuring that Universities and their Engineering and Architecture students and lecturers have an appreciation of slag products. Tailored presentations are also available upon request for representatives from Engineering and

Construction organizations Government Departments and Councils. During the quarter presentations were made to:
Upcoming
 • University of Wollongong
 • University of NSW

- Monash University
- Australian Defence Forces Academy
- Queensland University
- Melbourne University
- University of Western Sydney
- University of Newcastle
- Australian National University

Australasian Slag Association: Technical Seminars



I am interested in: (please tick ✓) **PHOTOCOPY FORM AND EXPRESS FAX: 4228 1777**

Receiving a presentation on: Receiving more information about:

Presentation topic areas: (please tick ✓)

- Slag in Concrete Construction and Pavement Technologies Slag in concrete construction applications – case studies
 Environmental benefits derived from increased utilisation Slag in road pavement, base and sub base construction
 Other (please specify) _____

Contact Name: _____ Position: _____

Organisation: _____

Business Category: _____

Postal Address: _____ P/Code: _____

Street Address: (if different) _____

Telephone: _____ Mobile Phone: _____ Facsimile: _____

Email: _____ Website: _____

Expected number of people: _____ Preferred times/dates: _____ Potential disciplines attending: _____

Simon Hodsdon, Business Development Manager, MultiServ has taken up responsibility as Chair of ASA's Education and promotion Meeting. He was unanimously elected at the May meeting of that group.



Marc Furlong resigned as Chair of the Education and Promotion Committee and his role at ASMS as he returns to Melbourne.

ASMS – Marc Smith recently joined ASMS as Technical Process Manager. He started working life with Quality Castings in Sydney commencing as a trainee Metallurgist and finishing as Plant Metallurgist. Following this he worked for Australian Cement then Cement Australia as Technical Process Manager in the Sales Department, commencing work with ASMS recently as Technical Process Manager.



Hunter Mill Services representative Paul Gear – was welcomed to his first meeting of the ASA Technical Committee in May. Paul is the

Operations Coordinator for Hunter Mill Services. Hunter Mill Services are part of the Edw.C.Levy group and have operated on site for 4 years at the Smorgon Comsteel plant in Newcastle NSW, Australia.

Readymix Limited: New Association Member. Wayne James, Technical Manager Sydney Quarries was presented with the membership certificate at the August Technical Committee meeting at the CSIRO North Ryde.



ASMS – Greg De Batista For the past 20 years, Greg has worked in the construction industry on projects including Olympic Site Homebush Bay, Darling Harbour Re Development, New Parliament House and numerous road and civil projects. Much of this time was spent with Readymix in their sales team specialising in concrete and aggregate sales.



ASMS – New Website – Slag processor and marketer Australian Steel Mill Services has

launched a new website. With product information available, the site is a good support to current and prospective customers and specifiers. For further information contact Paul Theo at ASMS www.asms.com.au

ACI heads LEED – driven Sustainable Development initiative The American Concrete Institute is drafting an industry-wide position statement to assist concrete production and contractor groups' work in the U.S. Green Building Council's Leadership in Environmental and Energy Design program. [Source: Concrete Abstracts - National Ready Mixed Concrete Association, Silver Spring, Md.]

Fractum – Joins ASA Danish based manufacturer and marketer of the heavy impactor "Stone and Steel Buster" – Fractum ApS has been accepted as an Overseas Affiliate member. Their focus is on moving earth equipment and heavy construction machinery. "Stone and Steel Buster" equipment is reported to be the largest hydraulic hammer on the market. It has application within the slag, steel and quarrying industries. For further information contact: www.fractum.com

Slag – "the ultimate renewable mineral resource"

The video has proved to be very useful to many members. New additional footage has been incorporated demonstrating the beneficial properties of slag in various large-scale projects completed in recent years. The video (15mins duration) outlines slag's historical beginnings through to the various types of slag produced in a modern production process today.

Copies are available to members at a cost of \$15.00 each, non-members \$20.00 plus postage and handling. Just complete and fax back the subscription/order form indicating your requirements.



CD Technical Resources

ASA produces a number of high quality technical guides (i.e. the new – "A Guide to the use of Iron and Steel Slag in Roads" and the "Guide to the Use of Steel Furnace Slag in Asphalt and Thin Bituminous Surfacing") bulletins, newsletters and general industry information on current issues. The Education and Promotion Committee has developed a Technical Compendium on CD; an invaluable readily accessible reference tool for engineers, specifiers, consultants, government authorities, and slag users. A limited number of hard copies are also available. Copies are available to members at a cost of \$15.00 each, non members \$20.00 – plus postage and handling. Updated CD's will be available for registered users as new material is added. Stay up to date! Complete and fax back the subscription/order form today.



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