



THE LINK

Showcasing the successes, innovation and developments in the Fencing, Gate and Wire Industries



PRESIDENT'S REPORT

I'm never sure when to put pen to paper, as every time I write for the Link the world seems to change by the time it goes to print. Now its lockdown softening, and picnics for the fully vaccinated and the glimmer of hope in the national cabinet agreement that at 80% vaccination rates the borders will re-open.

This constant change can cause fatigue which is very real. I have noticed it in loved ones and colleagues at work. Personally, I am feeling the fatigue. You may be also, and that's ok.

Things are changing every day. New rules, relaxation of rules, border restrictions, protests, it goes on and on. With every press conference things change and this causes us all an element of stress. If we try to control a situation that is beyond our control, it magnifies these feelings. So how do we deal with all this?

What I have tried to do is deliberately separate the things I can't control from those things that I do have some control over. I can't do anything about escalating covid numbers in the community but I can do whatever is in my power to help the situation, like minimising my movements, getting vaccinated, and trying as much as I can to be part of the solution. The things that are easy to control in my world are simple, like making sure I swim everyday, and that I'm always present at dinner with the family and that those family moments are without external distractions. I like to make sure my routine is maintained as much as possible so I set my alarm for the morning and try and get my 8 hours each night. Yes it's boring but it's working. I find the weeks are flying by faster than I would like and I live in hope that soon this will all be over.

So, while the current circumstances might not be ideal, the end is in sight and I sincerely look forward to a time when I can see you all face to face and share our stories from the last 18 months or maybe just talk about something else.

Stay safe and please reach out if you are struggling.

Charles Johnstone
Go Bulldogs!



DIRECTOR'S REPORT

The Advanced Manufacturing Growth Centre (AMGC) released its latest report on Perceptions of Australian Manufacturing in September.

One of AMGC's key findings is that in 2021 almost three quarters of Australians believe manufacturing is either important or very important to the economy. This is higher than the 2019 result and reflects a renewed appreciation of the value of a strong and advanced manufacturing capability during the COVID-19 pandemic, and for Australia's future.

Additional recent job data also showed that more Australians are now working within the industry than prior to 2020.

Now perceptions are not everything, yet they are important, and in these days of covid fatigue, it's important to grasp good news wherever you can find it.

What is perhaps troubling about the AMGC Report is that it showed 18 to 24-year-olds had by far the lowest belief (only 48.4%) that manufacturing was important to the strength of the Australian economy, (age 65 years polled at 84.8% belief). Given that this is the age group considering tertiary education and future career options, it is a disturbing statistic.

More exposure to manufacturing facilities for school age children may assist in changing this perspective, and I would be interested to hear from members who may already be conducting such plant visits or would consider doing so.

I was fortunate enough in July to be invited to a CSIRO facility in Melbourne for a plant visit of my own, and a report about their use of a rotary extrusion process to make titanium wire from waste product can be found elsewhere in this edition. Whilst in some ways this is advanced technology to assist in the additive manufacturing industry, it is still reliant on extrusion engineering that most wire mills no longer use today.

Several members have been part of the technical committee conducting a revision of AS 4687 Temporary Fencing & Hoardings. Whilst this revision started off with somewhat modest goals, the revision has turned out to be most comprehensive and, after four plus years of work, is finally drawing to a conclusion. On behalf of all TFAA members I'd like to thank these members for the considerable time and expense they have each devoted to this work. Rod Wilkie, from **Melbourne Testing Services**, has also provided much needed engineering expertise for which I am hugely grateful.

Continued lockdowns in NSW forced the cancellation of our conference in Newcastle scheduled for the end of July. The lockdowns, combined with quarantine restrictions still in place around the country sees the Association's AGM again being conducted electronically, this year via Zoom. One can only hope that the National Cabinet goal of 70 to 80% double dose vaccinations can be met in time for us to get together before Christmas.

Until then, Go Demons!

Richard Newbiggin

(Tel: 1300 942 500 Email: richard@wireassociation.org.au)

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STANDARDS AUSTRALIA

AS 2423 Coated Steel Wire fencing products for terrestrial, aquatic and general use

A reminder to members to review this Standard and advise if any sections require revision or amendment. Input from members is always welcome, and it is best if industry is proactive in pushing for any changes that are required, before the Standard falls into the routine review period by Standards Australia.

Please contact Richard Newbigin at 1300 942 500 or richard@wireassociation.org.au for further information.

AS 4687 Temporary Fencing and Hoardings

The draft revised Standard prepared by the CE-008 committee was submitted for public comment in early May with a response date of 9th July 2021. Ongoing COVID restrictions thwarted all attempts to get a face-to-face meeting with AWIA members who have an interest in this Standard, and an online meeting was held instead shortly before the cut-off date for public comments. This meeting was very successful in throwing up important matters for the CE-008 committee to consider, with many of the suggestions expected to be included in the revised Standard.

In June 2021, Standards Australia appointed a new Project Manager for this technical committee, the third project manager (PM) the committee has had since the commencement of the revision of AS 4687. Although this change had the potential to delay further prompt progression of AS 4687, the new project manager hit the ground running, and the technical committee and an associated working group have been meeting via Zoom twice weekly since the middle of July.

The draft revision received a total of 634 public comments with the vast majority (559) of those relating to Part 4 which covers Temporary Pool Fencing. Of the total comments received 573 (or 90%) have come from persons associated with the pool industry, giving the committee a significant task to consider and respond to each of the comments.

To simplify the process, a working group, which included members of the peak body for the pool industry (SPASA), was convened to speed up consideration of the comments made and to provide advice to the technical committee.

Comments made about Parts 2 and 3 of the revised Standard have now been considered and resolved by the committee and will proceed to Standards Australia's editing department before returning to the committee for balloting.

The committee continues to consider comments to Part 4, and any changes that may be required to Part 1 that may arise because of changes to Part 4.

AS 5345 High Security Anti-Intruder Fences in Welded Wire Mesh and Open Steel Panels

While the CE-008 committee is still tied up with the revision of AS 4687, work on this new Standard for high security fencing is being delayed. The Association has been approached by a couple of parties who wish to be involved with a working group to advise the committee, and any readers who wish to participate in the working group should advise Richard Newbigin as soon as possible on 1300 942 500 or richard@wireassociation.org.au.

AS/NZS 4944:2009 Temporary Edge Protection

Following the BD-92 technical committee meeting in April, a revised project proposal was submitted to Standards Australia. This project proposal has subsequently been accepted by Standards Australia, and a kick-off meeting for this work is expected late October/early November.

As this Standard is drafted in conjunction with Standards New Zealand (NZS), it is necessary to have agreement from NZS regarding its continuing involvement in the Standard. If NZS does not wish to re-engage, then the Standard may be disassociated from NZS and would proceed as an Australian Standard only. It would be unfortunate were this disassociation to occur as much of the innovation in temporary edge protection seems to come from across the Ditch.

AS 1926.1 Swimming pool safety – Safety Barriers for Swimming Pools

The relevant technical committee met in April to review and confirm the new scope for revision of this Standard. No meeting had yet been scheduled to recommence work on this Standard at the end of August 2021. This is the second attempt at a revision of this Standard after the previous attempt was scrapped earlier this year following a tsunami of public comments during that phase of the process. It is hoped that some middle ground can be reached with this second attempt between regulators and industry.

Members wishing further information should contact:

Richard Newbigin (Tel: 1300 942 500, Email: richard@wireassociation.org.au)

Work Hard Play Hard Vater Hardware



THIS TRIP OF A LIFETIME
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WILL BE BACK IN 2022!

Due to continuing COVID travel restrictions,
this competition has been postponed until 2022.
Keep a look out for further details in the next newsletter.

NEW APPOINTMENTS

MOVES AT SANWA

Steve Wade started with Sanwa about 18 years ago coming from Austral Wright Steel and at that time looking after their stainless steel section. After starting at Sanwa in stainless steel trading and eventually taking over aluminium as well, he took over the budding relationship they had with a new Malaysian galvanised wire manufacturer at the time called Perfect Wire. Steve and the team along with Perfect Wire ended up with a perfect relationship for more than 15 years of continuous business.

He is in his early 60s and has a passion for tootling around the countryside by bike, either leg powered, or petrol powered, the latter getting most of his time. Steve announced his intention to retire some months ago, but it was hoped he might change his mind. The lure of getting right out of the city and spending time with his wonderful wife Dawn and their kids and grandkids proved too much eventually. Steve has been a gallant and successful trader at Sanwa and has always pushed the best interests of the Wire Association.

He is replaced in Sanwa's wire trading business by Liubov Morozova-Sogrine who originally hails from Eastern Siberia (the really cold part). Liubov has been a metal trader at Sanwa since September 2019, and also now takes Steve's place on the Association's committee. While the metals industry has lost the 35 odd years of Steve's experience, it welcomes Liubov at the early part of her metals, and specifically, wire journey.



Steve Wade



Liubov Morozova-Sogrine

LAURA URSINO JOINS VATER HARDWARE AS THEIR MARKETING MANAGER

Laura joins Vater Hardware with a local, national and international career that spans over 20 years, across a variety of industries; from shopping centre management to residential building and companies including BlueScope Steel and Hilton Worldwide, expanding across a local, national and international portfolio.

Now adding hardware to her career list, Laura is looking forward to the challenge of entering into a new industry and applying her marketing skills to contribute to the success story of Vater Hardware.

"I am excited to join Lance, Lissi and the entire Vater team, an iconic, South Australian company I have admired. My motivation for success stems from working within a fast-paced, high-energy team, so when this opportunity became available, it was a perfect match! I look forward to using my skills and offering an external perspective to deliver innovation and new ideas that resonate with the markets."



Laura Ursino

NEW MEMBER PROFILES

PETER MAY FENCING



Peter May started in the fencing industry in the late 1970's and has been employed within the industry ever since, giving him 40-plus years of experience.

Prior to starting his own business, Peter had worked for a number of employers varying in size and product range, always trying to learn and improve.

Peter May Fencing pride themselves on providing the best service and quality products based on years of experience.

Peter values sourcing from reputable suppliers with sound ethics, preferably Australian and South Australian (where possible) - Australian made products are always their first port of call.

As it is his name on the business, Peter endeavours to deliver the best possible product for fair and competitive pricing. There's a saying that a quality product will be remembered long after a cheap price is forgotten.

Currently they are focusing on chainwire fencing for sporting applications such as tennis courts, soccer pitches and hockey fields, working both on residential and commercial sites.

INTERNATIONAL NEWS



SOUTH EAST ASIA REPORT

Covid-19 update (as at 16th Aug 2021)

Country	Cases	Deaths
Indonesia	3.8m	109k
Philippines	1.7m	29k
Malaysia	1.3m	11k
Thailand	863k	6k
Myanmar	348k	12k
Vietnam	255k	3k
Cambodia	84k	1.5k
Singapore	66k	43 (with 75% now double vaccinated).

Steel Situation

Naturally due to these huge numbers of both cases and deaths, most economies have been in some sort of lockdown at various times. Thus, a lot of local steel and wire mills have been either closed or operating at much lower capacity than normal. As travel has also completely stopped for well over 18 months it is not easy to follow all these developments. This may be the lowest point in the Covid story, as vaccinations are the only real solution and finally ASEAN is pushing ahead with more jobs.

Let's hope that by the next issue the situation will be improving.

In the meantime, China is cutting back on production to:

- *Cut down on pollution from old and dirty mills*
- *Reduce capacity due to shortage of available shipping (some ports were closed due to Covid and thus no shipments made, so no point making steel)*
- *Maintain increasing margins (China has seen HUGE steel prices, particularly in wire, where 40-50% increases have been common). Having less capacity will assist this situation to continue. Cut supply, and with surprisingly strong World demand, prices can only go upwards.*

In addition, when Covid first started, China was the only affected country and so many mills closed then, and some have not re-opened.

USA REPORT

The first half of 2021 was a pretty good one for the fence market. Sales of both residential and commercial chain link were up over last year, while security grade chain link held steady. Other types of fencing also reported positive signs, despite being suppressed somewhat by ongoing supply chain problems.

Productivity challenges

Everyone knows the industry has been facing a skilled labor shortage since long before we ever heard of COVID-19. Unfortunately, that hasn't changed much in the past two years. But what has been happening recently has created a combination of factors that is leading to lower productivity for the employees that are on the job.

One of those factors is the slowdown of materials getting to job sites. These delays and shortages create downtime for employees, ranging from administrative staff and vehicle operators, to installers and production workers. This downtime is costly because it can be sporadic, so redeployment of workers to other tasks is difficult. It also is costly because newer employees are not able to start advancing through on-the-job experience as quickly as they might with everything running at full capacity consistently.

Finally, the "battle" to attract people to the industry can result in average wages being pushed higher. It's not only the competition for the best workers among fence industry companies. There has been a push in Washington to increase minimum wages for most industries, which historically has pushed wages up across the board. This means any loss in productivity is even more costly to companies.

Higher materials costs

Some of the same factors affecting labor costs are impacting materials costs. Certainly, supply chain delays and breakdowns are impacting materials prices, but so are soaring transportation costs, production costs, and raw materials costs. These costs get pushed down the supply chain to contractors and distributors, who are forced to either pass the costs on to customers or eat the costs themselves.

Profit margins in the fence industry are already small enough without additional burdens on contractors and suppliers, so eating the new costs doesn't make good business sense. However, passing the cost through to the customer risks pricing certain items, or projects, or upgrades out of the market.

Inadequate performance on the job

Care must be taken with a market environment such as this one that time, money, and other issues don't cause projects to be rushed, understaffed or improperly supplied and managed. One of the oldest sayings in the fencing industry is that "your reputation is only as good as your last job." That has never been truer. Online ratings systems, social media, and word-of-mouth referrals can hurt a company's brand almost overnight.

The desire to keep all projects going, and at the same not lose out on bidding or negotiating for any other opportunities that arise, can create situations that are not in everyone's best interests. Being able to focus resources on those projects that are the most important will be an even more important skill in the coming months.

Of course, it is critical to adhere to strict quality control standards on every part of every project. Don't be pressured into cutting corners on anything without analysing the causes of these situations and doing something to prevent them from occurring over and over.

Article courtesy of the Chain Link Manufacturers Institute

MEMBER UPDATES

PROTECTIVE POWDER COATING UNVEILS BRAND-NEW FACILITY AT SOMERSBY

In June 2021 Protective Powder Coating began operation of their brand new, state of the art Australian made powdercoating system.

The same great, fast and reliable powdercoating service that Protective Powder Coating is known for is now available from their facility located at 20 Pile Road Somersby NSW 2250.

Protective Powder Coating are an accredited applicator of Interpon Metaplex commercial coatings on hot-dipped galvanised steel.

- Powdercoating for any size job
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HIGH SECURITY 358 PROMAX

CHAINWIRE

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Protective Fencing is pleased to have been recognised by the Australian Made Campaign.

Protective Fencing is the name that most Australians trust for security fencing supply, proudly manufactured in Australia since 1975. We pride ourselves on using quality Australian raw materials, employing a skilled workforce, and using the best machinery.

Our Australian made High-Security 358 Mesh, Steel Mesh, Palisade, and Chainwire have set the industry benchmark for quality and innovation.

Company Director Samantha Swain noted that *“supporting Australian made is something that we have always been passionate about. We are thrilled to have received certification for our products.”*

Every product supports Australian made suppliers, employment, and most importantly, are manufactured in Australia to withstand Australian conditions.

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MARSH SPRINGS REBRANDS AS MARSH ALLIANCE AFTER 7TH AUSTRALIAN ACQUISITION



Over the past 68 years, the Marsh business has developed its prowess as not only an important Australian manufacturer, but a pivotal

supplier to local manufacturers, simply by working closely with customers to meet their continually changing needs and evolving with the market.

In the recent past, Marsh has diversified its competencies through acquiring new customers, as well as market leading manufacturers that complemented its spring manufacturing capabilities and was known as “Marsh Springs and Metal Components”. Ongoing investment in new machinery further bolstered the company’s capabilities and enabled Marsh to compete in new market channels.

This aggregation of multiple specialised companies has enabled Marsh to diversify its supply relationships into new industries including automotive, agricultural, medical, construction and defence. As the Marsh business expanded, additional specialised services have been developed to benefit customers, which has in turn led to the evolution of specialised production groups and four key business units, or brands, under the Marsh Alliance banner:

- Marsh Springs
- Marsh Wire Forms
- Marsh Pressed Parts
- Marsh Specialty Coatings

The enduring theme driving the Marsh business has always been a close partnership with customers, suppliers and employees and this relationship has informed the new name “Marsh Alliance”. The new structure of the company ensures Marsh can effectively communicate its core offers to the market and in this way Marsh Alliance continues to evolve into its true core purpose, of partnering with and exceeding the needs of their customers.

Their team is available to assist with your enquiry, and can be contacted on sales@marshalliance.com.au and +61 7 3271 3500 or complete your query on their website: www.marshalliance.com.au



CNC machinery at Marsh Alliance

ACOUSTIC CURTAIN BARRIERS

It seems no matter where you drive these days you're likely to be caught in some traffic hold-up due to a construction project. The last 10 years has seen a rise in the number of construction projects that collide with our living and working environments as governments push to build new, and upgrade old, road and rail infrastructure that runs straight through our suburbs. If you're unlucky to live or work in close proximity to these projects then you are also likely to be subject to irritating and in some cases sleep depriving noise.

More and more councils, after pressure from impacted residents and workers, are beginning to crack down on construction noise and these high impact projects now require the builder to provide a Noise and Vibration Management Plan (NVMP). This has led these builders to implement Noise Reduction Barriers as an essential element on their Construction Projects, to mitigate noise pollution emanating from the site, remain compliant and ensure noisy works are allowed to continue – even after hours in some cases. Smaller domestic projects are also beginning to see the value in keeping the noise down and the neighbours happy.

Constructed from durable vinyl material, these barriers are built with both sound reflecting and absorbing material, with added acoustic felt to reduce sound reverberation. This combination of materials allows for an effective and flexible lightweight barrier suitable for attaching to temporary structures such as fencing and scaffolding. Depending on the frequency of the noise, these barriers can reduce up to 38dBA of airborne construction or machinery noise escaping the site.

The Barriers are fixed to either a temporary fence, permanent fence or scaffold via heavy duty cable ties, and have overlapping Velcro on the vertical edges that ensures they seal tightly together to prevent noise passing through. As the barriers create a solid surface with zero permeability, when installing onto a temporary fence a significant amount of support bracing and counterweights are required to ensure the installation meets AS 4687 or the builders specific requirement, and that the fence doesn't topple over in the wind. In some instances that may mean up to 20 temporary fence feet per panel as counterweight bracing.

1300TEMPFENCE have provided Noise Reduction Barriers on major projects all over the country including the North East Link and Westgate Tunnel in Melbourne, Cross River Rail in Brisbane and the Westconnex Upgrade in Sydney.

We find the irritation of constant traffic disruption and noise is somewhat soothed when it's your own Temp Fence and Noise Reduction Barriers on the project.

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Noise abatement in Melbourne using acoustic barrier curtains

INFRABUILD - SUSTAINABLE STEEL



With a commitment to continuous improvement and innovation over its 100-plus year history, this same ethos continues to guide InfraBuild's future growth. A plank of this commitment is the progression to carbon-neutrality, and InfraBuild continues to lead the move to more sustainable steel through its GREENSTEEL™ approach.

The company's logo has recently been updated to include its mission as a tagline.

As Australia's only fully vertically integrated steel recycling, manufacturing and distribution business, InfraBuild provides solutions for commercial and residential construction, large scale and nation-building infrastructure, primary producers, manufacturing, mining and rural sectors.

The company operates across three segments: recycling, manufacturing and distribution. With go-to-market service and product brands, its credentials in lower-carbon steelmaking are well recognised by industry.

A vertically integrated supply chain includes 26 scrap metal recycling sites across Australia, two Electric Arc Furnaces, eight product manufacturing mills, and a national network of retail and processing sites.

InfraBuild has been helping to build Australia for more than a century and looks forward to continuing to play a critical role in shaping this modern nation.

It is literally building futures through sustainable steel.

www.infrabuild.com.au



Steel billets being cast at InfraBuild's Sydney Steel Mill



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ECONOMIC UPDATE

AUSTRALIAN ECONOMIC UPDATE

Australia's economic recovery from the COVID-19 pandemic has been disrupted by the rising COVID-19 (Delta variant) cases in New South Wales, Victoria and ACT. However, the good news is the rollout of the vaccine has been increasing as part of the nation's COVID-19 exit strategy.

- Prior to the recent COVID-19 outbreaks in New South Wales, Victoria and ACT, Australia's economic recovery has been stronger than expected. GDP had exceeded its pre-pandemic level and the unemployment rate in June 2021 had declined below the pre-pandemic level.
- The number of detached house approvals financial year (FY) 2021 rose by 43% compared to FY2020, driven by stimulus such as HomeBuilder, as well as other state governments' grants.
- Business confidence in July 2021 has dropped below average due to the lockdowns as the states attempt to constrain the spread of the Delta variant.
- Consumer sentiment in July 2021 has also declined but it is still higher than the negative lows seen in 2020.
- Construction activity in Greater Sydney is likely to suffer from further delays in coordinating the deliveries of materials and rescheduling of subcontractors.
- Port congestion globally continues to test suppliers, delaying deliveries and putting upward pressure on freight rates.

Future expectations for Australia:

- Domestic & international experience has shown that economic activity recovers quickly after the removal of containment measures.
- High level construction of new detached houses and renovation activity are both expected to continue over the coming years.
- The increase in non-residential building approvals in the past few months is expected to provide some support for a pick-up in construction activity.
- Public sector projects are expected to strengthen over 2021, albeit a little more slowly than previously projected. Recent government budgets have suggested that public sector projects would be rolled out more slowly.

HR UPDATE

MENTAL HEALTH AND WELLBEING IN THE WORKPLACE

It is almost inevitable that at some point in our lives we have experienced ourselves, or witnessed in others, mental illness. We would have noticed the impacts it has on the person: on their health, maybe their relationships, their ability to perform everyday tasks. Maybe you've experienced it in a workplace context. Mental illnesses and poor mental health, if not managed correctly, can lead to high rates of absenteeism, poor performance, poor or disinterested behaviour, and conflict between staff.

All of this makes it imperative for employers to recognise, and provide support to, employees with mental health problems. Every workplace is different, but here are a few examples of what an employer can consider:

Fostering employee mental health

- Celebrate employee achievements (personal and professional)
- Offer initiatives to increase employee physical health, such as discounted gym memberships or fruit/vegetable platters
- Offer flexible work practices where feasible (such as the ability to work from home)

Monitoring employee mental health

- Anonymous workplace culture and happiness surveys
- Implementing mentoring or buddy systems
- Hosting events such as R U OK? Day to raise awareness of mental illness

Supporting employees through mental illness

- Offering an employee assistance program
- Training employees to become accredited Mental Health First Aiders
- Fostering open discussions and removing taboo so employees are more likely to seek support

Employee mental health and wellbeing is a powerful factor in the success and productivity of a business, as well as being a commendable goal and a social responsibility in its own right. Mental illness is an unfortunate reality that many employees face, but a supportive employer can make all the difference to an individual who may be suffering alone.

For more information on managing mental health and illness in the workplace, contact Ceri Hohner, Associate, or Bianca Seeto, Partner, on 07 3046 2100.

Article prepared by Ceri Hohner, Associate at FCB Workplace Law & Accredited Mental Health First Aid Officer



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TECHNICAL NEWS

PROTECTING & IMPROVING STEEL - NEW GALVANIZERS DESIGN MANUAL

The Galvanizers Association of Australia (GAA) is set to launch a new and improved edition of the Galvanizers Design Manual. The manual will be an entirely online, highly interactive reference tool complete with assets such as 3D models and embedded references. The traditional downloadable pdf format will still be available, completely free of charge.

First produced in 1965 and available on CD since 2008, the design manual has undergone a major revision process to bring its contents in line with technical and technological innovations, as well as changes in Australian Standards.

SUSTAINABILITY

One of zinc's most exceptional qualities is its ability to protect steel from corrosion. Galvanizing protects steel by providing a physical barrier, as well as cathodic protection for the underlying steel, allowing the steel's service life to be significantly extended.

GAA's updated Design Manual includes a new section dedicated to sustainability. It provides information on the Environmental Product Declaration (EPD) for Galvanizers Association of Australia: Hot dip galvanizing in Australia, including how and why to use the EPD.

"Our EPD provides an independently verified representation of the environmental impact of the hot dip galvanized product going into your project. EPD data can be used to aid environmental assessment of building design and infrastructure projects, and to help obtain credits for Green Star and Infrastructure Sustainability rated projects across Australasia," said Peter Golding CEO of GAA.

"Attention to the durability of steel structures and components has important environmental, economic and social consequences. Some of these are less obvious than others. The overall economic cost of corrosion has been studied in several countries and is commonly estimated at around 4% of gross domestic product."

"By protecting steel from corrosion, galvanizing performs an invaluable service. It helps to save natural resources by significantly prolonging the life of steel and capital investments. The long-term durability provided by galvanizing is achieved at a relatively low environmental burden in terms of energy and other globally relevant impacts," said Golding.

DURABILITY

Three key Standards provide considerable information on the corrosion rate of steel and zinc under various conditions of atmospheric service:

- AS/NZS 2312.2 Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings Hot dip galvanizing
- AS 4312 Atmospheric corrosivity zones in Australia
- SNZ TS 3404 Durability requirements for steel structures and components.

Over the last few decades, the CSIRO, HERA, and other industry organisations have carried out extensive mapping to establish the corrosivity of the Australian and New Zealand climate. Following on from this mapping, AS/NZS 2312.2 was updated in 2014 and is now the best source for the durability of galvanized coatings in Australian and New Zealand conditions. Likewise, AS 4312 is the best source of Australian data for corrosivity of steel in the local environment. The Design Manual now reflects both Australian Standards.

BOLTED STEEL STRUCTURES

The Galvanizers Design Manual provides an overview of the Australian Standards and industry best practice for bolted steel

structures, structural fasteners and bolting techniques, design details, tightening procedures, inspection of fasteners and covers a range of selection of zinc coatings for bolts. It also provides additional notes about the influence of hot dip galvanized coating on design, particularly for slip factors, fatigue behaviour, bolt relaxation and torque and induced tension in tightening.

In recent years, there have been major revisions to the Australian Standards that cover bolted steel structures; AS/NZS 1252 High-strength steel fastener assemblies for structural engineering was revised in 2016. As a result, there have been follow-on updates to other related Standards such as AS/NZS 1214 Hot dip galvanized coatings on threaded fasteners to ensure consistency. The new version of the Design Manual takes all these Standard updates in account.

The Manual also includes a review of the recent European research on slip factors, showing the methods required to obtain an increased slip factor for galvanized steel structures.

Dr Peter Key (National Technical Development Manager, Australian Steel Institute) has led the development of updates to Standards before, most notably around AS/NZS 5131 for structural steelwork fabrication. "From time to time, we revise national Standards, as we uncover new information, data or circumstances that require changes to the standard. It's important to stay up-to-date and, with changes to a number of the Australian Standards that involve bolting, a guide like this one from Galvanizers Association can help keep you across the critical components," said Key.

"In the case of AS/NZS 1252 High Strength Steel Bolts with associated nuts and washers for structural engineering, revision was necessary because most of the bolts are no longer made in Australia. As companies are still demanding that quality needs to be shown as a forethought across various building sites, it was necessary to better define product conformance and how to assess it in the Standard," added Key.

PAINTING OR DUPLEX COATING

The painting of hot dip galvanized steel is an orthodox and well-proven practice in outdoor environments, both in Australia and internationally. The practice is commonly called 'duplex coating'.

"The section dedicated to painting in the Design Manual has been completely revamped," said Golding. "It is now quite expansive



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and covers the standard paint systems from every major paint supplier in Australia and New Zealand.”

“There are examples of early failures of duplex coatings due to incorrect specifications and poor practice. The Design Manual aims to avoid such failures by directing specifiers and applicators to the paint systems, surface preparation and application practices that will provide a durable duplex coating in a broad range of service conditions,” said Golding.

ABOUT THE GALVANIZERS ASSOCIATION OF AUSTRALIA

The Galvanizers Association of Australia (GAA) comprises the leading galvanizing companies throughout Australia, New Zealand, and parts of Asia. An industry association established in 1963, GAA represents galvanizing companies and provides technical consulting services on a not-for-profit basis.

The GAA Design Manual is available here: <https://designmanual.gaa.com.au/>

Article courtesy of the Galvanizers Association of Australia

CSIRO AND THE WIRE INDUSTRY

Australia’s national science agency, CSIRO, has developed a novel and innovative process for turning cheap, alloy particulate waste into a high value wire product suitable for additive manufacturing of aerospace components.

Director/Secretary Richard Newbigin was fortunate enough to have been provided an early opportunity to visit CSIRO to see this process in action after assisting the CSIRO team with some of their initial enquiries about machinery and feedstock.

CSIRO holds a patent for continuous fabrication of wire from particulates. The patent provides broad process claims for continuous production of wire from powder-like materials.

The manufacture of titanium alloy (Ti) wire from low-cost particulates is an area in which this technology may be most important. Production of Ti wire/rod from any low-cost Ti particulates, (powder, granules, pieces, particles, machining swarf), is significantly cheaper than Ti wire/rod made from conventional processes.

By using a modified version of an existing rotary extrusion process, a reduction in capital equipment, fewer process steps compared to ingot metallurgy-milled product route, Ti wire to grade, reduced waste and cost, plus higher productivity may all be achievable.

Any members who would like to visit CSIRO to get a firsthand look should contact Richard Newbigin (richard@wireassociation.org.au or Tel: 1300 942 500). CSIRO is keen to engage with the broader wire industry to assist in bringing this technology to market more quickly, and to keep its use firmly grounded within Australia.



Images courtesy CSIRO



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TECHNICAL NEWS

WELDING SAFETY RESOURCES

Weld Australia has a wide range of welding safety resources, many of which are available to the public—completely free of charge.

Technical Note 7: Health and Safety in Welding

This Technical Note gives guidance on health and safety practices in welding, cutting and allied processes such as brazing, soldering, pre- and post- weld material treatments, and metal spraying, for the prevention of injury, ill health and discomfort, as well as damage to property, equipment and environment by fire, and explosion.

Various Chapters deal with:

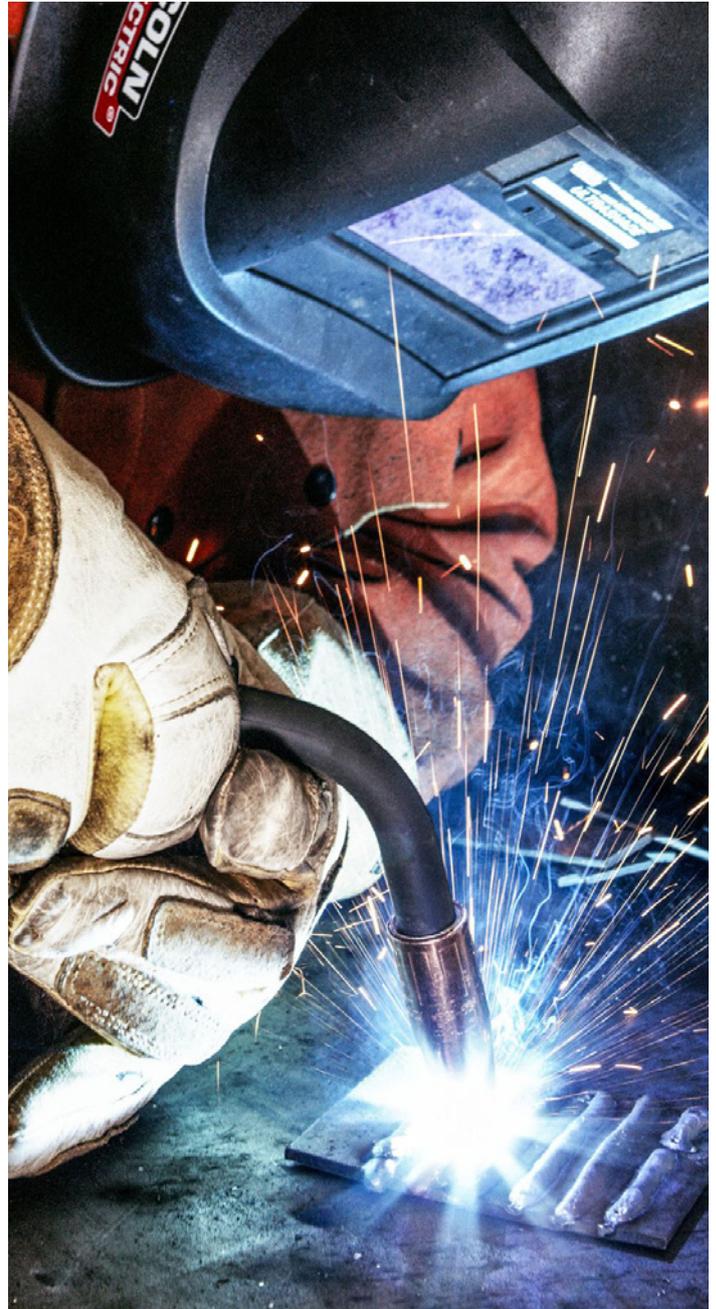
- Basic principles of safe working
- The main hazards and safety measures in welding, cutting and allied processes
- Precautions required in various working situations.

Technical Note 22: Welding Electrical Safety

Although electric arc welding can be performed perfectly safely, there are circumstances when there is a substantial risk of electric shock. Precautions against this risk include use of properly maintained equipment, correct protective equipment, and sound work practices. With reference to Industry best practice, Technical Note 22 addresses how to safeguard a person against electric shock, reviewing elements such as: equipment, the human body, the workplace and Australian Standards.

Education is the key to ensuring that anyone who welds is safe. Employers, professional welders, and DIY enthusiasts alike must invest in thorough and up-to-date training to ensure an in-depth understanding of the risks associated with welding, the mitigation strategies that can be used, and the equipment available to prevent accident and injury.

If you know someone who is welding without the proper training or experience, be sure to pass along Weld Australia’s free resources. All these resources are available via the Resource Centre on the Weld Australia website: <https://weldaustalia.com.au/>



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THE SIGNS YOUR SPRINGS ARE ABOUT TO FAIL

Corrosion is the deterioration of a metal surface through an electrochemical process between it and the surrounding environment. Corrosion is not usually the sole cause for spring failure. Rather, it creates pits on the surface, which act as stress concentration points, resulting in premature fatigue failure. Corrosion can also lead to embrittlement of the material, causing catastrophic failure.

Identifying corrosion

Corrosion is usually easy to see, with typically some discolouration of the wire's surface. It is also identifiable by surface pitting. Pit holes can be small or large, depending on the length of exposure, and the amount, and strength, of the corrosive substance present.

Microscopes are required for a detailed view and the surface of the spring is initially viewed under low magnification. The entire spring is examined, to determine if corrosion is widespread or localised. A check is made to determine if there is any substance left on the spring or damage to the region. Residual substances may be anything from oil to cleaning products and provide an idea about the cause of the corrosion. Localised surface damage, such as scratches, are also identified. These could reduce corrosion protection and accelerate corrosion.

After the severity of pitting has been identified, the analysis can move to more focused areas especially around the initiation area.

Small samples are cut from the failed spring, then mounted and polished. One piece is cut and mounted in the transverse orientation, the other longitudinal. Once polished to a one micron level, the sample is examined under a second microscope. Focusing on the edge of the specimen surface pits determines the extent of the corrosion. These look like tree branches initiating from the outside diameter, moving inwards.

Final examinations include SEM and EDX analysis. SEM provides highly magnified images of the initiation to identify pits clearly. EDX analysis indicates if there are any contaminating elements consistent with corrosion, e.g. chlorine, sodium and/or high concentrations of oxygen. (SEM – scanning electron microscopy; EDX – Energy dispersive X-ray spectroscopy).

Why corrosion occurs

While there are many factors that encourage corrosion on a spring, some are more common than others. Temperature, humidity, and contaminants all have a significant impact.

Most common is the storage of either the raw material or the springs. The storage environment is critical. Humid conditions with significant temperature variations causes condensation to form and oxidation of the material surface may occur.

Often overlooked are highly corrosive cleaning solutions, such as bleach and floor cleaning agents. If a storage area is cleaned using corrosive solutions the spring material may corrode if in contact with the solutions.

Contact between two conflicting metals in the presence of an electrolyte can accelerate corrosion and cause premature failure of springs.

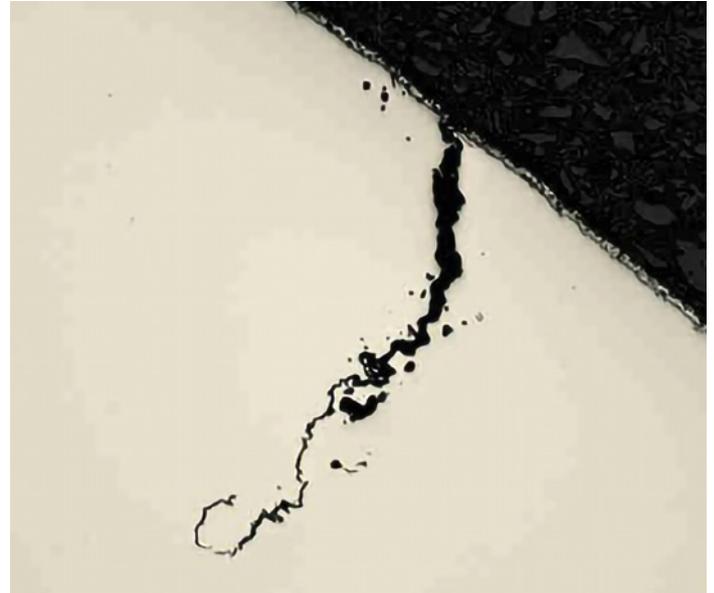
The surrounding environment, such as coastlines, may cause accelerated corrosion rates due to elevated salt levels. Puddles, if splashing onto the springs regularly, may initiate corrosion. Even springs working within an oil environment can corrode if the working oil is contaminated with another solution, such as water.

Springs can be designed to operate in corrosive environments. Without using appropriate materials and manufacturing methods, or coatings, such as powder coating, tailored for the environment in which they will be working, corrosion can still occur. Furthermore, if the coating is damaged or peeling, corrosion will likely occur in those damaged areas.

About the Institute of Spring Technology:

Since 1942 IST has been empowering the global spring manufacturing industry to make safe and efficient springs through its software, training courses, independent testing facilities and consultancy service.

Article courtesy of Matthew Bridson, Metallurgical Analyst, Institute of Spring Technology



Corrosion from surface pit

FENCETECH USA

With Fencetech having been postponed each of the past two years, the West Coast chapters of the AFA took matters into their own hands and hosted the West Coast Fence Show in Reno, Nevada in early September. There were over one thousand attendees over the two days of the show, as well as 200 + golfers who played in the associated golf tournament at the beautiful Grizzly Ranch golf course in Sierra Nevada. Fearless USA correspondent Matt Sivewright confirmed that the mountain air does not in fact make the golf balls fly straighter, and that the roulette tables are still rigged.



Grizzly Ranch Golf Club, Sierra Nevada



Matt Sivewright and a mate enjoying COVID freedom

MTS - MELBOURNE TESTING SERVICES

In 1999, the BHP Melbourne Research Labs closed resulting in a sea change for the many test engineers who worked for BHP. Sensing a need for ongoing scientific testing, Melbourne Testing Service (MTS) was started to offer these services. Back then the business was merely a one-man operation with no customers and a hopeful director, Rod Wilkie who dreamt he could walk the streets and drum up a bit of business.

We started with one tensile testing machine, a few mechanical tools, some metrology equipment and best of all cheap rent. Like most startups, business wasn't easy from the start, but as it went along people got to hear about MTS and eventually the phone began to ring.

Drawing from my experience at BHP, MTS's core capability is testing services that apply force. We're good at pulling things apart until they break, crushing things until they bend, loading things until they tip over and fall.

One day my now good friend Brian Mullarvey knocked on the door to have a chat. We talked about testing wire products, reo mesh and steel bar. In doing so, Brian introduced me to an array of contacts in the rebar industry and other associated wire businesses who went on to become customers for MTS.

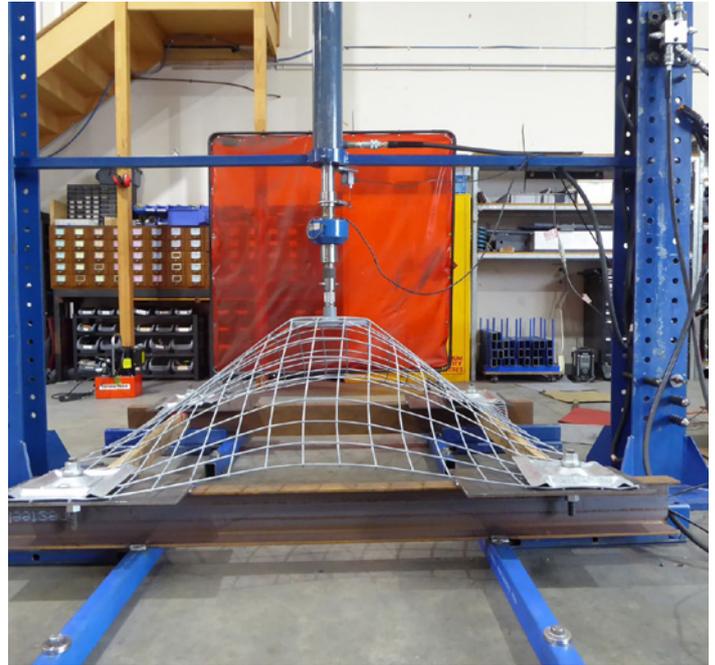
By now, MTS had grown to the point where Leanne (my wife) was helping with all things business, office admin, accounts and testing rebar.

Later, Brian asked me to provide some input to the original AS 4687 committee for Temporary Fencing and Hoarding. It was another step in the pathway for MTS with new opportunities in the testing of fences and hoardings along with the opportunity to work with members of AWIA.

Today, we have our own premises and numerous testing machines with capacities up to 2000 tonnes. Our numbers are about 25, dominated by permanent qualified staff, predominantly test engineers with some administration and quality personnel and a few casuals complementing the staff profile.

Our services are still primarily force related, but we've added force calibration, vehicle/trailer weighing, forensic failure investigations and many other NATA accredited procedures to the list of services.

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THE IMPORTANCE OF REGISTERING ON THE PPSR WHEN SELLING ON CREDIT TERMS

Cashflow is critically important for small businesses, and the COVID-19 pandemic has presented many challenges over the past 18 months.

If your business supplies goods and gives customers a payment timeframe (such as 30, 60 or 90 days) – you are offering credit. The PPSR is one way to help get those invoices paid, or the goods back, if your customer can't pay.

An invoice or contract, along with an effective PPSR registration, can put you ahead of banks, other lenders and outstanding tax debts, if your customer goes out of business.

A PPSR registration costs \$6 per customer and can cover future supplies of similar goods for up to 7 years.

A PPSR registration is a searchable notice placed on the PPSR to reflect a security interest over personal property. A registration is current if it has an end date in the future and has not expired or been removed.

The Personal Property Securities Register, most commonly known as the PPSR, is an official government register. It is a public noticeboard of security interests in personal property that is managed by the Registrar of Personal Property Securities.

Looking for more information? Visit ppsr.gov.au/COVID19 for a range of resources on how the PPSR can help protect businesses from risk.



CUSTOMS AMENDMENT (BANNING GOODS PRODUCED BY FORCED LABOUR) BILL 2021

This Bill passed through the Australian Senate on the 23rd of August 2021 which, if it becomes legislation, will have far-reaching implications for every global manufacturer who exports goods to Australia.

This Bill proposes to amend the Customs Act 1901 to prohibit the importation into Australia of goods that are produced in whole or in part by forced labour.

The proposed legislation, introduced by independent Senator Rex Patrick, seeks to implement a bipartisan, unanimous recommendation made by the Senate Standing Committee on Foreign Affairs, Defence and Trade in an inquiry report released in June this year. Following chilling testimony of mass internment and forced labour by Uyghurs and other Turkic Muslims in China, the Committee recommended the introduction of 'a global ban on the import to Australia of goods produced by forced labour', alongside other measures to ensure effective enforcement of the ban. Similar legislation has been introduced in the US and Canada.

The Bill has been introduced to the House of Representatives for its first reading.



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- Bliss & Reels
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- InfraBuild Wire
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- R.E. Walters
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- Smart Weld NZ Ltd
- South Fence Machinery
- Spring Specialists Ltd
- Stainless Steel Wire and Mesh
- Superior Industries NZ
- Thermakraft Australia Pty Ltd
- Ullrich Machinery Company
- Wiredex Wire Products
- Wire Displays NZ
- Wiretainers Pty Ltd



With the impact of the COVID-19 virus on allowable public gatherings, and the severe disruption this has caused to air and other forms of travel, please use these dates as a guide only. It is expected that some of these events may be cancelled or deferred to later dates.

2021

September 7
International Conference of Spring Technologies
 Online event
www.icst2020-germany.de

September 28 - 30
SMI Metal Engineering eXpo 2021
 South Point Hotel & Casino, Las Vegas, USA
www.metalingengineeringexpo.org

September 28
AWIA Annual General Meeting
 via Zoom or alternative
www.wireassociation.org.au

October 26 - 27
Interwire
 Georgia World Congress Centre, Atlanta, Georgia, USA
www.interwire21.com

November 16 - 18
Aimex
 Postponed to 2023
 Sydney NSW
www.aimex.com.au

November 25 - 27
WireShow 2021
 Shanghai New International Expo Centre, Shanghai PRC
www.wireshow.com

December 3
AWIA Christmas Function
 TBA, Melbourne Victoria
www.wireassociation.org.au

2022

February 15 - 18
Fencetech 2022
 TBA, New Orleans LA USA
www.americanfenceassociation.com/fencetech/

March 8 - 11
Australian Manufacturing Week
 Melbourne Convention & Exhibition Centre, Melbourne, VIC
www.amtil.com.au/austech/

May 9 - 13
wire Düsseldorf 2022
 Düsseldorf Exhibition Centre, Düsseldorf, Germany
www.wire-tradefair.com

May 10 - 12
DesignBuild Expo
 Melbourne Convention & Exhibition Centre, Melbourne, VIC
www.designbuildexpo.com.au/

May 25 - 26
Workplace Health & Safety Show
 Melbourne Convention & Exhibition Centre, Melbourne, VIC
www.whsshow.com.au/programintro

October 5 - 7
wire Southeast Asia 2022
 Bangkok International Trade & Exhibition Centre BITEC, Bangkok, Thailand
www.wire-southeastasia.com

October 12 - 14
SpringWorld
 Donald E. Stephens Convention Center, Rosemount IL USA
www.casmi-springworld.org/page/SWHome

October 25 - 27
wire South America 2022
 Hall 1 of Sao Paulo Expo, Sao Paulo, Brazil
www.wire-south-america.com

November 8 - 10
wire India 2021
 Bombay Exhibition Centre, Mumbai, India
www.wire-india.com

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Letters to the Editor
 If you have suggestions for future articles or want to voice your opinion on important issues facing the sector, please feel free to drop the AWIA a line. Email editor@wireassociation.org.au

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