

NEWSLETTER

Association of Consulting Structural Engineers Victoria (Reg No: A0026069J) www.acsev.org.au
 Foundation and Footing Society Victoria (Reg No:A0025791G) www.footingsgroup.org



Professional Engineers Registration Bill 2019 passed

After yearlong discussions and debates, the controversial Engineers Registration Bill was passed on 28th of September in the Upper House, which means this is going to become law in Victoria. The Bill was before the government in their last term, but was put on the backburner in their last sitting session. The new government, from the beginning, was keen to pass this legislation even though there were disgruntled voices from many community organisations including ACSEV.

The latest apartment failures and cladding issues fuelled the demand for compulsory registration of engineers even though all these buildings were possibly designed by registered engineers and no one seems to investigate the bad deeds of unregistered engineers to prove their point.

The largest and powerful professional engineering body, Engineers Australia whole heartedly welcomed the legislation, and was lobbying the government to pass the legislation from the day of its conception. ACSEV's attempts to engage with Engineers Australia at an organisation level regarding this Bill was never entertained and all attempts to raise the legitimate concerns fell on deaf ears.

ACSEV was never against the registration of engineers and all ACSEV members are registered with VBA and clearly understand the benefits of such a scheme, if implemented properly. Any piece of legislation will affect community positively and negatively. The beauty of democracy is that the elected government will appease the majority and safeguard the minority, by definition. In this case, that didn't happen, and the minority was neglected, and their future is at the hands of faceless bureaucracy. Also the practice knowledge and experience of a generation will go down the drain as, most of them won't be allowed to practice unless they go back to university and update their qualification.

ACSEV representing the members, ran a campaign to raise the concerns through submitting representations to government and also through engaging with representatives, like minded groups and parliamentarians. ACSEV once again proved that it stands for its members and listened to their issues, where most similar organisations failed to do so.

Now the Bill has passed, it will now go to the next stage of making regulations, where all the finer issues will be sorted out. ACSEV will continue to lobby for involvement in creating a workable regulation and explore possibilities to be a part of the registration administration either individually or in partnership.

ACSEV will also continue to lobby for all the protection of affected members through engaging with the government and their representative bodies during the implementation process.

ACSEV members collective experience is valuable as we believe checking qualification alone will not make the scheme a success and experienced engineers will have to play a bigger role in running the registration from a technical point of view.

It was a long and wearing campaign but ACSEV stood for voicing its members concerns. We urge all members to review the Bill and voice their concerns to ACSEV and to your elected representatives.

Thanks to our President, Karl Apted, and all others who have volunteered for this cause, and for the brave attempt to defend ACSEV's position and to engage with government and all other stakeholders, a job well done.

NEWS

- Steel seminar on Sep18,2019
- Waffle pod research getting momentum
- ACSEV student award presented to Swinburne graduate
- ATEN scoping study evaluates European models

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Karl Apted
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2018-2019

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“ We feel there are legitimate concerns with the proposed legislation and the Engineers Australia needs to consider and respond to issues raised by their members and others in the profession. ”

President’s Message

Dear Association members,

This year has been an interesting year so far, with a large amount of focus on the Professional Engineers Registration Bill, currently before the Victorian Parliament (it has been passed by the Legislative Council and will now go back to the Assembly for Assent before becoming an Act and then be implemented as law). ACSEV has had many concerns with this Bill and has lobbied independents and the opposition with our concerns. Unfortunately, the Bill has been accepted by Parliament with no amendments.

ACSEV’s main concern is how the Bill will affect members and their ability to practice.

Will regulation of professional engineers lead to safer design? This remains to be seen, as it is likely that most engineers will simply get registered and continue on as before.

ACSEV is concerned that recent well publicised issues with structures in New South Wales (particularly the Mascot & Opal Towers Apartments) are being used emotively to push registration in its current proposed form without considering the effect on the profession and the public. We are incredibly disappointed that registration is being tied to items that are arguably New South Wales related and arguably not likely to be prevented by registration of engineers.

We have also had disappointing responses from Engineers Australia (noting that a majority of our members are also members of EA). We feel there are legitimate concerns with the proposed legislation and that Engineers Australia needs to consider and respond to issues raised by their members and others in the profession.

It sometimes feels as if we are not valued as a profession by Government and our representative bodies.

We now look to see what regulations will be adopted to accompany the Act. ACSEV intends to make representations and be consulted as part of the process.

If members have concerns with the Act and possible regulations, they should still address them via their local Victorian Parliamentary members (both Legislative Assembly and Council).

The Government still needs to form the regulations and there should and will be opportunity to comment and hopefully influence the regulations to achieve a fair outcome for what will now be known as Registered Professional Building Endorsed Engineers.

Of note, as the President of ACSEV, there are still 2 main items that have been raised by members (multiple times) requesting advice or assistance, or expressing their concerns. These being Professional Indemnity Insurance issues (particularly policy exclusions), and the proposed Professional Engineers Registration Bill.

ACSEV are currently looking to make representations to the Victorian Government and the Victori-

an Building Authority regarding Professional Indemnity Insurance and the issues with exclusions the underwriters are adding to policies. ACSEV has concerns that compliant insurance will become unobtainable meaning many engineers may not be practicing correctly under the Building Act.

These items are further addressed elsewhere in the newsletter, but I would like to note these items are important to our practice as registered building practitioner engineers and they will affect our members, so members should be aware of these issues. ACSEV is also looking at these issues and has and will be making representations to the Victorian Government and the Victorian Building Authority on these issues.

ACSEV also has interests in ongoing research projects, including:

Australian Technical Evaluation Network (ATENS) scoping project that is looking at a new system of evaluating and adopting products and materials particularly for use in the construction industry. This is jointly been run with Swinburne University and the Victorian Building Authority amongst others.

The Steel Fabrication and Design Handbook is looking to provide design and fabrication recommendations and standard details for more efficient designs. This is jointly been run with Swinburne University and the Australian Steel Institute.

The Screw Piles and Suspended Waffles Slab project, is being run by Foundations and Footing Society Victoria and Victoria University. This research and testing is looking at standard design of suspended waffle slabs in highly reactive sites, and is aimed at reducing ground movement related issues with domestic housing in reactive sites. Refer to articles elsewhere in this newsletter for further information.

I encourage all members of our Association to contact the Committee and Office Bearers with any questions, issues, concerns, or even comments on how we are running the Association on your behalf.

The Committee is also there to help you with any issues you may have. Networking and informal mentoring offered by ACSEV members and the Committee can be of enormous benefit. If you do not know or have concerns about elements of the profession or design queries, additional feedback can be of benefit. There is an extensive amount of knowledge and experience in our Association that can be accessed, just ask. Committee members are always willing to offer their advice.

I look forward to seeing you at our workshop combined with our next presentation in September, this will be regarding the Steel Structures and fabrication issues. Look out for the flyer.

Please also put aside Friday 8th November for the ACSEV Annual Dinner. Look out for further information to be sent shortly.

Karl Apted



Luke Tymensen
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2018-2019

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“ I invite all members to consider if they would like to be involved in the committee for FFSV moving forward. The committee is always looking for new members and the involvement really comes down to four committee meetings per year.”

Chairperson’s message

Dear Members,

The year is flying along and it the dreaded word “Christmas” is even already being spoken about.

The most recent meeting was the joint FFSV / ACSEV meeting on Basements that was well attended by over 150 people. This was obviously a topic that held great interest to many in our field.

There have been some responses to members of parliament regarding the vote on the Professional Engineer Registration Bill 2019. Some Committee members have put forward their views on how this will affect the industry and provided guidance on how they feel that the Bill can be improved. In principle we are in support of having Geotechnical Practitioners registered it is more in the detail on what qualifications and assessment criteria is to be used.

This is an important current issue considering the amount of media coverage that defective buildings have at the moment.

An update on the screw pile waffle project is that we have had a meeting with representative’s from most of the Universities regarding what sensors and monitoring of the slab that can be achieved. At this point in time the committee is completing the designs of three potential options and they will then decide what we will monitor and then work out what the costings of this will be. It was clear from the meeting that this is a major cost element for the whole project. It is taking longer than anticipated but we want to make sure that the project is completed in a manner to ensure we gain the most information as an industry.

At the previous meeting we had David Lawrance present an outline on a practice note for the investigation of distressed dwellings. It must be clearly pointed out that this is only an outline and the committee encourage members to read the outline and provide comments on this. We have already received some valuable feedback and will wait another month or so for any more. The committee will then complete the practice note and provide this to members and other interested parties as a guideline to how an investigation should be completed.

The idea behind this is to set an industry standard so that any reports completed contain the relevant information so that when reviewed by the owner, builder, client etc the information contained in the report details the issues at the site, including what further investigative works may be required.

As the year is rapidly disappearing our last general meeting and AGM will be held late October / early November. Details will be provided in the coming weeks once we have had a committee meeting to determine the date and the details of the speakers.

I invite all members to consider if they would like to be involved in the committee for FFSV moving forward. The committee is always looking for new members and the involvement really comes down to four committee meetings per year. It is a great chance to mix with others from the industry and some of the discussions at these meetings provide valuable insights.

Sincerely,
 Luke Tymensen

Aims of Foundation and Footing Society

- Promote a higher standard of geotechnical investigation for low rise industrial, commercial and residential buildings.
- Develop an appropriate site investigation code for new constructions, repairs and/or similar re the above buildings.
- Exchange technical information with all related professionals.
- Conduct regular meetings, including excursions and seminars between ourselves and specially related professionals.
- Seek to gain input into relevant codes and Australian building standards relating to the industry.
- Ensure that the members of the organisation or association be well vetted.
- To encourage affiliate membership amongst related professional groups and/or or-

ACSEV technical meetings-updates

Karl Apted



We started the year with our traditional site visit, to the Veridian Glass factory in Dandenong. The meeting bookings were well responded to, but unfortunately the number of persons per tour was limited to 20. We are looking to arrange another inspection and will keep members informed. The tour was informative and gave insight as to how glass was made and coated, from raw materials until finished product ready for shipping. Thank you to David Lyon for organising the tour.

The first technical meeting of the year was held on 20th March, with Cora Xu an engineer from Think Brick Australia providing insights on the changes to AS3700-2018 Masonry Code and effects on the National Construction Code. This was followed by an informative presentation from committee member Joeseeph Genco, who is also a registered Building Surveyor, regarding the new changes to the NCC2019 to be released shortly and the effects on Regulation 126 Certificates of Compliance under Section 238 of the Building Act. This generated some lively debate.

April's technical related to Litigation and more particularly what to look out for and how to handle claims made under Professional Indemnity Insurance. Mr. Scott Krishchock of Moray Agnew Lawyers gave insights from the the perspective of legal practitioners representing insurers and engineers when claims are made.

The May meeting was presented by Jim Forbes from Arcadis Consulting. Jim is the current Chairman of the BD2 Committee responsible for the new AS3600 Concrete structures code. Jim gave a great presentation on why changes of the code were adopted.

Len Dalziel of Cadesystems presented on Timber for the June meeting, and helped keep us informed about timber design and construction, and what to look out for, and gave interesting background on how much of the AS1684 Residential Timber Framed Code was developed. As past President of ACSEV and long term committee member Len knew what he was in for, and the presentation well done.

The July meeting related to Professional Indemnity Insurance: Are we covered and what we should expect from it. The presentation from Matt Kuc and Wade Cadman from Austbrokers Insurance was particularly informative, giving views from the insurer's perspective and the types of claims and how to deal with them.

The last meeting was the combined FFSV and ACSEV meeting, with presentations by Dr. Andrew Lochaden from Golders Associates and Mr. Ashkan Tabatabee from Straightline Contractors. Interesting and informative presentations were made regarding basement designs and what to consider, including geotechnical requirements and loading conditions.

ACSEV funded projects-updates

R. Brown

ACSEV and FFSV have been engaged in a range of projects including the ongoing ATEN and about to go to a climatic situation where FFSV are concerned with the testing of screw piles in hold down, on highly reactive soils. I think we have enough knowledge to understand that screw piles tend to hold up construction fairly well, provided you understand you need to keep them away from leaking pipes. On that point quickly go to Melbourne Water's website and have a look at their requirements, how far away from their assets you need to put piles - it's illuminating it is nothing to do with one-to-one angle and I commend that you review the same. However back to the main topic, FFSV with the help of Victoria University Werribee campus is about to install and test a waffle pod utilising screw pile as a hold down. I think we are all aware that the main failure mode within the first five years of any construction relates primarily to the ground hydrating and heaving; a combination of tree effect and plumbing leak and everything that occurs in the middle.

ACSEV and FFSV will be arranging a meeting next year where we will explore methods of determining how leaks occur how to track them down and how to be sure you found all the leaks that you can find, noting that 80% of investigation by plumbers does not find the leak. We'll be hoping to have members from the building industry who are responsible for repairing houses for their rather large corporations, some plumbers who help and assist in investigation and two practitioners who investigate and nominate how best to fix and repair.

I anticipate that this will be a well-attended meeting and again if you've got some input/knowledge on this topic, please put it in as we like to have as broad a background as we can.



Timber through ages

Len Dalziel, has delivered an excellent presentation of history of timber on 19th June, right on content perfect on delivery and relevant on practice. An evening well spent with peers listening to an experienced engineer exploring the history of timber right through the early stages to the current practice domain. When you are using span tables for long, you often get to a point that you almost forget the basic design theories and assumptions. Please keep in mind the fact that timber often fails at the connections and specifying the fasteners with the compliant material is also equally important to specifying the grade of timber. It was scary to know that no Australian standard specifies how to manufacture a coach bolt and no one can guarantee it's performance even if it is made in Australia.

Thanks to Len, past president and long serving ACSEV committee member who always keep the committee informed about the timber industry to strategize ACSEV initiatives. Well done Len, looking forward to hear more from you.B.Biju

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ACSEV student awards presented

B.Biju



Ms. Semeli Harmanis, Swinburne graduate was presented with Swinburne University ACSEV 2018 Structural Excellence Award on 7th May 2019 at an auspicious ceremony at Hawthorn Arts Centre. Jenny Norrish, Treasurer of ACSEV, presented the award and was also the guest speaker for the evening. Jenny, in her speech emphasised the need for the regular interaction between practice and academia for a better understanding to solve real life engineering problems.

Jenny spoke about how technology is rapidly changing and developing, and that the impact of world wide challenges including global warming, changing attitudes and the introduction of innovative new materials cannot be overlooked for a second. All technical professions must remain fluid, they must re-invent and revitalise continually as the world changes around us.

A former student and faculty member, Jenny congratulated Semeli and also encouraged graduates to be a part of professional bodies like ACSEV to continue their life long learning. Ms.Semeli is now working as a graduate engineer at Arcadis. The faculty of science, engineering and technology scholarships and prizes ceremony was attended by Professor Linda Kristjanson (Vice-Chancellor) and Professor Hung Nguyen AM (Pro Vice-Chancellor), faculty members, donors and students.



Mr Nicholas Santilli was presented with RMIT University ACSEV 2018 Structural Excellence Award on 17th October 2018 at the ACSEV AGM held at Box Hill Golf Club. The award was presented to Nicholas by Karl Apted, President and Jenny Norrish, Treasurer.

ACSEV is proud to be involved with three universities this year, offering annual structural excellence awards to the high performing students in civil engineering. This is a part of ACSEV's initiatives to encourage young engineers to become a part of professional associations, to continue with their professional learning, through technical seminars, workshops and site visits.

ACSEV also offers networking and mentoring to young engineers who are new to the consulting world.

Thanks to Jenny Norrish, Treasurer who is doing a fabulous job in coordinating the universities and awards.

....Editor

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NEW MEMBERS WELCOME

CROSS-Confidential reporting of structural issues

R.Brown

Yes, at long last CROSS which had been around in England for quite some time has arrived in Australia and it appears to be a very worthwhile episode and can be accessed at <https://www.cross-aus.org.au/>. They are looking for members and articles and knowing some of the sites that I have seen, I'm sure we can put forward is quite a few, they will in turn I believe clean it up meaning that nobody can backtrack it as to whence and where it came and therefore we might all be able to learn from the mistakes of others far better way than to learn from our own. You should also understand that it is in part if not fully being financed and subsidised by the steel industry of Australia but like all organisations I'm sure would like to see a broader method of funding.

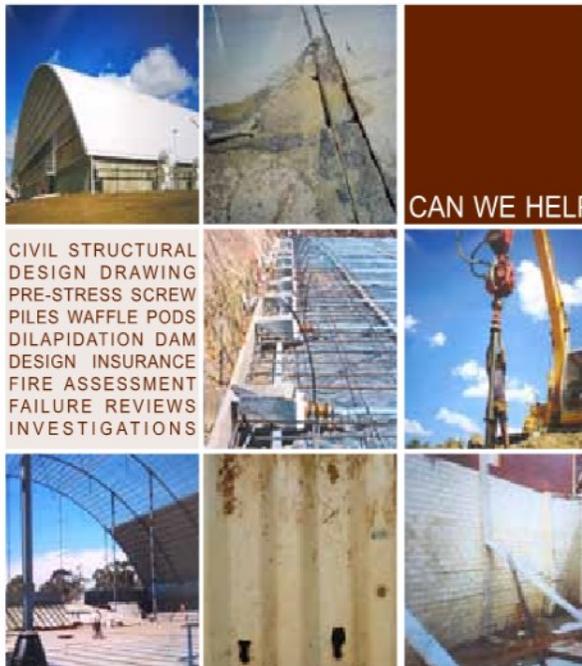
Do you have experience of a safety issue or have concerns that should be shared for the benefit of others?

Online Reporting

The online form can be accessed on the [Submit Report](#) page. Fill out the form and give a description of an event or of your concern, and tick the requested boxes. The form asks for the reporter's name and contact details but these will not be used except to contact you for clarification. The form will be seen only by the Designated Persons, who will remove features that identify a structure, firm, or product so that the report is anonymised. Only then will it be processed further. Photographs and PDFs can also be submitted. CROSS-AUS will maintain the confidentiality of the reporter and will not disclose personal details including email addresses.

Offline Reporting

For offline reporting, contact administrator@cross-aus.org.au and ask for the CROSS-AUS postal address. This will be given along with a reference number and on arrival the envelope will be opened and the contents seen only by the Designated Persons.



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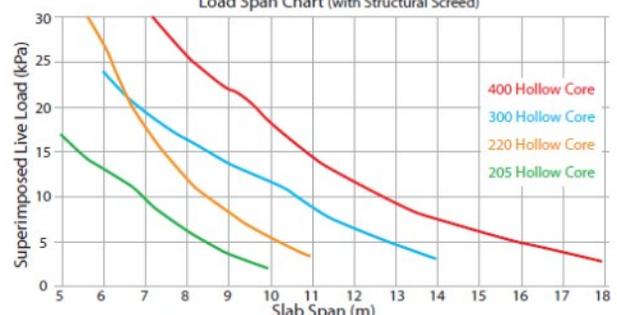
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Victoria Government Gazette

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By Authority of Victorian Government Printer

Building Act 1993

BUILDING PRACTITIONERS' INSURANCE MINISTERIAL ORDER

I, Richard Wynne, Minister for Planning, pursuant to section 135 of the **Building Act 1993** (Victoria), hereby revoke as from 12 August 2019 the Building Practitioners' Insurance Ministerial

We have included only the top part of this announcement from the Victorian Government Gazette on the grounds that it runs for about four or five pages. This order stipulates the minimum insurance cover for all building practitioners including Engineers. The order empower VBA to reject your insurance if your policy has cladding exclusions. ACSEV committee is reviewing this order and seeking your feed back. The order can be downloaded from <https://aibs.com.au/Public/News/2019/Victorian-Building-Practitioners-Insurance-Ministerial-Order.aspx>.

We would strongly suggest that download the order and mark up your own notes and please take into account this may affect your insurance. We note that it is heavily worded in such a way that I think it is difficult to read therefore if anybody got any questions or comments could they please bring it along to the next meeting of either foundations and footings society or ACSEV and or both if you can.

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Mechanical Properties of Ultra-high Strength Steel (Grade 1200) at Room and High Temperatures

Amin Heidarpour, Head of Structural Engineering Group, Department of Civil Engineering, Monash University

Introduction

Due to their unique characteristics such as strength, energy absorption, weight saving etc. high strength (HS) and ultra-high strength (UHS) steel materials are widely used in industrial productions. One of the most wide spread applications of high strength steel has been in automobile manufacturing, for instance its utilization in propeller shafts, suspension parts and doors under impact and crush conditions [1-3]. In particular, they are currently widely used as a cost effective solution for enhancing vehicle safety.

Although having a greater strength to weight ratio of the steel material leads to the reduction of the weight of the steel structure, applications of HS/UHS steel as a structural material in the field of civil engineering is currently very limited due to a lack of research supporting its use and relevant design guidelines. Due to the knowledge gap, current major design guidelines around the world do not make reference to UHS steel material (Grade 1200), thus reducing its widespread use at ambient and elevated temperatures. However, the use of this material can lead to a great deal of reduction in the consumed mass and increase the overall load bearing capacity. The use of high strength material also leads to longer life span of structure. Specifically, UHS steel tubes exhibits an increase of 2.5 times of life span than that of mild tubes [4]. The cost effectiveness of high strength material has also thoroughly been studied in previous literature [5, 6]. In terms of cost, a comparison among high strength steel tubes and normal steel tubes in realistic possibilities of building columns, considering the strength, stability and stiffness conditions, clearly indicated that using high strength steel in structures is more economic [7].

Manufacturing process

The ultra-high strength of UHS steel materials is basically obtained by fast quenching techniques either in water or oil. The most applied method used for manufacturing the UHSS materials is the traditional quenching and tempering technique (QT). During this process, the material is quenched rapidly in several stages either in water or oil. Thus, through a final heat treatment, the steel is reheated to moderate temperatures for a short time [8]. This process is called tempering, by which a certain level of the ductility of steel is recovered. In recent years, a unique manufacturing process called the direct quenching technique (DQ) has been proposed by steel manufacturers [4]. Unlike the traditional QT technique where the material is quenched in several stages, in direct quenching method the material is quenched only in one stage. In Figure 1, the two techniques are compared by schematic diagrams. This article aims to report the mechanical properties of UHSS manufactured by the DQ techniq

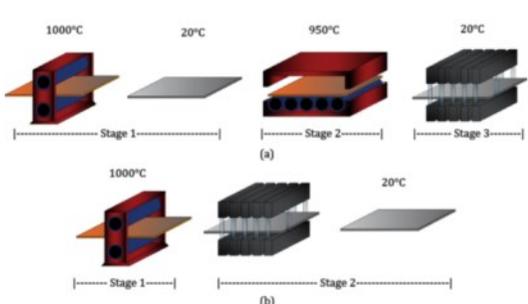


Figure 1. (a) Traditional QT technique (b) direct quenching technique (DQ)

Mechanical properties

Material properties at ambient temperature

Tension material tests have been conducted on the coupons taken from UHS steel tubes and the results were compared with those of mild-steel and high-strength steel following the guidelines of ASTM-E8M-04 [9] and AS1391[10]. Stress versus strain curves read from the laser extensometer data of the average test specimen for the mild steel plate and three different steel tubes are shown in Figure 2. It is seen that along with the strength increase in HS and UHS materials, the ductility experiences a significant decrease.

Material properties at elevated temperature and after cooling

For the heat-up tests, the SF-16 split furnace is installed on the Instron 5982 100kN testing machine. Nine different target temperatures are considered in this study, i.e. room temperature (RT), 300°C, 470°C, 540°C, 600°C, 650°C, 700°C, 750°C and 800°C. By using the Instron 5982 100kN testing machine, a strain-controlled tensile test with an applied strain rate of [9, 10] is carried out on the specimen at high temperature until failure. In order to evaluate the post-fire mechanical response of the UHS and HS steel tubes after cooling from fire temperatures of up to 800°C, the test specimens are heated up to the target temperature as explained in the previous section. Once the temperatures shown by the three thermocouples attached to the specimen are stabilized at the target temperature, the temperature is held constant for 20 mins. The specimen is then allowed to air cool at its own rate by turning off the furnace and opening the door. The strain-controlled tensile test with an applied strain rate of is then conducted on the test specimen once it reaches room temperature.

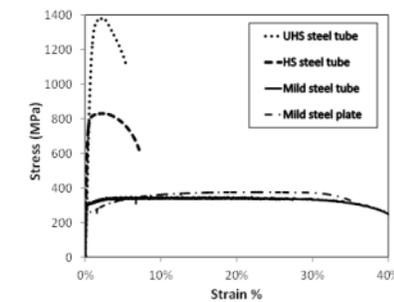


Figure 2. Stress vs. strain curves

Figure 3 shows the elevated temperature stress- strain curves resulting from the heat-up tests. The onset of necking is signified by a black cross sign (X) on the plotted curves. In this study, the UHSS specimen tested at elevated temperature T is shown as UHSS-HT, where H represents the Heat-up test. Also, the UHSS-RT represents the stress-strain curve of the virgin UHSS at room temperature (RT). As illustrated in Figure 3, the strength of UHSS is reduced as the maximum temperature increases. In addition, a considerable drop in strength is observed when the temperature exceeds 600°C.

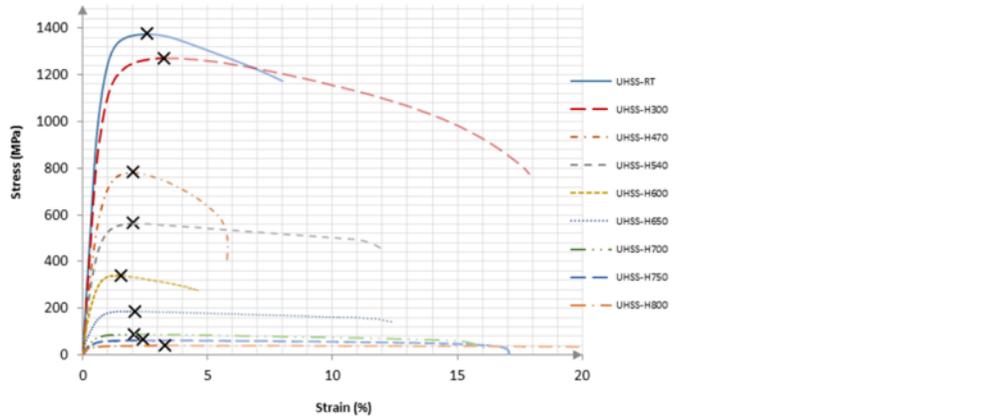


Figure 3. Stress-strain curves for UHSS specimens at elevated temperatures ranging from 300°C to 800 °C

The stress-strain curves of the UHSS specimens under strain-controlled tensile test at room temperature after being cooled from different fire temperatures are presented in Figure 4. It is evident from the curves shown in Figure 4 that the strength of UHSS is not regained after cooled from temperatures at or above 470°C. It can be also interpreted that the residual strength of UHSS is significantly reduced after being cooled from fire temperatures above 700°C.

The reduction factors of the 0.2% proof stress ($f_{0.2}/f_{0.2, RT}$) and the ultimate tensile strength ($f_u/f_{u, RT}$) for both heat-up and cooling tests are plotted in Figure 5 with respect to the maximum temperature the specimens have experienced. For the purposes of comparison, the values provided by the AS4100 [11] and AISC [12] standards for the 0.2% proof strength and the ultimate tensile strength reduction factors of mild steel at elevated temperatures are presented. As shown in Figure 5, **using the values given by the standards to predict the tensile mechanical behaviour of UHSS structural members at fire may lead to an unsafe design.** On the other hand, there is no provision in the building codes for the UHSS materials under cooling phase of a fire. **In order to predict the in-fire and post-fire behaviour of the UHSS structural members, a new set of strength design formulations must be proposed.**

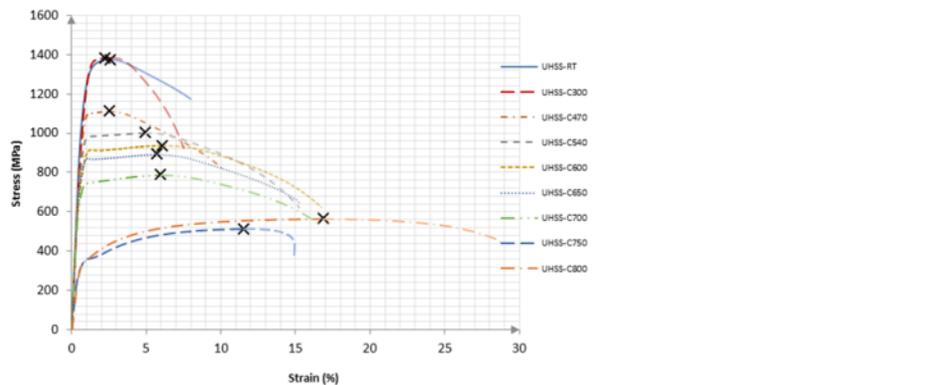


Figure 4. Stress-strain curves for UHSS specimens after cooling from high temperature

In this article, the parameter used to indicate the in-fire/post-fire ductility of the UHSS is the ratio of the uniform elongation (e_u) of the UHSS specimens obtained from both heat-up and cooling tests to that of the virgin UHSS tested at room temperature ($e_{u,RT}$). In Figure 6, the variation of $e_u / e_{u,RT}$ ratios with respect to the maximum temperature the material has experienced are plotted. The results show that the variation of uniform elongation of the UHSS specimens tested at elevated temperatures do not share the same trend with those of the UHSS specimens tested after being cooled to room temperature.



Figure 5. Reduction in proof-stress (a) and ultimate stress (b) of UHSS specimens compared AS4100 and AISC

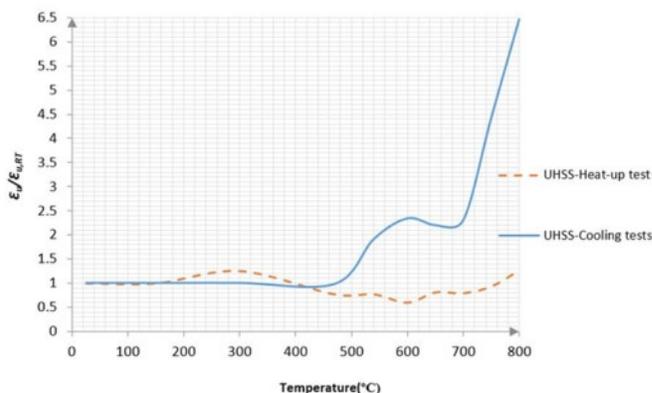


Figure 6. Variation of ultimate strain with temperature

The ductility of a structure is an important parameter to determine whether or not sufficient plastic deformation can be developed. Among a number of requirements recommended by the codes of practice such as AS4100 [11], AS/NZS 4600 [13] and Eurocode 3 [14] to determine whether the plastic analysis can be applied, the ratios of $f_u/f_{0.2}$ and ϵ_u/ϵ_y , which has been addressed by all the aforementioned standards, and recommended by Eurocode 3 [14] are discussed in this study. According to AS4100 [11] and Eurocode 3 [14], the ratio of $f_u/f_{0.2}$ must be equal to or greater than 1.2, while AS/NZS 4600 [13] recommends a limit of 1.08 for this ratio. Moreover, ϵ_u/ϵ_y must be equal to or greater than 20 as suggested by Eurocode 3 [14]. Tables 1 and 2 present the variations of $f_u/f_{0.2}$ and ϵ_u/ϵ_y for the UHSS specimens tested at elevated temperature and after cooling from different fire temperatures. It can be seen that while the values obtained for the ratio of $f_u/f_{0.2}$ from the heat-up tests for temperatures equal to or greater than 300°C are within the acceptable limits recommended by the standards, those obtained for the UHSS specimens cooled from fire temperatures to room temperature do not meet the requirements of AS4100 [11] and Eurocode 3 [14] for all temperatures. However, they are still within the acceptable limit suggested by AS/NZS 4600 [13]. In addition, according to the results shown in the second row of Tables 1 and 2, the values of ϵ_u/ϵ_y do not meet the requirement of Eurocode 3 [14] for all temperature exposures, meaning that it may have to be modified to take into account the higher strength steel grades, the fire temperature exposure and the cooling phase. More information can be found in Refs [15, 16].

Table 1. Variation of the ratios of $f_u/f_{0.2}$ and ϵ_u/ϵ_y at various fire temperatures

Temperature	RT	300°C	470°C	540°C	600°C	650°C	700°C	750°C	800°C
$f_u/f_{0.2}$	1.174	1.221	1.345	1.309	1.306	1.724	1.827	1.743	1.398
ϵ_u/ϵ_y	3.106	3.892	3.153	3.514	3.255	6.551	7.767	9.231	12.565

Table 2. Variation of the ratios of $f_u/f_{0.2}$ and ϵ_u/ϵ_y after cooling down from various fire temperatures

Temperature	RT	300°C	470°C	540°C	600°C	650°C	700°C	750°C	800°C
$f_u/f_{0.2}$	1.174	1.170	1.117	1.106	1.231	1.152	1.171	1.653	1.867
ϵ_u/ϵ_y	3.106	3.100	3.341	6.806	9.939	8.963	10.391	20.613	30.963

Summary

This article has reported the mechanical properties of ultra-high strength steel tubes (Grade 1200) at room and high temperatures. The article also included the mechanical properties of the material after cooling from high temperature. Considering its unique characteristic in reducing the weight to strength ratio of steel structures, UHSS has a great potential to be used in Civil Engineering. However, due to having different manufacturing process and chemical composition, the strength and ductility of UHSS material affected by the temperature cannot be predicted using current equations available in building codes which have mainly been demonstrated to be valid for steels up to 690MPa. This means significant research needs to be done in this area to prepare the essential information required for incorporating ultra-high strength steel in codes of practice.

Acknowledgement

The contribution of Dr Fatemeh Azhari, Dr Mohammad Nassirnia and Dr Fatemeh Azhari in conducting the experimental tests and data analysis at Monash University is acknowledged.

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ACSEV
ABN 65 622 466 320

STEEL DESIGN seminar 2019

Wednesday 18th September 2019
12.15pm – 9.30pm



OUR GUEST SPEAKERS

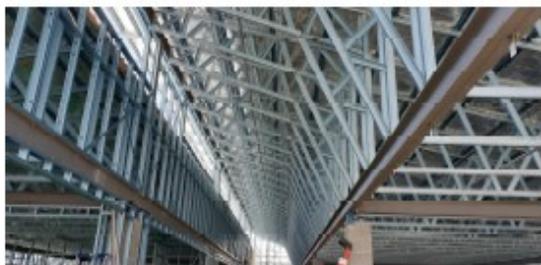
Anthony Galgano Russell Keays
Michael Dawson Ken Watson
Russell Brown Spiros Dallas

Venue:
Box Hill Golf Club

Session 1: Fabrication. Detailing structures that work well
(includes an insight into the handbook of professional connection details being compiled by Swinburne & ACSEV)

Session 2: Lightweight Steel
Design of steel members & connections
(using worked examples & the Handbook currently in production)

Session 3: Learn from others! How to avoid costly steel failures



Limited places available

<http://events.acsev.org.au/event/view/34/>

YOUR CONTACT DETAILS CHANGED???

Please let us know

Please contact
Membership Officer:

Francis Hsieh

494 Springvale Road, Glen Waverley, VIC 3150

fristalone@optusnet.com.au

“Repeater station collapse from roof top”

Can members please forward something positive ? something standing up?

Engineers design structures to stand up, not to fail. But things fail when people compromise on design, detailing and installation. The above photo was forwarded by a member to show how things can fail if proper due diligence is not followed in engineering practice, not a pretty picture but a good lesson to learn.

We want to hear from you about engineering failures. Please send your email to russellb@ribrown.com.au

AS 3600:2018, What is changed and why?



Probably one of our best presentations by James Forbes where he touched upon the actual real changes in 3600, primarily that related to shear and also higher strength concrete, which we already heard about from other sources in the past. I thought his presentation allowed us all to have an insight into the workings of a committee of this size and influence and also the care and the amount of time it takes to get things right.

The one area that I felt we did not have enough background on was, where did the research information relative to the shear problem come from and/or the solution for same more to the point. To this end I did contact James Forbes and he was gracious enough to send me on a copy of the ACI structural journal technical paper title number 103 – S65 which is headed "simplified modified compression field theory for calculating shear strength of reinforced concrete elements".

I think we have now learnt an absolute truth that simplified means research paper exceeding 15 pages, I therefore suggest the word "simplified" might be somewhat of an oxymoron.

If you would like Russell Brown to bring a copy to the next meeting, please send an email to Russell via info@ribrown.com.au.

Due to the pressures of time, litigation and all fun things, Russell Brown has not had the chance to put together a review of all of the inputs that ACSEV/FFSV have made over the years to research and the benefits that have been gained by both us, society and the universities. We are hoping to give an overview as to how many PhD's, Masters and final year students work on the projects that we have funded, primarily the one related to AS2870 done through Swinburne, one currently being done through VU and Swinburne and others involving Swinburne via FFSV. It is a remiss that we have not been kept informed and Russell will be taking every action to get at least a rundown on all the good news associated with same and also to indicate the benefits of our expenditure.

....Editor

Disclaimer

Statements made in this News letter do not necessarily represent the views of the Associations. The Associations cannot accept responsibility for the accuracy of any information supplied or for any loss or damage which may arise from errors or omissions. We strongly advise independent verification of the facts before practice.

.....Editor

AS 5216: What is this and why it is important

Dr.Tilak Pokharel, Australian Engineered Fasteners and Anchors Council (AEFAC)



The Australian Engineered Fasteners and Anchor Council (AEFAC) is an industry initiative seeking to enhance the specification, selection, design and installation of structural anchors and fasteners in the Australian construction industry. AEFAC was established in 2012 and is a consortium made up of seven Founding Board Members, namely Ancon Building Products, Hilti (Aust.), Hobson Engineering Co, ramsetreid, Stanley Black and Decker (Powers), Swinburne University of Technology and Wurth Australia; and four Supporting Members, namely Allthread Industries, ICCONS Pty Ltd , Simpson Strong-Tie and United Fasteners.

The AEFAC initiative has won several awards including The Australian Financial Review Higher Education Award (Industry Engagement) and Swinburne University of Technology’s Vice-Chancellor’s Industry Engagement Award in 2015. These awards are recognition of AEFAC’s work in improving safety standards, uplifting quality for anchor industry and fostering deep engagement between academia and industry.

Prior to the formation of AEFAC in 2012, the industry was fragmented; different terminology, evaluation procedures for products and design guidelines existed among suppliers, making selection of a fastener confusing to engineers and potentially dangerous to the end user.

Frequent construction problems, failures have been encountered in Australia and other similar economies such as in Europe and the US when no guidance for safe design was available. The European and American markets have responded to catastrophic failures by introducing regulation to protect life safety. AEFAC is being pro-active to mitigate such failures by developing a safety framework in enhancing the specifications, design requirements and installation of anchors through the design provisions for fastenings to concrete.

AS 5216 – Design of post-installed and cast-in fastenings concrete

The design provisions for fastenings to concrete for use in Australia are now available as the Australian Standard AS 5216:2018 “Design of post-installed and cast-in fastenings concrete”. This standard supersedes SA TS 101:2015 which was instigated by AEFAC. AS 5216:2018 and SA TS 101:2015 are similar in scope and content but some editorial modifications have been made in the transition.

The development of the design provisions followed the Australian Building Codes Board Protocol for the Development of National Construction Code Referenced Documents. This standards and its full details can be acquired through SAI Global.

The current version of the National Construction Code (NCC) 2019 references AS 5216.

The prequalification is considered to be fulfilled if the fastener has either: a current European Technical Assessment (ETA) as identified by AS 5216:2018 Appendix B; or has been tested and assessed in accordance with AS 5216:2018 Appendix A

There are different paths for compliance with the performance requirements the National Construction Code (NCC). For further details, please refer to this ABCB infographic.

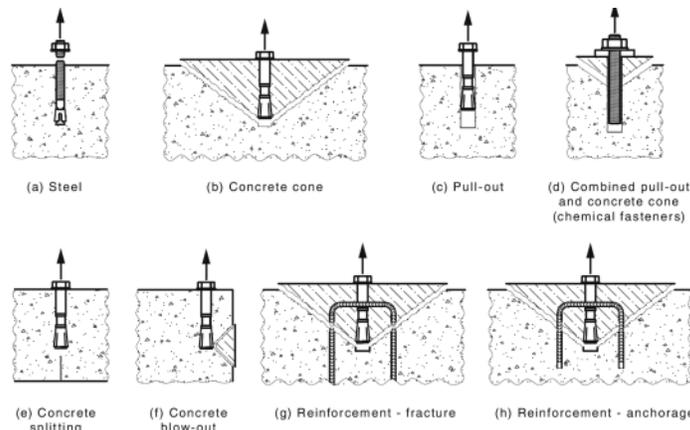


Figure 1: Possible failure modes of post-installed fasteners under tensile loading covered in AS 5216

AEFAC is currently developing a number of guidance documents on post-installed and cast-in anchors. These are intended to become codes of practice in Australia. Specifically, in short to medium term AEFAC is developing the following:

- Design of fasteners for seismic actions
- Design of anchor channel loaded in longitudinal direction
- Redundant fasteners
- Post-installed rebar connections

Additional resources are being developed to assist design engineers and specifiers of anchors and fasteners. These free resources promote state-of-the-art practice for the Australian construction industry. All documents generated by AEFAC have been reviewed by an expert technical panel to ensure best practice advice is provided. Please refer to AEFAC resources page for up-to-date information.

Installer Certification Program

Apart from proper design and product prequalification, installation is a critical aspect in the quality assurance framework for anchor performance to ensure that fasteners can perform as per intended design. Performance of post-installed anchors in concrete and masonry is highly dependent on the way the anchors are installed. Incorrect installation is a leading cause of anchor failures. AS 5216 recommends that installation of safety-critical anchors to be done by competent installers such as an AEFAC Certified Installer. As part of the industry's effort to enhance the standard of installation of post-installed anchors in Australia and bring in line with international practice, the AEFAC Installer Certification Program has been developed to train and equip installers with the necessary knowledge and skills to perform installation at the highest level.



Figure 2: AEFAC Installer Certification Program

AEFAC has partnered with several universities around Australia to provide the AEFAC Installer Certification training. Currently, AEFAC is developing an online training program to increase outreach and accessibility to the anchor industry.

The AEFAC Installer Certification Program reflects international best-practice for anchor installation. Candidates who are certified through the program have demonstrated competency in installation of chemical and mechanical anchors for safety-critical applications. Installers are required to demonstrate understanding of manufacturer's installation instructions (MII) and any supplementary information provided by the specifier, demonstrate ability of installing anchors according to the MII and understanding what to do when the installation cannot proceed in accordance with the specification, and how safety may be compromised by not following instructions. A more comprehensive description of the program may be found on the AEFAC website (www.aefac.org.au/certification.php).

In addition to AS 5216, the AEFAC Installer Certification Program is referenced in Standards Australia Bridge Code AS 5100.1:2017, Queensland Department of Transport and Main Roads' (TMR) specification MRTS86 and VicRoads Section 680 specification.

AEFAC Student Module

As design of anchoring into concrete is generally not covered in typical engineering courses in Australian universities. AEFAC has developed a short teaching module to provide training materials for undergraduate and postgraduate students at universities across Australia. This module aims to provide basic training on key aspects of anchor selection and design for safety critical applications and is in harmony with AS5216. This training is beneficial to graduates as they enter the workforce where fastening technology is used in many applications.

This training module is being considered by various universities across the country.

For further resources and information about AEFAC, please visit www.aefac.org.au

Prove the steel reinforcement conforms

By Scott Munter, BE FIE Aust CPEng NER APEC Engineer IntPE (Aus), Executive Director - Steel Reinforcement Institute of Australia.



I recently presented to a group of engineers about the importance of 3rd party **PROCESSOR certification** to guarantee the steel bar and mesh conforms to Australian Standards. After my presentation, an engineer came up to me and said:

I had no idea you needed a Processor Certificate. I've been relying on Mill Certification to prove reo product conformance.

Unfortunately, the engineer was not alone. Builders, engineers, architects and surveyors are incorrectly relying on mill certificates to prove steel reinforcement product conformance.



The mechanical properties of steel reinforcement change when a bar is bent or straightened from a feed coil (most small-diameter bar sizes up to 20 mm are supplied by coil). Similarly, when bars are welded together to make a sheet of mesh the mechanical properties of the final product have changed.

INDUSTRY

Once the bar is processed or welded, a mill certificate can no longer be used to verify product conformance.

That's why the SRIA supports a nationally recognised JAS-ANZ accredited 3rd party certification scheme for Processors of steel reinforcement. Organisations, such as the Australian Certification Authority for Reinforcing and Structural Steels (ACRS) or equivalent, assess the conformance of processed bar and/or welded mesh and certify that it meets Australian Standards.

To help you specify steel reinforcement that conforms to AS/NZS 4671 Steel reinforcing materials, AS 3600 Concrete structures, AS 5100.5 Bridge design Part 5: Concrete, and AS 2870 Residential slabs and footings, **we recommend inserting the following specification on your drawings:**

A 3rd party processor certification (ACRS or equivalent) must be supplied with all steel reinforcement at procurement, before any concrete is placed, to guarantee conformance of the reinforcement to Australian Standards.

Non – conforming building products endanger Australia's building industry. Don't take the risk.

Insert the above steel reinforcement specification on your drawings.

If you would like more information on 'How to Guarantee the Quality of Steel Reinforcement', then [register](#) your interest for Scott Munter to give an in-house lunch presentation with your team.

ESSENTIAL STEEL REINFORCING PROPERTIES FOR DESIGN & DETAILING

You're invited to our Essential Steel Reinforcing Properties for Design & Detailing national seminar series.

Co-hosted with the Concrete Institute of Australia, the seminars will inform design and structural engineers about good reinforcement detailing practices, new high strength steels, assessing historic reinforced concrete structures, and the process to guarantee quality of reinforcing products. There will be a Q&A session at the end.

Plus.... you will have the opportunity to view and order the new *Guide to Historical Steel Reinforcement in Australia*.

The series start in Sydney on 1 July and finish on 11 July in Perth.

NEW GUIDE FOR ENGINEERS

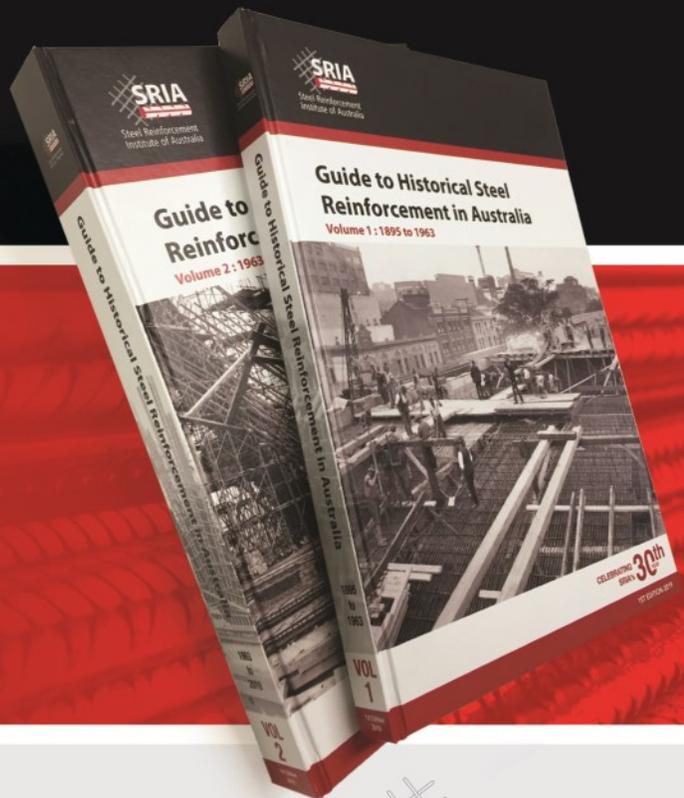
"... a monumental history of the concrete construction industry in Australia".

Ian Gilbert, Emeritus Professor
School of Civil and Environmental Engineering, UNSW Sydney.

The Guide to Historical Steel Reinforcement in Australia is a detailed and enthralling account of an industry that began in 1895 when Carter, Gummow and Co. constructed the Johnstons Creek Sewer aqueduct in Annandale, Sydney.

The 2-volume set is an invaluable Guide for engineers who need to assess the integrity of structures built over the past 124 years. The Guide provides information on the type and properties of reinforcement, composition and properties of the concrete, likely design and construction methodologies, and the relevant design codes, Standards and specifications used at the time.

Wonderfully illustrated, the Guide includes fascinating stories about the struggles and achievements of the pioneers of the steel reinforcement industry.



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Cement Australia	www.cemaust.com.au
Concrete Masonry Association of Australia	www.cmaa.com.au
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Australian Steel Institute	www.steel.org.au
Victorian Building Authority	www.vba.vic.gov.au
Australian Stainless Steel Development Association	www.assda.asn.au
Forest & Wood Products Australia	www.fwpa.com.au
The Australian Timber Database	www.timber.net.au
Wood Naturally Better	www.naturallybetter.com.au
Galvanizers Association of Australia	www.gaa.com.au
Australian Building Codes Board	www.abcb.gov.au
Australian Glass & Glazing Association	www.agga.org.au
Foundations and Footing Society of Australia	www.footingsaustralia.org.au
Engineers Australia	www.engineersaustralia.org.au

ACSEV Membership fees 2018-2019

ACSEV membership fees are collected for the financial year starting from July. Please pay your fees before June 30th 2018. Paying your fees on time will greatly help the committee to run a smooth operation.

<input type="checkbox"/>	MEMBER	\$185.00	<input type="checkbox"/>	MEMBER (Country)	\$145.00
<input type="checkbox"/>	ASSOCIATE	\$185.00	<input type="checkbox"/>	ASSOCIATE (Country)	\$145.00
<input type="checkbox"/>	RETIRED	\$70.00	<input type="checkbox"/>	GRADUATE (6 years or less)	\$90.00
<input type="checkbox"/>	STUDENT	NIL	<input type="checkbox"/>	LIFE MEMBER	NIL

TECHNICAL MEETINGS/SEMINARS

Date	Topic	Speaker	Action	Dinner Venue	Meeting Venue
January, 2019	No meeting				
20 Feb, 2019	Viridian Glass factory		DL	Site Visit	Dandenong
20 Mar, 2019	NCC 2019 Changes, Masonry industry perspective How to fill Design Certificate? (Reg 128)	Cora Xu Joe Genco	BB	Box hill Golf Club	Box hill Golf Club
17 Apr, 2019	How to protect ourselves being litigated	Scott Krishchock	RB	Box hill Golf Club	Box hill Golf Club
15 May, 2019	AS 3600:2018	J.Forbes	JN	Box hill Golf Club	Box hill Golf Club
19 Jun, 2019	Timber through ages	Len Dalzeil	JN/RB	Box hill Golf Club	Box hill Golf Club
17 July , 2019	PI Insurance for Engineers	Wade Cadman Matt Kuc	JN	Box hill Golf Club	Box hill Golf Club
21 Aug, 2019	ACSEV and FFSV Joint Meeting	Andrew Lochaden Ashkan Tabatabee	RB	Box hill Golf Club	Box hill Golf Club
18 Sep, 2019	Steel workshop	Various speakers	JN/RB	Box hill Golf Club	Box hill Golf Club
16 Oct, 2019	A.G.M	TBC		Box hill Golf Club	Box hill Golf Club
08 Nov, 2019 (Friday)	Annual Dinner		Sub Comm.	Nihao Kitchen 298-300 High Street, Kew	
December, 2019	No meeting				

Engineering Training Institute of Australia (ETIA) CPD Seminars

www.etia.net.au

Contact (02) 9899 7447 /0413998031 registrations@etia.net.au

Finite Element Analysis Workshop	Melbourne	Wed 4 September 2019
Marketing for Engineers Course	Melbourne	Wed 9 October 2019
Reinforced Concrete Design Workshop-Module One	Melbourne	Wed 4+Thu 5 September 2019
Repair & Protection Workshop-Module	Melbourne	Tue 8 October 2019
Shallow Foundations Design Workshop	Melbourne	Fri 6 September 2019
Wind Design Workshop, Dynamic & High Rise Structures	Melbourne	Tue 3 September 2019

Become an ACSEV member

The Association of Consulting Structural Engineers Victoria (ACSEV) is a professional association of structural engineers that provides technical and professional support to its members. ACSEV aims to facilitate better communication and goodwill between structural engineers, particularly those in small practices, and to advance the knowledge and professionalism of all members through technical training and regular contact with experienced engineers.

Our members specialise in structural engineering design related to the building industry on projects including commercial buildings, industrial developments, residential developments, domestic housing, institutional buildings, retail developments, bridges and various other structures.

Membership is offered at various levels to students, new graduates and industry associates, with full membership status available to qualified and experienced structural engineers eligible for either Building Practitioner (Vic) registration (EC - Engineer Civil) or membership of Engineers Australia.

Membership form can be downloaded from www.acsev.org.au



Well, it doesn't look too bad until you realise that there appears to be no bored piers vertically on the boundary, there appears to be no formwork on the boundary and we have a housing and construction just near the fence if any of you have seen like similar. please give us a rundown and some photographs.

SUBMISSIONS WANTED

FEATURE PROJECTS ADVERTISING FEATURES TECHNICAL ARTICLES

Do you have a response for our newsletter?

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Submit all content to Acsev.newsletter@gmail.com

Submission is acceptance that the contributor is responsible for all submitted content and is authorised to allow ACSEV to publish.

Engineers Fees

A sample of ACSEV members were surveyed in 2017 with regards to fee scales. The results printed do not include GST. GST must be added to the above rates. In addition, vehicle costs should be charged at the RACV scale. Members are not bound by this schedule. The range given is middle and some consultants may charge more or less dependant up on project difficulty or skill level required and size of project.

EXPERT WITNESS	\$300-\$400
DIRECTOR/PARTNER	\$250-\$350
SENIOR ENGINEER	\$200-\$250
ENGINEER:	\$130-\$200
SENIOR DRAFTSPERSON:	\$130-\$170
DRAFT PERSON:	\$100-\$130
OFFICE ADMIN	\$90 -\$110

ABCB to do “out of cycle” amendment to clarify concessions of cladding for timber buildings



Cladding debates are continuing as VBA found concessions for timber buildings could be misinterpreted by few of the building practitioners as the wording in NCC is misleading. The concessions are contained in Specification C1.1, Clauses 3.10(a) and 4.3(a) of Volume One of the National Construction Code (NCC). The VBA sought clarification of the concessions from the ABCB in the interests of public safety, having scrutinised the work of Victorian practitioners through its Statewide Cladding Audit. ABCB has issued an [advisory note](#) to clarify this and this will be amended in NCC through an out of cycle amendment.

The ABCB advisory note confirms that the intent of the concessions is confined to permitting the use of timber framing or a combination of timber framing and non-combustible materials in some circumstances. As a result, any building designed to comply with these DtS concessions must still retain non-combustible building elements such as external cladding.Editor

Australian Technical Evaluation Network (ATEN) scoping study evaluates European models

R.Brown



A scoping study for ATEN is currently being carried out with the support from Victoria Government Future Industries Funds. The consortium for the scoping study is led by Swinburne University of Technology with collaboration from Victorian Building Authority (VBA), Commonwealth Scientific and Industrial Research Organisation (CSIRO), Association of Consulting Structural Engineers Victoria (ACSEV), and National Association of Steel-framed Housing (NASH).

It is proposed that the Australian Technical Evaluation Network (ATEN) comprises of a consortium of building specialists and testing laboratories set up to evaluate building construction products and systems in terms of fitness for purpose, using the National Construction Code performance requirements as criteria for acceptance. Its aim is to build confidence and support for the Australian building regulatory system.

ACSEV being the supporter of this study, have the rare privilege of being able to support it by hourly input through the help from our members. The project is nearing completion and just as a background, Dean of Swinburne Prof. Emad Gad has been to Europe to have discussions with the Netherlands and also had discussions with the German equivalent. The subtle differences are the German equivalent is mandatory whereas the Netherland system is voluntary and not-for profit. It appears that both work quite well and they both tend to guarantee that products, methodologies and work practices are in keeping with good order and good practice. They also include some means of investigation and inspection whilst products are being utilised in the field and this is an area that is being looked at quite strongly. One of the methods is that if a product is to be registered and given a certificate at the time of paying for the effort involved in gaining that certificate, there is also a surcharge levied so that inspections can be made whilst the product is in use i.e. the producer, manufacturer or designer of the program pays in advance for inspections to be done independent of any other member of the building community.

This is all in the melting pot, thus if you have any comment on this please put it forward. The idea that there might be somebody coming around in a bullet-proof truck jumping out with machine guns going taking samples from the site to take them back and then coming in to arrest you is not the image we are trying to portray. What we're looking for is a sensible procedure whereby even us as structural engineers and geotechnical engineers, if we see something that is not as good as we like, can go to somebody independent of all parties on the site and ask them to review and investigate. I think it has legs but I think we all need to make sure something along these lines happen. At the moment we have a multiplicity of methods of registering products including self-registration by manufacturing organisations. These are proven to be very beneficial and rarely put forwards a construction that is negligent, on the other hand it has happened there may be a need for further review of these particular methods of accreditation. Again your thoughts are being sought.



The Brown Report

Dear Independent MP's,

I chose not to contact any members of Parliament until now. Even though several meetings had been arranged most of them were cancelled and/or did not fit in with everyone's schedule.

This Professional Engineers Registration Bill is of some significant concern to myself at a personal level. Firstly I will not have an academic qualification that would grant me registration. The problem being that I gained it while it did give me registration and full membership of Engineers Australia and full membership as a Fellow of Engineers Australia. I have in fact kept myself current, I've written eight international papers on foundation movement, I have chaired various groups and committees including the Australian Steel Institute (ASI) Technical committee, Association of Consulting Structural Engineers (ACSEV), and I founded the Foundations & Footings Society Vic (FFSV) which is an active group looking after the interests of the public where the investigation for foundations and design of lightweight structures is concerned. I do believe that I have kept myself as current as is possible and practical and that I am by definition a useful engineer. This particular Bill will put that at risk.

I strongly suggest that it needs to be amended to include a grandfather clause for those who are registered and have no technical black marks against them, they should be allowed to continue subject to CPD i.e. Professional Development time being spent correctly.

I have some minor concerns about some of the methodologies by which people can enter my business and take my computers and other information and I think that probably also needs to be reviewed from a more pragmatic point of view.

Further it would appear that the methodology to be ultimately put in place will be that Engineers Australia will be the sole body doing registration. I find this to be a limiting on professionalism as well as creating what will be by definition a union. Not that I am opposed to unions, I am only opposed to compulsorily having to belong to one.

I take it that they are well-positioned to do assessments and reviews et cetera, however I would think other groups can do equally as well, and I understand in Queensland this has been the case and therefore I believe that myself as a member of the ACSEV Committee will certainly be looking at an alternative methodology of registration outside that is provided by potential Engineers Australia only.

I would like to stress that I am in favour of compulsory registration as it permits deregistration and thus one can separate those who do not practice properly from those that do. Therefore I am not opposed to the Bill per se in its basic areas and directions, however I think it needs a bit of thought for those of us who are older (and perhaps even wiser) being deregistered as a methodology of achieving a Washington accord, and the potential for compulsion to have to be a member of Engineers Australia when for multiple years they have done very little at an extremely expensive dollar for me and my profession. They have not led the way in terms of our writing technical papers disseminating information that is useful for practising engineers particularly structural engineers and have been mainly more academically orientated when the vast majority of practising engineers have long since turned their back on academia and are getting down to the business of serving the public and doing it well.

I do hope you understand my position and take it into account. I believe further consultation would achieve a much better bill than the one currently proposed.

With regards,

RUSSELL I. BROWN | Dip.C.E. FIEAust. CPEng.

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