

Sustainability Awards

Sustainability eBook 2022 Network Architectural

The 2022 Sustainability Awards Gala

It was in 2006, way back before smart phones or social media, when we launched what we now call the Sustainability Awards. Little did we realise that 16 years later, our 'little' awards would become the premier built environment sustainability awards program in Australia.

Not that it's a huge surprise really. With the growing awareness of carbon footprints, climate change and rising sea levels as well as the hard work we have put into promoting these awards, it's no great shock that the Sustainability Awards were always destined for greatness. And not only because of the moral imperative, but also due to the economic one.

Realistically speaking, sustainability is a business approach designed to create long-

term value by taking into consideration how organisations operate in the ecological, social, and economic environments.

Therefore, sustainability is built on the idea that developing such strategies fosters business longevity. Without this notion, neither the planet nor the businesses that thrive on it will have much longevity.

With that in mind, I'd like to thank you for your involvement in our Sustainability Awards programme, one that always has been, and always will be dedicated to promoting sustainability awareness in all its forms across Australia's diverse and vibrant built industry.

BRANKO MILETIC, EDITOR

The Awards Jury



ARIANNA BRAMBILLA Senior Lecturer, School of Architecture, Design & Planning



DAVID COATES Founder, Sustainable Building & Design



DICK CLARKE Princial, Envirotecture



JEREMY SPENCER Director, Positive Footprints



KATE NASON Sustainability Advisor, Frasers Property



MAHALATH HALPERIN Architect & Director, Mahalath Halperin Architects



MICHAEL FAINE Architect, Faine Group Architects



OLIVER STEELE Director, Positive Footprints



SANDRA FURTADO Director, Furtado Sullivan



SIMONE SCHENKEL Founder, Gruen Eco Design



SUSAN TOUMBOUROU CEO, Australia Council of Recycling

Q&A with Llewellyn Regler, Technical Manager at Network Architectural

Network Architectural's Technical Manager talks to us about the impact of the Grenfell Tower fire disaster on his career path, working with Mitsubishi to bring to life what is now considered the golden standard in non-combustible cladding – and how the Japanese sustainability principles of "Kaiteki" influenced the process.

A&D: Tell us about your current role with Network Architectural. How did it come to be?

LLEWELLYN REGLER: I'm the Technical Manager for Facades with Network Architectural, and the way this role came about was quite interesting. Not long after I joined the company, the Grenfell Tower fire disaster occurred and the company needed someone who would have the knowledge of – or wanted to learn about – the Building Code and fire standards related to cladding. I took on the role about six years ago and have been doing it ever since.

A&D: Network Architectural's signature noncombustible product, Mitsubishi ALPOLIC[™] NC/A1, took four years to bring to life. Can you tell us what sets it apart from other products in the market?

LR: Mitsubishi ALPOLIC[™] NC/A1 is a mineral core barrier composite panel that was initially manufactured by Mitsubishi exclusively for the Australian market to meet Australia's strict building code requirements. Due to the success and high performance of the product, Mitsubishi then launched ALPOLIC[™] NC/A1 globally and successfully tested to Euroclass A1 13501-1, the most stringent component fire test in the world.

What really sets it apart - beyond the fact that it passes all the fire tests in Australia, and is manufactured by the world leader in aluminium composite panels - is the fact that it comes with a 20-year full cover warranty backed by the globally trusted Mitsubishi. If there is a manufacturing defect in the panels, Mitsubishi will replace it at no cost to the building owner. In my opinion, it is the most comprehensive warranty within our industry. Plus, you don't have to wash the facade or do any maintenance to maintain the warranty.

A&D: Mitsubishi ALPOLIC[™] NC/A1 is considered to be the world's safest aluminium facade product where fire safety is concerned. What has been the compliance journey to get the product certified in Australia?

LR: First of all, for the compliance of a product like this with the C1.9(e)(vii) clause – commonly known as the Bonded Laminates Clause – you

have to test each layer to AS 1530.1 for noncombustibility. On top of that, the adhesive layer needs to be less than two millimetres in total thickness within the panel. Our panel passes AS 1530.1. on the aluminium skins and the mineral core, and it has 0.035 millimetres of adhesive on either side of the panel. The panel is then tested to AS 1530.3., and it can't exceed the spread flame index of more than 0, and the spread of smoke index of more than 3.

Passing these tests – and I'd consider them to be the bare minimum – means that the product can be used in applications where non-combustible materials are required, like Type A or B construction. From our perspective, we wanted to go above and beyond, so we also conducted a large-scale AS 5113 fire simulation test. The test results, by far, outperformed any other aluminium façade material in the country.

A&D: Can you talk us through the process Network Architectural and Mitsubishi went through to obtain CodeMark certification?

LR: We successfully obtained our CodeMark certification through industry leading





certification provider, SAI Global. The certificate demonstrates compliance with the Building Code through an independent assessment, which includes reviewing relevant test results as well as the audit of the Mitsubishi factory - which was organised remotely, since the panels are manufactured in Japan. It's an incredibly extensive process, but we're very happy to be working with SAI Global, because we're confident that we will have a CodeMark certificate that stands up to utmost scrutiny. They really pride themselves on the work that they do.

A&D: Obtaining the Environmental Product Declaration (EPD) for the Mitsubishi ALPOLIC[™] NC/A1 was very important to Network Architectural and Mitsubishi. How long did it take and how involved was Network Architectural in the process?

LR: It was an intense and extremely thorough process that probably took the better part of nine months to achieve. The EPD was compiled and produced by Good Environmental Choice Australia (GECA) who were very professional in the way they communicated and worked directly with Mitsubishi in Japan on cataloguing their processes and reviewing their practices. As the EPD is a product based environmental declaration, Network Architectural's role was more to facilitate the communications between GECA in Australia and Mitsubishi in Japan.

Mitsubishi had the majority of the documentation and processes required to obtain the EPD as they already had extensive sustainability practices in place.

A&D: Let's talk about those. Mitsubishi operates under the sustainability principles of "Kaiteki" what do they entail?

LR: Kaiteki is an original concept of Mitsubishi's grounded in the notion of sustainable wellbeing of people, society and our planet with the mission to create innovative solutions, based on Mitsubishi's core values of sustainability, health and comfort. This philosophy is reflected in the way they conduct their business. For over 20 years they have been producing fire safe products for the Australian construction market. Mitsubishi's decision was based on safety before profit and that really encapsulates how they approach sustainability as part of their broader business ethos.

A&D: Network Architectural works closely with Mitsubishi. Is their sustainability philosophy reflected in the way your company operates?

LR: Although we're two separate companies, we're extremely privileged to work with Mitsubishi so closely, and I think we often see ourselves as an extension of their business model, because we're the exclusive distributors of their products in Australia.

And I think that – like Mitsubishi – we conduct ourselves in the most sustainable way. For instance, we recycle any material that can be recycled, we use rainwater tanks which service all the plumbing, we have solar panels which generate more than enough power for us to operate which means some of that energy is fed back into the grid. Like Mitsubishi, we're serious about our commitment to sustainability and it informs all facets of our business and operations.

Commercial Architecture (Large) Award Shortlist



proudly partnered by Network Architectural

A Class 5, 6, 7 or 8 building used for professional and / or commercial purposes of over 500sqm in floor size.



FOUR PILLARS GIN DISTILLERY 2.0 BREATHE



IRON CREEK BAY FARM STAY MISHO + ASSOCIATES



MIDTOWN CENTRE FENDER KATSALIDIS



QUAY QUARTER TOWER 3XN IN COLLABORATION WITH BVN



SEEK HASSELL

6

Award Winner

PROJECT PHOTOGRAPHY Anson Smart.



FOUR PILLARS GIN DISTILLERY 2.0 BREATHE

Breathe joined forces with Four Pillars Gin to create a new, immersive gin experience in their birthplace, Healesville. The project is surrounded by mountains, temperate rainforest, oaks, and elms and throughout the design we acknowledge Four Pillars' origin, their history, and their deep connection to the place where it all began.

The project nearly triples the capacity for visitors, as the expansion delivers a much-needed new production space, an outdoor gin garden, tuckshop, dedicated gin shop, a custom-built bar, and events space cementing Four Pillars as the largest gin-focused distillery in Australia.

Importantly, this project will see Four Pillars continue their commitment to sustainability and community with the implementation of new sustainability initiatives and the creation of countless local jobs. Four Pillars become Australia's first carbonneutral gin business. 100 per cent fossil fuel-free, sustainability is embedded, from the copper veil, the 100 kW solar rooftop, the recycled masonry throughout to a restrained and crafted natural material palette. Ongoing waste minimisation was important to the project and all steel, concrete, and timber waste was recycled during construction and no excavation was sent to landfill. Gin is piped directly into the main bar from production through featured copper pipes that will see the site save 29 tonnes of glass per year.



CHolcim

KAOLIN

COMMERCIAL

Actions speak louder than words: Network Architectural's compliance and certifications journey

One of the undisputable pillars of the building and construction industry, certifications have long been one of the most reliable ways to ensure accountability, transparency and commitment.

Whether it's ensuring compliance with local building standards, demonstrating a product's fire safety profile or offering an insight into its environmental impact, ensuring the products are independently assessed and verified has become the norm.

Network Architectural hold themselves to the highest of standards, and it is important to them to ensure that their product offering reflects that. In practice, that means going above and beyond the standard certifications stipulated by the Building Code. "That really is the minimum standard that you have to build to," points out Llewellyn Regler, Technical Manager at Network Architectural. "It's the bare minimum. We should always try to go beyond it, build beyond just compliance."

This ambition is aptly expressed in their flagship non-combustible product – Mitsubishi ALPOLIC[™] NC/A1. The stand-out aluminium composite panel is compliant with the C1.9(e) (vii) clause of the NCC, plus the product obtained A1 classification when tested to the incredibly stringent European fire protection standard EN 13501-1. But Network Architectural and the manufacturer of the panels, Mitsubishi, have taken the ambition to go above and beyond further. The signature product is verified through the Environmental Product Declaration (EPD) produced by Good Environmental Choice Australia (GECA) and the companies have obtained CodeMark certification through SAI Global. "We want to be as transparent as possible," Llewellyn states. "And back up our claims with evidence."

CodeMark verifies compliance with the Building Code through a third-party assessment that involves a detailed review of all relevant test results, as well as a comprehensive audit of the manufacturing facility – in this case, Mitsubishi's factory in Japan – as well as Network Architectural's Australian headquarters. The process is defined by the independent character of the enquiry and its scrutiny – both welcomed by Network Architectural. "It was an extensive process but we're very happy to be working with SAI Global, because we're confident that we have CodeMark certification that stands up to utmost scrutiny," says Llewellyn.

Another independent certification that doesn't leave one stone unturned is the EPD produced by GECA - a certification Network Architectural and Mitsubishi consider to be one of the initiatives that set Mitsubishi ALPOLIC[™] NC/A1 apart from other products on the market. "There are many cladding companies out there who focus on solid aluminium products and brand them as 100% recyclable," Llewellyn says. "And there is this perception that if something is recyclable, then it has to be good, right? But what about the energy required to recycle the product? Where does it get recycled, and what does it get turned into? An EPD includes all of that. With an EPD, actions speak louder than words."

Mitsubishi, a global leader in aluminium composite panels, has an advanced sustainability agenda, which means they didn't have to change anything for the purpose of obtaining the declaration because strong sustainable practices were already underpinning their manufacturing processes. Although it took almost nine months to secure the EPD, Llewellyn explains that for Mitsubishi and Network Architectural, the initiative is an investment - and a demonstration of the brands' confidence in their own product. "Knowing that our product has CodeMark certification and an EPD shows the person who buys our panel that we stand by it," Llewellyn explains. "And I think that definitely sets our product apart from other cladding alternatives on the market."





Through the roof: Mitsubishi ALPOLIC[™] NC/ A1's extraordinary safety and sustainability profile

Launched in early 2019, Mitsubishi ALPOLIC[™] NC/A1 has since become the gold standard for non-combustible cladding. Four years in the making, this stand-out product is an outcome of a close partnership between Mitsubishi and Network Architectural, and has been designed specifically for Australia.

Network Architectural's flagship product, ALPOLIC[™] NC/A1 mineral core barrier composite panel is manufactured by Mitsubishi and fully compliant with the relevant building codes and regulations in Australia, explains Llewellyn Regler, Technical Manager at Network Architectural. "It has obtained A1 classification according to the European fire protection standard EN 13501-1, which is the highest rating in what is considered to be one of the most stringent component fire test standards in the world," Llewellyn adds. "To my knowledge, ours is the only aluminium composite panel in the world that actually meets that standard."

This exceptional fire safety profile of the non-combustible product is matched by its outstanding sustainability credentials. Underscored by Mitsubishi's very own sustainability philosophy - encapsulated by the notion of "Kaiteki" - and verified through an Environmental Product Declaration (EPD) produced by Good Environmental Choice Australia (GECA), Mitsubishi ALPOLIC[™] NC/ A1 is manufactured in an environmentally conscious manner.

"ALPOLIC and its affiliated materials are 100% recyclable," explains Mr Hee Kok Koon, General Manager ALPOLIC Division, Mitsubishi Chemical Singapore. "In our manufacturing plants, we recover both aluminium (other metals) and the core material for recycling, to keep an environment-friendly operation. Furthermore, our production plants of ALPOLIC are compliant with ISO14001, and also designated as a wide district industrial waste disposal facility. Therefore, we can take back scraps from customers for recycling in our facilities under the proper operating standard."

But that's not all – the product requires less energy to produce than solid aluminium, and saves more energy through its insulating properties. "Aluminium requires a substantial amount of energy to produce," says Mr Hee Kok Koon. "However, ALPOLIC is more rigid than solid aluminium, which means it serves the same function while utilising 300% less aluminium. As a result, it saves more than half the electricity required to produce the solid aluminium panel of the equivalent rigidity."

The environmental benefits continue after installation. "ALPOLIC reduces the building's energy consumption due to its thermal insulation properties," adds Mr Hee Kok Koon. "When the product is used for external or internal cladding, the air space between ALPOLIC and the backing wall forms a thermal insulation layer and increases the wall system's energy conservation performance."

On top of that, ALPOLIC[™] NC/A1 comes with a Mitsubishi-backed 20-year full cover warranty. Considered to be one of the most comprehensive in the building industry, the robust warranty means that in the event of a defect caused by the manufacturer, Mitsubishi will replace it at no cost to the building owner.

Being the gold standard in non-combustible cladding and the safest product of this kind in the world - and boasting such an outstanding sustainability profile, it's no wonder Mitsubishi ALPOLIC[™] NC/A1 continues to be go-to for specifiers who require the best in noncombustible cladding. And, after several months of rigorous testing, Mitsubishi ALPOLIC[™] NC/A1, has now officially met all the testing requirements set out by the NSW State Government as a suitable and safe replacement product as part of the Project Remediate recladding scheme.

"The project will involve re-cladding all the type two residential buildings in New South Wales that have dangerous polyethylene cladding on them," explains Llewellyn. "It was an extensive testing process, and it's an extensive project because around 225 buildings in New South Wales will have to be rectified as part of it."





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