

# STEEL FUTURES

## STEEL CONSTRUCTION'S COMPETITIVE ADVANTAGE BOOSTED

Steel construction is gaining a major boost in its competitive advantage over concrete structural systems, with steel long product prices expected to continue to fall in coming months, and fabrication capacity and productivity increasing.

Steel long product prices are expected to drop substantially in coming months, in line with steel scrap prices, from the highs reached in mid-late 2008. This effect will be fully realised once inventories have destocked to current levels of demand. Steel mills are keen to reinstate production for both long and flat products, leading to what will be excellent supply conditions for purchasers. However the strength and weakness of the NZ dollar will influence the extent of price changes.

Steel decking rates have also become increasingly competitive as new profiles have come onto the market and flat product rates soften.

In conjunction with this, steelwork fabrication capacity and productivity has grown in recent months, with new fabrication facilities and equipment coming into production around New Zealand. This is all leading to some exceptionally competitive bidding on steel construction tenders and development proposals.

## WELDING, AMPHIBIANS AND RUGBY

Napier SCNZ members led by Bob Hawley (Red Steel Ltd) hosted an excellent get together for around 25 SCNZ members and partners in Napier on 23<sup>rd</sup> April. The afternoon started with a tour of the factory of Weldwell NZ Ltd, the only manufacturer of welding rods in the South Pacific. The whole process was explained, from the reliable chemical properties of the OneSteel feedstock, through the mixing and application of the rod coatings, quality control and finally packaging.

Weldwell then laid on amphibious transport to take the members over the harbour and to the meeting venue, The Crown Hotel.

SCNZ Chairman, Evan Kroll (Stevensons Structural Engineers Ltd), led the meeting which included a presentation by SCNZ Manager Clark Hyland, on "Directions for Steel Construction in USA, Canada, UK and South Africa", based on his recent meetings with the heads of the AISC, CISC, BCSA and SIASC which form the International Steelwork Contractors Group.

Evan then chaired a members forum in which ideas and directions for SCNZ over the next twelve months were discussed to inform the planning of the Executive Council. Dinner followed at the GinTrap on the harbour front, with guest speaker Mike Bishop, CEO Hawkes Bay Rugby Union. The description of the inspirational rise of Hawkes Bay rugby into the upper echelons of the Air New

Zealand Cup in recent years impressed everyone. Mike also discussed the direction of New Zealand rugby and the relative merits of Super 14 and the Air New Zealand Cup.

The expectation is that these conditions will remain for some time as global economic conditions show signs of stabilising and then entering a gentle recovery over the next two years.

Structural steel framing systems have consistently proven to be the most cost effective choice for multi-storey buildings in recent years. A structural steel frame also has significant collateral benefits to the overall project by reducing timescales and variable cost items such as foundations, cladding, and services, leading to significant project cost savings.

SCNZ has around 60 steel constructor members, ensuring there will always be a healthy competitive response to invitations to tender. For a full listing of members around New Zealand, with their capabilities and contact details go to [www.scnz.org/members](http://www.scnz.org/members)

For up to date structural steelwork and flooring estimating software go to [www.scnz.org/design-tools](http://www.scnz.org/design-tools) and order SteelEst and the On-line Estimating Guide.



Members site visit at Weldwell.



The 'Duck' amphibious vehicle.



Managing Director of Waikato Steel Fabricators, Darryn Jonson.



Bob Hawley, Managing Director of Red Steel Ltd.

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### UPCOMING EVENTS

#### 2009

June 3 — SCNZ Regional Get-together, Christchurch

June 4 — SCNZ Executive Council meeting, Christchurch

# PREPARE FOR A SLOW RECOVERY

Steel construction is being directly affected by the global recession, and senior industry commentators are advising steel constructors to prepare for a long slow recovery. This was the view of the International Steel Contractors Group (ISCG) meetings in Victoria, Canada attended by SCNZ Manager Clark Hyland. The ISCG includes heads and senior members of the American Institute of Steel Construction (AISC), Australian Steel Institute (ASI), Canadian Institute of Steel Construction (CISC), British Constructional Steelwork Association (BCSA), the South African Institute of Steel Construction (SAISC) and SCNZ.

In the USA, AISC reported that their certification scheme was being taken more seriously as bid lists for tenders grow. Construction is 40% of its peak but the long term trend still up. Non-residential building starts were down 51% in Feb 2009 compared with Feb 2008. The expectation is that non-residential construction will bottom out over twelve months from mid 2009 to mid 2010. Deep seated interest in sustainable construction



**Vancouver Olympic Speed Skating Oval, featuring composite steel/timber trusses.**



**The Vancouver Coastal Meridian Over-bridge made of weathering steel, being prepared for launching.**

remains amongst consumers who are looking for the industry to journey and interact with them rather than to lay down pre-prepared answers.

In Canada the eastern and central Canadian provinces are suffering more than the western provinces of British Columbia and Alberta. Construction for the Winter Olympics in Vancouver and Whistler is well underway. Some smart use of weathering steel trough girder construction in combination with innovative launching techniques is allowing bridge spans of up to 75 meters to be launched. Oil price drops and the affects of the credit crunch in USA has stopped many oil sands projects. Labour shortages in steel construction still exist however. Canadian steel mills are running at 60% of capacity or have shut down production. Distributors are running at stock levels of around 40%. The rise of drug abuse in construction is becoming an increasing concern. Interest in sustainable design and construction is only being limited by the reduced level of construction activity.

In the United Kingdom manufacturing is expected to fall 10% in 2009, with steel tonnages down 25% for the year. Many redundancies and pay cuts 5 to 10% have already occurred within

the industry. The BCSA is encouraging members to take steps to cut capacity as they are expecting slow recovery. The effect of the 1989 economic crisis took 17 years to recover from in terms of steel volume levels. 25 % of BCSA member companies went out of business in the 90's. This time around they are expecting that 10% will not survive. The lesson of the last crisis was for steel constructors to maintain good levels of working capital. Many went out of business once the economy began to recover, due to a lack of it.

In South Africa, the recession has not been too deep. Steel construction is dependent mainly on the resource sector which has been relatively stable. Commercial construction however is very slow. The larger steel constructors are busy on government infrastructure works such as power stations. Steel mills dependant on exporting are however badly affected.

In New Zealand, steel product prices (sections, plate, tubes) in NZ\$ went up steeply by around 60% in the year ending June 08. Product prices have however begun to soften significantly. Declines in NZ\$ relative to the US\$ have been offsetting the greater decline of international US\$ steel prices. Imported Steel tonnages between Oct 08 to Feb 09 were down 37% compared with the same period the previous year. The biggest downturn being in the Auckland region. Distributors and Fabricators are currently de-stocking and volumes are expected to be down around 20-30% for the 12 months from July 2009 on 2008 levels.



**From left to right: John Cross (AISC VP Marketing & Finance), Ed Whalen (CISC-ICCA President), Clark Hyland (SCNZ Manager) at ISCG.**

# ENGINEERING STUDENTS WELCOMED TO STEEL CONSTRUCTION

The annual field trip that Steel Construction New Zealand organises for final year engineering students focused on one major project – Britomart East. When completed it will be the new headquarters for Ernst and Young, and Westpac Bank Ltd. What made this building of interest to the students is the fact that the structural design solution was dominated by considerations of the Britomart railway station structure underneath, on which most of the building is supported.

First stop for the students was Grayson Engineering Ltd at Langley Rd, Wiri. Grayson had won the sub-contract to fabricate and erect the steel. On arrival, the 24 students were divided into three groups; one sat down to a company overview, presented by General Manager David Moore; one began a tour of the 9,000m<sup>2</sup> purpose-built workshop; and the third group was introduced to Grayson subsidiary, Cadtec Draughting Ltd.

Senior draughtsman Ben Cattaway showed them the 3-D model that he had drawn using Strucad software. "I think they were impressed by the power of the software and the ease with which it enables changes to be made. Even though we had extremely close working relations with the architects, Peddle Thorp Ltd, and the engineers, Holmes Consulting Group Ltd, the sheer complexity of this project meant that changes were simply ongoing. But the software accommodates this very efficiently, so there were no delays in ordering the steel required or in providing shop drawings for the fabricator."

Grayson Engineering Ltd was founded in 1972 and has a staff complement of 95. It's fair to say that it is one of the most mechanised steel constructors in New Zealand and lists among its



*Students are briefed on the Britomart East project while work is in progress.*

major projects Sky City Casino, Sky Tower, Auckland Hospital, Telstra Clear Pacific Events Centre, Vector Arena, Auckland University Business School and the Auckland Museum Grand Atrium.

A key feature of the Britomart East project is the use of asymmetrical cellular beams to achieve lightness and strength. The students saw these being cut and welded, with each weld ultrasonically tested to ensure consistent quality.

Following refreshments, the students were bused to the actual building site, where they were inducted by the Hawkins Construction Limited Safety Officer and escorted up the building to level four to observe erection in progress.

Steve Stickland from Corus New Zealand Ltd briefed the students on the use of ComFlor 80 as the steel decking system. "One of the chief advantages of ComFlor 80," said Steve, "is that for spans of up to four metres, propping is unnecessary, as a result of which the laying of the composite concrete floor is both quick and safe."

The Hawkins team laid on a special highlight for their visitors, calling on design engineer Rick van Ballegooy from the Holmes Consulting Group to explain the rationale of his design and field questions. The students found this session very valuable, especially since the exchange lasted as long as they needed to get the answers that they wanted. Then it was time to board the bus and return to campus.

SCNZ would like to thank all those companies who gave so generously of their time to make this field-trip really worthwhile. A special word of this is due to Corus New Zealand Ltd, which sponsored the bus and the morning refreshments.



*General Manager of Grayson Engineering Ltd, David Moore, giving students a company overview.*

## UPDATED STEEL ESTIMATING SOFTWARE

Good purchasing decisions are based on reliable pricing information. A good supply of structural steel products has seen price drops in the past few months with industry expectation that this trend will continue. To ensure these changes are reflected in the estimated cost of steel buildings, SCNZ has updated rates in the

steel estimating software SteelEst and the On-line Estimating Guide.

To purchase the latest version of SteelEst or to subscribe to the On-line Estimating Guide, go to the SCNZ website ([www.scnz.org/design-tools](http://www.scnz.org/design-tools)) to download a product order form.

## ALCOHOL AND DRUG AWARENESS IN THE WORKPLACE

An expression of interest form has been sent out to every SCNZ member seeking feedback to gauge the level of concern regarding alcohol and drugs in the workplace.

It is evident in recent research that the alcohol and drugs culture in our society, outside working hours, has had a direct effect on safety, health and productivity in the workplace. Also the concerns of substance being used in the workplace during working hours are directly related to accidents in the workplace.

The expression of interest will measure the depth of this issue in the workplace and will indicate the appropriate response from SCNZ. It is important that we get a reply from all concerned,

even if you don't think that you have a problem, with alcohol and drugs in your workplace.

A company policy on this issue and workplace drug testing deals with the fruits of the problem but education and support, deals with roots of the problem.

Should the returned expression of interests indicate a significant need, then the response will be to both the roots and the fruits of alcohol and drugs abuse in the workplace.

If you require an expression of interest form, please go to [www.scnz.org](http://www.scnz.org) and click on the link provided.

**Want to know more?** Just tick the box of the subject you would like more information about and fax back to 09 263 5638 and we will contact you.

- Steel construction's competitive advantage boosted
- Alcohol and Drug Awareness in the workplace
- New CO<sub>2</sub> calculator
- Prepare for a slow recovery
- Updated steel estimating software
- SCNZ regional get-together

«Contact Name (Prefix First Last)»

«Account»

«Address1»

«Address2»

«Address3»

«City/State/Zip»

«SCNZ\_Member\_No»

SCNZ Member #:

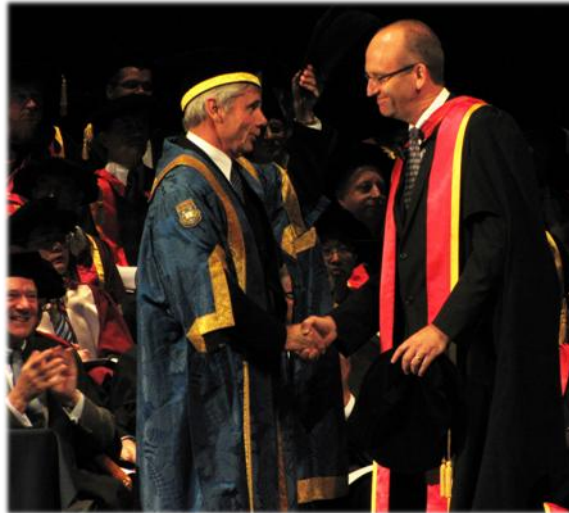
Would you like to become a SCNZ member?  
For an annual subscription of only \$100 + GST you can enjoy the benefits of belonging to an association dedicated to the advancement of steel construction. Please tick the box below and fax back to the above number.

- Yes I would like to become a SCNZ member.

## CLARK GETS CAPPED

On the 8<sup>th</sup> May, Clark Hyland, SCNZ Manager, was capped at the University of Auckland with a PhD in Civil Engineering. Clark investigated the development of running fracture in structural steelwork assemblies under severe earthquake loading, leading to the development of a new method to assess their expected ductile endurance.

In 2000 he commenced post-graduate studies in a part-time capacity, after being encouraged by then HERA Director Dr John Meikle to give it a go. A fees, materials and travel grant was made by the Heavy Engineering Education and Research Fund to aid the study. The work was eventually



Clark gets capped by University of Auckland Chancellor, Roger France.

completed after many hours of after-hours work and unpaid study leave, along with the patient endurance of his wife and family. Clark's PhD research was jointly supervised by Professor George Ferguson of the Department of Chemical and Materials Engineering and Associate Professor John Butterworth of the Department of Civil Engineering. A copy of the thesis can be downloaded at: <http://researchspace.auckland.ac.nz/handle/2292/3381>

## NEW CO<sub>2</sub> CALCULATOR

The steel estimating software SteelEst now features an embodied CO<sub>2</sub> emission calculator. Environmental considerations are an increasingly important factor in the selection of construction materials for new buildings. Embodied CO<sub>2</sub> is a measure of the impact on the environment of the manufacturing processes associated with the production of construction materials used in building projects. Designers can now easily calculate the embodied CO<sub>2</sub> of steel buildings featuring metal deck slabs using the latest version of SteelEst. The embodied CO<sub>2</sub> data used in SteelEst has been computed using a

dual cycle method which accounts for the recyclability and reusability of various construction materials. Default recycling and reuse percentages based on current New Zealand practice are included for different materials. These can be varied by the user. The dual cycle method is discussed in detail in the SCNZ report, SCNZ 15, Comparative CO<sub>2</sub> Emissions Assessment of New Zealand Multi-storey

# STEELEST

## SCNZ REGIONAL GET-TOGETHER - CHRISTCHURCH 3<sup>rd</sup> JUNE



All SCNZ members from the South Island are invited to a informal get-together in Christchurch on June 3<sup>rd</sup>. This get-together will be held at MU Restaurant, 92 Lichfield Street, and is a chance to meet and have informal discussions with

other Steel Construction New Zealand members and also to speak with members of the SCNZ Executive Council over dinner and drinks.

If you would like to attend, please email your details to [info@scnz.org](mailto:info@scnz.org) by 2<sup>nd</sup> June.

Thank you.

