

AUSTRALIAN NATIONAL MEMBER GROUP OF fib

In 2009, an Australian National Member Group of fib was established, with PTIA as one of its founding members. Its principal objective is to gain and disseminate information from fib for the interest of member groups and staff within their respective organisations.

Current members are -

- Concrete Institute of Australia – Secretariat for the Group (Representative, David Meager)
- Hyder Consulting (Representative and Group Head Delegate, Jim Forbes)
- University of New South Wales (Representative and Group Delegate, Professor Stephen Foster)
- BCRC (Representative and Group Deputy, Frank Papworth)
- Westkon Precast (Representative and Group Deputy, George Cremasco)
- Post-Tensioning Institute of Australia (Representative, Mike O'Neil)
- Taylor Thomson Whitting (NSW) (Representative, Barry Young)
- KBR (Representative, Mike Papillo)
- ADG Engineers (Representative, Tim Peters)

Concrete Institute is developing a Member Group website to be hosted on the Concrete Institute's site.

In the meantime, organisations considering joining the Group should contact the Concrete Institute of Australia.

PRESIDENT'S REPORT

This edition of the newsletter has an emphasis on materials and the suppliers to the industry. It is an aim of PTIA to assist supplier members of the industry to meet requirements of the industry and have a stable and secure market in the industry.

I would ask all members to keep this in mind when ordering and give consideration to PTIA members when ordering various components. It is in all our interests to have a strong industry.

The construction industry is in difficult times. PTIA members are experiencing very tight market conditions. Work is in short supply and prices are very competitive. All members are working extremely hard to service the industry. This is a period where cost cutting and attention to detail can make the difference.

Added to industry hard times, interest rates are going up and it seems steel price rises are also sure to rise significantly in the near future.

In this environment PTIA needs to support members where we can and ensure strength in the industry. PTIA is analysing its own costs and budgets to assist members where we can with our costs and services.

All is not bad news. Some areas are showing signs of growth. Most companies are busy bidding work and we all expect a possible boom year next year as the construction industry catches up with the rest of the economy.

PTIA members should use the current market to consolidate their position in the industry. Post-tensioning is still very competitive as a construction system. Strand is still relatively very cheap compared to reinforcing steel when it comes to structural efficiency. The PT industry needs to use this advantage to build on its available work base.

During this period we should seek to encourage more of the PT companies in Australia to join up and broaden our base of supplier and consultant members.

In late May we will have some Australian representatives at the 2010 fib conference in Washington. This is the largest get together for the PT industry around the world and provides an opportunity for technical presentations and review of advances in the industry. It will be with interest that we will learn what may come out this year in the industry. Should you require any information on this conference please contact Mr Kevin Abrams or myself.

Michael O'Neill, President

PROJECT REPORT

Adelaide Desalination Project

Location: *Adelaide, South Australia*

Client: *SA Water*

Contractor: *Adelaide Aqua (McConnell Dowell, Abigroup Contractors, United Utilities Australia and Acciona Agua)*

Post-tensioning contractor: *Australian Prestressing Services (QLD)*

Consultant: *Parsons Brinckerhoff*



SA Water is the lead agency responsible for delivering the \$1.8 billion Adelaide Desalination Project. Once completed, the project will deliver up to 100 billion litres of drinking water each year - about half of Adelaide's water supply. The plant is currently under construction on a 31-hectare site at Port Stanvac, in Adelaide's southern suburbs

Multi-national consortium, Adelaide Aqua is constructing the desalination plant and marine works. The consortium of four companies has extensive world-wide desalination experience and strong environmental credentials. The consortium comprises McConnell Dowell, Abigroup Contractors, United Utilities Australia and Spanish firm Acciona Agua. Together they will design, build, operate and maintain the plant for 20 years.

When it came to the construction of the Treated Water Reservoirs, Adelaide Aqua engaged the specialist design and construction services of Australian Prestressing Services (Qld)

and with a proven track record they were asked to construct two 25 megalitre concrete reservoirs which will hold the treated desalinated water. Each of these reservoirs is 63.1 m in diameter and 9 m high, with a post-tensioned floor slab poured in one slab. The wall is constructed of precast panels manufactured on site and stitched together with post-tensioning tendons. The roof was designed with stainless steel columns, aluminium roof rafters and purlins, and covered with aluminium roof sheeting.

In March 2010, Australian Prestressing Services (Qld) in collaboration Adelaide Aqua achieved a significant milestone with practical completion of the first of the 25 megalitre Treated Water Storage Tank being completed.

Construction work is progressing well, with first water on track to be delivered by the end of December 2010. The 100 gegalitre plant will be fully operational by the end of December 2012.



An important part of the Adelaide Desalination Project is the transfer pipeline system to deliver water from Port Stanvac to the Happy Valley water treatment plant with these Treated Water Reservoirs feeding this system. Desalinated water will be pumped through the pipeline to Happy Valley where it will be combined with water from the water treatment plant before entering the existing water supply network.

A joint venture between McConnell Dowell Constructors Pty Ltd and Built Environs Pty Ltd was appointed to design and build the pipeline system. Construction work on the 11.5 kilometre pipeline has been completed and now can be commissioned with the Reservoir completed.

GOING GREEN AND EMBRACING CHANGE

Who would have thought five years ago, that in 2010 you could walk into nearly any pub in Australia and have an in depth and quite knowledgeable conversation regarding the merits of Renewable vs. Non-Renewable Energy? Opinions are quite divided and emotions can easily run high, however the fact remains that “Going Green” is part of the world we now live in.

Support it or not, the Green World and the opportunities it creates cannot be ignored by any forward thinking Post-tension provider or supplier. It might just be a question of logistics in getting people, machinery and consumables to remote locations or the complexity of producing products that in combination must meet European, Australian and Cryogenic specifications and standards.

Gas

Natural gas burns cleaner than other fossil fuels and produces less greenhouse gases when processed. For the equivalent amount of heat, burning natural gas produces about 30% less carbon dioxide than burning petroleum and about 45% less than burning coal. In Australia project locations like Gladstone and Barrow Island signal our place in Australasia’s Natural Gas boom.

Wind

Wind farms are one of the fastest growing green sources of electricity generation. As example with the UK possessing 40% of Europe’s total wind resource, wind power offers a compelling alternative to fossil fuel power, and it’s also renewable and emission free.

In Australia we have seen major projects like Jamestown in SA head towards second stage expansion.

Water Desalination

There seems a desalination plant underway or well down the development path in every State or Territory in Australia. In fact many large public companies like OneSteel and BHP are even scoping desalination facilities to sustainably support ongoing and future commercial mining & manufacturing requirements.

A commitment to renewable energy and desalination is now firmly on the world political agenda with ambitious targets proposed to increase the total use of renewable energy from single digit percentiles to figures in excess of 25% by 2020. The time for contemplation is over as it’s not a matter of if, but when a project will pop up in your neighbourhood that embraces renewable energy or sustainable water supply.

OneSteel Wire is committed to supporting the winds of change and among other initiatives is working with its key customers in the development of 15.7mm Strand to meet or exceed Gas Tank specifications and is more than ever, proving its market leading ability to service remote projects, constrained by harsh environmental conditions, with just in time supply of high quality fit for purpose products. Are you ready to embrace the new world? As a committed Australian based manufacturer, OneSteel Wire is here to help!

Source Data: energysavingsecrets.co.uk



PHOTO: STEPHEN O'NEIL

AJAX FOUNDRY

Ajax Foundry are producers of cast irons that perform under conditions of temperature and friction in accordance with individual customers' requirements. Engineering irons conform to the Australia Standards A.S 1830 and A.S 1831 and special attention is paid to machining characteristics of modern high speed finishing processes.

Ajax Foundry is a family owned and operated company, with over 80 years experience in the foundry industry.

Product Range

Automotive & Transmission:

Brake Discs & Drums, Wheel Spiders, Clutch Plates, Steering Components, Power Take Off & Hoist Pump Components

General Machinery & Engineering:

Pulleys & Sheaves, Couplings, Elevator Buckets, Metal Furniture Components

Pumps & Valves:

Pump Housings, Valves, Adaptors, Cylinder Heads, Crank Housings, Base Plates, Hand Wheels

Civil Building & Construction:

Concrete Pre-Stressing & Post Tensioning Hardware, Federation Bollards, Scaffolding Connectors Railways: Rail Chocks, Railbrakes & Washers, Switch Stops, Rail Clips

Agriculture:

Press wheel components, tillage points, spacer spools and bearing housings

Services

Cast irons that perform under conditions of temperature and friction in accordance with individual customers' requirements. Engineering irons conform to Australian Standard 1830 and special attention is paid to machining characteristics of modern high speed finishing processes.

Ductile iron is produced to satisfy individual customer needs (A.S. 1831).

Austempered Ductile iron, which is produced by subjecting ductile iron castings to a two way stage heat treatment process similar in duration to that used for heat treating steel.



CHANGES AT HAGGIE REID

Haggie Reid Pty Ltd (a member of the Scaw Metals Group) is proud to be associated with the Post-tensioning Institute of Australia as an Associate Member. Haggie Reid supports the PTIA's aim to ensure high standards and accreditation of members in the post-tensioning industry.

Haggie Reid contributes to this aim by supplying quality strand and wire products produced to AS/NZS4672 for use in prestressed and post-tensioned concrete. Consistency of quality in the steel strand and wire gives users of the products greater confidence and uniformity in its applications.

Customers can be confident in the quality of Haggie Reid's products. Scaw Metals Group's steel mills, which produce the wire and strand, are independently assessed and certified to ISO9001.

The steel produced by these mills is independently certified by the Australian Certification Authority for Reinforcing Steels (ACRS) as complying with the requirements of AS/NZS4672. Independent certification of both the quality systems and the product produced gives customers great confidence in Haggie Reid's products.

Haggie Reid wishes to advise members of the PTIA of two changes in the company. Mark Zilm has been appointed General Manager of Haggie Reid's operations in Australia, taking over from Richard Lydall, who after 12 years managing Haggie Reid returns to South Africa. Jason Oong has recently joined the company and will be looking after steel wire and strand for Haggie Reid to PTIA members and Haggie Reid customers.

For further information on Haggie Reid and its steel strand and wire, please contact Jason Oong on 02 9673 8100.

MATERIALS USED FOR MANUFACTURE OF DUCTING IN THE POST TENSIONING INDUSTRY

Now more than ever in this economic environment, businesses are endeavouring to source higher quality products at a cost competitive price in order to not only satisfy their customers' requirements but also to make a profit in providing that service.

This means material properties play an enormous role in deciding whether a product is of a certain quality or not and how it will act in a particular situation.

Refohar Australia has over 20 years experience and is well regarded as a specialist of post and pre tension products throughout the marketplace with this very notion in mind. This has seen the assessment of every aspect of the manufacturing process with continual improvements evolving through the implementation of a fully accredited ISO 9001 quality management system.

The materials used in the manufacture of Refobar's oval and spiral ducting is a 0.38 & 0.30 base metal thickness (bmt) formable flat coiled steel as shown on table 1, that has a Z100 – Z200 hot dipped zinc coating with a spangled surface conforming to AS1365 & AS1397:2001.

This product is perfectly suited to folding applications and lock seaming of up to 1.6mm. The zinc coating is primarily used to prevent oxidation during manufacture, storage, installation and aids in fire prevention as shown in table 2.

Refohar Australia always uses the best quality materials for the manufacture of all their products which gives peace of mind to their customers.

Refohar can be contacted on 07 3888 6655

Material Properties

Material	Min. Base Metal Thickness (bmt)	Coating Class	Surface Finish	Surface Treatment	Slitting Width
Spiral Ducting		Optional-Normal			
Galvanized Steel Coils	0.30mm	Z100 - Z200	Spangled	Passivated (Non oiled)	36mm
Galvanized Steel Coils – Larger Size Duct	0.38mm	Z100 - Z200	Spangled	Passivated (Non oiled)	36mm
Oval Ducting					
70mm - Galvanized Steel Coil	0.38mm	Z100 - Z200	Spangled	Passivated (Non oiled)	180mm
90mm - Galvanized Steel Coil	0.38mm	Z100 - Z200	Spangled	Passivated (Non oiled)	221mm

Source: Adapted from Bluescope Steel Limited

Table 1

Fire Hazard Properties

Ignition Index	(range 0-20)	0
Spread of Flame Index	(range 0-20)	0
Heat Evolved Index	(range 0-20)	0
Smoke Developed Index	(range 0-20)	0

Source: Bluescope Steel Limited

Table 2

COURSES AND EVENTS

Prestressed Concrete Design Workshops - 2010

PTIA sponsored Prestressed Concrete Design Workshops are presented by Cement and Concrete Services (CCS). Consulting engineering firms who are Associate Members of the PTIA receive significant subsidies on workshop fees. Details are available from CCS at www.cementandconcrete.com. Registrations for workshops are to be made through CCS.

These two day workshops are developed for engineers who are familiar with reinforced concrete but have little experience with prestressed concrete and wish to gain an understanding of the principles of analysing and designing statically determinate prestressed beams. An optional third day workshop on computer aided design for prestressed concrete is also available.

City	Dates	Optional RAPT workshop
Brisbane	August 16 & 17	August 18
Sydney	August 23 & 24	August 25
Perth	September 14 & 15	NA
Melbourne	September 27 & 28	September 29

Seminars and other events - 2010

PTIA plans a new series of seminars to be conducted in conjunction with the Concrete Institute of Australia and Engineers Australia in 2010. Details will be shown on the PTIA and Concrete Institute web sites.

Location	Event	Dates
Melbourne	Seminar with Concrete Institute	May 18
Perth	Seminar with Concrete Institute	May 25
Perth	Seminar with Concrete Institute	June 22
Sydney	Seminar with Concrete Institute	July 21
Perth	Seminar with Concrete Institute	July 27
Sydney	Seminar with Concrete Institute	September 22
Newcastle	Seminar with Engineers Australia	October 13
Brisbane	Seminar with Concrete Institute	November 24

PTIA Skills Training courses

PTIA Skills Training courses will soon be offered through a Registered Training Organisation as part of the Certificate III in steelfixing, and ultimately as a stand alone certificate course.

Dates for 2010 courses are still being finalised, and will be announced on the PTIA web site soon. Until then, details on course dates and locations, or to book a course for your workforce, contact the PTIA Training Manager, Brad Parkinson on 03 9296 8100, m: 0437 439 573, e: bradp@structural.com.au

MEMBER COMPANIES

Corporate Members

Australian Prestressing Services Pty Ltd (founding member)
 Freyssinet Australia Pty Ltd (founding member)
 Structural Systems Pty Ltd (founding member)
 VSL Australia Pty Ltd (founding member)

Associate Members - suppliers

ABC Consultants
 Ajax Foundry Pty Ltd
 Haggie Reid Pty Ltd
 Holcim (Australia) Pty Ltd
 OneSteel Wire Pty Ltd
 Refobar Australia

Sanwa Pty Ltd
 Severs Technical Systems Pty Ltd
 Usha Martin Australia Pty Ltd

Associate Members – consulting engineers

Arup
 Bornhorst + Ward Pty Ltd
 Costin Roe Consulting Pty Ltd
 Hyder Consulting Pty Ltd
 McVeigh Consultants Pty Ltd
 SCP Consulting Pty Ltd
 Taylor Thomson Whitting



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