



THE LINK

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

Liberty OneSteel rebrands to InfraBuild

Australian integrated steel manufacturing, processing, distribution and recycling business, LIBERTY OneSteel has re-branded to InfraBuild.

As part of this re-brand, InfraBuild are introducing several new business names:

- LIBERTY Recycling becomes InfraBuild Recycling
- LIBERTY Steel becomes InfraBuild Steel
- LIBERTY Reinforcing becomes InfraBuild Construction Solutions
- LIBERTY Metalcentre becomes InfraBuild Steel Centre
- LIBERTY Wire becomes InfraBuild Wire

InfraBuild is Australia's largest integrated manufacturer and supplier of steel long products and solutions – including rod, bar, wire, hot rolled structural steel, pipe and RHS; reinforcing solutions, building products and accessories.

InfraBuild Recycling is the second-largest ferrous and nonferrous recycling business in the country.

InfraBuild is part of the Liberty portfolio of companies and remains part of the broader GFG Alliance family.

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InfraBuild – Melbourne Westgate Tunnel



InfraBuild (previously LIBERTY Steel) has been awarded the contract to supply 92,200 tonnes of steel for the West Gate Tunnel Project between Docklands and Laverton in Melbourne. The steel

will be used to reinforce the lining of the Project's twin tunnels, bridge segments, noise walls and retaining walls.

InfraBuild will scale up operations at its Derrimut facility to meet the demands of the Project over the next four years. An additional 150 staff, including ex auto workers, will be employed at the facility and specialist equipment is being commissioned to create customised prefabricated engineered steel mesh, avoiding the need to bend it

manually on site. InfraBuild will also provide ongoing technical expertise to the Project.

A 90m-long, 15.6m-high, 4000-tonne Tunnel Boring Machine (TBM), the largest in the Southern Hemisphere, is in the process of being assembled at the Tunnel's northern portals.

Victoria's Acting Minister for Transport Infrastructure, Melissa Horne, said: "This contract will boost jobs in Melbourne's west and our steel contract is already seeing more local jobs to help build this vital project."



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President's Report

We recently welcomed another three new members into the Association, Arnel Fencing, Custom Auto Gates and SA Security Fencing.

It is wonderful that we always have new companies coming on board to join in what is a unique association with a long history of bringing together people in the Fencing and Wire industry to share their experience, thoughts and ideas. We are all lucky to be a part of such a wonderful group of companies and people and I offer a hearty welcome to all our new members

and look forward to seeing you at one of our functions.

I sincerely hope our new members get as much out of the Association as the rest of us and their membership is rewarding over the coming years. In saying that, I cannot forget our existing members who have been involved for many years, some since our foundation in 1965, and many who have been very active in keeping our Association alive and well all this time.

To you all I say thank you for being involved and for your passion and commitment to our industry.

I look forward to catching up with many of you in the next few months, and as always, I wish you every success for the rest of the year.

Charles Johnstone



AWIA DIRECTOR REPORT

Following the reconstitution of the CE-008 committee in August, the new committee met mid-September to continue its work on the revision of AS 4687 Temporary Fencing & Hoardings, and to set the scope for work on a new Standard AS 5345 High Security Anti-Intruder Fences in welded wire mesh & open steel panels.

Good progress was made in tidying up some of the outstanding issues with AS 4687, and members of the committee expect that by their next meeting it will be in a format that will enable it to be put forward for public comment.

The committee will then turn its full attention to the new Standard. Not all members of the committee have experience with high security fencing, and substantial input will be required from Association members, and other stakeholders in the industry. If any members would like to be involved in a working group to assist in the drafting of this Standard, or are aware of other industry stakeholders whose input would be valuable, please contact me directly.

To continue the Australian Standards theme, through what is believed to be an oversight, AS 2423 Coated steel wire fencing products for terrestrial, aquatic and general use was withdrawn as an active Standard in June this year. The Association was not consulted about this development, and have addressed the withdrawal with Standards Australia. Members will be kept updated on developments.

Wire 2020 rolls around again next year, and will be held between March 31 and April 3 in Dusseldorf. For the first time, the trade fair will include end products so the complete value chain for fasteners and springs will be on show.

Members are encouraged to let me know if they are interested in attending and if they would like to go on any plant visits whilst in Europe which the Association may be able to arrange.

The AWIA Annual General Meeting was held in Sydney on the 15th of October along with a presentation about augmented reality welding, which is fast becoming an important tool for welder training.

Richard Newbigin

STATE REPORTS

VICTORIA REPORT



Some Victorian members have been contacted by Master Builders Association Victoria advising them that if they wish to use their company name instead of their individual name to be named as a builder on a building permit for major domestic work, or any other work costing more than (in most cases) \$10,000, or if they wish to enter into contracts, or hold Domestic Builders Insurance in their company's name, then they need to hold a company registration with the Victorian Building Authority. Whilst a building licence has been a requirement for fencing contracts in most other States and Territories, this has not applied in Victoria. The AWIA, along with several members, is working with the VBA to clarify the situation.

NEW SOUTH WALES REPORT



ICOA Australia has announced that it is closing down after more than 50 years in business. Ray King started manufacturing springs and wire forms in 1965 as Australian Springs Pty Ltd, and the company flourished over the years to be a critical supplier to the automotive industry both in Australia and overseas. The company had its focus on continual improvement, and invested in robotics and other high-tech machinery. ICOA was a valued past member of the AWIA and we wish Jeff King all the best for the future.

WESTERN AUSTRALIA REPORT



While the market for general wire products remains subdued in the west, mining consumables like roof mesh, flexible roof bolts and the hard-facing industry continue to prosper. The significant past investment in mining infrastructure has led to far greater levels of ore production, and greater ore production has in turn led to higher consumables use. Investment has been strong in bulk commodities like iron ore and bauxite, and in metals like gold, copper and nickel, but has also been significant for critical metals like lithium. Critical minerals, while already a multi-billion dollar industry for Australia, are poised for substantial growth, with several new projects at advanced stages of development.



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STATE REPORTS

QUEENSLAND REPORT



In June 2019, AFIA secretary Brian Mullarvey visited a number of Brisbane sliding gate manufacturers to garner information on the current design norms for tubular framing for commercial and industrial sliding gates. Information was sought on the tubular sizes and pipe thicknesses used in fabricating outer frames, bottom rails, internal supports as well as tunnel and support posts.

The exercise was conducted to ascertain if there was general industry design consensus amongst fabricators which could possibly then be illustrated in sketches in the proposed Code of Practice for the Design, Manufacture and Installation of Metal Sliding Gates which the AFIA is currently developing.

As a general rule, QLD industry colleagues seem to have settled on similar specifications, which is not surprising. Sliding gate design has evolved over a long period and competent and experienced fabricators are definitely conscious of safety and performance criteria which would tend to lead them to similar conclusions.

The AFIA would like to thank our industry colleagues, David Dowse (Northside Fencing), Steve Parrott (Sureline Fencing), Ryan Thompson (Fencewright) and Dan Edie (Ox Works) for their time and expertise in assisting with this project.

SOUTH AUSTRALIA REPORT



The SA State Government has taken the first step in the \$25 million rebuild of 1,600 kilometres of the South Australian Dog Fence with initial procurement information for prospective suppliers and contractors released in September.

The release of the supply notification is the first step in the procurement process for interested suppliers and contractors to understand the requirements and scale of the rebuild.

There will be two components of the dog fence rebuild – the supply of materials and the creation of a panel of fencing contractors.

The rebuild, jointly funded by the Commonwealth and State Governments and industry, is a once-in-a-generation opportunity to provide a reliable barrier against the incursion of wild dogs in the pastoral areas.

Much of the current fence is more than 100 years old and is ageing and brittle and being heavily impacted by large native animals.

The Dog Fence Rebuild Supply Notification document is available from www.tenders.sa.gov.au.

NEW ZEALAND REPORT



AWIA Director/Secretary met with several Auckland members in June to discuss plans for the Association's October 2020 conference in their harbourside city. Edgesmith were kind enough to provide a venue for the meeting where members discussed options for the upcoming event. In addition to canvassing a range of speaker options, various plant tours were also considered.

Auckland will be buzzing in October 2020 with the lead up to the 2021 America's Cup which is scheduled for March. Emirates Team New Zealand yacht 'Defiant' has already been launched, and hopefully will be trialling on Auckland Harbour during our conference. Any members wishing to offer suggestions or assistance, including sponsorship, for the conference, should contact Richard Newbigin. e: richard@wireassociation.com.au

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Appointment of new Sales and Marketing Manager at Marsh Springs



Marsh Springs and Metal Products welcomes Chris Watt as the National Sales and Marketing Manager. Chris has worked primarily in business to business channels, developing successful business relationships for over 25 years. He has managed sales and marketing teams across industries including manufacturing, mining, wholesale distribution and most recently in construction, representing a multinational vertical transport company.

His personal and family interests include 4x4 driving and touring regional towns by motorbike as well as experiencing new places.

Chris adds, "I look forward to engaging with our existing customers to ensure we continue with our successful relationships. It's an exciting time at Marsh, as the company continues to develop new products for our customers, we also have some new capabilities that we are taking to market soon."

Contact Chris Watt at Marsh Springs:
sales@marshsprings.com.au

Retirement of Brian Mullarvey from the AWIA



In the inevitability of life, all good things eventually come to an end, and so we bid happy 'retirement' to Brian Mullarvey. Retirement is a word used advisedly in this instance, because Brian actually retired from his career job with Smorgon Wire almost 17 years ago.

The Association was surely the beneficiary of this early retirement, as he has been Fencing Secretary of the AWIA pretty much ever since, and has been the driving force behind building the AFIA and the TFAA to where they are today.

Brian commenced his life in wire working for ARC in Surfers Paradise, and enjoyed transfers to Gladstone, Tasmania and Victoria as his career progressed, finishing up as National Marketing Manager for Smorgon Wire. His involvement with the Association commenced when he joined the National Committee back in 1998, so his involvement with the AWIA spans a noteworthy 21 years.

Brian's passion has always been in fencing, and he has played a crucial role in revising AS 1725 Parts 1 to 5, and a driving role in the drafting of AS 4687 in 2007, and again when that Standard began its revision in 2016. Delays to this project will unfortunately not see his involvement in its completion.

He has, of course, been the editor of the Association's newsletter in its various forms since 2006, and has compiled and edited over 40 issues, while expanding its content and distribution markedly.

Many of the AWIA committee continue to doubt that Brian will be able to stay away from the fencing industry for any significant length of time, so if you see him reappear do not be surprised. He is always welcome, as you can imagine, (and besides which he still has a couple of projects to complete). Good luck for the future to you and Sue, Brian, and many thanks to you both for your support and hard work on behalf of the AWIA for so many years.

When asked to comment on his illustrious time with the AWIA, Brian said he enjoyed the chance to serve and play a part in the Association's aim of furthering the opportunities available to its wire members as well as promoting high standards of safety and product quality.



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NEW MEMBER PROFILES



Arnel Fencing Warehouse is a locally owned business operating in the Cairns area since 1991. They service the area from Cardwell

North to PNG, including the Torres Strait Islands. Arnel Fencing Warehouse supplies almost every type of fencing available to areas throughout the region from the Tableland to the Cape and beyond. They even service export orders. Arnel Fencing has a team of around 14 staff and they sell most types of fencing, including installation.

Arnel Fencing has come a long way since founder Wayne Arnel went into business and completed his first job as a solo operator in 1990. Today, the company has reached its goal to stock one of the largest ranges of fencing materials outside of Brisbane at a purpose-built one-stop depot.

They do residential, commercial and government work, often covering very large projects.

Their workshop is able to fabricate most types of fences and gate, including new and unique designs.

The company was sold in October 2015 to local business owner Michael McCormick who brings a vast knowledge of customer service and business operation to the industry.

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D&D Technologies leads the way in pool gate safety



D&D Technologies



D&D Technologies Pty Ltd is an Australian company that became famous for inventing magnetic child safety gate latches (MagnaLatch®) and polymer gate safety hinges (TruClose®) Hinges in the early 1990s. In the fencing and pool industries D&D has become synonymous with gate hardware innovation, safety and reliability.

There are a number of reasons D&D has not only led the global market in gate hardware but also enhanced its trusted position in a world of foreign-made copies.

First, it helps that all of D&D's safety gate latches and hinges are made in Australia under strict ISO9001-2015 Quality Assurance guidelines. All D&D-manufactured products carry a Lifetime Warranty, and D&D was the first gate hardware company to offer such a confident standard.

Other reasons D&D Technologies' award-winning products are the "world's most trusted" include a skilled in-house Research & Development team, independent (NATA) testing to Australian Standards compliance (AS1926.1-2012), relentless 24-hour cycle/strength testing, product traceability (critical in today's world) and maintenance adjustment key tags and/or stickers to ensure ongoing product reliability and safety.

D&D's products are not all about child or pool safety. The company has become equally renowned for its popular range of LokkLatch® Privacy and Security and General-Purpose Gate Latches for residential and commercial applications.

Importantly for the wire industry, D&D offers "Round-Post Adaptor Kits" to fit chainlink etc. for its leading MagnaLatch® and TruClose® hinge products.

Visit the D&D Technologies website:

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MagnaLatch® Child Safety Gate Latch

Industrial report – Employees or contractors?

Most fencing supply companies use both employees and independent contractors to erect fences. These contractors are engaged, not employed to erect the fences as independent contractors.

Some contractors work for years for the same fencing company. Fencing products are supplied by the company and contractors are directed when and where the fence is to be erected. They sometimes do not supply any incidental items, such as tie wire or even concrete, just the labour to put up the fence.

In some cases, disputes have arisen as to whether these people are employees or are genuine contractors. This has ramifications for superannuation, long service leave and dismissals. As a result, it is important that companies have a written agreement with its contractors setting out the terms of their contract.

Below is a case study provided by industrial relations firm FCB Group. Although it isn't specific to the wire and fencing industries, it is relatable to members.

In December 2017, the Fair Work Commission (FWC) dismissed an unfair dismissal application by an Uber driver. After examining the nature of the relationship and communications between the driver and Uber, and the terms of the written agreement between them (which expressly identified the driver as an independent contractor), the FWC dismissed the unfair dismissal application because the driver hadn't been employed by Uber and could not, therefore, have been unfairly dismissed. In determining the matter, however, the FWC observed that "Uber does not simply sell software; it sells rides."

In May of 2018, the FWC heard an unfair dismissal application by another former Uber driver. Naturally, Uber objected to the claim on the basis that the driver was not an employee, but this time the driver had been engaged in a partnership arrangement. In examining what the driver brought to the arrangement, the FWC observed:

"The work performed ... and the manner in which it was performed (was) relatively high volume, largely unskilled and performed alone with customers. He did not bring anything especially entrepreneurial to the arrangement, merely the provision of things such as his time and his car to deliver a homogenous transportation service to the customer who might rate his performance at the end of the trip, but more often than not did not do so."

After carefully analysing a range of factors including the control over the work, the ability to work for others, the provision of a motor vehicle by the driver, the inability to delegate the work to others, the absence of paid leave and the mode of remuneration, the FWC concluded that the driver was not an employee and therefore was not protected from unfair dismissal.

So – the current state of play is that if you supply a vehicle to transport passengers who contract with you via a third-party app, you are a contractor and not an employee. However, if your task is to collect food and beverages at point A, and deliver those items as quickly as legally possible to a customer at point B, where all three parties engage via a third-party app, then you may be an employee and not a contractor. Simple!

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Everything you always wanted to know about Wire Drawing

Definition - Wire drawing is a metalworking process used to reduce the cross-section of a wire by pulling the wire through a single, or series of, drawing die(s).

Applications - Electrical wiring, cables, tension-loaded structural components, springs, paper clips, spokes for wheels, and stringed musical instruments. Although similar in process, drawing is different from extrusion, because, in drawing, the wire is pulled, rather than pushed, through the die. Drawing is usually performed at room temperature, thus classified as a cold working process, but it may be performed at elevated temperatures for large wires to reduce forces.

Wire drawing process

The wire is prepared by shrinking the beginning of it, by hammering, filing, rolling or swaging, so that it will fit through the die. The wire is then pulled through the die. As the wire is pulled through the die, its volume remains the same, so as the diameter decreases, the length increases.

Usually the wire will require more than one draw, through successively smaller dies, to reach the desired size. This can be done on a small scale with a draw plate, or on a large commercial scale using automated machinery. The process of wire drawing changes material properties due to cold working.

The area reduction in small wires is generally 15–25 percent and in larger wires is 20–45 percent. The exact die sequence for a particular job is a function of area reduction, input wire size and output wire size. As the area reduction changes, so does the die sequence.

Very fine wires are usually drawn in bundles. In a bundle, the wires are separated by a metal with similar properties, but with lower chemical resistance so that it can be removed after drawing. If the reduction in area is greater than 50 percent, the process may require an intermediate step of annealing before it

can be redrawn.

Commercial wire drawing usually starts with a coil of hot rolled 9 mm diameter wire. The surface is first treated to remove scale. It is then fed into a wire drawing machine which may have one or more blocks in series.

Single block wire drawing machines include means for holding the dies accurately in position and for drawing the wire steadily through the holes. The usual design consists of a cast-iron bench or table having a bracket standing up to hold the die and a vertical drum which rotates. By coiling the wire around its surface pulls it through the die, the coil of wire being stored upon another drum or “swift” which lies behind the die and reels off the wire as fast as required.

The wire drum or “block” is provided with means for rapidly coupling or uncoupling it to its vertical shaft, so that the motion of the wire may be stopped or started instantly. The block is also tapered, so that the coil of wire may be easily slipped off upwards when finished. Before the wire can be attached to the block, a sufficient length of it must be pulled through the die. This is effected by a pair of gripping pincers on the end of a chain which is wound around a revolving drum, so drawing the wire until enough can be coiled two or three times on the block, where the end is secured by a small screw clamp or vice. When the wire is on the block, it is set in motion and the wire is drawn steadily through the die. It is very important that the block rotates evenly and that it runs true and pulls the wire at a constant velocity, otherwise “snatching” occurs which will weaken or even break the wire. The speeds at which wire is drawn vary greatly, according to the material and the amount of reduction.

Machines with continuous blocks differ from single block machines by having a series of dies through which the wire is drawn in a continuous fashion. Due to the elongation and slips, the speed of the

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wire changes after each successive redraw. This increased speed is accommodated by having a different rotation speed for each block.

One of these machines may contain 3 to 12 dies. The operation of threading the wire through all the dies and around the blocks is termed “stringing-up”. The arrangements for lubrication include a pump which floods the dies, and in many cases also the bottom portions of the blocks run in lubricant.

Often intermediate anneals are required to counter the effects of cold working, and to allow further drawing. A final anneal may also be used on the finished product to maximise ductility and electrical conductivity.

An example of product produced in a continuous wire drawing machine is telephone wire. It is drawn 20 to 30 times from hot rolled rod stock.

While round cross-sections dominate most drawing processes, non-circular cross-sections are drawn. They are usually drawn when the cross-section is small and quantities are too low to justify rolling. In these processes, a block or Turk’s-head machine are used.

Lubrication

Lubrication in the drawing process is essential for maintaining good surface finish and long die life. The following are different methods of lubrication:

- Wet drawing: the dies and wire or rod are completely immersed in lubricants
- Dry drawing: the wire or rod passes through a container of lubricant which coats the surface of the wire or rod
- Metal coating: the wire or rod is coated with a soft metal which acts as a solid lubricant
- Ultrasonic vibration: the dies and mandrels are vibrated, which helps to reduce forces and allow larger reductions per pass

• Roller die Drawing (also referred as Roll drawing): roller dies are used instead of fixed dies to convert shear friction to rolling friction with dramatic reduction in the drawing forces. When roller dies are adopted, the drawing stages are composed by 2-4 idle rolls and the wire is pulled within the roll’s clearance. This type of solution can be easily adopted also to produce flat or profiled drawn wires.

Various lubricants, such as oil, are employed. Another lubrication method is to immerse the wire in a copper sulfate solution, such that a film of copper is deposited which forms a kind of lubricant. In some classes of wire, the copper is left after the final drawing to serve as a preventive of rust or to allow easy soldering. The best example of copper coated wire is in MIG wire used in welding.

Mechanical properties

The strength-enhancing effect of wire drawing can be substantial. The highest strengths available on any steel have been recorded on small-diameter cold-drawn austenitic stainless wire. Tensile strength can be as high as 400 ksi (2760 MPa).

Source: Wikipedia



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Life Member Profiles

Bob Black, National Industries

Bob Black started in the spring industry in August 1964, so this is his 55th year in the industry.

“I had the honour, as a young man starting off at Industrial Springs at 17 years of age, of working with, whom I term, the founding fathers of the wire industry,” said Bob.

Bob still attends his office at National Industries four days a week, so he still classifies himself as ‘active’, but in his own words, he is “still standing but perhaps leaning at times”.

In the 1990s Bob was National President of the AWIA. One of his fond memories of this time was the Legends Dinner he helped organise in Melbourne. At that dinner, Bob managed to gather many living legends of the wire industry and also pay tribute to those who had passed on to that “great wire/spring works in heaven”. Bob even had a few great legends picked up from their retirement homes and brought to the dinner so tribute could be paid to them. For those that attended, it was a wonderful evening, and one that couldn’t have happened without Bob’s leadership and guidance.

A combined 100 years of service with Otter Fencing

Otter Fencing recently welcomed a visit from Fred Reid, who is now 90 years of age.

Fred worked as a Workshop Manager with Otter Fencing in the very early years of the business for 10 years, and left Otter Fencing in 1971 when Otter Fencing was located in Fulton St. Huntingdale, VIC. Fred was a highly valued team member in the early days of the business and helped Otter Fencing gain a strong foundation.

Current Workshop Manager Stewart Waldron began working with Otter Fencing as a welder, later progressing to Leading Hand around the same time as Fred left the business in 1971. Stewart still works with Otter Fencing as a dedicated and tireless Workshop Manager.

Ray Otter has been working with Otter Fencing since 1963 and is well known and respected throughout the fencing industry with an extensive knowledge of all things to do with Fencing and Gates. Ray was the Chairman of the Australian Standards committee and was key to the development of the initial Australian Standards for Chain-link Fabric Fencing in 1975 and also the subsequent upgrades in 2003 & 2010.

Combined, these three very loyal and dedicated individuals have provided 100 years of valued service to Otter Fencing, which is an achievement to be acknowledged and applauded.



Mesh Products – Next Generation

Proudly Australian owned and family operated since 1975, Mesh Products was started by Les and Colleen Balmer and benchmarked the supply of mesh and chain wire by focusing their emphasis on working with suppliers championing Australian materials for both the local and general public, through to trade and government departments.

Mesh Products supplies and manufactures all styles of mesh fencing and chain wire products, from garden panels to pool fencing, with all fabrication conducted in their premises in Archerfield, with a fully equipped workshop and qualified tradespeople.

Mesh Products have everything required to help make DIY easy and stress free. They have a full range of weldmesh, posts, hinges and can even supply concrete. Additionally, with a focus on joining forces with local industry, all their materials can be supplied powder coated to suit their customers' requirements.

With ever evolving materials and stock chain wire ranges from 900mm high to 3600mm high in either galvanized or PVC coated and either Green or Black with all Downee fittings kept in stock and galvanized pipe to suit. Mesh Products can custom make cages, ute backs, sign frames and gates to suit your openings.

In 2019 Mesh Products continues to forge forward with the goal of supplying the highest quality Australian made materials at the most affordable prices for its valued and new client base, in a proud tradition that continues today.

Mesh Products

(07) 3274 3555

sales@meshproducts.net.au

www.meshproducts.com.au



Update on Code of Practice for the Design, Manufacture and Installation of Metal sliding gates

After a hiatus of several months we are back onto the drafting phase for the Code of Practice for sliding gates.

During consultation with industry members it was decided gate automation should be treated in a separate section in the document. With the help of several gate automation companies in Brisbane, a start has been made on identifying common terms used in the industry and coupling these terms with short definitions. A further suggestion has been made that the section actually covering automation be split under the following headings:



Automation

- Motor selection and criteria
- Safety Devices (a site risk assessment should always be carried out in conjunction with the needs of the client)
- Access control (including security and emergency access requirements)
- Service and maintenance
- Training and handover

The AWIA is appreciative of the input given so far by several Brisbane-based industry colleagues including Mark Sanzaro (Remote-a-Door), Stephen Phillips (EZI Security Queensland), Dan Edie (OX Works), as well as Darren Julian and Grant Murdoch at Downee.

In the coming weeks we intend to contact a number of sliding gate automation specialists in the southern states to seek their input in developing a national approach to the guidance provided in the proposed Code of Practice.

Any suggestions on the particular content for the automation section of the Code of Practice would be most welcome.

Contact Brian Mullarvey via email brian@wireassociation.com.au or mobile 0418 335 999.

Spring Failure

The failure of a component can have serious consequences and cause safety concerns along with unnecessary costs associated with downtime. Product recalls are also a real possibility. Understanding why a component fails and knowing how to put clear processes in place helps to minimise the risk of this happening.

The main aims of failure investigation are not just to determine the mechanism and root cause of failure but to suggest improvements that could be made to mitigate the risk of it occurring again. The most common failure mechanism for a spring is due to fatigue. Spring fatigue is due to repeated operation between two (or more) loads, causing a varying stress on the wire.

Although these stresses will be below the ultimate tensile strength of the material, they can still cause failure as the repetitive action can cause a crack initiation which then quickly propagates under the influence of its repeated use.

However, identification of the failure mechanism is rarely enough information to mitigate the failure occurring again; the root cause of the failure needs to be identified.

A major contributing factor to the life of the spring is the surface quality of the wire, particularly the presence of a defect that may serve as the initiation and catalyst for the failure. Surface defects, such as drawing, coiling marks or microstructural defects, can act as stress concentration points, raising the local stress and helping in the initiation of fatigue failures. Identification of these defects which lead to failure allow for future prevention.

Corrosion and wear can also lead to damage to the surface of the wire creating an initiation point for cracks. Therefore, it is important not only to determine the failure mechanism but the root cause of failure to prevent recurrence.

Shot peening is a tried and tested method of accelerating a stream of particles (shot) at the component's surface, putting the spring under residual compressive stress, increasing its resistance to fatigue crack formation. Another way of preventing failure is to specify a higher strength material or an improved surface quality so the life of the spring can be optimised.

Finally, for springs that are too small to shot peen, an optimised stress relief heat treatment can be applied to improve the life of springs for high duty applications. Using shaved or super clean raw material and electro polishing can be advantageous too.

Failure can also be caused by corrosion, stress corrosion cracking, hydrogen embrittlement, liquid metal embrittlement, overloading the spring, or too much relaxation of the spring and general wear and cracking of the spring.

Information supplied by: Institute of Spring Technology



ATO – Single Touch Payroll



Single Touch Payroll (STP), is a new way of reporting tax and superannuation information to the Australian Taxation Office (ATO).

With STP you report employees' payroll information – such as salaries and wages, pay as you go (PAYG) withholding and super – to us each time you pay them through STP-enabled software.

When and how you report depends on what type of employer you are:

- Small employers with 19 or less employees – STP reporting started from 1 July 2019.
- Large employers with 20 or more employees – You should already be reporting through STP. Companies not yet reporting and which do not have a deferral approved may now be subject to penalties.

Visit the ATO website www.ato.gov.au/Business/Single-Touch-Payroll/ to find out more.

Qantas Aquire Program



If you quote the AWIA ABN (95 602 035 937) when you make any Qantas bookings (flights, cars or hotels) you will also be earning points for the AWIA. These points can then be used for travel approved by the National Committee.

Points earned through this program do not affect your own accumulation of frequent flyer points, they are completely additional. Thanks for your assistance.

Member Programs

Empower Energy Plan for Associations – *Save money on your energy bills*

AWIA has initiated discussions with Empower to provide AWIA members with potential savings to their energy bills.

With soaring electricity market prices, simply shopping around periodically for a low energy rate is no longer going to provide the best financial outcome. There are many ways to reduce energy costs, and Empower, a trusted energy consultancy, may be able to assist members to:

- identify opportunities for cost reduction within their business.
- negotiate deals using the buying power of the association.
- provide support, implement and verify the long term saving.

Here are examples of the outcomes that Empower has achieved through differing cost reduction strategies:

Electricity Contract Negotiation – Empower recently negotiated an average saving of \$1,754 per year for practices within a national

vet group.

Network Tariff Optimisation - “Empower has helped save my business \$14,675 per year with a Network Tariff reassignment and Direct metering agreement. I found their service to be thoroughly helpful and would recommend them to any business looking at different ways to reduce their electricity bills.” Colin Height, General Manager of Nullabor Sustainable Timber

Desktop Energy Assessment – “The report showed that the meter data was incorrect and I had been incorrectly charged over \$3,000, they also identified that there was an annual savings of \$1,800 if I changed my network tariff.” Nedaj Semic, Owner of Sky High Indoor Trampoline Park

Solar PV – Empower project managed the installation of a Solar PV system for Warburton Holiday Park, which is saving over \$6,000 a year in energy costs.

To register your interest, email Richard Newbigin at richard@wireassociation.com.au

October Conference & AGM

While not quite as well attended as our event this time last year, delegates were fortunate to enjoy a very interesting introduction to the world of augmented reality training delivered with skill and enthusiasm by a representative from Association partner, Weld Australia. This presentation was our only one for the afternoon, and it allowed all delegates the opportunity to try out their welding skills in a safe and heat free environment, with all participants completing a butt weld and some making a fillet weld as well.

The training device showcased by Weld Australia combines what appears to be a normal welding mask, but which in fact is an augmented reality tool complete with cameras and sensors, with a heat free welding tool to simulate the process of making a weld. The software incorporated in the equipment assists the user to determine the correct angle, distance and speed to make a good weld, and to compare each simulated weld with an ideal weld.

Being a competitive lot, the scores awarded for each weld soon made their way to a leader board with Matt Curry from Vater Hardware eventually taking the prize for best welder of the day. There was strong opposition from Ben Gregson (Protective Group) and Alan Abrahamsen (InfraBuild Wire) who came in second and third place respectively.

The rest of the afternoon session was given over to the Annual General Meeting at which the 2019 financials were presented, and Director/Secretary, Richard Newbigin, delivered his report on past and future activities of the Association. The committee was also elected, and executive positions appointed. David Takacs (Diamond Fencing) joined the committee representing the Southern Region, while Michael Logan and Trevor Buwalda (Jubilee Springs and Protective Group respectively) departed the committee due to ineligibility which, hopefully, will be short-lived. Members who would like to receive the minutes and reports from the AGM should contact Richard Newbigin at richard@wireassociation.com.au, or phone 1300 942 500.

Delegates eventually were able to enjoy the sensational Sydney weather, with some drinks and dinner overlooking Wendy Whiteley's Secret Garden and Lavender Bay. Thanks go to Weld Australia and the Kirribilli Club for making the day run so well, and also to InfraBuild Wire for their generous part-sponsorship.



Delegates line up to test their welding skills.



And the winner is...Mat Curry from Vater.



Enjoying a brew in the Sydney sunshine.

WIRE AND SPRING MEMBERS

- Ability Works Australia
- Ace Wire Works
- AM Wire Pte Ltd
- Anchor Wire NZ
- Ariston Wire
- Australian Steel & Wire
- Australian Mesh
- Automatic Wire
- Badger Wire
- Bayswater Plastic Coaters
- Bekaert International Singapore
- Better Springs
- Bliss & Reels
- Boynes Springs
- Castle International
- Concept Wire Industries
- Doogood Powder Coating
- Frauenfelder
- Idee Parfait
- IIL Australia
- InfraBuild Wire
- InfraBuild Construction Solutions
- M&F Group
- Machinery Forum
- Marsh Springs & Metal Products
- Mesh Industries Group
- Mesh Products
- Mesh Works
- National Springs & Wire Products NZ
- NZ Spring Works Ltd
- Protective Wire Mesh Industries
- ProTube Asia
- R.E. Walters
- Sanwa
- 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
- Wiretainers Pty Ltd



If you are intending travelling interstate or overseas this year, it could be worthwhile combining your travel with a visit to one of the trade exhibitions below to discover innovations which could improve efficiencies and productivity in your business.

2019

October 1-3 2019 SMI Metal Engineering Expo

Pittsburgh, Pennsylvania, USA,
www.metalengineeringexpo.org/

October 15 AWIA Welding Masterclass & AGM

2pm to 5pm Kirribilli Club, Sydney

November 11 – 13 Africa Wire Cable & Tube 2019

Emperor's Palace, Johannesburg, South Africa,
www.crugroup.com

November 19-24 2019 World Engineering Convention

Melbourne Convention & Exhibition Centre, Melbourne.
www.wec2019.org.au

November 21 AFIA Fencing Meeting

Tower Hotel, East Hawthorn, Melbourne

December 5 AWIA Christmas Dinner

Melbourne
Details TBA

December 12-14 India Fence Expo 2019

Chennai Trade Centre, Chennai (Madras) India
www.fenceexpo.com

2020

January 14-16 2020 International Exhibition for Perimeter Protection Fencing & Building Security

Messezentrum Exhibition Centre Nuremberg, Germany

March 3-6 2020 Fencetech

Salt City Convention Centre, Salt Lake City, Utah, USA
www.americanfenceassociation.com/fencetech

March 30-3 April 2020 wire Dusseldorf

Fairground Dusseldorf, Germany,
www.wire.de

May 13 – 15 Advanced Manufacturing Expo

Sydney Showgrounds, Sydney,
www.advancedmanufacturingexpo.com.au

May 27 – 28 Hire20

Adelaide, South Australia.
www.hire20.com.au

June 2 – 4 2020 WAI Wire Expo

Mohegan Sun Resort and Casino, Uncasville, Connecticut, USA

June 9 – 11 5th International Rental Exhibition

MECC Exhibition Centre, Maastricht, The Netherlands,
www.ireshow.com

June 18 – 20 SPRINGCON: 2020 (IST Technical Conference)

Millennium Gallery, Sheffield, UK,
www.springcon.com

September 23-26 2020 wire China

Shanghai New International Expo Centre Shanghai, China,
www.wirechina.net

October 7 – 9 CASMI Spring World

Rosemont, Illinois,
www.casmi-springworld.org

October AWIA Conference & AGM

Auckland, New Zealand

November 23 – 25 wire India

Bombay Convention & Exhibition Centre, Mumbai,
www.wire-india.com

DISCLAIMER

The information contained in "The Link" newsletter has been prepared in good faith and is intended for general information only. Information on products and industry practices are not to be construed as Association recommendations. The views or opinions expressed in the newsletter articles are not necessarily those held by the AWIA.

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