SCOPE

NZ METAL ROOFING MANUFACTURERS INC.

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The NZ Metal Roofing Manufacturers Inc.

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Below is a brief introduction to the 2017 executive of The Metal Roofing Manufacturers Inc. It is intended that Scope be representative of the Metal Roofing and Cladding Industry in both commercial and residential sectors. Your submission of material you consider is of interest is welcomed be it design, research, manufacture or construction.

PROJECTS

ARTICLES

A COLOURFUL LEARNING ENVIRONMENT

Lemonwood Grove School – Te Uru Tarata

Lemonwood Grove is one of the first schools in New Zealand to be constructed entirely from wall and roof panels.

Since the Christchurch earthquakes the population of Rolleston has grown from 9,555 in 2012/13 to a projected 15,000+ this year.

It's not surprising, therefore that this town should be the location of three new schools, part of Government's $1.1 billion Christchurch Schools Rebuild (CSR) programme. Two of these schools, Rolleston College and Lemonwood Grove opened for the start of this school year.

The full primary school caters for over 100 Year 1-8 foundation students with current capacity for 450 and plans to extend to accommodate 750 students.

On-site work is underway on Waitaha Special Needs Base School to serve the wider area.

The name Te Uru Tarata (the grove of lemonwood) was bestowed upon the school by Te Taumutu Rūnanga with whom the school has a close relationship. Colour plays an important role in reflecting the diversity of the Selwyn landscape. The school crest in yellow, blue and green reflects the Rūnanga's historic land use, and the building's colour scheme, in matt black and battleship grey, vibrates with splashes of high-energy yellow – the lemon/gold shades of the tarata flowers against the grey of the shrub's bark.

This bold exterior contrasts with the unobtrusively light interior walls and ceilings which accentuated the impact of the joyously vivid furnishings and accessories. In its entirety, this colourful school shouts FUN – testament to the philosophy that children learn best when they are enjoying the experience. Quizzed, a student confirms this: "I really enjoy the learning in our spaces. We are given responsibility to choose an area to work that best meets our needs."

It's not surprising either that with such a large spend on schools, Government demanded that the Lemonwood Grove School contractors, Southbase Construction Company would deliver – at a budget of under $2,000/m ² – quality innovative design incorporating sustainable design principles – and, by inviting public involvement, build community support and encourage student numbers.

Southbase in turn engaged the firm of Stephenson and Turner (S&T) in a Design/Build contract to form a collaborative working arrangement between all parties. S&T are widely known and respected for their determination to achieve this through consultation and participation with potential parents and school's wider community, the builders, the tradesmen, the Ministry of Education (MoE) and the teachers.

With Stage 1 of the build now complete, the S&T design team say they really enjoyed the hugely collaborative approach from all parties and are proud to have achieved something that many architects find difficult.

Lemonwood Grove is one of the first schools in New Zealand to be constructed entirely from wall and roof panels that were prefabricated off-site in a local factory in a process involving digital technology and automated machinery.

The COLORSTEEL® prefabricated walls are timber framed and the roof and majority of walls are Kāhu® profile by Metalcraft Roofing, with the walls facing the courtyard in simple corrugate. The optimal length for the panels was 12m so the building has a structural grid of 6m to tie tightly in with the most cost-effective panel size.

It is constructed around a simple, steel portal frame structure so that all the internal walls are steel stud for simplicity and speed of construction, and are non-loadbearing. This means they can be easily removed to suit future changing education needs. The steel framing was being erected on-site while these panels were being constructed off-site and so on delivery they were immediately ready for installation, all specified modifications having been applied. This process enabled sub-contractors to work without delays.
These time- and cost-savings resulted in the build, on 10 acres of bare land with no services, being completed six weeks ahead of the 12-month schedule and, at the $12 million price tag, under budget. Southbase attributes the success partly to this method of construction and partly to the high level of co-operation between the local community, local contractors, consultants and the MoE.

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Our learning landscape design gives us the flexibility to continually adjust our spaces depending on what the learning context is.

This inexpensive and high-quality model will now be replicated within the Christchurch Schools Rebuild (CSR) programme.

S&T designed the school in accordance with stakeholders' desire to create not only a functional building but also an innovative, inviting learning and teaching environment. The design focused on ensuring that the school had good lighting, acoustics and ventilation, maintained a comfortable temperature and met MoE's ICT requirements. The single-storey, L-shaped building is close to

Seating is as varied as it is appropriate to the learning activity and comes in a riot of colourful circular pancake-style cushions, bean bags, armchair chunks, and unconventional tables and chairs.

200m long with each block almost 100m in length, sitting under the low-pitched Kāhu® profile roof which incorporates multiple sky lights which shaft natural light into the interior learning spaces. The higher-roofed multi-purpose space has full-height window panels on two sides which allow great penetration of light into the area. Three-metre wide verandahs provide summer shade and reduce exposure to winter winds and while one arm of the building braces against the nor-wester, the other protects the courtyard from the prevailing north-easterly wind.

The structure uses the 'warm wall / warm roof' system, especially suited to low-slope roofs, where the roof and cladding are separated from the steel structure by high efficiency thermal insulation, thus improving ventilation, warmth – and wellbeing. The school's state-of-the-art facilities include advanced services like hearing loops and underfloor heating; multi-purpose space; library; three designated learning studios – known as 'learning landscapes' – which vary from floor space to theatre-style tiered seating. Seating is as varied as it is appropriate to the learning activity and comes in a riot of colourful circular pancake-style cushions, bean bags, armchair chunks, and unconventional tables and chairs. There are also technology spaces for activities like crafts and cooking, as well as outdoor teaching spaces and an adventure play area.

The adaptability of these spaces is designed to encourage students to be both curious and physically and emotionally comfortable in their environment as they learn, on their own or in a group. It works for teachers too: "Our learning landscape design gives us the flexibility to continually adjust our spaces depending on what the learning context is."

Principal Sean Bailey is delighted. The physical environment supports his team's strong commitment to inclusiveness and encourages families to feel part of the school community.

Stephenson and Turner (S&T)

As leaders in the design of education environments, S&T continue to forge ahead within New Zealand's progressive education scene.

We are passionate about education and our unique and collaborative approach is the basis for designing and innovating our learning environments.

Mindful of the environment and with a vision to the future, S&T's fundamental focus is to provide tailored spaces specific to each school's needs, teaching and learning styles and the community it supports. Our experience in using prefabricated building solutions helps us to achieve efficient, high quality, healthy and safe learning environments for generations to come.

Architect: Stephenson and Turner (S&T)
Christchurch
Telephone: 03 974 1968
Contractors: Southbase Construction Company
Christchurch
Telephone: 03 366 6983
Roofing & Cladding supplier: Metalcraft Roofing
Christchurch
Telephone 03 349 7350
Roofing & Cladding Installer:
Graham Hill Roofing. Christchurch
Telephone: 03 343 1030
Cladding Profile: Kāhu® & Corrugated
Roofing Profile: Kāhu®
Product: COLORSTEEL® Endura
Colours: Kowhai Glow, Sandstone Grey and Ebony

MANGATAWA PAPAMOA BLOCKS HEADQUARTERS, BAY OF PLENTY

Kevin Haua took architect Graham Price to the top of Mangatawa hill and told him about the legend. “After I told him the story, I could see his mind ticking over.”

A whale of a tale is behind the award-winning whale’s tail design of the new headquarters of Mangatawa Papamoa Blocks Inc.

More precisely, the story of three whales – Mangatawa, Kopukairoa and Hikurangi, who feature in Maori legend about how their namesake hills were formed. The story goes that mother whale Mangatawa and child Hikurangi got stranded in Rangataua Bay and, after becoming tired and thirsty, drank from a magic spring that turned them to stone. The mother and baby lie at the edge of Rangataua Bay, while father whale Kopukairoa, who came looking for them and also drank from the spring, then turned to stone and is nestled behind them.

When Mangatawa Papamoa Blocks Inc (MPBI) was planning to build its new headquarters, Mangatawa Tari, chairman Kevin Haua took architect Graham Price to the top of Mangatawa hill and told him about the legend.

“After I told him the story, I could see his mind ticking over,” says Kevin. “He came back with some drawings and lots of ideas, with enthusiasm and the start of an exciting creative journey together.”

First Principles Architects & Interiors worked on the project with Mt Maunganui firm Form Building and Developments. Graham said he wanted to create a building around the local legend. Through a series of sketches the idea behind the family of whales to create a landmark building evolved, to become a single whale’s tail that formed the shape of the roof. “For years we had dreamed about building on the hill,” says Kevin, “and that design just blew us away.”

Graham says, “In understanding the brief and place, what we often discover is a bigger meaning and story than just designing a building. It’s all about the client, their people and their needs.

“It wasn’t practical to have a building in the shape of a whale, so the roof in the shape of a whale’s tail provided a functional building enclosure.”

The design also works on other levels: “That shape is also symbolic of arms being spread wide to embrace people and welcome them into the building. From a distance it’s a soft and floating shape, like a reflection of the contour of the hill.”

Other design elements were also part of the story, such as the exposed glulam beams that represent the skeleton of the whale, and the fabric entry canopy that symbolises the way sails of the waka

hourua would have been laid down on the beach when their wi ancestors arrived onto our shores. The entry canopy also won the Award of Excellence from the Outdoor Fabric Products Association of New Zealand.

First Principles’ Architectural Team Leader and Associate, Ray Atkins says, “The success of this project was a firm belief, of all involved, that the ideas and essence of Graham’s concept sketches were to be developed through to the final design.

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The completed Mangatawa Tari offices are so strong because the building is the story.

“Everyone got on board right from the start because the building is a reflection of the iwi and many parts of the building are part of their story, so it was just a matter of fully modelling it and embracing the design intent with the refinement of detailing and construction.”

“Once Kevin and [executive manager and director] Paula Werohia saw the design, that was what they wanted to be built and they were never going to let go of the concepts and ideas.

“The completed Mangatawa Tari offices are so strong because the building is the story.”

Ray says that while the structure looks complex “precise documentation was possible due to First

Principles Architects’ 3D BIM modelling experience to co-ordinate with all consultants involved.” Co-ordination of the main structural/architectural elements, mono-pitch portal frames, with a purlin layout on four different roof planes were essential to ensure the original concept came to life in the final design.

Graham says there were other design references, such as the seam of the EuroLine cladding, which “is very architectural and represented the lines seen on a whale’s skin”.

Kevin says the True Oak roof sheeting is ‘Thunder Grey’ - as close as they could get to the colour of the top of a whale, while the EuroLine used for the cladding is ‘Sandstone Grey’ to represent the lighter colour of the belly of a whale.

Kevin had another key role to play as Contracts Manager at Tauranga company Taylor Roofing, which had the job of installing the roof. He loved the design but says he probably made a rod for his own back.

“It was a real mission to handle such long sheets with the longest being 17 metres,” says Kevin. “The roof was in four segments running in different directions.”

He adds, “Getting the roof on was tough enough but the flashing was even trickier – trying to curve a straight flashing.”

Graham adds, “Having Kevin on board was great because he was determined to get the curved fascia right. Another roofer might have tried to take an easier route and given it a more segmented look.” The finished result is a sweeping curved front edge.

Kevin says True Oak roof sheeting was chosen for the roof because it could be laid with a pitch as low as four degrees, and he liked the look of the profile. “It’s got a nice flat finish and I thought that would look better than trapezoidal, and when the job was finished I’m glad we went with that.”

Ray says the cantilevered roof’s dramatic overhang is swooping and sculptural but also has a practical purpose as it gives solar protection to the faceted wall of the north-facing glass.

“The roof lets the sun in during winter but reduces heat gain in the summer.”

Having the wall of glass along the front of the building was a symbol of transparency and that there were no secrets kept in this building.

First Principles Architect's interior designer, Kate Price worked closely with Paula on the interior design solution.

She adds, "Having the wall of glass along the front of the building was a symbol of transparency and that there were no secrets kept in this building." Deep plywood soffits transition through to the interior ceilings to provide a sense of continuity. The colour palette reflects the coastal setting – warm sandy hues and blues – and the tones were deliberately restrained so as not to compete with the building and the views of the Bay of Plenty coast. Three pou were commissioned and executed by master carver James Tapiata. These represent the three whales with father whale Kopukairoa attached to the column supporting the entrance canopy and, on the same axis, the mother whale Mangatawa is attached to the central column supporting the roof on the main facade. The baby whale Hikurangi is at the base of the water feature. The water or 'mother's milk' flows from Mangatawa downstream to Hikurangi through whale tail-shaped ponds.

James commented that the pou were blackened to symbolise rising from the ashes, a reference to the fact that the MPBI's previous headquarters, which were converted farm buildings, had burnt down. Kevin says not only are the views spectacular from the administration and operations building but the iwi can survey all their lands, more than 300ha that boasts income from beef, kiwifruit and avocado, as well as a retirement village and industrial developments.

He says he got another chance to tell the local legend when he attended the Master Builders Association New Zealand Commercial Projects Awards in Auckland earlier this year with the team from First Principles.

Kevin wasn't expecting to have to make a speech but when the project won three awards – A Gold in the Commercial Project category and winners of both the Value Award (under $2 Million) and the Special Award – he had to take a turn at the microphone.

"It was at the Langham Hotel in front of 600 people so I told them the story of the whales which started the whole client vision and concept design." he says. "All thanks to Graham – he is a wonderful architect, full of ideas."

First Principles Architects & Interiors

This Tauranga-based practice was established in 2013 by founding director Graham and his wife Kate Price, who is also a co-owner and interior designer.

Graham's vision was to create a bespoke design studio in the Bay of Plenty, specialising in commercial, retail, mixed use, hospitality, educational, urban design and multi-residential architecture. This career direction was based on 30 years of experience in three countries, designing and building many projects for clients such as owner-occupiers, developers, tenants and the public sector.

"We concentrate on working with our clients in the Bay of Plenty, the Waikato and Taupo. However, we have resources to provide architectural services wherever our clients would like us to partner with them. Graham has also worked extensively throughout Africa and the Pacific and designs exclusive projects in the Islands."

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Taylor Roofing, Tauranga
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OAMARU LOG HOUSE

Untreated Douglas fir logs were used with all the corner notches and long grooves scribed and cut by hand to ensure a tight fit.

Building a sustainable, off-the grid house is a complex enough business but when you decide it's also going to be a log home the difficulty goes up another level.

But Jeanne Gray had an experienced and dedicated team behind her when construction began on her dream home at Papakaio, north of Oamaru. She enlisted the services of Natural Log Homes, run by Graeme Mould, who has been building log homes for 30 years. While Natural Log Homes was responsible for the log structure, High Country Carpentry laid the foundations, did the project management and oversaw the fit out and finishing.

Natural Log Homes enlisted the help of Geraldine architect Jess Paterson, who has collaborated with them for many years, to design the home.
"When I moved to Geraldine they were just up the road and they asked me if I would be interested in designing log homes," says Jess.

"With log homes there is not quite the flexibility of design – you can't have windows too close to log corners as you need to allow for the corner notching and the more corners you do, the more expensive it is, as this is the labour intensive part of the log work.

"You can't have a 20m long log wall because the trees don't grow that long and you also have to be able to transport the logs to site."

Jess says she met Jeanne and discussed her options with Graeme at his log yard.

"She wanted quirky with cutesy little rooms and a sharp roof pitch. It was a very detailed log home with lots of junctions, dormers, soffits and things like the big central post that comes down the stairs that took lots of detailing."

Jess says any design also had to allow for the building to settle under its own weight as the wood dries out.

"That's one of the main differences of designing a log home is the settling that you have to allow for. The building drops in height about 4 per cent so that affects your chimneys, staircases, windows, doorways and you have to use things like two-part flashings."

Jess says they use devices such as "buck boards" that allow for settling. "They go along the top and slide down over the window and you adjust them over time – you plane it off then re-fit it and after about five years the house has settled and that's it." She says "hurricane rods" are run vertically through holes drilled in the logs and these threaded metal rods, which help to hold the stacked logs together, can be are tightened over time as the house settles.

"You also have to make sure that any future openings avoid the hurricane rods, and you have to plan out where all your electrical outlets and plumbing is going to go beforehand so holes can be drilled for those."

Lain Hellmrich, owner of High Country Carpentry, says he enjoys the handcrafted nature of log homes.

Because Jeanne's home was in such a remote location, his team of 8-10 builders were on site for about 10 months and during the week they all stayed at Papakaio House, which used to be the local store.

"When we got there Jeanne had beds made up for us all and she'd have dinner cooked for us all when we got back at the end of the day," Lain says. "And when we were working she would bring smoko down to the site."

The home's log superstructure was cut and assembled at Natural Log Homes' yard before being disassembled and trucked to the building site. Untreated Douglas fir logs were used with all the corner notches and long grooves scribed and cut by hand to ensure a tight fit.

Each log is scribed and cut so that they look like they grew together. Scribing transfers the contours of one log onto the contours of the log above. When the timber between the scribe lines is carefully removed, then the logs fit each other perfectly. A double groove is cut the length of the log and a gasket is fitted in each groove to prevent water ingress.

Corner notches where the logs cross over are done in a "saddle notch" style that ensures a tight fit for the life of the building.

Lain says his crew laid the concrete slab for the house and the separate garage at the same time. One of the reasons that Jeanne decided to go off-grid was that it would have cost a lot to bring power to the site. However, that meant the builders had to use generators for their power.

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The roof has a double layer of insulation with the rafters being lined with tongue and groove macrocarpa.

...”the home also earned the overall Craftsmanship Award, along with Gold, Sustainable Home and Category Winner awards for the region”.

Lain says they built the garage first and got the solar array and batteries set up so they had power and weren’t so reliant on running generators all the time.

He says the log structure was assembled on site in a matter of days, and then began the mammoth task of finishing the home.

“The scale of the job was immense,” says Lain. “You look up 8m to 9m to the ridgeline of the house. We had to build a whole scaffold inside just to do the tongue and groove lining on the ceiling.”
The roof has a double layer of insulation with the rafters being lined with tongue and groove macrocarpa. Above that are a 12mm diaphragm and the secondary roof structure over that with thick insulation between the two.

The log walls have high R values themselves, and the home has underfloor heating of the concrete slab via solar hot water or from the wetback on the owner’s woodburning Rayburn range, which she also cooks on.
The home is able to function for five days without solar gain and has a gas oven and back-up generator if needed.

Lain says one of the most time-consuming aspects was installing and detailing the home’s distinctive gabled roof, executed by Canterbury Long Run Roofing.
“The roof was a real work of art,” he says. “The roofer was there day-in, day-out; he did all the cuts on the flashings, valley cuts and raking cuts on the gables that are all exposed. There are so many gables – it’s like a ship’s prow with double or triple fascias.

Lain says the timber was specially milled for rafters and fascias so they could have single lengths – some up to 8 metres long. He finds it fascinating the way log homes move as they mature.
“It’s like a living thing the way it settles, and it’s a massive settling process so you have to have a method built into the structure to allow for that – it’s almost like creating a mechanical device.”
He says the detailing of the internal fit-out was time-consuming and complex.

That detailing was recognised when the house was named 2016 Registered Master Builders House of the Year (Mid and South Canterbury region). The home also earned the overall Craftsmanship Award, along with Gold, Sustainable Home and Category Winner awards for the region. It then went on to win National Gold Reserve, making it one of the top 100 home builds in the country. The national judging panel commented that “this is a complex project that required a challenging construction method using unconventional building materials … given the nature of this type of construction, the builder’s craft was amazing in every respect and a worthy winner”.

While log homes can have a rustic look, Jeanne has spiced hers up with colour accents and an exposed aggregate floor. Bold reds feature in the kitchen cabinetry and in the bathroom, with a fire engine-red bath. Oranges and greens also break up the largely neutral colour palette and wood tones.
The home has three bedrooms, a library, two bathrooms, a double-height living space, and a kids’ loft.

Lain says creating such a unique home was a team effort, and Jeanne’s ambition was rewarded.
“It’s such a neat place and I’m super proud of the way it came up,” he says. “Jeanne wanted a base for her grandchildren and they love it up there with the house sitting on the hill and having great views.”

Jess Paterson Architecture

Based in Geraldine, South Canterbury, JPA Ltd was established in 2003 and is involved in projects ranging from new homes, alterations and additions, through to community projects and light commercial work.

JPA Ltd believes in the balance of using sustainable principles within the design but to a client’s budget. “Our projects incorporate sustainable ideas and concepts enhancing the living conditions of the occupants and aiding the energy efficiency of the building environment. As our projects are based in the South Island, more attention is required to the heating and cooling of the building, obtaining year-round sun and good ventilation while acknowledging the beautiful mountain vista that the majority of our projects have.”

JPA Ltd believes in meeting clients expectations by working closely with them, from initial concept design to detailing and finishes and through to consultations on-site during construction.

Architect: JPA Ltd
Jess Paterson Architecture
Telephone: 03 693 8022
www.jpa.net.nz
Roofing: COLORSTEEL® Corrugate in ‘Ironsand’.
Roofing Installer and supplier:
Canterbury Long Run roofing Timaru
Telephone: 03 688 7224
Builders: Natural Log Homes, Geraldine
Telephone: 03 693-7468
www.naturalloghomes.co.nz
High Country Carpentry, Fairlie
Telephone: 0800 922 883
www.highcountrycarpentry.com
Engineer: Batchelar McDougall Consulting, Wanaka,
Telephone: 03 443 4531
www.bmconsult.co.nz

BRUCE STEWART

‘Getting into roofing was one of the best things we did’

Bruce Stewart today . . . he may have retired but he still regularly visits old haunts to catch up with old friends.

Bruce Stewart, who became an Officer of the New Zealand Order of Merit in the New Year Honours list, has a long history in roofing manufacturing.

When two young Milton builders started out on their own in 1955, they weren’t thinking much beyond the house they were building on the outskirts of their town.

But when a farmer who had ended up with a pile of railway lines from a disposal sale asked Bruce Stewart and his partner, Lance Calder, if they could help build a hayshed using the lines as uprights, they said they could.

Within a few years, one hayshed had become dozens which led to other farm work and their company, Calder Stewart, had become a large employer building woolsheds and much more across Otago and Southland.

By 1969, the company required 1200 tons of corrugated iron a year – the average house required between half to three-quarters of a ton - and Bruce Stewart and Lance Calder could see another opportunity, particularly when corrugated iron for roofing was often in such short supply that buildings couldn’t be completed.

In the mid-1960s, New Zealand Steel had opened its plant at Glenbrook, Auckland. Before then, corrugated iron had been imported from Australia and Scotland.

But NZ Steel cut its iron according to the prescribed lengths of its customer base of merchants, not individual builders.

Bruce and Lance could see huge savings if they could cut roofing iron according to the requirements of individual jobs. Costs would come down between 5 and 7.5 percent and there would be no laps when sheets of iron met, the spot where roofs tended to rust over the years. There would also be much less wastage with spouting as well.

For that, however, they needed steel coil and a corrugating machine. Ward Engineering in Christchurch could build the machine and a Dunedin merchant had excess coil capacity.

Bruce remembers that they started in roofing only to meet their own needs. But when word of what they were doing got out, they were soon approached by other builders and even local merchants.

In those days, transport was strictly regulated in favour of New Zealand Railways. Within a few years, 1000 tons was being railed to Invercargill every year. Such was demand that in 1973, the company opened a second plant with a corrugated iron roll forming machine in that city.

Bruce Stewart and his wife, Elsie after the ceremony where he became an officer of the New Zealand Order of Merit (OMNZ).

By that time, New Zealand Steel were sufficiently impressed by what the two men were doing that two company representatives turned up for the official opening in the southern city.
“We could cut roofing to our own lengths and that made it more efficient,” Bruce said. “And it all just grew and grew.”

Lance Calder died suddenly in 1974 but Bruce kept the business going, retaining the Calder name. Others throughout the country were undertaking similar roofing work and informal gatherings were arranged in those highly-regulated times.

“We used to have a meeting once a year in Wellington,” Bruce recalled. “There wasn’t such a thing as the NZ Metal Roofing Manufacturers’ then, it was just a group of people who had roofing machines. We had lunch in a flash hotel.”

Later, the group became more formalised and Bruce became the representative for Otago-Southland. He would attend meetings, about every two months, in Remuera where the Auckland Manufacturers’ Association was situated. By that time, a lot more people and competition were coming into the industry.

Calder Stewart itself underwent massive change with the social and economic upheaval that followed the election of the 1984-1990 Labour Government, particularly the removal of farm subsidies which had a dramatic effect on the company’s rural business. That coincided, however, with the arrival of the first of Bruce’s four sons– Peter, Alan, Andrew and Donald –and the start of its expansion in commercial and industrial construction throughout the country which continues to this day.

Roofing and cladding Te Papa Tongarewa, Wellington, had to meet exceptionally high standards for the strong wind and salt-laden environment. Te Papa was opened in February 1998.

The company’s roofing division has been an ongoing part of the business through good times and bad, as its products evolved from corrugated iron to highly sophisticated roofing materials and designs, ranging from houses to the complexities of the Museum of New Zealand Te Papa.

The company’s association with roofing ended this year when the division, Calder Stewart Roofing, was sold to Fletcher Building.

Bruce himself retired quietly in 2005 and was named a life member of the NZ Roofing Manufacturers Association. He can still be seen at smoko time at the company’s yards in Milton.
The Governor-General, the Rt Hon Dame Patsy Reddy, awarded him his ONZM for his services to the community and the construction industry.

An official citation acknowledged his role in business organisations including the Otago Manufacturers Association, Otago Master Builders and New Zealand Metal Roofing Manufacturers.

Bruce can look back on a lifetime of construction memories but of roofing he says: “Getting into roofing was one of the best things we did.”

TAWHAI RESIDENCE, BEACH HAVEN RENOVATION

By Graham Hepburn

When the owners of a 1970s brick and concrete tile home on the North Shore decided to extend and renovate, they wanted to create a marked contrast between old and new.

They achieved that with a white plaster ‘bagged’ effect on the bricks, while the new parts of the home were clad in back vertically arranged longrun Dimond Brownbuilt 900 sheets, with cedar slats over some of the windows. Constraining the design process were a tight budget and the fact that the home sits on a steep site.

Creative Arch was happy to take on these challenges and met them with innovative solutions and careful use of materials.

The existing house is perched high on one end of the 690sq m site, and alterations and additions were focused on a new wing along an east-west axis.

Purposeful in positioning and design, the new wing takes advantage of the breath-taking views of Waitemata Harbour to the south, and features a strong feeling of airiness and movement.

Creative Arch’s aim was to produce a design that “extrudes and fragments the existing rectangular form, introducing new high vaulted ceilings and emphasising the verticality through angular geometric shapes and strong vertical lines”.
In extending the house, the design opens up the living and kitchen areas and enlarges existing decks for outdoor entertaining. The larger deck also helps to create a carport underneath. The new carport allows extra space for the owners to utilise the garage for storage.

Existing brick cladding was plastered, with the new kitchen, living, and dining wing clad in long-run metal cladding with cedar screen battens. Cladding the new parts of the house in Dimond Brownbuilt 900 in ‘Black’ created the differentiation between old and new that the owners sought.

Creative Arch says, “The chosen material palette has been simple and intentional. Vertical black long-run metal cladding has been used for the addition, which is low-maintenance, while white plaster has been applied to the existing brick to create a bagged look.

“With the existing strictly rectangular house, the delineation between the new and existing is plainly suggested in the colour contrasts.”
The vertical orientation of the exterior cladding also emphasises the pitched roof forms, arranged in a series of flying wedges providing interest with their geometric nature.

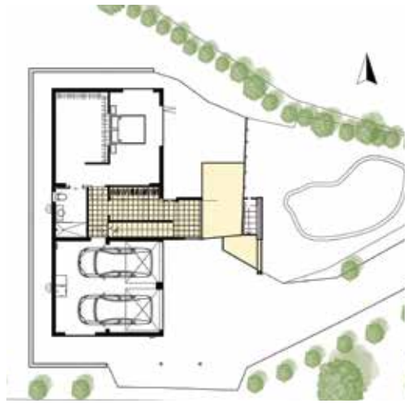
▶

Before

Cladding the new parts of the house in Dimond Brownbuilt 900 in ‘Black’ created the differentiation between old and new.

The alterations have transformed what was an enclosed dwelling to one that fully utilises the potential views with strong indoor-outdoor flow. New and larger glazing units open onto enlarged decks with glass balustrades helping to maximise the views out, while selective enclosure provides visual privacy from neighbours.

The new wing is open plan, containing living, dining, and kitchen. The high ceiling gives a feeling of airiness and a strong connection with the outdoors. Vertical cedar battens on the exterior filter the light entering the spaces from the north as well as providing privacy from neighbours.



The lower floor internally has remained largely unchanged with the new bathroom using light colours for a clinical finish and compensating for lack of natural light.

Ascending to the main floor, the stairs are immediately flooded with light and there is a sense of airiness with oversized geometric windows. Unfortunately, the house suffered fire damage after the completion of works, requiring rebuild of the interior, which has a soothing palette of neutral and timber tones, seen in the living area with its timber floors, white walls and white cabinetry with some dark accents in the splashback and under the breakfast bar. Also on this level are two bedrooms and another bathroom, again with neutral tones of whites and greys with timber accents.

Creative Arch

An award-winning, multi-disciplined architectural design practice, Creative Arch was founded in 1998 by architectural designer/director Mark McLeay. The range of work at Creative Arch is as diverse as their clients, encompassing residential homes, alterations and renovations, coastal developments, sub-division developments and commercial projects.

The team at Creative Arch are an enthusiastic group of talented professional architects and architectural designers, with a depth of experience, from a range of different backgrounds and cultures.
“Creative Arch is a client-focused firm committed to providing excellence in service, culture, and project outcomes.”

“We believe in collaboration - experience teaches us that the most successful architectural design projects are the ones when the client is committed to excellence and teamwork. We work alongside clients through the complete process from initial briefing to developing the design, through to the consenting process, and to building and final completion.”

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Cladding and roofing manufacturer:
Dimond
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Cladding and roofing profile:
Dimond Brownbuilt 900 in ‘Black’
Cladding and roofing installer:
Elevate Roofing,
Telephone: 021 127 9879
www.elevateroofing.co.nz
Builder: QPC Builders, Auckland
Telephone:0800 772 266
www.qpcbuilders.co.nz
Engineer: Hutchinson Consulting Engineers, Orewa
Telephone: 09 426 5702
www.hc.co.nz

METROTILE'S NEW ANTICA TILE UPHOLDS SCHOOL'S AESTHETIC HERITAGE

Metrotile's Antica tile is characterised by a high profile and a unique scalloped nose.

A large re-roof project for Parnell District School is part of the government's seismic strengthening project around old school buildings in New Zealand.

The first outing for Ross Roof Group's Antica tile was a large re-roof project for Parnell District School in St Stephen's Avenue. It is the second oldest school in Auckland, next to St Mary's College in Ponsonby, and two of the school's buildings were identified by the Ministry of Education to require earthquake strengthening.

Under the Ministry of Education instruction, replacing heavy tile roofs is one of the key parts for Strengthening school buildings for earthquake resilience.

Replacing heavy tile roofs with lighter materials significantly reduces:
- the risk to life in major earthquakes
- the level of damage likely in a moderate earthquake.

Key considerations for this project were the need to retain the look and feel of the original heritage school buildings, while removing substantial weight from the structure. Metrotile's branded Antica tile was designed specifically for this purpose with its strong clay tile appearance combined with the core benefits of a lightweight metal tile roofing system with a 50 year weathertight warranty.

Principal of GHD Architecture, Petar Milivojevic said the Ministry of Education appointed GHD to provide seismic strengthening to two of the largest and oldest buildings at Parnell District School.

"To mitigate unsatisfactory structural findings, the decision was made to significantly reduce building loads by replacing the existing concrete tiles with light metal roofing. As both buildings had strong heritage character (they were built in 1933) and were of great importance to the school and the local community, we found that Metrotile tiles would be the perfect solution for this situation."

"My initial selection was the Roman tile with Tuscany finish, but then I was introduced to the new Antica tile which had a more realistic and aesthetically pleasing look. The school had quickly embraced my Antica recommendation, but overruled my colour choice in favour of Clay."

"I must admit I was a bit worried that the monochromatic Clay may show imperfections in an 83 year old roof," says Milivojevic, "but the main contractor Focus Construction did a great job of straightening up the old roof framing before the Ross Roof Group's fixing crew installed the new roof. The end result made us all proud."

The roofing process involved with tent wrapping, concrete tile stripping, rafter packing, rafter tie down, new batten setting, and installing the lightweight pressed metal tiles. Metrotile use a range of independent roofing contractors for a various of stage, started from the Junior Block then moved to the Senior Block.

The clay tile appearance of Metrotile's Antica tile is characterised by a much higher than usual profile height and a unique scalloped nose. It can be installed on the traditional metal tile batten install method, or can be adapted to a batten-less finish on plywood if required. The batten-less option was developed for Ross Roof Group's USA export market where the tile is making good inroads for them in an environment where all roofing is traditionally fixed to a ply substrate. System performance of the batten-less system under extreme weather conditions is proving to be key to its success.

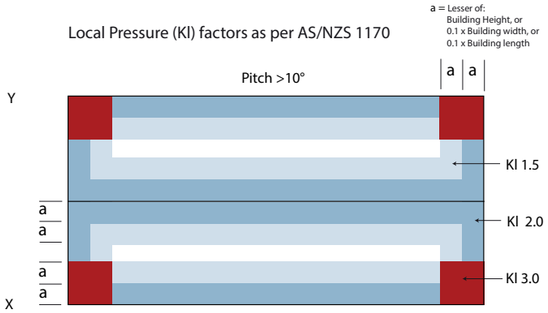
The Antica tile is available in a host of traditionally styled single and multi-toned stone coated colour options, as well as a range of satin painted finishes.

NAILING PATTERNS FOR CORRUGATE

The following is a summary of nailing pattern requirements on roofs designed to the standard of NZS 3604:2011. This replaces the nailing patterns published in the Rooflink Winter 2016 issue.

Use one pattern over the whole roof

On engineered buildings including houses in SED wind zones, the local pressure factors vary from 1.0, 1.5, 2.0, and 3.0 depending on their location. Fortunately NZS 3604 simplifies this by applying a factor of 1.5 over the entire roof.



On smaller roofs the local pressure factors comprise the majority of the roof

For pierce fastened profiles use serviceability design loads, not ultimate design loads

Why do we use serviceability loads? In building design, load calculations are made for ultimate design loads (when the roof would blow off) and serviceability design loads, (when the roof will permanently distort.)

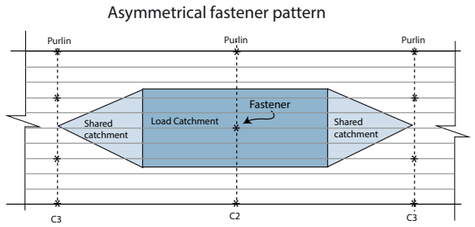
An ultimate design load is about 1 ½ times the serviceability design load. In testing we find that ultimate failure loads are about twice serviceability failure loads. Therefore if a pierce fastened profile passes a serviceability design load test for a particular design, it will easily exceed ultimate deign loads.

Use the same fastener pattern on every purlin

It is intuitive that if a given fastener pattern is marginal for a situation, then alternating rows with denser fastener patterns will give greater resistance. However when you observe a wind uplift test you can understand why doing such can be counter-productive.

When a symmetrically fastened sheet is under uplift load, the unfastened crests bow upwards for the entire length of the sheet, the pressure being shared by the adjacent crests' fasteners. Put a fastener into that otherwise unrestrained crest, and that fastener will be trying to resist uplift of that crest for the entire length of the sheet.

Our generic testing indicates that asymmetrical fastener patterns will provide similar load resistance than the lesser of the two patterns on its own would provide. In some cases they may even provide less.



A fastener through a crest which is not fastened at adjacent purlins has a greater load catchment with asymmetrical fastener patterns than when the patern is symetrical.

New fastener pattern codes represent the number of fasteners per sheet

New codes denoting fixing patterns will reflect the number of fasteners per sheet, i.e. the former fixing pattern C2 with 4 fasteners per sheet will now be coded C4, C3 and will require 3 fasteners per sheet, etc.

The design loads have already been calculated by an engineer and agreed by the TA prior to the consent being issued. No need to do it again.

The new load span graphs show NZS 3604 wind zones

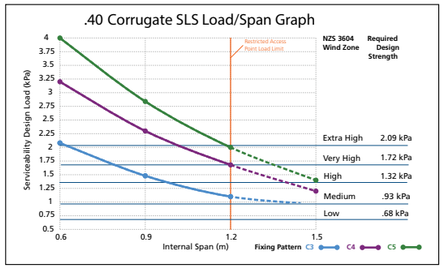
The new fastener tables will show the relevant Wind Zone from NZS 3604, as well as the kilopascal values. That will be easier for both roof installers and compliance officers alike.

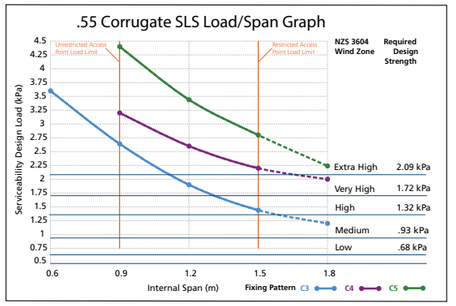
For buildings designed outside of NZS 3604 the design loads on the graphs may be used.

Outside of NZS 3604 ask the designer for the serviceability design wind loads.

Why ask the designer to do it? Because calculation of wind pressures is very complicated, even the experts can arrive at some quite different calculation results for the same job. The design loads have already been calculated by an engineer and agreed by the TA prior to the consent being issued. No need to do it again.

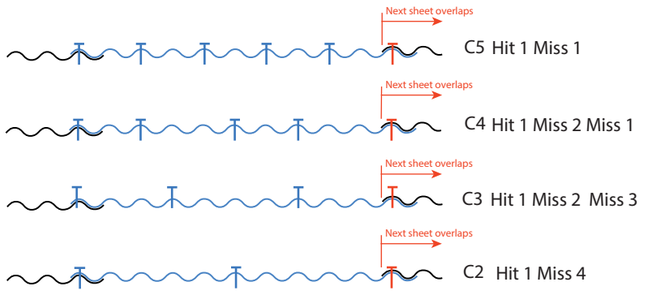
If a designer specifies that fastener patterns should be based on a given wind speed, ask them for a roof plan giving purlin spacing and serviceability design loads. (Or ultimate loads in respect of clip fastened products.) Ultimate loads can be converted to serviceability loads (if necessary) by applying a factor of .71 in all parts of the country.





Material Thickness (BMT)	Internal Span	Wind Zone to NZS3604:2011				
		Low	Med	High	V High	E High
0.40	0.6	C3	C3	C3	C3	C3
	0.9	C3	C3	C3	C4	C4
	1.2	C3	C3	C4	C5	
0.55	0.6	C3	C3	C3	C3	C3
	0.9	C3	C3	C3	C3	C3
	1.2	C3	C3	C3	C3	C4

In Very High and Extra High Wind Zones, it is worth considering .55 mm rather than .40 mm material.



Corrugate fixing Patterns

O'LEARY HOME: WANGANUI STEELFORMERS

We went for the more traditional look of the longrun because it sets the house off

Life on the farm got a whole lot more comfortable for Fiona and Humphrey O'Leary when they decided to build a new home.

Fiona says, "At the old house, which is a 100-year-old villa down the farm, about a kilometer way from our new house, some mornings it would stay chilly indoors till lunchtime, we would still be wearing our beanies."

Building the home on a ridge on their 180ha cattle farm at Whangaehu not only meant more sun but also that the couple could survey their land from the new site.

"We can pretty much see the whole farm now, which is a bit of a novelty," says Fiona.
When they made the decision to build, they sought out builder Shane Stone, who recommended they enlist Paul McKenna Architecture for the design.
Fiona says the brief was pretty straightforward, they wanted a traditional-style home big enough to cater for extended family when required.
"Because we are living on a farm we didn't want a modern-looking home; we wanted something that would stand the test of time and looked like it had been there a long time."

They also chose materials that were sympathetic to the rural environment.

Fiona says, "Originally a metal tile look was specified for the roof but we went for the more traditional look of the longrun because it sets the house off and it's an interesting roof, and the material shows off the workmanship."

The home's rock base was another element that reflects the environment.
"We have these Rangitikei cliffs around us so we chose a rock base for the house in a similar colour to the cliffs."

And, of course, after their experiences in their old house, they wanted the home oriented for maximum sun.

"The old houses were built to protect the kitchen from the sun because they didn't have fridges but in this home we have beautiful big windows and it's a real sun trap."
Paul McKenna says because it was a wide-open, fairly flat site, orientating the home for sun and views was an easy task.

Easy access to the site made the build process easier, too.

As Fiona recalls, "We went to the Melbourne Cup and when we left it was a flattened paddock, but when we came back the frames were up."

Most of the design work went into the layout of the home, the detailing of the roofline and the interiors, where he went for more complex architraves and exposed beams.
"The roof with its gables and valleys was a bit tricky, especially when you are trying to get all the fascias to line up and the soffits worked out.
But quite often as an architectural designer you design to the builder and I knew Shane would have no problem with that detailing because he is right up there with the best."

▶

The incredible workmanship of our builders and other sub-contractors has certainly brought Paul's visions to life.

The layout of the single-level, L-shaped home has a self-contained flat separated from the main part of the house by an internal-access double garage. In the rest of the house there are three bedrooms, with the master having its own wing. Open plan living is at the heart of the house, with a separate lounge as a retreat. North and east-facing decks wrap around the house.

Fiona says they opted for a largely neutral colour scheme but "we went for a few wallpapers for a bit of variety because it is such a big house with high ceilings".

The building process was easy because they were living close to site so could keep an eye on progress but there was no time pressure on the build – the focus was on quality.

"The attention to detail Paul has put into the design has given our home 'the Wow Factor' – from the ceiling details to the window surrounds and much more." She adds, "The incredible workmanship of our builders and other sub-contractors has certainly brought Paul's visions to life. "We cannot speak highly enough of the Wanganui tradespeople involved in our building project, professionals all the way.

"And Shane Stone Builders ensured the whole project was an absolutely seamless process for us – Shane's expert knowledge and project management skills are second to none."

Paul McKenna Architecture

Designer, Paul McKenna began life as a Carpenters apprentice in the late 80's. Achieving honours for highest marks in both trade and advanced trade certificate, Paul then began studying architecture with the Open Poly and jumped on a plane to gain experience with both a hammer and drafting pen overseas. After settling in Wanganui to raise a family with his wife Emma, Paul started his architectural practice in the late 90s.

The practice covers all facets of design and documentation, from new houses to commercial, adapting to the needs and tastes of his clients. But Paul's first love has always been new homes that reflect, but aren't chained to, NZ's rich domestic architectural heritage- homes with enough character to look as good with a bit of wear and tear in 50 years time, as they do when first built. The O'Leary's provided an open canvas to achieve this in what turned out to be a thoroughly enjoyable project to work on.

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Colour: 'Windsor Grey'
Roofing supplier:
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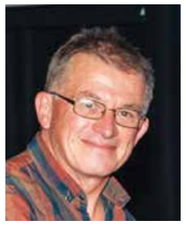
Roofing Specialists Wanganui
Chis back
Telephone: 0274 470 965
Site Foreman: Tim O'Neale
Builder: Shane Stone Builders Ltd
Telephone: 06 3477-007
www.shanestonebuilders.co.nz



COMPATIBILITY OF METALS

By Rod Newbold, chairman MRM Technical Committee.
Article courtesy of Roof Link

There is a misunderstanding that Zincalume is incompatible with galvanised surfaces.

Corrosion is an electrochemical process.

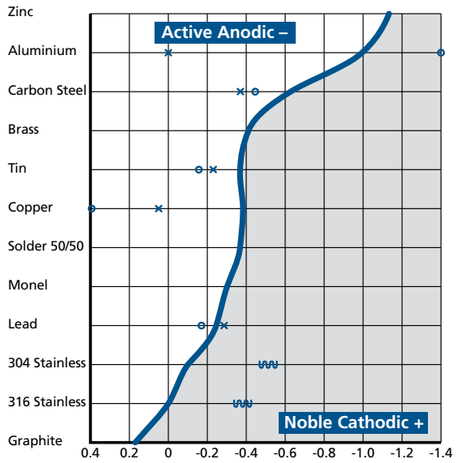
In the case of steel, differences in electrical potential exist on the surface, and microscopic cathodic (-) and anodic (+) cells are formed. The positively charged ions in the anodic surface react with negatively charged hydroxyl ions in water to form iron oxide, or rust. Over time polarisation changes cause anodic areas to become cathodic, and vice versa, so that eventually the rate of corrosion is relatively uniform over the surface.

This reaction can only take place in the presence of an electrolyte, e.g. water. The presence of salt in the water increases its conductivity and therefore speeds up the reaction. It also alters its PH level, alkaline and acidic environments will also alter the rate of oxidisation.

Generally, aluminium dominant coatings do better in an acidic environment, but zinc dominant coatings perform better in an alkaline environment. That is why zinc dominant systems are preferred in buildings such as enclosed animal shelters and fertiliser sheds, where alkalinity may be high.

Metals are ranked by their electro potential, less noble metals will act as an anode when in contact with more noble metals, and therefore will corrode in preference to the less noble metal. In the case of zinc coated steel, while the zinc will corrode in preference to the steel, it will generally do so at a slower rate than that shown by unprotected steel, and can therefore give long lasting durability to the substrate.

This table is only an indicator, as some metals react with the atmosphere to form passive surfaces which renders them less active. However it is a helpful guide. Water can flow from a metal higher on the list to one below and metals close to each other on the table are more likely to be compatible in contact. (Caution, the table would suggest that some metals such as lead, monel, stainless and graphite should be more compatible with aluminium dominant coatings than they are with zinc, but that is not the case).



Galvanic Series in Seawater pH 7.5
Volts vs Saturated Calomel Reference Electrode

- Using sea water as the electrolyte pH 7.5 (alkaline conditions)
- Using water as the electrolyte pH 6.0 (acid conditions)
- Standard (theoretical)
- Active

Painted aluminium corrosion due to contact with stainless steel fasteners. Pinhole corrosion was also evident within 150mm of many fasteners.

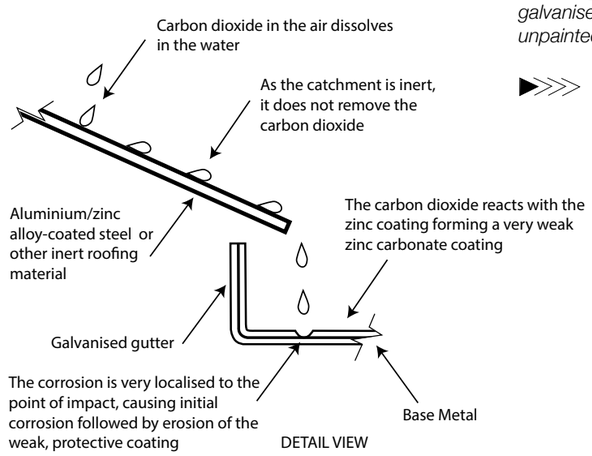
Inert catchment

There is a misunderstanding that Zincalume is incompatible with galvanised surfaces. Zincalume is an alloy of aluminium and zinc, which are adjacent to each other on the galvanic table. They are, as can be expected, compatible in contact. However the aluminium content in Zincalume reacts with the atmosphere to form a stable protective layer of aluminium oxide, which is inert.

Run-off from inert surfaces such as glazed tiles, aluminium and aluminium/zinc dominant metallic coatings, fibreglass, pre-coated metals, glass or any painted surface can cause corrosion of unpainted galvanised steel and other zinc dominant metallic coatings. This is known as 'drip-spot corrosion' or 'inert catchment corrosion'.

Water sitting on a surface will absorb carbon dioxide forming carbonic acid, which is reactive with zinc. On a galvanised surface, the carbonic acid will react with the zinc and become neutral. On an inert surface discharging into an unprotected zinc surface, the carbonic acid is not neutralised and reaction will be concentrated on the drip points of the inert surface onto the zinc surface.

The process of inert catchment corrosion



As the formation of carbonic acid takes time to occur, inert catchment corrosion is normally seen at specific drip points of dew off a roof, rather than below rain-washed painted walls and windows.

Painted galvanised roof discharging onto unpainted galvanised flashing onto unpainted Zincalume. The unpainted galvanised flashing corrodes at drip points.

Compatibility with other materials

The compatibility chart in the Code of Practice has been updated.

- We are recommending that wet contact between metal and butyl rubber is avoided. Tests are currently under way with several membranes to test their relative compatibility.
- We have added Cedar as this is known to be corrosive.
- We have replaced CCA treated timber with Wet Timber. Tests done by BRANZ of fasteners into treated and untreated timber show little variance in screw corrosion rates embedded into CCA treated and untreated samples. Time of wetness was the critical element
- We have been more cautious about contact between painted aluminium and other surfaces. This is because with painted aluminium, the surface area of the anode can be very small, creating pinhole corrosion.

Run-off from (upper)	Lower material	Aluminium	Pre-painted steel	AZ coated steel	Zinc or zinc coated steel	Pre-painted AZ steel	Copper*/brass	Stainless steel	Lead*	Plastic/glass	Concrete/plaster wet	Concrete/plaster dry	Wet timber	Steel	Cedar*	Butyl ribber (wet)
Aluminium	Contact	✓	✓	✓	✓	✓	✗	?	✗	✓	✗	?	✗	?	✗	✗
	Run onto	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pre-painted Aluminium	Contact	✓	✓	?	?	✓	✗	✗	✗	✓	?	?	✗	✗	✗	✗
	Run onto	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AZ coated steel Zincalume®	Contact	✓	✓	✓	✓	✓	✗	✗	✗	✓	✗	✓	✗	?	✗	✗
	Run onto	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Zinc or Zinc coated steel (galvanised - Z)	Contact	✓	✓	✓	✓	✓	✗	?	✓	✓	✓	✓	✓	✗	✗	✗
	Run onto	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pre-painted AZ steel	Contact	✓	✓	✓	✓	✓	✗	?	✗	✓	✗	✓	✗	?	✗	✗
	Run onto	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Copper*/brass	Contact	✗	✗	✗	✗	✗	✓	✓	?	✓	✓	✓	✓	✗	✓	✓
	Run onto	✗	✗	✗	✗	✗	✓	✓	?	✓	✓	✓	✓	✗	✓	✓
Stainless steel	Contact	?	✗	✗	?	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓
	Run onto	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lead*	Contact	✗	✗	✗	✓	✗	?	✓	✓	✓	✓	✓	✗	?	✓	✓
	Run onto	?	✗	✗	✓	✗	✓	✓	✓	✗	✓	✓	✓	?	✓	✓
Plastic/glass	Contact	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Run onto	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Concrete/plaster wet	Contact	✗	✗	✗	?	✗	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓
	Run onto	?	✓	✗	?	?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Concrete/plaster dry	Contact	?	?	?	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	✓	✓
	Run onto	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Wet timber	Contact	✗	✗	?	✗	✗	?	?	✗	✓	✓	✓	✓	✗	✓	✓
	Run onto	?	✗	?	✗	✗	?	?	✗	✓	✓	✓	✓	?	✓	✓
Steel	Contact	?	✗	?	✗	?	✗	✗	?	✓	?	✓	✗	✓	✗	✓
	Run onto	✓	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cedar*	Contact	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Run onto	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Butyl rubber (wet)	Contact	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Run onto	?	?	✗	?	?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

✓	Suitable
✗	Not suitable
?	May need separation. Use with caution in severe or moist environments
*	May cause staining but not corrosion

NOTE: Run off and contact effects may vary according to the relative size/area of the two materials.

Foreman Ben Moir wins the 2017 RANZ Roofing Excellence Award

Mt Maunganui based roof foreman Ben Moir, winner of the RANZ Roofing Excellence Award for 2017, insists he is humbled by the recognition he has received for doing the job he loves.

Described by RANZ member and employer Harkin Roofing BoP Ltd, as an exceptional foreman. 41 year old Ben demonstrated his managerial and communication qualities on a 24,000 sqm project for the Port of Tauranga managing up to 12 Harkin staff and overcoming challenges.

Comments from Steel & Tube's Tauranga manager, Andy Stevens on Ben's work from a supplier's point of view. "The key to a commercial contract running smoothly is organisation and communication. Ben's adherence to good practice was recognised by the main contractor, Fletcher Construction, with Ben receiving a Fletchers site safety award. From my experience in the roofing industry over a couple of decades, Ben certainly sets the standard we should all aspire to".

RANZ CEO, one of the award judges said Ben is more than a boss to his team members. "He shows by action what is required by working alongside his team, not above them. By doing this he gets their respect but more importantly he passes on his skill knowledge in the process.

Hamilton roofer wins Metrotile's installation award

Hamilton roofer Chris George, winner of this year's RANZ Professionalism in Metal Tile Installation Award, completed a highly specified roof that has the "wow" factor, ensuring it stands out in its urban location on a Hamilton sub-division.

A leading hand with Cooke Roofing Ltd, Chris fully embraced the challenge of this new roof with its 35 degree pitch, long straight valleys, multiple gables and eight eyebrows – expertly completed with Metrotile's Royal tile in charcoal.

It's the angles of a roof and the mathematics needed to create homes to this high standard that most appeals to 28 year-old Chris who has won a trip to the Gold Coast for winning this Metrotile-sponsored award.

Chris joined Cooke Roofing six years ago, tutored by owner Shaun Cooke, himself a previous winner of the Metrotile award. Chris learned quickly and under Shaun's guidance the precise nature of installing metal tiles.

Shaun was impressed with Chris' ability to tackle the large and very complex roof project nominated for this award: for a relative newcomer he showed great pride in his workmanship meeting the challenge required to complete this roof to such a high standard.

Sponsored by Metrotile. The presentation to Chris Cooke (winner) of Cooke Roofing Ltd were by Mike Budd, New Zealand/Asia Sales and Marketing

CHAPEL STREET CENTRE: DALMAN ARCHITECTS

When Dalman Architects designed the Chapel Street Centre, the brief from the Christchurch North Methodist Parish was to express elements of who they were and their Christian mission to the community.

The original church was demolished due to damage sustained in the 2010 and 2011 Canterbury Earthquakes, and provided the opportunity for Dalman Architects to evaluate the needs of a modern-day parish.

The result is a building that expresses the essence of being a church, open and transparent, inviting, practical and versatile, that serves as a worship space and communal centre that suits the needs of the church and the wider community.

The design both inside and out is a strong simple form that speaks of its function as a place of worship, providing a contemplative space.

The roofing cladding was an important element in the design of the building. The slate colour contrasts with the whiteness of the main church walls, and the roof appears to wrap up the sides and over the top of the spire.

The spire is integrated into the building as a whole. On one side the Sto finish extends upwards from the building base, and on two of the other sides the metal roof cladding extends upwards to form two of the spire walls.

The entrance of the church is distinguished from the rest of the building. Highly visible and strong in its expression, it invites the user into the transparent foyer that opens into to the backyard garden, allowing and encouraging its active use.

The open and transparent design is welcoming and allows passers-by to view the congregation and the activities inside the worship hall through the large 2m high windows surrounding each side.

The layout of the ground floor is organised around the central entry and foyer area that creates a transparent link to the backyard garden as well as a connection between the worship hall and the community block. It is designed as an open, inviting space that could be used as an entry, spill-out space and as a separate area for meetings and functions.

The high-level window spire located on the corner of the worship hall expresses its predominant function of worship space, and acknowledges the spire of the old church that was a local landmark. Timber panels, arranged in a geometric pattern in the ceiling, create an eye-catching feature in the worship hall.

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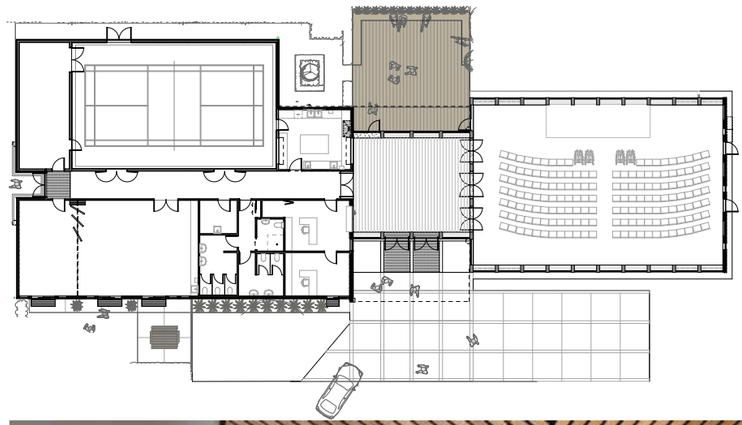

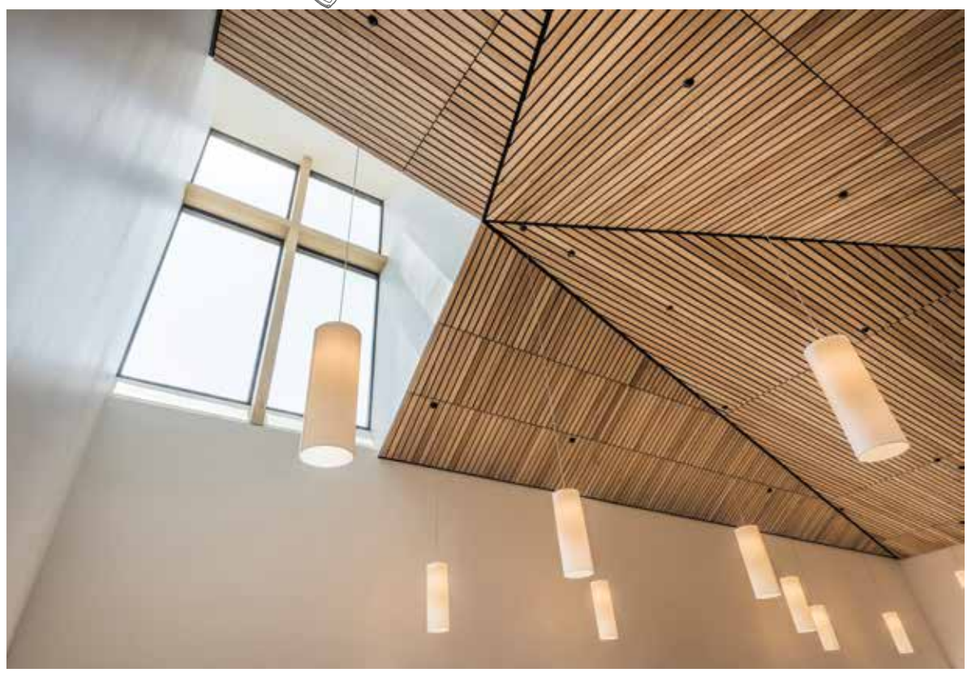

Richard Chalklen, Parish Council Convenor says "Our congregation is excited by this stunning design as it has exceeded our expectations in so many ways."

Since opening, the church has been a hub of activity. It facilitates the church activities and is exceptionally popular with community groups who use the sports hall and meeting spaces.

Through careful identification of the requirements and traditions of the Parish, Dalman Architects have designed a worship space and communal centre that fits the needs of the Christchurch North Methodist Parish and the wider community.
The new church has not only met the Parish's expectations. It is an award-winning design with accolades received at NZIA Canterbury Architecture Awards for Public Architecture and Property Council Awards for Special Purpose Property.

Dalman Architects

Dalman Architects' vision is to create enriching spaces. The studio was established in 1997 and consists of a team of 24 registered architects, interior designers and architectural technicians who are based at their Christchurch and Auckland offices.

They undertake projects throughout New Zealand and Asia-Pacific across a number of sectors including public buildings, hotels, hospitality and tourism, commercial, residential, education, and community facilities.

The studio believes people are shaped by the spaces they inhabit – which is achieved through innovative thinking, a responsive process and a focus on excellence.

They view architecture and interior design as both an honour and responsibility.

With 20 years behind them their focus has always been firmly fixed on client outcomes. They go above and beyond in how they work and what they create to enrich the way people live, work and play.

Dalman Architects are NZIA and New Zealand Green Building Council members.

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Colour: Slate
Cladding and roofing manufacturer:
Dimond
Cladding and roofing installer:
GH Roofing
Main Contractor: Arrow International Ltd
Photography: Stephen Goodenough

SCOPE

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