

NATSPEC

Product Partners
Quality Reputation Support



Case Studies and Technical Articles 2024 - 2025

Welcome



This edition features Product Partner and subscriber case studies that highlight the critical role NATSPEC plays in the success of diverse projects. Its standardised and well-coordinated specification system simplifies the tendering process, ensures consistency across all documentation, and supports competitive bidding and successful outcomes, even in challenging circumstances.

NATSPEC's flexibility also enables clear communication and seamless collaboration among stakeholders, ensuring compliance with national standards while maintaining high-quality construction practices and minimising errors and delays. Furthermore, the ability of NATSPEC subscribers to customise branded worksections allows for alignment with unique design and functional requirements, contributing to successful outcomes even within tight budgets.

These insights underscore why NATSPEC remains the preferred choice for professionals committed to excellence in the building and construction industry. Support NATSPEC Product Partners by selecting branded worksections in SPECbuilder or downloading them for free from www.natspec.com.au.



Richard Choy
Chief Executive Officer
NATSPEC//Construction Information

Product Partners Program

The NATSPEC Product Partners program is a service providing manufacturers with the opportunity to place their product information in the National Building Specification with a Branded Worksection. This gives design and construction industry professionals ready access to a proprietary specification from manufacturers, offering reputation, support, and quality in line with Australian Standards. Product selection is easier, which saves specifiers time and reduces risk.

NATSPEC is the trading name of Construction Information Systems Limited, ABN 20 117 574 606.

NATSPEC, founded in 1975, is a not-for-profit organisation owned by the design, build, construct and property industry through professional associations and Government property groups. It is impartial and is not involved in advocacy or policy development. NATSPEC's objective is to improve the construction quality and productivity of the sustainable built environment through leadership of information.

NATSPEC's major service is the comprehensive national specification system endorsed by Government and professional bodies. NATSPEC, the National Building Specification, is for all building structures, with specialist packages for architects, interior designers, landscape architects, structural engineers, services engineers, and domestic owners. AUS-SPEC is the local government specification system for the life cycle management of assets. Packages include Urban and Open Spaces, Buildings, Roadworks and Bridges, Public Utilities, Maintenance, and Rural Roads. NATSPEC is also responsible for the National BIM Guide and its associated documents.

Stakeholders

Air Conditioning and Mechanical Contractors' Association of Australia
Australian Elevator Association
Australian Institute of Architects
Australian Institute of Building
Australian Institute of Building Surveyors
Australian Institute of Quantity Surveyors
Construction Industry Engineering Services Group
Consult Australia
Dept of Housing, Local Government, Planning and Public Works (Qld)
Dept for Infrastructure and Transport (SA)
Dept of Finance (Federal)
Dept of Finance (WA)
Dept of Infrastructure, Planning and Logistics (NT)
Dept of Treasury and Finance (TAS)
Dept of Treasury and Finance (VIC)
Engineers Australia
Major Projects Canberra
Master Builders Australia
Public Works Advisory (NSW)
Standards Australia

Front cover credits:

Project: Quay Quarter Tower
Architect: 3XN/BVN
Principal Contractor: Multiplex
Reinforcing Bar Supplier: Active Steel
Photography: Adam Mork

Quay Quarter Tower was awarded 'World Building of the Year' in 2022



NATSPEC//ProductPartner



Branded Worksections have been compiled by NATSPEC and our Product Partners using the latest regulations and standards. Download for free at www.natspec.com.au



01 General

0181p HILTI anchors
0182p HILTI in fire-stopping
0184p KORDON termite management
0184p TERMIMESH termite management
0184p TERMSHIELD termite management
0192p ANCON structural components
0194p RAVEN door seals and window seals
0195p DTAC tactile indicators and stair edgings
0195p TACTILE SYSTEMS TGS1 and Stair Nosing

02 Site, urban and open spaces

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0252p LAWN SOLUTIONS in landscape – natural grass surfaces
0277p TACTILE SYSTEMS carpark fixtures in pavement ancillaries

03 Structure

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0311p FIELDERS KingFlor® in concrete formwork
0311p STRAMIT Condeck in concrete formwork
0341p FIELDERS SlimFlor in structural steelwork
0341p GALVASPAN® steel purlins and girts in structural steelwork
0341p LYSAGHT purlins and girts in structural steelwork
0341p STRAMIT purlins and girts in structural steelwork
0342p TRUECORE® steel light steel framing
0345p DULUX protective coatings

04 Enclosure

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0411p SOPREMA waterproofing – external and tanking
0423p COLORBOND® steel and ZINCALUME® steel in roofing
0423p FIELDERS roofing - profiled sheet metal
0423p LYSAGHT roofing - profiled sheet metal
0423p STRAMIT roofing – profiled sheet metal
0423p STRATCO roofing - profiled sheet metal
0424p FIELDERS roofing - specialised sheet metal
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0428p ASKIN® XFLAM roofing system
0428p DELTA PANELS insulated roofing systems
0428p KINGSPAN INSULATED PANELS roofing systems
0429p DANPALON roofing - glazed
0429p PALRAM roofing - glazed
0431p STRAMIT in cladding - combined
0434p DANPALON translucent facade cladding
0434p PALRAM translucent facade cladding
0436p COLORBOND® steel and ZINCALUME® steel in cladding
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0436p STRATCO cladding - profiled sheet metal
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0437p KINGSPAN INSULATED PANELS cladding systems
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0451p CAPRAL ALUMINIUM windows and doors
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0454p GRIFCO in overhead doors
0455p ASSA ABLOY door hardware
0456p BREEZWAY louvre windows
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0471p KINGSPAN in thermal insulation and pliable membranes
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NATSPEC Product Partners support you. Support them and their products in your next project by selecting Branded Worksections in SPECbuilder or downloading them for free from www.natspec.com.au.

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Discover How NATSPEC BIM Can Enhance Your Product BIM Objects

By Phillip Spence BDM NATSPEC

The Open BIM Object Standard (OBOS), developed by NATSPEC and Masterspec NZ, is a vital tool for standardising BIM objects. This standard is designed for all construction professionals, including designers, specifiers, manufacturers, and BIM content developers. OBOS addresses the problem of non-standardised BIM content, ensuring consistency of BIM properties across different software and projects.

Importance of Adhering to OBOS

When having your products modelled, it is recommended to ensure that modelers adhere to OBOS. The use of OBOS and the NATSPEC BIM Properties Generator introduces standardisation across all BIM objects. To assist with the implementation of the OBOS requirements, NATSPEC released the BIM Properties Generator, a tool that helps manufacturers produce objects to a standardised data schema, ensuring BIM objects are interoperable across different applications and users. This standardisation allows for easier substitution of generic BIM objects with manufacturers' BIM objects.

The BIM Properties Generator aids in the standardisation of properties, property naming, and object designations, enhancing the exchange and interoperability of BIM objects between organisations and projects. This tool provides a comprehensive list of properties for common architectural structural MEP objects that conform to OBOS standards. Users can download selected properties as a PDF or Excel file for easy import into models.

The Growing Need for Standardised BIM Workflows

As designers increasingly adopt Building Information Modelling (BIM) to improve productivity and manage project lifecycles, especially on large, multi-disciplinary projects, the need for standardised BIM workflows grows. While various BIM applications support this, the diversity in designations, properties, and naming conventions often leads to 'BIM ghettos' - silos of segregated users tied to different software vendors. The NATSPEC tools help create interoperable BIM objects that work seamlessly across platforms.

Addressing Fragmentation and Reducing Costs

Currently, BIM objects are created with different parameters for different digital workflows, causing fragmentation. This means the data in one BIM object may not be compatible with another object of the same type. For manufacturers, this results in the costly necessity of creating different BIM objects for various needs. Creating and maintaining BIM content is particularly expensive for large product ranges. Manufacturers are understandably hesitant to invest in BIM content without assurance that it will meet users' needs.

NATSPEC's Contributions to the Industry

NATSPEC's National BIM Guide was initially released in 2011 and updated to align with the requirement ISO 19650 in 2022 and the recently published BIM Execution Plan Templates, launched the BIM Properties Generator in 2018. This tool is essential for the standardisation of BIM objects across the construction industry.

Thanks to NATSPEC, creating BIM content acceptable to more designers is now possible. The BIM Properties Generator helps architects, engineers, and builders harmonise project requirements, enabling manufacturers' product BIM object data to integrate across all workflows. As BIM objects become the new product catalogue, it is crucial that they function with different software platforms.

Enhancing Interoperability and Reducing Waste

The BIM Properties Generator improves the interoperability of BIM objects from project to project and software to software, eliminating the duplication and waste manufacturers have experienced. By addressing information exchange issues between software vendors through the implementation of the IFC schema, this tool fosters collaboration and standardisation across systems.

OBOS and Its Impact

The OBOS is a free resource to assist in the creation of BIM objects. Having a standard for BIM object creation in place in Australia, New Zealand, and elsewhere provides confidence to object authors and product manufacturers that their BIM objects will be acceptable to the end users, allowing them to manage their BIM content in a consistent and structured manner. Standard-based content ensures that authors and manufacturers do not risk wasting time, money, and resources creating BIM content that may not be accepted by the industry.

Harmonising BIM Practices

With the aim of harmonising BIM practices, an extensive review of existing global guides, standards, and protocols relating to the creation of BIM content was completed as part of the research and preparation work.

The NATSPEC BIM Properties Generator complements and aligns with the OBOS. The latter sets out the rules for applying properties to objects, specifies their format, and provides requirements for the graphical modelling and functionality of a BIM object. The former is a compendium of properties conforming to the standard for common architectural and structural objects.

Resources and Support

The website <https://bim.natspec.org> is home to the NATSPEC National BIM Guide and other documents. It is also a repository of documents and tools that will assist the implementation of BIM in the construction industry.

NATSPEC supports important Australian BIM initiatives through the National BIM Portal, acting as a Knowledge Hub for the Australasian BIM Advisory Board (ABAB) and the ACIF-APCC Project Team Integration (PTI) and BIM initiative. It also hosts tools developed by the Sustainable Built Environment National Research Centre (SBEncr).



The Future of BIM with NATSPEC

NATSPEC believes that digital information, including 3-D Modelling and Building Information Modelling, will provide improved methods of design, construction, and communication for the industry. Further, NATSPEC supports open global systems, which will result in improved efficiency and quality.

NATSPEC's primary focus is on the "i" (information) in BIM and how it is linked to digital models. NATSPEC's areas of interest include how specification information can be best integrated with BIM and the development of BIM guidelines and standards beneficial to the construction industry. To learn more, visit www.natspec.com.au.





“Quality documentation is one of the most important aspects for ensuring a project finishes on time, on budget, and meets the client’s expectations of quality.

“Without the guidance of NATSPEC and the inclusion of quality project specifications, there is an increased risk that projects will not achieve positive outcomes in terms of cost, quality, effectiveness, and timeliness of construction.

“The NATSPEC Open BIM Object Standard for Building Information Modelling represents another key contribution to the construction industry.”

Grant Warner, Chief Executive Officer, AIQS



AMETALIN is a leading Australian manufacturer of reflective, non-reflective and non-combustible air-vapour-water-thermal control building membranes for weatherproofing, insulating and condensation management in residential, commercial, industrial, and non-combustible building systems. Products are designed for Australian climate zones for year-round thermal comfort, while reducing energy consumption, heating/cooling costs.

AMETALIN is proactively driving the industry to design and build passive Net Zero-ready and high-performance constructions. www.ametalin.com



ASKIN® is an Australian-owned manufacturer and installer of facade systems, roofing systems and temperature-controlled facilities in Australasia. ASKIN® embraces a customer first approach in delivering sustainable, lifetime value. With a network of 12 sites throughout Australia and New Zealand, ASKIN®’s vast experience is built upon a strong foundation dating back to 1964. ASKIN®’s culture of constant improvement, quality and safety assurance is supported by our technical expertise and ISO 9001 (2015) and ISO 14001 (2015) accreditation. www.askin.net.au



ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience. Under the iconic brands such as Interlock, Lockwood, Whitco and Yale, ASSA ABLOY Australia has long been developing innovative products. In the growing electromechanical security sector, the Group has a leading position in access control, identification technology, automatic doors and security. www.assaabloy.com/au/en



Architectural Window Systems (AWS) is one of Australia’s leading suppliers of aluminium window and door systems. AWS offers an extensive range of Australian designed aluminium window and door suites for residential and commercial applications. AWS designs, tests, finishes and supplies aluminium window and door systems under the Vantage and Elevate™ and ThermalHEART™ brands to more than 200 licenced manufacturers throughout Australia. www.awsaustralia.com.au



Bluedog Fences Australia is an industry leading manufacturer of Australian tubular steel fencing systems; They are 100% Australian owned & operated and distribute products nationally to local and state government agencies, commercial and private organisations. They provide a large range of commercial and security fencing systems manufactured in regional Australia compliant with relevant Australian Standards. They fabricate, chemically clean and powder coat wholly in-house at their state-of-the-art, Lean manufacturing facility in Tamworth NSW. www.bluedogfences.com.au



Blacktown and Mount Druiitt Hospitals Expansion Project, NSW



The Blacktown & Mount Druiitt Hospitals Expansion Project includes a state-of-the-art mental health unit, thoughtfully designed with input from staff, consumers, and community members. The facility prioritises comfort for those seeking mental health support and fosters a safe environment conducive to cultural, emotional, psychological, and physical well-being.



CeaseFire® Class 4 Vapour Permeable, Air Barrier, Water Barrier installed behind standing seam metal cladding and rainscreen facades complies with NCC Deemed-to-Satisfy Provisions for use in ABCB Climate Zones 2 - 8.

Requirement

The client required a Class 4 vapor-permeable, water barrier, pliable building membrane that exceeds

non-combustible standards for use in external walls and facade systems. This membrane needed to comply with the stringent performance requirements of a hospital building in ABCB Climate Zone 6 and meet facade warranty standards. The project involved a building classified as 9a and constructed as Type A (non-combustible), using predominantly lightweight cladding and steel-frame construction. The design aimed to enhance occupant health and safety, ensuring the strength and durability of the construction.

Approach

The project team carefully selected compatible materials to meet and exceed the design criteria, with special attention to technical installation methods and thermal breaks.

Benefits

Ametalin CeaseFire® allowed the team to exceed the Deemed-to-Satisfy requirements for the fire resistance of external facades. CeaseFire® is inert and near non-combustible, surpassing the requirements for DtS Non-combustible Type A constructions. It also offers Class 4 Vapor Permeance (Condensation Management for ABCB Climate Zones 4 to 8), functions as an air, smoke, and water barrier, and provides over 180 days of UV resistance. With more than double the strength of Extra Heavy Duty membranes, Ametalin CeaseFire® delivers superior performance and durability, enhancing the safety, health, and amenity of the building and its occupants.

Due to the nature of constructing a mental health facility, metal sheets were specified behind most of the internal wall linings. These sheets needed to be thermally broken, achieved with Ametalin Non-Combustible ThermalBreak Strips. Non-combustible Insulation Flashing tape was used to tape and seal joints around pipes and penetrations, and to prevent water ingress along all 150 mm horizontal overlaps.

Results

The resulting construction met and exceeded all management and client expectations, surpassing the minimum requirements for vapor control, weather barrier, and air, water, and smoke barriers for DtS non-combustible design and construction suitable for ABCB Climate Zone 6. The specification, detailing, and installation method of Ametalin CeaseFire® achieved a compliant, robust, and seamless weather barrier layer. Combined with thermal breaks, this enhanced fire mitigation, weather tightness, condensation control, and energy performance of the Blacktown & Mount Druiitt Hospitals Expansion Project's non-combustible building envelope.

Architect: Jacobs

Contractors: Hutchinsons Builders (Hutchies)

Photography: Supplied by Ametalin



CeaseFire® installed on the new NSW Blacktown Mt Druiitt Expansion Project complies with the NCC Deemed-to-Satisfy Provisions for Type A and B Non-combustible constructions for use in ABCB Climate Zones 2 - 8.



CSL Seqirus Banksia, Melbourne, VIC



The CSL Seqirus Banksia Project in Melbourne, represents a significant advancement for the Pharmaceutical Sector, symbolising a renewed focus on public health following the COVID-19 pandemic. As a subsidiary of CSL Limited, CSL Seqirus holds a crucial role as one of the world's largest vaccine provider.



Volcore Vivid External Facade

The selection of BESIX Watpac to oversee the construction underscores their four-decade-long expertise in managing complex projects to meet diverse client requirements. Collaborating with Wood Group and Billard Leece, BESIX Watpac, under the leadership of Matthew Radcliffe, has effectively addressed the client's needs.

The facility features cutting-edge elements, including PC2 and PC3 laboratories, warehousing and quality control facilities, essential for ensuring

operational efficiency and compliance with industry standards. Recognising the significance of strategic contractor partnerships, Matthew Radcliffe and the BESIX Watpac team have closely collaborated with the ASKIN construction team to meet crucial design and program deadlines.

Requirements

The project program necessitated the utilisation of ASKIN XFLAM and Volcore panels, similar to the previous installation at the CSL Broadmeadows site. The Volcore panels were chosen for their non-combustible nature and compliance with the National Construction Code and Factory Mutual (FM) approvals for high-performing external walls. Installed by Trio Plumbing, Volcore Vivid panels were chosen to fulfil weatherproofing, structural, and thermal requirements.

Solution

ASKIN Performance Panels provided a comprehensive solution, integrating all aspects of the ASKIN Business Group. The ASKIN XFLAM, a patented Australian-made material crafted from a syntactic phenolic foam, exceeds performance requirements for the National Construction Code, encompassing fire resistance levels (FRLs), group numbers, thermal properties, structural integrity, and weatherproofing. The FM4882 approval,

focuses on pharmaceutical, and cleanrooms facilities that distinguishes XFLAM as the preferred panel for such environments in Australia. This FM Approval is a specialised certification for smoke sensitive occupancies.



XFLAM Internal Controlled Environment

Results

The project demanded high-performing products endorsed by the Green Building Council of Australia (GBCA) for Green Star accreditation. ASKIN XFLAM and Volcore panels achieved this through Eco Choice Aotearoa.

Architect: Billard Leece, Wood

Group Client: CSL Seqirus

Principal Contractor: BESIX Watpac

Contractor: ASKIN Construction, Trio Plumbing

Photographer: Matthew Green (ASKIN)



Volcore Vivid External Facade



0428p ASKIN® VOLCORE performance panel roofing; 0428p ASKIN® XFLAM roofing system
0437p ASKIN® VOLCORE performance panel cladding; 0437p ASKIN® XFLAM performance panel cladding
0762p ASKIN® XFLAM performance panels in cool rooms

www.askin.net.au

Burwood Brickworks Shopping Centre, Burwood East, VIC

ASSA ABLOY
Opening Solutions

Burwood Brickworks Shopping Centre, by Frasers Property Australia, is the first retail centre to attempt, and achieve, Living Building Challenge® Petal Certification. Petal Certification is awarded to a project by the International Living Future InstituteSM if it achieves at least three complete Petals out of the seven total Petals. One of the three completed Petals must be the Energy, Water or Materials Petal.

Sustainable access solutions from ASSA ABLOY Opening Solutions helped Melbourne's Burwood Brickworks Shopping Centre get one step closer to their goal in becoming the most sustainable shopping centre in the world.

ASSA ABLOY Opening Solutions considers sustainability a long-term investment in the planet and something to take very seriously. This project is therefore one that is close to ASSA ABLOY Opening Solutions' heart and they are incredibly proud to be chosen to supply certified solutions central to the development of the center's development.

Requirement

The center's goal is to pursue The Living Building Challenge™ (LBC™) certification, which is one of the most difficult performance standards to achieve for buildings.

Stephen Choi, Executive Director of

Living Future Institution of Australia, says "The Living Building Challenge® is a design, construction and operation tool for buildings; it's the world's most rigorous sustainability performance measure in the built environment with buildings completed under the LBC® framework giving back more than they take."

Result

"We are excited to be part of this project that generates more energy than it consumes. The locks and door furniture were manufactured locally and have environmental certification. They meet environmental standards and are recognised for their sustainability," says ASSA ABLOY Opening Solutions' National Sales Director, Brad Young.



ASSA ABLOY Sustainability Product Range

Approach

Actively collaborating with green building councils, industry leaders and customers to reduce the environmental impact of construction globally, ASSA ABLOY Opening Solutions believes that a sustainable future requires everyone's commitment. It is a driving force in optimising innovation, production and employee development.

Benefit

Powered by renewable sources of energy, Melbournians can now enjoy this incredible centre by meeting up in the large green community town square, visiting the 2000-square metre urban rooftop garden or enjoying an array of dining, entertainment, beauty and wellbeing offerings.

Committed to bringing sustainable and innovative solutions to the building industry, ASSA ABLOY Opening Solutions promises to continue to deliver leading-edge technology in the future.

Architect: Melbourne-based NH Architecture

Builder/Developer: Frasers Property Australia



Exterior of the Burwood Bickworks Shopping Centre



0455p ASSA ABLOY door hardware
0458p ASSA ABLOY automatic doors

www.assaabloy.com/au/en

Orosi Apartments, South Cronulla, NSW



With a commitment to sustainable luxury, Orosi Apartments brings a new standard of living to Cronulla's iconic coastline. Strategically situated in the neighbourhood's coveted "Golden Triangle", Orosi Apartments offers spacious three-bedroom residences and two penthouses.



Exterior view of apartment block

Orosi's design philosophy champions functional living spaces infused with comfort and timeless appeal, that prioritise the comfort, enjoyment, and well-being of the occupants. "It was very important for us to create a space that is designed for every hour of the day, not just for night," explains Hamid Samavi, Orosi's founder. " - This ethos shines at South Cronulla Apartments.

Requirement

Orosi's determination to deliver a superior living experience began with a thorough review of the 25-unit DA approval the property was originally

purchased with. Prioritising views, cross-ventilation, and solar access were paramount to achieving their design vision. As a result, the decision was made to reduce the number of units to 18. This meticulous approach ensured every apartment benefits from exceptional natural light and ventilation. "With the new design, every living room in this complex has two aspects, and two sides for light and cross ventilation. And that was very important in our design language," says Hamid. Sourcing high-performing windows was essential to achieving both aesthetic and sustainability goals.

Approach

Orosi developed a multifaceted sustainability strategy, partnering with the University of New South Wales and Northrop Consulting Engineers to ensure passive thermal management and intelligent material selection would remain at the project's core. The project boasts passive house design, solar panels and electric vehicle charging stations, and the common areas are covered in solar panels. Windows were an equally key factor in this comprehensive strategy, leading to a collaboration with precision window fabricators, Evolution Window Systems.

The AWS ThermalHEART™ range emerged as the ideal choice. "Thermally broken windows are one of the best ways to stop the heat transaction between inside and outside," Hamid explains. "So when you have thermally broken windows accompanied by double glazing and also UV protection,

you get the best performance."



Apartment balcony

To provide premium performance and withstand the rigours of the harsh Australian coastal climate, the selection included Series 704 SlideMASTER™ High-Performance Sliding Doors. These doors offer superior resistance to high wind and water loads, ensuring the apartments remain protected and comfortable even in extreme weather conditions. The Series 704 doors, with their capacity to hold IGUs of up to 28mm thick, also contribute to the overall energy efficiency of the building. Orosi also specified the Series 726 ThermalHEART™ Double-Glazed Fixed and Awning Windows. With their bold frames and thermal insulation properties, the Series 726 helps minimise heat and cold transfer, contributing to the energy efficiency of the apartments.

Results

"It wasn't just about sustainability, it was also about aesthetics, too," Hamid adds. "The windows have slim frames, and you can get a flush finish inside and outside, between the apartment and the balcony. It was very important for us to use the exterior space as an extension of the living."

Orosi's commitment to sustainable design principles resulted in a remarkable 66% reduction in energy consumption, while creating a residential complex that epitomises comfort and luxury – all day, and all year round.

Developer and Architect: Orosi
Fabricator: Evolution Window Systems



Open living space



School and Education housing, Bamaga, QLD



The QLD DET Bamaga project was completed by Brendan O'Donnell Fencing in Queensland. Thirty-Two teacher accommodation and education residences were operational during this project. The installation improved the security for staff and assets.



Bluedog Fences Australia products are manufactured here in Australia with the highest grade AS compliant steel from Orrcon

The client required the Queensland Department of Education Emergency & School Security Specification for Security Fencing in State Schools (Version 4) to be used. The Tender called up the Code of Practice for the Queensland Building and Construction Industry 2000 (Code of Practice).

Requirement

Being coastal and in the tropical north of Queensland, fencing needed a location-specific product to protect it from premature rusting and deterioration. It also needed to be transported in batches and installed over a staged plan.

Approach

Bluedog Fences recommends the MetaPrep™ coating for projects within 10-15 kilometres of the coast to ensure the structural and aesthetic integrity of the fence stands the test of time. MetaPrep™ is an in-demand product for many projects, including schools and government facilities.

James O'Donnell from Brendan O'Donnell Fencing is a civil engineering draftsman by trade and enjoys working with Bluedog Fences on the technical and planning aspects of projects, choosing the perfect compliant products to stand the test of time.

Results

A key objective for the Queensland Department of Education is to provide high quality security fencing to ensure

the safety of the school community, and general public. Requirements like gaps between vertical spears and product strength are designed to meet safety requirements set by the state. From schools, to commercial properties and prisons, there are different needs and Bluedog Fences works to deliver on or above specification.



The harsh site conditions required a high-quality compliant product to ensure whole of life cost was minimised

Fabricator: Bluedog Fences Australia
Builder: Brendan O'Donnell Fencing
Photography: Supplied by Bluedog Fences



A section of the 3000m of Bluedog Fences Australia Queensland Education Department compliant SecuraTop security fencing was installed





BlueScope is Australia's largest manufacturer of steel. Steel products manufactured by BlueScope include value-added metal coated and painted steel products such as COLORBOND® steel, ZINCALUME® steel, GALVSPAN® steel and TRUECORE® steel. These products are supplied in coil form then further processed by other manufacturers into products such as roof and wall cladding, insulated panels, rainwater goods, light structural/framing sections and fencing for use in both residential and non-residential construction. www.bluescopesteel.com.au



Breezway is the leading Australian manufacturer of high performance, energy rated, Altair Louvre Windows. Fully compliant with AS 2047 (2014), Altair Louvres are designed to open twice as wide as other windows to provide maximum light and ventilation into sustainable buildings. Altair Louvres are cyclone rated, offering automation with the award winning Powerlouvre System. Extra strength and safety can be provided to windows using the Stronghold System. Double glazing is also available using the IGLU System. www.breezway.com.au



Capral Aluminium, established in 1936, is Australia's largest manufacturer and distributor of aluminium profiles. Our comprehensive range of commercial, residential, security and industrial products has an enviable reputation for quality, style and high performance. As a local systems designer, NATA-accredited testing authority, and with innovative R&D capabilities, we are well-positioned to take advantage of changing building regulations in Australia and technically support our brands, including Artisan Architectural, AGS Commercial, Urban Plus, Futureline Thermal and Amplimesh. www.capral.com.au



CS Cavity Sliders are the cavity slider experts, manufacturing high quality cavity sliders and related products for the residential, architectural, commercial and health care markets.

Established in 1986, their mission is to engineer and produce the best cavity sliding door solutions. The extensive range also includes sliding door track systems, wardrobe sliders, aluminium door leaves, sliding door hardware and automated cavity sliders. www.cavitysliders.com.au



DANPALON is a patented glazing snap-connection system with concealed fasteners that provides for 100% watertightness; free structural and thermal movement within a flexible system; structural properties that allow for a significantly reduced substructure; quick and easy installation; the elimination of gaskets and sealants; the elimination of fixing penetrations through the sheet and 99.9% UV protection with the protection coating co-extruded with the sheeting, eliminating any chance of delamination. www.danpal.com.au



DELTA PANELS is a 100% Australian owned and operated manufacturer of insulated panels. Its range of products includes roof, wall and patio systems, plus a wide range of accessories. The range of panels (in various styles and colours) has been engineered for enhanced performance in Australia's harsh environment. www.deltapanel.com.au



Puffing Billy Lakeside Visitor Centre, Emerald, VIC



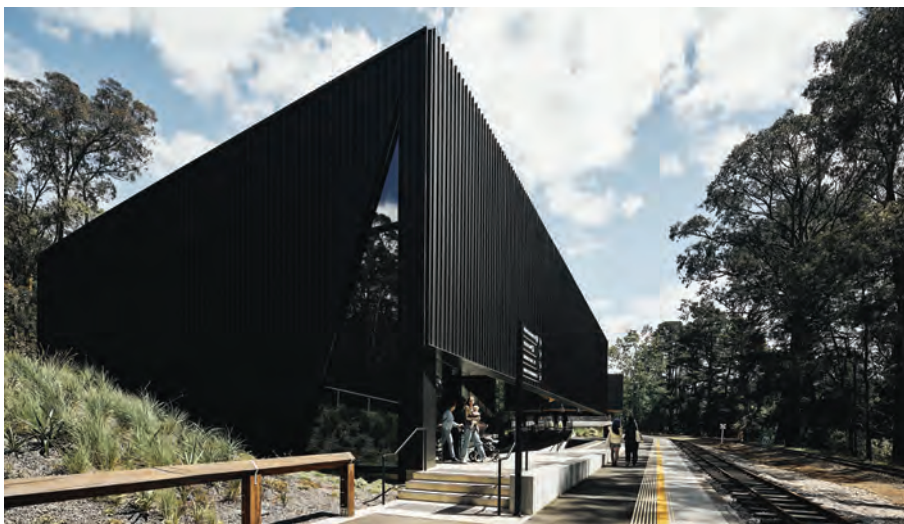
Nestled in Victoria's Dandenong Ranges, Puffing Billy Railway offers a journey through verdant fern gullies and towering rainforest and is a cherished icon of historical train travel. TERROIR's design for the railway's new Visitor Centre seamlessly blends with its natural surroundings. Ruggedly cloaked in COLORBOND® steel roofing and cladding using the dark shade of Monument® Matt finish, it achieves new levels of functionality while speaking to both the landscape and locomotive history. Through a thoughtful layout that mimics the railway's meandering path, the centre invites visitors to immerse themselves in this unique tourism amenity.



The architecture connects deeply with the existing sweep of the railway, the COLORBOND® steel in Monument® Matt finish evoking the train carriages themselves

Requirement

The brief to TERROIR was to create



At once monumental and quietly nestled into the landscape, the exterior maintains a striking presence

a visitor centre at Emerald Lake Park, an all-weather facility capable of accommodating up to 500 visitors within the hour. The new building needed to be sensitive to the site's historic context, while also expressing form and function in a novel way. It needed to be sympathetic to the topographical dimensions of the site and consider the often harsh weather conditions in the Dandenong Ranges. TERROIR aimed for the project to have minimal environmental impact and therefore material selection was an important aspect of the design.

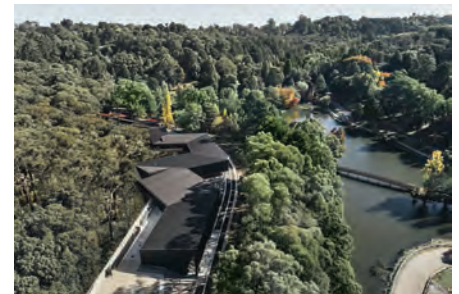
Approach

The siting of the multifunctional Visitor Centre is a direct response to the historic railway because the broad sweep of the building follows the curve of the railway line. TERROIR utilised the fall in the land to gently increase the height of the ceilings. This sensitivity to the topographical dimensions of the site continues through to the zigzagging of the floorplan which allows visitors to see the two very different landscape conditions around the building, European parkland and remnant bushland.

The use of COLORBOND® steel in Monument® Matt finish for all roofing and walling has created a muted, monochromatic presence for the building that allows it to recede visually and function in part as a silhouetted

background against the action of the railway. The COLORBOND® steel cladding evokes the robustness of the trains' very own cast metal, providing a clear connection between the heritage centrepiece and the modern facilities.

COLORBOND® steel was also specified for its durability and long lifespan and for its ability to be recycled at the end of its useful life. Moreover, using COLORBOND® steel aligned with the client, contractor and design team's desire to source locally.



The building's snaking layout is formed in response to both topography and the existing railway line

Results

The architecture complements the existing experience. "The idea of the building was not to be the immediate hero," explains TERROIR associate and project lead, Emily Slevin. "There can be a dilemma with tourism projects, a pressure to build an icon. Our challenge was to celebrate the 'dance' of the railway and steam engine experience, allowing it to remain the hero."

TERROIR's use of COLORBOND® steel speaks to the adaptable and versatile possibilities of the material. It achieves a strong combination of functional, material and conceptual successes that make this visitor centre both architecturally exciting and sympathetic to the railway's heritage. In a measured exercise of architectural restraint, the architects have built new facilities that allow Puffing Billy to shine.

Architect: TERROIR

Photography: Peter Bennetts, Rory Gardiner



0341p GALVSPAN® steel purlins and girts in structural steelwork 0342p TRUECORE® steel light steel framing
0423p COLORBOND® steel and ZINCALUME® steel in roofing
0436p COLORBOND® steel and ZINCALUME® steel in cladding

www.bluescopesteel.com.au

Blacktown Exercise Sports and Technology Hub + International Centre for Training Excellence, Rooty Hill, NSW



The Blacktown Exercise Sports and Technology Hub is located in the Blacktown International Sports Park at Rooty Hill in Sydney's Western Suburbs. The \$100 million project has been developed following a review by the Blacktown City Council of existing facilities to become an internationally recognisable façade for internationally recognised athlete development. The sporting hub will also serve the health of the local community in an engaging and inspiring environment.



The double glazed Breezway IGLU® System featured on the external facade

This sporting precinct offers health services equipped with the latest medical technology for athletes and the broader community. The striking contemporary design draws inspiration from various

cultural elements that comprise the demographic of Blacktown. An aquatic recovery pool, physical literacy space, running track, environmental chamber, and biomechanics lab are also available for students, researchers and health professionals to access.

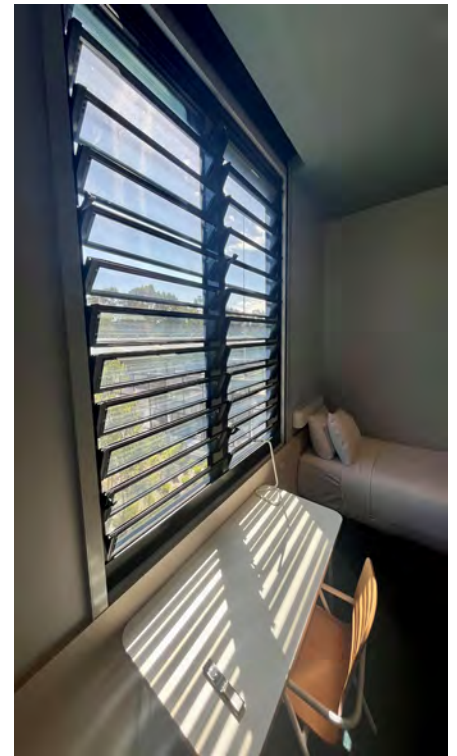
Approach

After careful consideration of the future of the Blacktown International Sports Park, Council recognised the opportunity to develop a world class training centre using the latest technologies. The International Centre for Training Excellence (ICTE) project was developed as part of the hub to support sub-elite athletes across a variety of sports to improve their growth and well-being.

Results

Exhibiting superior aesthetics, the award winning double glazed Breezway Altair® IGLU® System has been specified into the Lodge, a commercial hotel that forms part of the development to provide maximum ventilation through the window openings when open and high thermal performance when closed. Natural ventilation is vital for keeping an indoor environment clean and fresh, especially when it comes to improving

the health and productivity of athletes and business travellers. With increased acoustic and energy performance, the IGLU System captures breezes no matter the wind direction to prevent moisture buildup and reduce the need for air conditioning. The double glazed IGLU System has been extensively tested to comply with AS 2047 and Fall Prevention requirements to ensure this product is fit for purpose inside this world-class building.



The Breezway IGLU® System provides natural light and ventilation into bedrooms

The BEST was officially opened by the late Blacktown City Mayor Tony Bleasdale OAM and Olympic champion Cathy Freeman OAM on November 19, 2023.

Architect: ARM Architecture

Council: Blacktown City Council

Photography: Supplied by Breezway



Blacktown Exercise Sports and Technology Hub



AT238, East Perth, WA



Located in the heart of Perth's historical hub (and just a two-block stroll to the CBD) is Perth's newest luxury apartment living complex.

Designed by multi award winning architectural firm SS Chang, the stylish and sophisticated AT238 was completed in April 2023. This luxury thirty-one storey apartment complex houses 119 residences, boasting spectacular city and water views.

Elegant aesthetics, quality finishes, visual and acoustic privacy, sustainability, and high-energy efficiency performance targets were front of mind for the design and construction teams, who delivered a relaxed, luxurious, and most importantly comfortable lifestyle for all residents.

The floor to ceiling window and door system enables every apartment to be flooded with natural light and exceptional views.

Requirement

In addition to the luxury lifestyle amenities on show, AT238 has been constructed to exceptionally high standards, including the window and glazing systems. With such a highly exposed site and extensive glazing on every aspect of the apartment complex, particularly high-performance window technologies were called for.

Approach

The advanced glazing and windows systems installed enabled the project to achieve a total u-value of 3.4, with a SHGC not exceeding 0.61 – a huge task for a thirty-one storey apartment complex featuring such a high proportion of glazing.



Capral system's thermal performance makes a key contribution to AT238's remarkable temperature stability and peerless comfort

To maintain the apartments' aesthetics, a sleek minimalist look was crucial for all interior and exterior framing elements. Capral's Flushline series was specified throughout. Acoustic performance was also a major consideration given the central location, a requirement further influencing the framing and glazing specifications.

Results

With expert use of these technologies, this prestigious apartment building brings to life a luxurious yet environmentally sustainable vision

of opulent lifestyle living. Capral's renowned Flushline series was the natural choice for the building's exterior, having been extensively used on a huge range of ambitious residential and commercial projects.

The careful combination of framing and glazing elements, coupled with high-quality door seals, enabled the apartments to achieve an impressive overall composite acoustic rating of Rw 35dB. Liveability is optimised, too – the day's harshest solar rays is filtered out with Capral's 50 Series Awnings, the building is thoroughly ventilated with Ventus Louvres, and flyscreens are tightly fitted to all 900 Series sliding doors and 950 Series sliding windows.

The framing system securely incorporates high-performance glazing throughout, right down to the 900 series slimline double-glazed sliding doors. The doors to the residential lobby and mail room are framed with clear IGUs, drastically reducing energy loss within the building's generously proportioned interior and public open spaces.

Benefits

Complementing the minimalist clean-lined interior, Capral's advanced Flushline system, fitted with blue-tinted IGUs, provide the complex's stylish and sophisticated external sheen. The Capral system's thermal performance also makes a key contribution to these apartments' remarkable temperature stability and peerless comfort.

All Capral framing elements were locally supplied, resulting in confidence in supply and greater flexibility during construction. In this prestigious apartment development, Capral's advanced framing systems have proved a decisive element.

Architect: SS Chang

Developer: Finbar

Builder: Hanssen

Fabricator: Capral Facade Solutions (CFS)

Photography: Crib Creative



Capral's Flushline series was specified to achieve high-energy efficiency performance targets



Amberfield Retirement Village, Yarralumla, Canberra, ACT



Amberfield Retirement Village, located in the suburb of Yarralumla in Canberra, ACT, represents a significant development in senior living due to its scale, amenities, innovative design, and ability to support senior residents. The renowned architecture firm Rothelowman White, known for its expertise in creating thoughtful and innovative spaces, was tasked with designing this project with the goal of enhancing the quality of life for its residents.



CS Cavity Slider ready for installation

Requirements

A key design decision was the selection of door systems, which are crucial in senior living environments for accessibility and ease of use. Cavity sliders allow for seamless integration into the living spaces, allowing residents to navigate at home with minimal physical effort. The design team chose CS Cavity Sliders to provide the sliding doors for these specialised residences due to their reputation for high-quality, customisable products. Each villa is designed with a modern aesthetic; therefore, the SquareFormed Cavity Slider, as well as CS OverTakingDoors, an innovative sliding door that allows for large openings while minimizing the cavity pocket size, were specified for the design.

Approach

The CS SquareFormed Cavity Slider features a SquareStop Split Jamb with a full-height design and no closing jamb detail, offering a sleek and contemporary appearance. CS Cavity Sliders' capability to provide this cavity slider with the requested detail makes finishing on-site quicker, neater, and stronger than other methods. By choosing the CS SquareFormed Cavity Slider, the project management team significantly reduced installation time, which resulted in labour and resource savings.



A pair of CS Cavity Sliders installed in a hallway at the entrance of the bedroom and bathroom

CS OverTakingDoors were incorporated into the design as well, as they offer space optimisation. Many of the villas showcase a 1.7-metre opening from the media room to the villa's courtyard that needed the ability to be closed and opened without encroaching on the available living space. A single 1.7-metre cavity slider was impractical due to the large rough opening it would require, which didn't fit the floor plan. Utilising CS OverTakingDoors was the ideal solution, allowing for a smaller cavity pocket while still accommodating the large opening. CS OverTakingDoors is a telescoping door system that uses a series of pick-up extrusions to connect the doors. This system also ensures there are no floor guides required, removing all tripping hazards, and allowing for a seamless design.

The CS Cavity Sliders' team, a crucial part of the project, worked closely with the project management team to

ensure the success of the design. The hands-on support of the CS Cavity Sliders team and premium product distinguish the brand from others in the field.

Results

The Amberfield project in Yarralumla is a prime example of how thoughtful architectural design and careful selection of construction materials can meet the specific needs of a retirement living community. The use of innovative solutions like CS Cavity Sliders not only enhanced the functionality and aesthetics of the development, but also ensured that the spaces were optimally utilised, providing a comfortable and inviting environment for the residents.

Benefits

CS Cavity Sliders supplied over 400 cavity sliding units for this innovative retirement village, which began construction in 2023. CS Cavity Slider products are ideal for large residential projects, maximising space and creating a streamlined aesthetic. The project also benefited from CS Cavity Sliders' dedicated support team, ensuring smooth communication. Their high-quality materials and construction guarantee lasting durability, supporting the project's aesthetic and functional goals.



A CS Cavity Slider installed in a walk-in closet

Principal Architect: Rothelowman White

Builder: Elevated Living

Photography: supplied by CS Cavity Sliders and LDK Amberfield Village

Baldivis District Sporting Complex, Baldivis, WA



In Collaboration with SITE Architecture, Danpal was engaged to assist in developing a carefully considered translucent façade specification suitable for covering a large proportion of the Baldivis District Sporting Complex. Spread across 19.4 hectares the Baldivis District Sporting Complex development included the construction of the main indoor recreation center, sports pavilion, changing facilities, maintenance shed, car parking, and associated landscaping elements. Having the complex developed was an essential development for the community of Baldivis as the community is rapidly growing with young families moving into the community.

Requirement

Developed on an open landscape, it was important for the architect's vision for the indoor court to compliment the beautiful natural surroundings that the WA landscape has to offer, and also have the indoor court to provide natural light and ventilation, that wouldn't cause excessive heat or glare. Danpal Facade Systems can provide the building with high levels of natural light, as it is suitable for the building and has all the necessary compliance requirements. Not only do Danpal Facades give the indoor centre an aesthetic charm, but the functional performance makes it the ideal solution.



The inside view of the Baldivis Indoor Sports Complex, which displays Danpal Façade Systems and also gives the view of the natural surroundings

Approach

Working closely with SITE Architecture, the team at Danpal identified that their translucent facades were the suitable choice. Having the polycarbonate panels was simultaneously able to provide comfortably diffused daylight, appropriate levels of thermal insulation and large unbroken spans. Integrating a series of glazed louvres into this façade wrapped around all four elevations was key to maintaining a connection within the space to the external surroundings. Additionally, their durable construction and weather-resistant properties ensure longevity, minimising maintenance requirements and further enhancing the complex's environmental sustainability.

Results

Not only do Danpal Facades give the indoor centre an aesthetic charm

through its innovative design, but the functional performance makes it the ideal solution.

Through their translucent design, these panels invite the sun's rays to dance through the complex, suffusing its interiors with a warm and welcoming glow. The beacon-like effect of having backlit translucent cladding also created a distinctive appearance during the evening, reflecting the project's status as an important part of the local community. Having a sports and recreational facility is paramount for the community in Baldivis, as it provides opportunities for the community to interact, and provide a positive outcome for both physical and mental health.



A closer view of the Danpal Polycarbonate façade systems integrating with a series of glazed louvres that provide both natural lighting and ventilation

Architect: SITE Architecture Studio

Builder: ADCO (Perth)

Photographer: Skygrove Media



The outdoor view of the Baldivis Indoor Sports Complex, featuring Danpal Façade Systems around the perimeter of the building, which provides the complex with natural lighting throughout the day and creates a distinctive appearance during the evening



0429p DANPALON roofing - glazed
0434p DANPALON translucent facade cladding

www.danpal.com.au

Victoria Point State High School, Victoria Point, QLD



Victoria Point State High School is a Queensland Secondary State School which was first opened in 1997. Located in the heart of the rapidly growing Redlands City, the campus continues to expand to cater for an ever-growing student population. Recently, our DeltaTrim™-Mineral Wool insulated roofing panels were utilised in the construction of a modern two-storey technologies block.



External Connecting Walkway with HDG Structural Steel

Requirements

For the external connecting walkways surrounding the technology block, careful consideration was required to ensure the design interconnected the building with the surrounding campus, but importantly, it also complied with the fire properties outlined in NCC Clause 1.9 (e) (vii) & AS1530.1. To achieve these joint objectives, it was deemed that the installation of a non-combustible insulated panel was required.

Solution

Delta Panels manufacture a range of

insulated panels with alternative core options that offer differing fire-related performances to satisfy a diverse range of building applications. Our Mineral Wool core has been independently tested by the CSIRO to the test criteria Clause 3.4 of AS150.1:1994 and deemed not combustible.



Underside of External Connecting Walkway

When the Mineral Wool core material is laminated to steel skins, the resulting Delta Panels Mineral Wool insulated building panels meet all performance requirements in accordance with section C1.9 Non-combustible building elements of the National Construction Code. Furthermore, the range of Delta's Mineral Wool panels have undergone both AS 1530.3-1999 Early Fire Hazard Properties and Flameguard FRL system testing.

All of the independent testing has been certified by CodeMark Australia.

Results

For this specific project, the selection of DeltaTrim™-Mineral Wool panels offered a ready-made solution that could meet all of the project's technical requirements. The roofing panels were finished with a Monument® trapezoid top sheet and a Surfmist® interlocking steel under-skin. Approximately 300 square metres of insulated panels were utilised for the project. The spanning capacity of the Insulated panels with a 75mm mineral wool core allowed HDG Structural Steel to design the roof featuring a supporting beam at each end of the sheeting. There was no need to include any additional supporting structures.

Site access restrictions required the builders from Statewide Roofing to manually manoeuvre all of the panels onto the support structure. They did not encounter any difficulties due to the robust nature and length of the panel sheets.

Outcomes

Without making any modifications to the project design, the strategic placement of Delta Panel's DeltaTrim™-Mineral Wool panels ensured that the roof met all NCC and BCA requirements.

Client: Queensland Department of Education Victoria Point State High School

Contractor/Builder: Statewide Roofing

Photographer: Andrew Porfyri



Technologies Block & External Connecting Walkways as seen from above





“NATSPEC fulfils an important role in the building and construction industry.

“NATSPEC not only assists those in the supply chain to conduct their day to day activities, but also contributes to the standardisation of practices across the industry to produce better building quality outcomes. Consult Australia is proud of our founding membership of NATSPEC and highly recommends NATSPEC documents to our industry.”

Jonathan Cartledge, Chief Executive Officer, Consult Australia



Dribond Construction Chemicals, in business since 1974, is one of the most respected manufacturers of acoustic membranes, tile adhesives, waterproofing, grouts, sealers, repair products and other solutions for the building industry in the Asia-Pacific region. A multinational, family-owned and operated business that focuses on quality and service, Dribond Construction Chemicals has factories in Australia, New Zealand and Malaysia, with locations in Adelaide, Brisbane, Melbourne, Perth, Sydney, Auckland and Kuala Lumpur. www.constructionchemicals.com.au



DTAC is an Australian company with over 15 years’ experience in design and manufacturing excellence, all backed by industry leading support. DTAC comprises a specialist team of professionals that prides itself on offering aesthetically pleasing, BCA compliant, architectural tactile ground surface indicators, stair nosing and edging, urban landscape edge protection products and more. DTAC’s unequalled attention to detail enables architects, designers and builders to make the right choice for aesthetic and functional conformance in every project. www.dtac.com.au



DUCTUS is Australia’s leading lightweight pre-insulated duct supplier. Our partnership with ALP in Italy has gained worldwide recognition and has been used in tens of thousands of applications globally. The system replaces heavy, leaking, oxidising, lowperforming sheet metal duct. DUCTUS began operating in 2015, quickly becoming the leading pre-insulated duct provider in the region. “The Evolution of Air” is our aim in introducing the Australasian market to a sustainable, smarter, efficient, futuristic lightweight duct solution. www.ductus.com.au



At Dulux, we create market-leading products that protect, maintain and enhance the spaces and places in which we live, work and play.

We’re proud to be home to some of Australia and New Zealand’s most recognised and trusted brands, including Dulux, B&D, Fosroc, Porter’s Paints and Cabot’s.

Dulux supports Specifiers to bring their vision to life. Our world-class chemists ensure we continue to be first-to-market with products that respond to emerging construction and maintenance requirements. www.dulux.com.au



Envu was founded in 2022, a new company built on years of Bayer Environmental Science experience, for the sole purpose of advancing healthy environments for everyone, everywhere. We offer dedicated services in Professional Pest Management including our Kordon Termite Management System. www.au.envu.com



Salesian College, Chadstone, VIC

DTAC[®]

ARCHITECTURAL TACTILES
& STAIR NOSING SOLUTIONS

Salesian College in Victoria embarked on a journey of campus redevelopment as part of the New Campus Masterplan – Towards 2040. With a commitment to fostering a vibrant learning environment that aligns with their values of educational excellence and inclusivity, the college embarked on a mission to create modern, innovative, and accessible spaces for their students and staff.

Requirements

As a key component of this transformative project, DTAC were engaged to address crucial safety and accessibility requirements within their new STEM battery building and demountable area. Through meticulous planning and collaboration, DTAC provided tailored solutions to enhance safety and accessibility, ensuring that every individual, regardless of ability, can navigate the campus confidently and independently.

Approach

In collaboration with DTAC, Salesian College undertook a meticulous approach to address their safety and accessibility needs. Renowned for its expertise in providing high-quality tactile solutions, DTAC recommended a tailored suite of products to meet the college's requirements. The installation included Ecotac[®] Warning Tactiles

(DT0120 and DT0122), Ultimat[®] Black Tactiles (DWU0010), along with Suede and Urban stair nosing (DE0510C and DE0700BMF).



DTAC Ultimat[®] Tactiles and Urban Stair Nosing installed at stairs to demountable area

Working closely with Raysett Constructions, the builder developing the project, DTAC ensured seamless integration of these products into the overall design aesthetic while prioritising functionality and compliance with accessibility standards.

The DTAC products installed on the site have been tested and certified in

accordance with the NCC to AS 4586 for slip resistance and AS/NZS 1428.4.1 / AS 1428.1 for luminance contrast.

Results

The installation of DTAC Ecotac[®] Warning Tactiles, Ultimat[®] Tactiles, and stair nosing at Salesian College's new STEM battery building and demountable areas yielded transformative results. The campus now boasts enhanced safety, ensuring all students, including those with disabilities, can navigate the premises confidently and independently. The tactile indicators provide vital cues for individuals with visual impairments, signalling changes in elevation, intersections, and potential hazards. Additionally, the stair nosing enhances visibility and tread grip on stairs, reducing the risk of slips and falls.

Benefits

The partnership with DTAC exemplifies a proactive approach towards creating educational environments that prioritise safety, accessibility, and inclusivity, laying the foundation for a vibrant learning community where every individual can thrive.

Builder: Raysett Constructions

Client: Salesian College

Consultants: McIldowie Partners

Photography: Emma Cross



Rupertswood Mansion, located adjacent to Salesian College's main school buildings

Murdoch Square, Murdoch, WA



Situated south of Perth's CBD, the new circa \$450 million Murdoch Square is an expansive mixed-use development featuring a hotel, aged care, specialist medical suites, commercial offices, residential apartments, mental health facility, WA's first 'medihotel' and a link bridge to the existing Fiona Stanley Hospital. As a commercial builder committed to sustainable practices, Multiplex partnered with Dulux for specific credits to ensure the facility was on track to achieve a 5 Star Green Star rating.



Murdoch Square mixed-use development of aged care & hotel facilities

The Green Building Council of Australia (GBCA) will evaluate the project under the Legacy Green Star Design & As Built v1.2 rating tool, which assesses sustainability outcomes across nine categories from the design and construction of new buildings. Dulux assisted with credits in the Indoor environment quality (IEQ) category thanks to the use of very low Volatile Organic Compounds (VOCs) paints such as Dulux enviro₂TM, that reduces the emissions into the air as the paint cures. Multiplex also showcased innovative solutions through the adoption of the Dulux EnviroSolutions recovery program to improve waste management recycling processes by focusing on specific materials and their ongoing lifecycle.

Requirement

With over 60,000sqm of gross floor area across six buildings, the volume of coatings was significant, with over 22,500 litres of paint required throughout the development's interiors. This represented an opportunity to make a positive environmental impact by ensuring low VOC products were applied.

Rana Schuller, Dulux Specification Consultant WA recommended Dulux enviro₂TM, Australia's most eco-certified paint that has independently verified and registered Environmental Product Declaration (EPD). Refer to our branded work section, 0671p DULUX paint, to locate the proprietary items used for specifying Dulux enviro₂TM.

The interior walls of the development were coated with Dulux enviro₂TM Acrylic Sealer Undercoat and topcoated in Dulux enviro₂TM Low Sheen, a premium acrylic paint that produces a washable, stain-resistant hard-wearing finish. The interior doors, windows and trims were coated in Dulux Aquanamel[®] Semi Gloss, which is both low VOC and low odour.

"Hesperia and Multiplex were focused on environmental sustainability throughout this project, so choosing low VOC paints was the main consideration in the specification process," Rana says.

Approach

Multiplex quickly identified the multiple benefits of this sustainability initiative, which aims to reduce single-use plastics by collecting and recycling 15L plastic paint buckets, lids and tear strips and manufacturing them into recycled, Australian-made paint roller trays, stirrers or buckets. The initiative gave the site team the opportunity to explore alternative sustainability opportunities for recycling and management of specific construction waste.

A designated EnviroSolutions storage box was installed on site which enabled the painting contractor, Levent Painting to dispose of the empty paint pails safely and securely to eliminate any issues with misuse or loss of buckets.

"We scanned the buckets coming in, and we scanned the buckets going out," Rana explains. "Overall, we collected 616 buckets, which represents 14.1 cubic metres saved from landfill, and \$3,100 saving in waste disposal costs." "Multiplex could clearly demonstrate the volume of plastic they saved from

landfill, showing the impact of the program in a tangible way."



Murdoch Square mixed-use development situated in the south of Perth's CBD

Results

Louise Reeve-Fowkes, Design Coordinator at Multiplex, worked closely with Rana to ensure all objectives were met as the project progressed.

"The specification of Dulux enviro₂TM and the adoption of the EnviroSolutions program had significant impact in our ability to target the 5 Star Green Star rating on this project. We enjoyed working in partnership with the Dulux team and our subcontractor Levent on this sustainability initiative, with such a fantastic outcome shown through our bucket return count." Louise reflects. "ore sustainable future!"

"The team at Multiplex are passionate, engaged and fantastic to work with," Rana says. "We were all focused on the same goal, and we worked together to achieve it."

Multiplex has since promoted the success of this project helping to educate the wider building industry on the impact and benefits of the EnviroSolutions program.

Dulux is proud to be associated with the Murdoch Square project and help Multiplex achieve a 5 Star Green Star Rating.

Architect: Hassell

Builder: Multiplex

Development Manager: Hesperia

Applicator: Levent Painting

Photography: Aerial shots by DMax Photography



D'Aguilar Childcare, D'Aguilar, QLD



D'Aguilar Childcare center located in D'Aguilar, Queensland was in a high-risk termite zone. The developer, having previously experienced termite damage that interrupted operations, sought a durable solution to prevent future infestations.

pyrethroid that kills and repels termites. The deltamethrin is embedded in a fibrous webbing, laminated with a UV-stabilised plastic. The orange top layer acts as a moisture barrier, while the black bottom layer encapsulates and protects the barrier.

warranty and over 50 years of life expectancy without maintenance. It poses no health risks and is a cost-effective solution, providing peace of mind to the developer. Accredited professional installation and robust design further assured the developer of the center's long-term protection.



Pre-installed Kordon Kollars to penetrations to a pre-poured concrete slab



Perimeter installation prior to the standing of the frames. The Kordon termite system has been installed for light weight cladding on the right and a cavity brick installation on the left. This illustrates Kordon's flexibility and adaptability

Requirement

The main need was for a termite barrier system that offered long-lasting protection and met AS3660.1 standards. The system also had to be environmentally friendly, safe for staff and children, easy to maintain, and come with a comprehensive termite damage warranty.

Approach

The Kordon termite system was selected for its effectiveness. This physical barrier prevents termites from entering buildings undetected. Installed by a Kordon accredited installer, it integrates seamlessly into the construction, positioned between building elements. Kordon uses deltamethrin, a synthetic

Results

The Kordon system successfully prevents concealed termite ingress and infestation. It requires no maintenance beyond annual inspections for warranty upkeep. The system is environmentally friendly, avoiding large-scale chemical use. NCC recommends annual professional inspections to ensure its effectiveness.

Benefits

Designed for Australian conditions, the Kordon system offers an industry-leading

Architect: Neylan Architects

Builder: QLD Project Professionals P/L

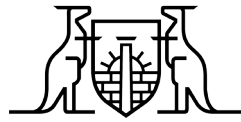
Installing Company: National Pest solutions



The D'Aguilar Childcare Centre is due to be completed by November 2024



The Australian Institute of Architects is proud to be a founder and owner of NATSPEC and continues to endorse the NATSPEC National Building Specification. NATSPEC, a not-for-profit organisation, maintains the national and comprehensive master specification on behalf of the Australian industry, with input from many of the Institute's members, and reflects the latest national regulations and standards. NATSPEC's regularly updated information reduces the risk of expensive litigation for designers and improves the communication with builders.



**Australian
Institute of
Architects**



Evapco Australia, part of US-based Evapco Inc, is an industry-leading manufacturing company with global resources and solutions for worldwide heat transfer applications. Our wide range of cooling towers, closed-circuit coolers and evaporative condensers are high quality and have been engineered to be environmentally sustainable, reduce noise pollution and conserve natural resources in the commercial HVAC, Industrial process and Refrigeration market. Evapco Australia has a strong "Sales and Service" presence across Australia through our dedicated team. www.evapco.com.au



Fielders is a leading local manufacturer of a comprehensive range of roll-formed steel products supplied to commercial, industrial and domestic building markets throughout Australia.

Fielders' focus on innovation, breadth of product and extensive customer support offering, make it a preferred supplier for engineers, architects and construction companies around the country.

The Fielders range is supported by 10 branches nationwide, including manufacturing facilities at Novar Gardens, SA and Campbellfield, VIC, which also offer in-house processing capabilities. www.fielders.com.au



Forbo Flooring Systems is a global manufacturer of premium commercial and residential floor coverings. All materials are designed, engineered, and manufactured within our own 100% green energy European facilities. An extensive and attractive range of environmentally friendly linoleum, high-quality vinyl flooring and LVT, entrance flooring systems, carpet tiles, needlefelt and Flotex flocked flooring is provided globally through our local service and distribution operations. www.forbo.com/flooring/en-au/



Fosroc is a world leader in construction solutions. We deliver tailored functional construction solutions for virtually any building or infrastructure project. New or old construction, above or below ground, we combine high quality products, expert technical support, customer service and innovation to give you the best solution for your project. Parchem Construction Supplies is the licensed manufacturer and distributor of Fosroc products in Australia. www.fosroc.com.au



The Pavilion Performing Arts Centre, Sutherland, NSW



The Pavilion Performing Arts Centre, formerly known as the Sutherland Performing Arts Centre, has undergone a remarkable transformation, emerging as a cutting-edge facility that caters to a diverse range of artistic pursuits. This redevelopment project represents a fusion of contemporary design and functional excellence, providing patrons with an immersive experience from the moment they approach the venue.



Led by the esteemed architectural firm CHROFI, the Pavilion boasts a visually striking exterior characterised by an eclectic mix of materials including timber, masonry, and extensive glazing. One of its standout features is the bold façade on the upper levels, crafted from Fielders

ARAMAX® steel cladding, which adds a dynamic and eye-catching element to the architectural composition.

Requirement

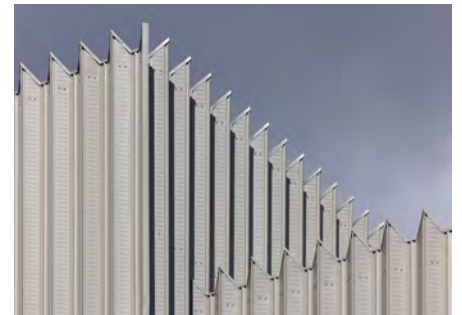
While rooted in the architectural legacy of the 1970s, the Pavilion has been transformed into a modern cultural hub that seamlessly integrates with its surroundings, including the adjacent Peace Park. The redevelopment project retains the original structure while introducing new elements that enhance the facility's capacity and functionality, catering to a wide range of cultural activities and community events.

A key aspect of the Pavilion's success lies in the collaborative effort between CHROFI and Fielders, particularly in the specification, design, and detailing process of the ARAMAX® cladding. Fielders Structural Engineer, Brett Aldridge, and his team assisted by providing the engineering design, specification advice by providing comprehensive detailing modelling and efficient ARAMAX® layout geometry. Fielders also organised for a quantity of the ARAMAX® to be perforated in a section of the building that required additional ventilation. The versatility of ARAMAX® proved to be a major asset, offering architects the flexibility to realise their design vision while meeting the project's technical specifications.

Approach

The installation process was facilitated by Fielders' support and the use of a mobile mill, which allowed for on-site

rollforming of the ARAMAX® cladding. This approach not only streamlined the installation process but also minimised the risk of material damage during transportation. Feedback from the installation team highlighted the simplicity and efficiency of working with ARAMAX®, further underscoring its suitability for large-scale commercial projects like the Pavilion.



Products featured: ARAMAX®

Results

ARAMAX®'s impressive capabilities, including its ability to span up to 20 meters and its wide range of colour options, make it an ideal choice for architectural applications where both form and function are paramount. Its durability and aesthetic versatility have contributed to the Pavilion's status as a landmark destination for arts and entertainment in southern Sydney.

Builder: ADCO Constructions

Architect: CHROFI and NBRS Architecture

Installer: Dunrite Linings

Photographer: Alexander Mayes



The Pavilion Performing Arts Centre featuring ARAMAX® steel cladding



0311p FIELDERS KingFlo® in concrete formwork; 0341p FIELDERS SlimFlor in structural steelwork
0423p FIELDERS roofing - profiled sheet metal; 0424p FIELDERS roofing - specialised sheet metal
0436p FIELDERS cladding - profiled sheet metal; 0437p FIELDERS wall cladding - specialised panels

www.fielders.com.au

North Melbourne Primary School Molesworth Street Campus, North Melbourne, VIC



The North Melbourne Primary School Molesworth Street Campus stands as a pioneering example of innovative architectural design, aiming to establish a new standard for vertical schools. Crafted by ARM Architecture, this six-story marvel encompasses 21 classrooms, 14 breakout/reading/sensory rooms, and 4 specialist classrooms dedicated to Art, Science, Food Technology, and Music. Additionally, a separate kinder facility graces the rooftop, accompanied by a dedicated outdoor play area.



The ground-level welcome entry showcases Marmoleum flooring

Central to its design ethos is the concept of fostering a dynamic environment for both learners and learning. Through vibrant hues, intricate patterns, and boundless exploration opportunities, the campus not only captivates but also enriches the educational journey of its students.



The exterior design of North Melbourne Primary School is distinguished by its unique triangular structure

At the heart of this project lies an ingenious utilisation of colour as both a narrative thread and a means of spatial navigation. Each floor boasts a distinct colour palette that entices imagination, creativity, and identity throughout the building. Moreover, a grand glazed staircase serves as the primary circulation artery, symbolising connectivity and progress.

Approach

In the pursuit of a flooring solution that seamlessly integrates functionality with sustainability, Forbo's Marmoleum emerges as the material of choice. Renowned for its extensive colour spectrum, Marmoleum allowed designers to craft bespoke aesthetics for every space within the campus effortlessly a total of thirteen different Marmoleum colours were utilised across every level.

Results

What sets Marmoleum apart is its composition, comprising up to 98% natural raw materials. This eco-conscious choice not only minimises environmental footprint but also fosters a tactile connection to the natural world, promoting a wholesome indoor atmosphere. Furthermore, its resistance to microbial growth and absence of phthalates and allergens

ensures the creation of safe and hygienic learning environments.

Benefits

Marmoleum represents a commitment to biophilic design, aligning with the innate human desire for nature-inspired spaces. Moreover, Marmoleum stands as a beacon of sustainability, being climate-positive cradle to gate, with every square metre of Marmoleum produced removing 663 grams* of CO₂ equivalents and contributing to net zero building ambitions, without the need for offsetting measures.



The main circulation area features a spacious, glazed staircase featuring with Marmoleum on the stairs

The incorporation of Marmoleum flooring transcends mere aesthetics; it fosters an environment of comfort, cleanliness and well-being elevating the overall ambience within learning spaces. By prioritising sustainability and striving to create inspirational learning environments for generations to come, the campus stands as a testament to the profound impact of conscious material selection and architectural design.

**According to the Environmental Product Declaration (EPD) 4790859342.101.1 March 2024 externally verified by UL Environment, based on the total global warming potential (GWP) production stage (A1-A3) of Marmoleum 2.5mm (one year).*

Architecture: ARM Architecture
Photographer: John Gollings

Riverbank on Byron Luxury Development, Bulimba, QLD



Riverbank on Byron, a prestigious luxury development situated along Brisbane's picturesque waterfront, demanded a superior waterproofing solution for its basement structure. Tasked with the challenge, Trueproof, the specifier and contractor, sought an innovative approach to ensure efficient waterproofing around a complex network of footings, rebar, and pile caps, thus laying the foundation for a structurally sound and enduring project.

Requirement

Navigating the intricate design of Riverbank on Byron's basement structure, Trueproof required a waterproofing solution that seamlessly integrated with various structural elements while offering exceptional durability and cost-effectiveness.

Solution

Fosroc's comprehensive suite of waterproofing products formed the cornerstone of the project's success. Proofex PGP: Engineered for fast and efficient installation, Proofex PGP provided a robust foundation for the waterproofing system. Its puncture-resistant membranes, combined with hot air welded joints, ensured maximum watertightness, while maintaining flexibility in adverse weather conditions. Polyurea WHE110 offered seamless and rapid application around complex

structural elements. Its unique chemical resistance and thermal stability provided long-term protection against water ingress, while its rapid curing time minimised project downtime.

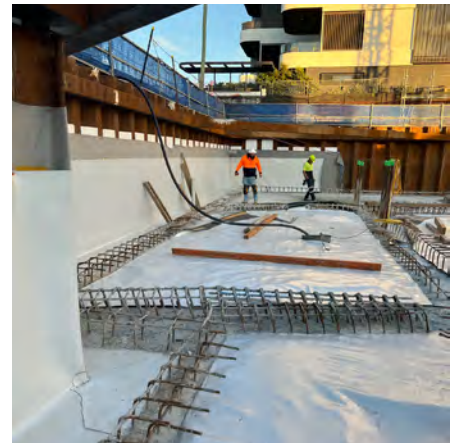


Pit construction

Benefits

In the demanding world of luxury development, where every detail counts, the choice of waterproofing materials can make or break a project. With Fosroc's Proofex PGP and Polyurea WHE110 at the helm, Riverbank on Byron experienced a transformation in its waterproofing solution, durability, efficiency, and longevity. Proofex PGP emerged as the

perfect partner, seamlessly integrating into the basement structure with its puncture-resistant membranes and hot air welded joints. This not only ensured swift installation but also provided great watertightness, shielding the structure from potential damage and costly maintenance down the line.



Interesting strip footing detail awaiting completion prior to steel fixing

Meanwhile, Polyurea WHE110 took centre stage with its revolutionary spray application, effortlessly enveloping complex structural elements in a seamless, monolithic barrier. Its rapid curing time and exceptional resistance to chemicals, and abrasions not only accelerated project timelines but also promised enduring protection against the harsh realities of environmental exposure. Together, these products offered more than just waterproofing; they provided peace of mind, reliability, and a solid foundation upon which the Riverbank on Byron luxury development could proudly stand for generations to come.

By leveraging the performance of Fosroc's Proofex PGP and Polyurea WHE110, Trueproof delivered a waterproofing solution that met the stringent requirements of the Riverbank on Byron luxury development. These benefits not only ensured the project's success but also laid the groundwork for a structure that will provide longevity.

Specifier & Contractor: Trueproof
Sector: Multi-residential



Overview of the basement construction





“The National Building Specification (NATSPEC) has been a trusted voice for government, industry and professional bodies for more than 45 years; playing a critical role in improving the quality of construction in Australia.

“As a strong advocate for increased professional standards, Engineers Australia is proud to be a founding member of NATSPEC and strongly endorses their professional and special packages.”

Romilly Madew AO, CEO Engineers Australia



GRIFCO is part of Chamberlain Group International, the world’s largest manufacturer of commercial and residential door operators. With over 100 years of Australian manufacturing, Grifco has won awards for Manufacturing and Excellence in sustainable operations.

Grifco door operators are easily integrated into Building, Dock or Fire Management Systems, coupled with a range of access control solutions, including myQ® smart technology, safety and warning systems to suit any application. www.grifco.com.au



Haymes Paint is Australia’s largest locally owned and operated, NATA accredited paint manufacturer. Since 1935, the Haymes family have proudly crafted innovative colours and coatings that continue a tradition of never taking short cuts on quality.

The Haymes Paint range includes Green Star compliant surface coatings, providing a single source solution including sustainable protective coating, timber finishes, texture and render, on top of their nationally accredited Ultra-Premium paints. www.haymespaint.com.au



Hilti is a world leader in the design and manufacture of cutting-edge technologies, software and services for the professional construction industry. Every day our technologies support awe-inspiring feats of engineering around the world – from the famous bullet train in Japan, the new built Perth stadium or Sydney iconic Barangaroo just to list a few. We offer a 360 degrees service for construction – acting as a true partner for our customers. www.hilti.com.au



CSR HIMMEL INTERIOR SYSTEMS offers a wide portfolio of ceilings, walling, aluminium and architectural hardware products. CSR HIMMEL brings European style and finesse to Australian residential and commercial spaces, introducing the latest global trends and technologies to the interior systems market first.

CSR HIMMEL has consulted with architects, designers, builders and glazing companies to create an aluminium system that suits all design and budget requirements. www.himmel.com.au



Wesley College, Clunes Campus, VIC



Australia's first family of paint. SINCE 1935

Wesley College, renowned for providing inclusive, safe, and vibrant learning environments where students thrive, boasts the Clunes Campus. The campus plays host to the 8-week residential learning program, an integral component of the Year 9 curriculum. This program, a time-honoured tradition, focuses on cultivating essential life skills and fostering confidence through independent living experiences. The campus infrastructure included accommodation for a maximum of 104 students distributed among 13 student residences, along with 7 staff residences. In response to the increasing student enrolment and a commitment to enhancing existing facilities, Wesley College initiated an expansion project.

student residences, the restored heritage dwelling, and amenities. The residences each, two storey comprised of an open plan kitchen/living/dining room, bedroom, bathroom and laundry facilities at ground floor level and three bedrooms and bathroom facilities at first floor level. The student housing and broader facilities promote independent living by allowing students the space to carry out daily tasks including budgeting, cooking and cleaning.

UVEX Timber Primer, and UVEX with Slip Res Additive. This resulted in decking surfaces that were quick to dry and have UV, mold-resistant properties for longevity. External timber windows and door frames were coated in Haymes Paint Ultra Premium Precoat, Ultracover, and Ultratrim Acrylic Enamel Gloss for an ultra premium, Low VOC gloss finish. External walls were treated with Haymes Paint Ultra Premium Ultraseal followed by Ultra Premium Solashield in Low Sheen for a velvety hard-wearing finish. Interior walls and ceilings were also coated in Haymes Paint Ultra Premium products for a lasting flat finish, with Ultra Premium Ultraseal, Interior Expressions Low Sheen, and Interior Expressions Ceiling White once more providing an ultra premium Low VOC finish. Metal handrails, balustrades, and brackets were also given the star treatment with Haymes Paint Ultra Premium Rustlock.



Studios & Demonstration Kitchen and Student Residence from north east Image Fred Kroh



Tiered seating from south east: Fred Kroh

Approach

Haymes Paint is honored to have played a pivotal role in enhancing the Clunes Campus, a core project for Wesley College. Our paint solutions have been thoughtfully applied to contribute to the aesthetic appeal, durability, and functionality of the campus, helping to ensure that the learning spaces inspire creativity and innovation.

Haymes Paint Ultra-Premium products designed to meet stringent standards, environmental performance, and safety. Refer to our branded worksection; 0671p HAYMES Paint to locate the proprietary items used for specifying Ultra-Premium.

Requirement

The new facilities include art and technology studios, covered outdoor learning areas, general purpose studios, the demonstration kitchen,

Solution

Decking areas underwent a thorough treatment process, starting with Haymes Paint Woodcare Rapid Prep,

Architect: Williams Boag

Painter: Hishon Brothers

Photography: Fred Kroh and Peter Wolf



Studios & Demonstration Kitchen aerial from north east Image Peter Wolf



0671p HAYMES paint

www.haymespaint.com.au



“The quality and productivity of the building and construction industry is enhanced by the work of the National Building Specification (NATSPEC). For more than 45 years NATSPEC has provided professional and specialty packages for all sectors of the industry and all building structures. NATSPEC is highly regarded by industry stakeholders in both the private and public sectors and is strongly supported by Master Builders Australia (MBA).”

Denita Wawn, Chief Executive Officer, Master Builders Australia



KINGSPAN INSULATED PANELS is the world's largest and leading manufacturer of high-performance insulated panel building envelopes. Its wide range of products manufactured in their Australia facilities include insulated wall and roof panels, high performance standing seam systems and façade solutions. KINGSPAN INSULATED PANELS is widely recognised in the industry for the high quality and performance of its products as well as its commitment to excellent customer service and technical support. www.kingspanpanels.com.au



Kingspan Insulation is a manufacturer of insulation products for roof, wall, and underfloor applications in residential, commercial, and modular buildings. Kingspan Insulation manufactures AIR-CELL®, the thermo-reflective insulation, and Kooltherm®, a rigid thermoset insulation. Kingspan Insulation's technical experts can provide thermal solutions for Section J, Green Star, and NatHERS 7 Star rating. www.kingspaninsulation.com.au



Lawn Solutions Australia is an Australian owned and operated business with Australia's leading group of turf growers coming together to offer a range of exclusive turf brands and turf products across a comprehensive national network.

Lawn Solutions Australia is setting a new benchmark for best practice in the turf industry with the industry-leading accreditation system, AusGAP. All Lawn Solutions Australia producers are AusGAP certified and adhere to the same stringent, nationally endorsed quality standards. www.lawnsolutionsaustralia.com.au



Leviat, a CRH company, is a global leader in connecting, fixing, lifting and anchoring technology for the construction industry. We imagine, model and make engineered products and innovative construction solutions. Our engineered products and innovative construction solutions are used in a variety of market segments from residential to infrastructure, enabling users to build better, stronger, safer and faster. www.leviat.com/au-en



Waves Fitness and Aquatic Centre, Baulkham Hills, NSW



Waves Fitness and Aquatic Centre, located in the Western Sydney suburb of Baulkham Hills, underwent a major redevelopment with state-of-the-art upgrades to better meet the needs of the growing community. The Hills Shire Council committed \$55 million to transform the site, which included a 1,000-sqm gym, several multi-purpose rooms, an entry lobby, recreational water facilities, and a FINA-approved 10-lane Olympic swimming pool that would let the facility host school carnivals and elite sporting events.



Aerial drone image of the whole site, showcasing the vast number of panels used on the roof

Requirement

Due to the aquatic centre's humid conditions, the structure was required to meet stringent building performance requirements, with the pool hall needing a single-layer solution to achieve a vapour barrier layer as part of the roof panel. This was essential to enclose the space and meet thermal performance

and corrosion resistance standards. The design elements also needed to be modern, comfortable, and community-minded to ensure the facility was delivering an engaging and positive experience for its clientele.

Derek Mah, Architect and NBRS Associate, said, "One of the greatest challenges we experienced on this project was identifying a roofing solution that could be curved over the entire structure, including both panels and traditional purlins, while meeting the required thermal and corrosion resistance. The new 2019 BCA Section J Building Code, which requires roofs to have a greater thermal performance compared to the previous version of the Building Code, was particularly difficult to meet".

"From a design perspective, we also needed a solution that could be used over roof panel situations and traditional roof build-ups while maintaining a consistent appearance, as we had situations where the roof transitioned continuously from a straight, low pitch roof panel to a curved ridge, and then turned down to form a wall."

Approach

Kingspan proposed a game-changing 'panel and standing seam' hybrid roofing solution to meet the design challenges. Kingspan's KS1100 Roofliner panels

were installed over the pool hall areas, with the KingZip Standing Seam system installed over both Roofliner panels and traditional roofing on purlins. The KingZip standing seam roof sheet was rolled onsite to ensure minimal joints and watertightness, which is a completely unique solution that no other supplier can offer.



Frontal drone image illustrating the curves of KingZip and the scale of Waves Aquatic Centre

Results

KingZip's full design flexibility created functional and technically perfect convex, concave, and angular architectural roof shapes, with the installation successfully completed without faults in the finished structure.

Waves Aquatic Project is also one of the first projects in Australia to benefit from Kingspan's new state-of-the-art smooth curving equipment, where a smooth curve radius of 1.5m was achieved without any crimping.

The ease of installation, the design outcome, and the material's ability to meet specific building requirements impressed the architects, who have since specified the solution for other, similar projects.

Derek Mah, Associate at NBRS said that "Kingspan provided design and specification support, with design details and certificates. No other product satisfied all our performance requirements and offered a warranty."

Architect: NBRS/Donovan Payne Architects

Photography: Will Berry and Jose Luis Cantabrana Garcia



Hero entrance image of Waves Aquatic Centre showcasing the KingZip standing seam system and Roofliner panels



83 Pirie Street, Adelaide, SA



Cbus Property's recently completed \$265 million project at 83 Pirie Street, Adelaide, has earned a string of firsts and global status for sustainability. The building is registered to obtain a 6 Star Green Star Design and As Built Certified rating. Additionally, it is designed to achieve a 5.5 Star NABERS Energy rating, and a WELL Platinum rating. These ratings place the building among the world's most sustainable.



83 Pirie St completed façade

Designed by architecture studio Woods Bagot and constructed by Multiplex, 83 Pirie Street has more than 30,000 square metres of commercial space



South Australia's first all-electric carbon-neutral ready building

across 22 levels with street-level retail and hospitality.

Requirements

Cbus Property engaged dsquared Consulting to provide an environmentally sustainable design for 83 Pirie Street. The agency's remit included optimising the project's façade and systems performance, energy modelling and Greenstar, NABERS Energy and WELL certification.

Developed in Australia, Green Star is an internationally recognised sustainability rating system for the built environment, offering a framework of best practice benchmarks for sustainability. The WELL rating system uses performance-based criteria to measure, monitor and certify elements of the built environment that impact human wellbeing. NABERS measures the energy efficiency, water usage, waste management and indoor environment quality of a building or tenancy and its environmental impact.

According to dsquared Consulting Director, Paul Davy, Cbus Property required the project to achieve the highest sustainable ratings.

Approach

"So, we aimed for world leadership in sustainable design – 6 Star Green Star and WELL platinum ratings".

The project's sustainability features include a high-performance façade with a serrated profile to reduce direct solar gain, end-of-trip amenities to encourage active commuting, VAV air-conditioning, efficient water systems

with rainwater storage and re-use, all-electric building, carbon-neutral ready and extensive space allocation for occupant health and wellbeing with access to the outside air.

Results

The design and construction teams specified Kingspan Insulation's Kooltherm products to enhance the building's thermal performance.

Ceiling and Wall Contractors installed approximately 4000 square metres of Kooltherm products in the project's car park, plant room and the 20th level. 45mm and 80mm thicknesses of Kooltherm K10 G2W White Soffit Board and 35 mm of Kooltherm K17 Insulated Plasterboard were used.

Benefits

Contract Administrator, Shaun Harvey, says Kingspan products are always their first choice. "We use Kingspan all the time. Their products meet specifications and are easy to cut and install. There are no lead time issues, the product is always there waiting for us".

Kingspan Kooltherm is a range of rigid thermoset phenolic insulation for roofs, walls and floors. It is the thinnest commonly used insulation board for any specific R-value, meaning designers and builders can maximise lettable space and lifetime property value compared to other conventional insulations, while achieving the same performance.

The range is also compliant with AS/NZS 4859.1:2018 and has independently verified fire performance characteristics. As it is a thermoset material, it hardens and chars in fires, giving off very little smoke, unlike thermoplastics, such as polystyrene, which melt, soften, and give off thick black smoke.

Architect: Woods Bagot, Adelaide

Owner: Cbus Property

Builder: Multiplex

ESD Consultant: dsquared Consulting

Ceiling Contractor: CWC Ceiling and Wall Contractors

Photography: Trevor Mein



Jasper Brush Early Learning Centre, NSW



In light of increasing reports of asbestos being found in contaminated woodchips and bark material across various public space areas, we must identify superior contaminant-free, safe solutions and alternatives for these areas.



Sir Grange Zoysia Below Swing Set

Woodchips, mulch and other mediums like sand are often used in playgrounds and swing areas as a low-maintenance ground covering, but they rarely stay clean and user-friendly for very long and have been found to suffer from asbestos contamination. This is highly concerning when there is a much better ground covering that could be used, a green and low-maintenance solution that is free of contaminants and safe for our families and environments.

This turf variety is Sir Grange Zoysia. Sir Grange is a Zoysia Matrella grass that offers a level of versatility in turfgrass that has been unseen until recent years. It has a stunning fine blade and

a beautiful dark green colour. But most importantly, it can be left completely unmown and still look fantastic.

This makes Sir Grange Zoysia the perfect solution to the current asbestos issue. Woodchips can be removed and replaced with an incredible grass that requires next to no mowing at all, is soft and safe for playgrounds, is much more aesthetically pleasing and provides the assurance that the new ground covering will be asbestos-free.

Requirement

A recent project involved the installation of Sir Grange at the Jaspers Brush Early Learning Centre within and around a play area. This section of the playground experienced continual issues, with woodchip and sand being used unsuccessfully before Sir Grange was adopted as a permanent solution.

Approach

The area was stripped back to bare soil, turned over to decompact the base and Sir Grange Zoysia supplied by Lawn Solutions Australia was installed and established. Once the turf was installed no mowing was undertaken, with the grass slowly growing out to about 15cm in total length before stopping. The playground has only had a light trim once since installation over 18 months ago.

This area needed to be safe for children playing, low-maintenance and needed to be visually appealing. Sir Grange Zoysia is the only medium that has been able to provide all of these outcomes and the owner of the facility is absolutely over the moon with the result.



Sir Grange Zoysia Providing Safe Landing for Slippery Dip

The sand that was used previously blew everywhere and never stayed tidy for long, then woodchip was trialled which was always wet and full of rubbish and spiders. Now Sir Grange is there, it's like a big mattress, it takes virtually zero maintenance and the kids love it.

Results

Sir Grange is great in areas that are difficult to get to for maintenance purposes and can tolerate high wear once established. The reason this turf requires less mowing is due to it having a very slow growth pattern and limited height of growth. Sir Grange will grow until it reaches a certain height (about 15 to 20cm). After that, it virtually stops growing vertically and looks fantastic.

This makes Sir Grange the ideal solution for public parks and playgrounds, council verges, roadsides, sloping areas, sporting applications like golf courses and playground areas just like this one.

Photography: Supplied by Lawn Solutions Australia



Sir Grange Zoysia Playground Installation



Quay Quarter Tower, Sydney, NSW



When erected in 1976, the AMP Centre in Sydney was the tallest building in Australia. In 2015, AMP considered multiple options for new builds before adopting a completely different, radical, and environmentally sustainable plan. They were going to graft additional floor area onto the existing structure. Danish firm 3XN won the Design Excellence competition and envisioned a design consisting of five stacked vertical glass villages gradually twisted to maximise the expansive views while reducing heat gains by 30%.



Cantilevered, twisting glass villages maximise views and reduce heat

The new building, the Quay Quarter Tower (QQT), has become a resounding success. In 2022, it won the coveted international award World Building of the Year, and ArchitectureAU referred to it as, “arguably one of the most important buildings of the twenty-first century.”

However, in 2015, stakeholders knew the QQT design was make-or-break. AMP Capital, BVN, 3XN, and Multiplex

had to ensure nothing went wrong as their plan was already bold enough.

Requirement

Upcycle a fifty-year-old Sydney high-rise by adding nine storeys and five vertical glass villages while retaining 98% of the original structure. Ensure compliance with the new building and earthquake codes.

The design posed engineering challenges due to the twisted, cantilevered structure and varied shrinkage, creep, and movements between old and new structures, emphasising the need for proper reinforcement systems to hold everything together.

There was immense pressure all around to complete the QQT building quickly and connect it with the existing building. The new structure would have to be completed up to L11 whilst demolition of the northern face of the existing building was underway. The two buildings were then to be bridged, and the entire project was to be completed in six stages to allow for early tenant access.

Approach

With design and manufacturing in Sydney, Leviat collaborated with Active Steel, the awarded reinforcing bar supplier, to supply a selection of standard and custom Ancon Reinforcement Continuity Systems, which consist of the Ancon Keybox, KSN Anchor Box and Coupler Box. The Ancon Reinforcement Continuity System meant formwork could continue uninterrupted while incessant concrete pours occurred.

Leviat used Ancon Shearfix Punching Shear Reinforcement to ensure the punching shear load was effectively transferred from the slab into the column. Ancon Shearfix is used within a slab and transfers load through studs into the column; it is customisable to the design requirement and is easy to install.

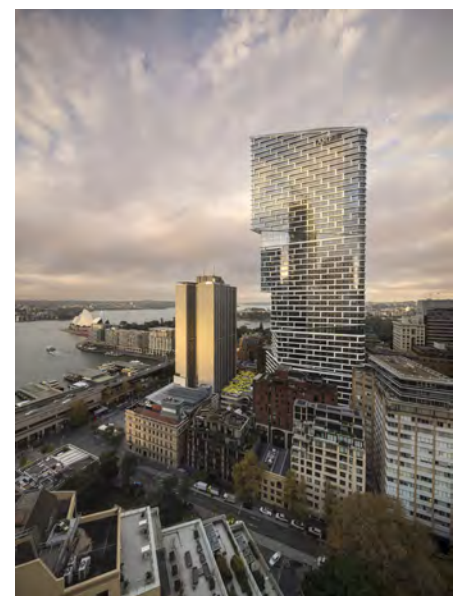
Finally, Leviat supplied Ancon MBT Couplers and MBT Headed anchors to allow the continuity of new reinforcing bars to existing ones, ensuring superior structural integrity while facilitating a predictable and fast build process.

Results

The Quay Quarter Tower construction was the first meeting of several international and domestic partners, and it certainly will not be the last. Throughout, Leviat lived up to its reputation for being insightful and dependable in complex conditions.

Leviat's connected solutions play an ongoing role in the structural integrity of the award-winning development, and the innovative, high-quality features ensured the project was completed on time to the highest possible standards.

Leviat is extremely proud to have been involved with what is now part of Sydney's iconic harbour skyline.



Quay Quarter Tower was awarded 'World Building of the Year' in 2022

Architect: 3XN/BVN

Principal Contractor: Multiplex

Reinforcing Bar Supplier: Active Steel

Photography: Adam Mork



Foundation of Excellence: Shaping Australian Construction



Dr Bryce Mortlock , AO
NATSPEC Founder 1975

'... the level of quality that can be policed in the construction stage cannot be higher than that which is spelt out in the contract. If the building contract documents permit a sow's ear then all the quality control in the world cannot demand a silk purse... True quality control starts with the documentation for a project and in the project specification in particular...'

'... for many years an army of experts has been producing minimum quality standard specifications for reference in a variety of industries, including the building industry, and in regulations relevant to those industries.'

'Nothing could be more necessary, more logical, more timely or more useful in today's building industry or more responsive to the call for quality control than a specification system tied to relevant Australian standards. That is what NATSPEC sets out to be.'

Founded in 1975 by the visionary architect Dr Bryce Mortlock, NATSPEC has revolutionised the way construction specifications are created and implemented across the nation. This reflects Mortlock's pioneering vision and highlights the continued relevance and commitment of NATSPEC in shaping the future of architecture and construction. Dr Bryce Mortlock (1921–2004) stands as a towering figure in the history of Australian architecture, leaving an indelible mark through his innovative designs, rigorous planning, and his foundational role in establishing NATSPEC. His career, characterised by a commitment to modernist principles and a profound dedication to both professional and environmental betterment, has reshaped the architectural landscape and left a legacy in the construction industry.

NATSPEC's Evolution and Impact

Specifications, integral to the construction process, are more crucial as architectural drawings. They function as key legal documents, outlining materials, methods, and standards, and serve as essential references when conflicts arise. The precision and accuracy of these documents are paramount to the success of any construction project, ensuring that all parties involved adhere to agreed-upon standards and requirements.

NATSPEC has played a **pivotal role** in shaping the Australian construction industry through five key areas:

- 1. The National Building Specification:** NATSPEC provides a comprehensive and standardised approach to construction specifications. It offers a systematic method for creating detailed and consistent project documentation. NATSPEC ensures that specifications are up-to-date, comprehensive, clear, accurate, and aligned with industry standards, which is essential for managing complex projects and mitigating risks. By offering a unified framework, the NATSPEC Specification System helps streamline the construction process and maintain high standards of quality.
- 2. NATSPEC Product Partners Program:** This initiative fosters collaboration with manufacturers and suppliers, providing a platform for showcasing products and innovations that meet NATSPEC's rigorous standards. By connecting Product Partners with architects, designers, and specification writers, the Product Partners Program ensures that new technologies and materials are integrated into the specification system, keeping it current and relevant to industry needs.
- 3. The National BIM Portal:** Home to the NATSPEC National BIM Guide and other documents, it is also a repository of documents and tools that assist in the implementation of BIM in the construction industry. NATSPEC supports important Australian BIM initiatives through the National BIM Portal. It acts as a Knowledge Hub for the Australasian BIM Advisory Board (ABAB) and the ACIF-APCC project team integration (PTI) and BIM initiative. It also hosts tools developed by the Sustainable Built Environment National Research Centre (SBEnrc), and includes the Open BIM Object Standard (OBOS) and the NATSPEC BIM Properties Generator.
- 4. AUS-SPEC:** The essential technical resource for the lifecycle management of civil infrastructure assets. As a national local government specification system, AUS-SPEC addresses challenges arising from regulatory and process inconsistencies across jurisdictions. This joint venture between NATSPEC and IPWEA ensures consistent, effective management of infrastructure assets nationwide.
- 5. NATSPEC CPD (Continuing Professional Development):** The CPD program offers training and educational resources to help professionals stay abreast of the latest standards and practices in construction. By providing ongoing professional development opportunities, NATSPEC ensures that architects, designers, and specifiers remain knowledgeable and competent in their fields. This commitment to education supports the growth and advancement of industry professionals and contributes to the overall quality and effectiveness of construction projects. NATSPEC provides over 100 free technical publications including TECHnotes and TECHreports, and supports and participates in CPD initiatives nationally.

NATSPEC's Pivotal Role in Through Five Key Areas

NATSPEC Branded Worksections offer an opportunity for specifiers to maximise their project's potential. Branded Worksections, which are based on corresponding NATSPEC generic worksections, are developed with a manufacturer to include a featured product. They are an essential tool for specifiers looking to ensure high project quality while saving time, money, and stress.

Here are six ways to maximise your project with a Branded Worksection:

- 1. Guidance Text:** All NATSPEC worksections incorporate guidance text. Guidance text clarifies certain elements of specifications by providing information about related worksections, applicable standards, project-specific requirements, and TECHnotes or TECHreports. This allows you to select the most suitable worksections for your project and edit the content appropriately in the worksection template. Branded Worksections have the same guidance text as their generic counterparts, along with extra information relating to the featured product so you can use the product to its fullest potential.
- 2. Risk Mitigation:** Mitigating the risks associated with design and construction is part of working effectively. Specifying with Branded Worksections can help you to reduce these risks. Up-to-date specifications minimise regulatory risks. NATSPEC specifications, including Branded Worksections, are updated twice a year to ensure they align with the NCC, Australian Standards, and other regulations.
- 3. Product Substitution:** Accurate and detailed specifications are crucial for quality project outcomes. Branded Worksections are a reliable tool for specifiers as they highlight the unique performance characteristics of the featured product. This significantly reduces the likelihood of on-site product substitution. For specifiers, this is added assurance that the completed project will align with the planned design, quality, construction timeline, and cost.
- 4. Standards Compliance:** All NATSPEC worksections cite current Australian and international standards for materials and installations. Branded Worksections note where relevant standards apply to the featured product, emphasising compliance and quality.
- 5. Universal Design:** Branded Worksections are a helpful universal design tool as they list all the options and varieties of the featured product. Specifiers can then clearly identify the universal design possibilities and select the appropriate product varieties.
- 6. Quality Assurance:** The combination of all these factors increases overall project quality, which is one of NATSPEC's key objectives: improving the quality and productivity of the built environment through leadership of information.

NATSPEC's influence extends beyond its range of services. Its rigorous standards and peer-reviewed content are synonymous with quality and dependability, and its widespread adoption by over 1,900 consultant offices underscores its significance in the Australian construction industry. The NATSPEC Building Specification has become a critical component in simplifying complex construction projects, enhancing the reputation of those who use its system, and fostering a culture of quality within the industry.

The shift towards standardisation in architecture, which gained momentum in the mid-20th century, was driven by the increasing need for consistency and efficiency in construction practices. Organisations like Standards Australia were instrumental in this evolution, developing and promoting standards that quickly became benchmarks within the industry. Over the years, the standardisation process has continued to evolve, with recent decades seeing an intensified emphasis on detailed documentation and rigorous quality assurance.

Today, quality assurance is the bedrock of maintaining high standards across the construction industry. Compliance with standards like the AS/NZS ISO 9000 series not only ensures consistent quality and adherence to established procedures but also builds trust with clients and stakeholders. This approach guarantees that every phase of the construction process is meticulously managed and audited, reinforcing the reliability and excellence of the final product.

As the construction industry evolves, the importance of specifications will only become more critical. With the increasing complexity of projects and rapid technological advancements, a comprehensive framework for documentation and quality assurance is essential. NATSPEC's dedication to high standards, combined with its adaptability to emerging trends, ensures that it remains a cornerstone of the industry.

Looking ahead to the future of construction in Australia, NATSPEC's unwavering commitment to quality will undoubtedly continue to guide and inspire the industry for generations to come.

Maximise your next project by selecting a Branded Worksection from SPECbuilder. Visit: www.natspec.com.au.



LYSAGHT has a proven track record supplying quality steel roofing, walling, rainwater, fencing, home improvement and structural products. Made from 100% Australian steel, our products are extensively performance-tested, come with a BlueScope warranty, and offer our customers confidence and peace of mind.

Our quality products are only part of our unique offer – our commitment to genuine, helpful customer service, and unmatched technical support and expertise has helped us become the trusted experience in steel. www.lysaght.com



MODDEX is Australasia's leading manufacturer of innovative modular barrier systems for large-scale infrastructure and non-residential construction projects. Our extensive range of pre-engineered, proprietary handrails, balustrade and barriers systems are designed for industrial, commercial and civil applications. All our systems comply with Australian and New Zealand Standards, BCA, NZBC, DDA and WHS regulations.

MODDEX can provide a complete system design, layout and specification service including CAD drawings, detailed scope of works and estimated cost breakdown. www.moddex.com



PALRAM is a world-leading manufacturer of extruded thermoplastic sheets and panel systems. With over 50 years of experience, a large portfolio of products, PALRAM is recognized as a leading brand for quality and service.

PALRAM has grown into an industry leader and multinational conglomerate with branches on six continents. With added focus on advanced technologies, PALRAM offers professionals and users the solutions and support they need for a wide variety of applications. www.palram.com



Established in 1950, Raven Products is an Australian family owned and operated company producing a range of acoustic, fire, smoke, weather and energy sealing systems. Our leading brands comprise RAVEN Door & Window Sealing Systems, CS Cavity Sliders, DTAC tactiles and stair edging solutions.

Raven's door and window sealing systems have become synonymous with quality, value and reliability backed by service excellence, which is why it is the brand that architects, specifiers and builders can rely on. www.raven.com.au



REGUPOL Australia Pty. Ltd. is the Australasian office and distribution network for the REGUPOL sonus acoustic underlays and REGUPOL everroll sustainable flooring product brands. The company has been operating in the region for over 30 years, offering solution-based products and technical services for all kinds of sustainable flooring and soundproofing solution-based projects. The company is conveniently located at Smeaton Grange, NSW and offers the nationwide distribution of REGUPOL sonus and REGUPOL everroll product lines. www.regupol.com.au



Townsville Bulk Sugar Terminal, Townsville, QLD



Large projects often serve as a litmus test for individuals and teams, revealing both their strengths and weaknesses. This is particularly true in endeavours like the reroofing of Townsville's Bulk Sugar Terminal, a massive undertaking involving the replacement of 36,000m² of roof cladding on two 300m long sheds. In addition to the sheer scale of the project other factors to contend with included a considerable roof pitch of 35° and working at heights of up to 27 metres.



Townsville Bulk Sugar Terminal

Requirement

Weather considerations added another layer of complexity, necessitating that work be scheduled outside of Townsville's October to April cyclone season to mitigate risks. Additionally, the project faced time pressures due to the significant reduction in sugar storage capacity on-site during the reroofing process.

The catalyst for the project was the deteriorating substructure in certain areas of the sheds, which required the installation of new purlins and the removal of the existing Galbestos cladding (galvanised iron sheets with a coating of asbestos on each side).

Approach

PERMALITE LT7[®] aluminium cladding was specified to replace the existing cladding, chosen for its suitability to the oceanside environment and availability of a robust warranty. With a thickness of 0.9mm and the ability to be rollformed to required sheet lengths of 14.40 and 13.76 metres, PERMALITE LT7[®] offered a strong yet lightweight solution with anti-corrosion properties essential for the site's conditions. Importantly, it achieved this without the problematic asbestos coating present in the previous material.

The success of the reroofing project was not solely dependent on materials but also on effective collaboration and support from partners like Queensland Industrial Cladding and Lysaght. Throughout the eight-year duration of similar projects in various locations, Lysaght provided invaluable assistance, from advice and material ordering to on-site support.

Efficient logistics were crucial, with

materials like the PERMALITE LT7[®] cladding being rollformed in Sydney and transported over 2,000 kilometres to the jobsite. Despite the logistical challenges, deliveries were achieved within required timeframes, thanks to effective communication and coordination facilitated by Lysaght's customer service.



Townsville Bulk Sugar Terminal construction

In projects of this magnitude, technical assistance and support are essential, especially when unforeseen challenges arise. Lysaght's technical staff played a pivotal role in resolving issues and providing essential information, contributing to the project's success and easing the burden on project managers like James Page.

Results

The PERMALITE[®] range offers a selection of cladding options suitable for various applications, with finishes like mill finish, stucco embossed, and pre-painted colours. For the Townsville Bulk Sugar Terminal project, the choice of colour Gull Grey[™] for the PERMALITE LT7[®] cladding balanced functionality, longevity, and aesthetic appeal.

In conclusion, large-scale projects like the reroofing of Townsville's Bulk Sugar Terminal demand meticulous planning, the right choice of materials, and strong collaboration among stakeholders. When executed effectively, they not only overcome challenges but also showcase the best of human ingenuity and teamwork.

Installer: Queensland Industrial Cladding

Photography: Queensland Industrial Cladding



Townsville Bulk Sugar Terminal construction



Toowong State School, Toowong, QLD



Located in Brisbane's western suburbs, the Toowong State School has been serving the local community for over 140 years. Since moving to its current location in 1910 (it was situated in another part of the suburb prior to that), the school has undergone regular refurbishments and upgrades to its facilities.

One of these upgrades was the construction of a brand new three-storey building in 2021. Designed by Thomson Adsett Architects and built by Kane Construction, the new edifice provides the diverse school with a state-of-the-art learning facility to boost educational outcomes for all students.

Requirements

The new development required a compliant balustrade system to keep students safe in the walkways and stairwells of the building. The balustrade would need to be of at least 1500mm height to provide adequate safety measures, given the height of the building itself.

In addition, the system would have to be flexibly integrated with a number of

existing design features – like louvres – at different points on site, as well as being installed quickly, efficiently, and with minimal fuss.



1500mm High Compliant Balustrade

Approach and Results

Moddex's CB50 and CB10 balustrade systems were perfect for the job. The pre-engineered, modular system was ideal for ensuring compliance, and adapting to the flexibility that the project required.

The architect specified the Moddex systems on their design with the

1500mm height, knowing that Moddex had the capability to put forward a solution that would work. Moddex's solution involved customizing their existing balustrade range to design a semi-custom system that not only met compliance standards but also integrated seamlessly with existing design elements like louvres, stopping and starting seamlessly to maintain full practicality and safety – while adding to the overall aesthetic appeal of the design. By opting for the Moddex system, the architects and builders were assured of a solution that prioritised safety, efficiency, and ease of installation.

Benefits

The architect was able to leverage the benefits of the Moddex BIM library. Created alongside IGS BIM Solutions, the Moddex files have been created to a consistent high standard and provide easy access to detailed design information, including dimensions, configurations, and specifications, allowing the architect to seamlessly integrate the Moddex systems into their project plans. By utilising these BIM files, the architect could streamline their design process, reduce certification and engineering time, and ensure accurate implementation of the chosen balustrade system.

Rather than custom systems which must be welded, craned, and installed onsite, the Moddex system is modular, and arrives in a flatpack; advantageous on sites where space is often at a premium. This also allows the installation to be more flexible, and to be completed quickly – and with the ability to be segmented or slotted around other trades – which makes it a great time-saver for the project overall.

From specification to installation, the Moddex team were on hand, delivering significant expertise to bring the project in on time, and under budget.

Architect: Fulton Trotter Architects
Builder: Kane Construction
Photographer: Kevin Lee Photography



Toowong State School



Sunrise Christian School, Fullarton, SA



Palram Australia, in collaboration with Architect Thomson Rossi, embarked on a transformative project to enhance the facilities at Sunrise Christian School, Fullarton SA, with our state-of-the-art SUNLITE 10mm Twinwall Polycarbonate panels.



Experience the perfect balance of strength and clarity with SUNLITE 10mm Twinwall Polycarbonate

Requirement

Sunrise Christian School, located in Fullarton SA, sought to create an engaging and sustainable educational environment. Seeking to enhance both functionality and aesthetics, the school required a solution that would maximise natural light while providing durability and visual appeal.

Approach

With Palram's diverse range of product solutions on offer in conjunction with our SUNPAL Multicell & SUNGLAZE Solid Sheet Architectural systems, our SUNLITE 10mm Twinwall Polycarbonate emerged as the ideal solution to address Sunrise Christian School's requirements in offering exceptional durability, UV protection, and thermal insulation properties. SUNLITE Polycarbonate provided a sustainable and cost-effective alternative to traditional building materials. Its lightweight nature also facilitated easy installation, minimising construction time and disruption to the school's operations.

Results

The integration of Palram's SUNLITE Polycarbonate at Sunrise Christian School yielded transformative results. SUNLITE Polycarbonate's high light transmission properties flooded the Outdoor Learning Space with natural daylight, creating bright and inviting environments conducive to learning and well-being. The superior thermal insulation of SUNLITE Polycarbonate helped regulate temperatures to create a comfortable environment whilst also providing critical year-round UV protection.

The sleek and modern design of SUNLITE Polycarbonate structures enhanced the aesthetic appeal of Sunrise Christian School's campus,

providing a visually striking backdrop for educational activities and events.

By opting for SUNLITE Polycarbonate, Sunrise Christian School demonstrated its commitment to sustainability, leveraging eco-friendly building materials that minimise environmental impact and promote resource conservation. The revitalised spaces received overwhelmingly positive feedback from students, faculty, and parents alike, fostering a sense of pride and community within the school.



SUNLITE 10mm Twinwall Polycarbonate Facade

Benefits

Palram's team collaborated closely with Architect Thomson Rossi to design and execute a tailored solution. The implementation process involved meticulous planning, precise measurements, and seamless installation to ensure optimal performance and aesthetic appeal. By harnessing the power of natural light and cutting-edge building materials, the school has created dynamic learning spaces that inspire and empower the next generation of leaders and thinkers.

Architect: Thomson Rossi

Builder: Tempo Constructions

Photographs: Supplied by Thomson Rossi

Contractor: Skyworld



Transform your space with SUNLITE 10mm Twinwall Polycarbonate, where durability meets elegance



0429p PALRAM roofing - glazed
0434p PALRAM translucent facade cladding

www.palram.com

Findon Technical College, Findon, SA



Findon Technical College, a pioneering institution in Adelaide, South Australia, aimed to provide state-of-the-art education facilities for students pursuing careers in various industries.



Raven sealing systems provided think tanks with a distraction-free session

Co-located with Findon High School, the college is expected to welcome over 230 students through 2024, offering hands-on learning experiences in fields such as early childhood education, advanced manufacturing, engineering, and health care.

To ensure a conducive learning environment, the college prioritised the implementation of modern infrastructure and equipment.

Requirement

Findon Technical College embarked on a mission to establish a cutting-edge educational facility that not only met, but exceeded industry standards. With a focus on hands-on, project-based learning, the college required robust

door sealing systems to enhance the functionality and comfort of its classrooms, laboratories, and common areas. Additionally, compliance with the NCC and applicable Australian Standards was imperative to ensure the safety and quality of the infrastructure.

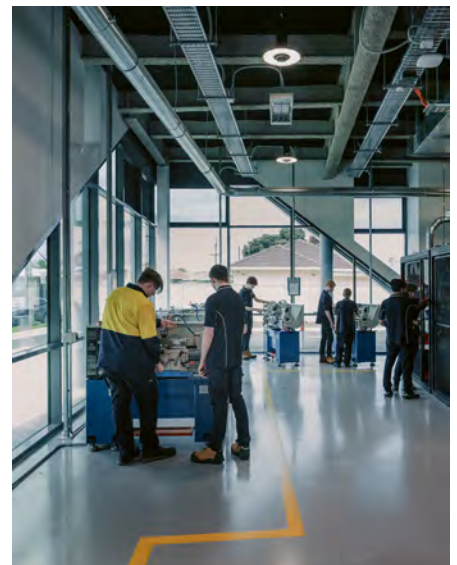
Approach

Raven, a trusted provider of high-quality door sealing systems, partnered with Findon Technical College to address its specific requirements while meeting the requirements set by the National Construction Code (NCC). Leveraging their expertise, Raven recommended a tailored suite of door sealing systems comprising RP10Si for door frame perimeters, RP144Si automatic seal and RP74F brush seal for door bottoms, and RP16Si for door meeting stiles.

Results

Findon Technical College has achieved notable enhancements and regulatory compliance by integrating Raven's door sealing systems into its infrastructure. These improvements encompass various facets. Firstly, through Raven's seals, the college effectively minimised heat loss and air leakage, resulting in optimised energy consumption and reduced utility costs. Additionally, the implementation of Raven door sealing systems has led to improved indoor air quality and acoustic comfort, fostering an environment conducive to learning and collaboration. Moreover, Raven's

durable sealing solutions promise long-lasting performance, reducing maintenance needs and associated expenses in the long term. Lastly, adherence to industry-standard door sealing systems ensured that Findon Technical College met the stringent requirements mandated by the NCC and relevant Australian Standards, underscoring its dedication to safety and quality in educational facilities.



Open plan learning spaces to promote social hands-on project-based learning

Benefits

Raven's partnership with Findon Technical College exemplifies its dedication to supporting educational institutions in creating modern and sustainable learning environments. Through innovative door sealing systems and adherence to regulatory standards, Raven has played a pivotal role in enhancing the functionality, safety, and efficiency of Findon Technical College's infrastructure.

Client: Department of Education SA

Builder: Hindmarsh

Consultants: Brown Falconer

Photography: Bash Dissanayaka



Findon Technical College, exterior



Carey Baptist Grammar School, Kew, VIC



When the Middle School at Carey Baptist Grammar School, Kew, Victoria, decided to build a new Centre for Creativity and Collaboration, they envisioned a place where students and staff could connect, explore, and innovate.



Ascending the steps to success with REGUPOL everroll rubber flooring

Requirement

They wanted a learning environment that was flexible, modern, and inspiring. They also wanted a flooring solution that was durable, sustainable, and beautiful. That's why they chose REGUPOL everroll in the ultimate kush variant, a rubber flooring solution that met all their needs and more.

Approach

REGUPOL everroll is not just a flooring solution; it's a statement of quality and sustainability. It's made from recycled materials, so it's good for the planet. It's homogeneous, so it has no wear layer and lasts longer. It's PVC-free,

so it's safer and healthier. REGUPOL everroll is environmentally evaluated, so refer to our branded worksection; 0651p REGUPOL in resilient finishes to view properties that were used for specifying REGUPOL everroll. It's also available in over 42 distinctive colours, with fragments of colour that blend with other flooring systems and create a unique look.

REGUPOL everroll is also a flooring solution that enhances the user experience. It comes pre-sealed as an option, which makes cleaning easier and faster. It has very good functional properties, which make it ideal for high-traffic areas and physical activities. It's extremely comfortable, which reduces fatigue and improves well-being. It also has acoustic properties, which create a special atmosphere in the new building by reducing noise and enhancing sound quality. The ultimate kush colour matched the school's branding and created a vibrant and inviting space for the students and staff.

Results

The installation at the Centre for Creativity and Collaboration was a huge success. REGUPOL everroll exceeded expectations, providing a secure, comfortable, and aesthetically pleasing surface for the students and staff. REGUPOL everroll transformed

the new building into a hub of creativity and collaboration, where students and staff could learn, grow, and have fun.



A modern REGUPOL everroll hallway where design and functionality converge

Benefits

REGUPOL everroll is a flooring solution that can make any space better. It's a flooring solution that reflects the values and vision of the clients. It's a flooring solution that delivers quality and sustainability. It's a flooring solution that can transform any space into a functional and attractive environment.

Architect: Architectus Group Pty Ltd
Melbourne

Builder: Monaco Hickey

Acoustic Engineer: Stantec Australia



The inspiring Carey Baptist Grammar School (VIC)



0473p REGUPOL acoustic floor underlays
0651p REGUPOL in resilient finishes

www.regupol.com.au



“The Australian Institute of Building Surveyors (AIBS) congratulates NATSPEC on their work to update and publish their National Building Specification.

“Building surveyors gain significant confidence when a project has utilised a National Building Specification published by NATSPEC. In the current environment of product uncertainty and complexity of design, it is reassuring to see a clear and thorough approach to specification of buildings. The benefits of this are a smoother assessment process and greater certainty through inspections. The end result is that building surveyors operating in statutory roles throughout Australia are better able to deliver on their responsibilities to the public and their clients.

“AIBS continues to fully support the National Building Specification from NATSPEC.”

Troy Olds, AIBS President & Director



Known for excellence and quality for over 75 years, Resene meets the high standards of architectural and building industry professionals. Resene manufactures paint and specialist coatings for residential, commercial, and industrial use. Resene’s sophisticated tinting technology enables durable colour options, available in a wide variety of products, to remain true to colour long after application.

www.resene.com.au



Rondo is a market leading manufacturer and supplier of wall and ceiling systems, and complementary accessories.

Rondo is dedicated to providing the systems needed to realise visions effectively and in the most economical way possible, including systems where specific wind pressure, seismic design, or acoustic design is to be accommodated.

Rondo’s commitment to providing market leading solutions, customer service, and high quality products has led it to being behind the best buildings throughout the world. www.rondo.com.au



SOPREMA is an international manufacturer specialising in the production of innovative products for waterproofing, insulation, soundproofing, and vegetated solutions in response to the specific challenges within the construction industry for the roofing, building envelope, underground and civil engineering sectors.

With over 100 years of expertise, SOPREMA has earned its place as a world leader of the waterproofing industry, and the availability of its technical team. www.soprema.com.au



We’re one of Australia’s leading manufacturers and suppliers of roll-formed steel building products – and for good reason. For everything steel roofing, rainwater or structural, you can count on Stramit. We work with clients from specification stages to installation. With our national network, the backing of Fletcher Building, our national network, state-of-the-art R&D facility and rigorous product testing, you can kick off your next project with confidence. When you work with Stramit, you can consider the job done. www.stramit.com.au



Building 360 - Boola Katitjin, Murdoch University, WA



For Rondo, Building 360 – Boola Katitjin, at Murdoch University exemplifies how lightweight steel can seamlessly integrate into what is Western Australia’s largest mass-engineered timber building.



10.8-meter-high internal steel wall framing

Requirement

Nicknamed Noah’s Ark, the long, expansive timber structure designed by Lyons Architects, STH Architects & The Fulcrum Agency, comprises of 16,000m² of space over four floors, creating a modern, sustainable learning ‘warehouse’ that expanded the character of the surrounding bush courtyards and colonnades.

Rondo were tasked with providing

compliant solutions to complex design requirements such as non-standard wall heights, fire-rated ceilings, and the absence of a concrete substrate.

Challenges

A standout design aspect of this unique project is the towering height of internal walls that reached up to 10.8 meters in height. Working with builder Multiplex and Ceiling and Wall Contractors (Aust) Pty Ltd (CWC), Rondo Design Engineers were tasked to produce compliant wall designs that considered wind pressure loads, and FF&E on these non-standard wall heights, with the added challenge of no availability of tie backs.

Internal glazing modules were to be installed on (future proofed) floating floors, which presented challenges due to the absence of a concrete substrate, that would have normally supported the load.

Fire-rated wall and ceiling requirements were also a challenge to provide compliantly for the mass-engineered timber structure.

Approach

Rondo design engineers produced a compliant single span design for the 10.8m high walls. Part of this design success was the incorporation of Rondo MAXIframe 150mm Steel Studs in a back-to-back configuration. The addition of Rondo Noggings was advantageous, stiffening the walls and helping to prevent rotation of the

studs, which was an important factor in preventing uneven board set joints, and speeding up lining installation.

On Levels 2 and 3 of the building, Rondo engineers developed a jamb and sill solution to support loads of the internal glazing modules. Jamb and sill members at floor level were designed and constructed with 92mm MAXI Jamb Studs, and Stud and Track.

To prevent flanking fire in areas like the plant room, a fire two-way ceiling, was achieved with a clever design using Rondo CH Studs, which are part of the Rondo SHAFTWALL System.

The CH Stud design enabled Ceiling and Wall Contractors (Aust) Pty Ltd (CWC) to construct a compliant two-way fire barrier that was built from below, due to the absence of a concrete substrate.

Benefits

MAXIframe can be the perfect swap-out to structural steel in applications such as these. MAXIframe members are stronger than traditional studs meaning they carry extra loads, meeting higher forces. Made of light gauged steel the product is easier to handle, cut and work with.

The rigidity of MAXIframe also make them easier, faster, and safer to install at greater lengths. This eliminates costly and time-consuming requirements for structural steel including material costs, off-site manufacturing, additional tradespeople, and remedial work once on-site.

Building 360 - Boola Katitjin was a fantastic opportunity for Rondo to resolve the design and onsite challenges, and the crucial role of steel in this truly unique timber project.

Architect: Lyons Architects, STH Architects & The Fulcrum Agency

Builder: Multiplex

Contractor: Ceiling and Wall Contractors (Aust) Pty Ltd (CWC)



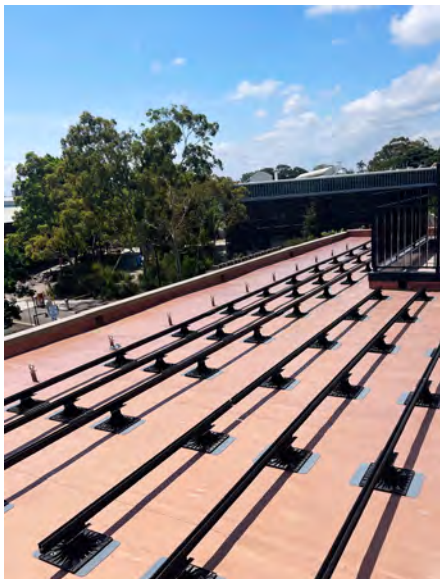
Steel studs integrating with mass timber and glass



6-8 Garden Street, Alexandria, NSW



The project at 6-8 Garden St, Alexandria, NSW, entailed the construction of high-end apartments, where the roof's appearance was of utmost importance. Additionally, a two-level basement, situated in the water table, required a high quality pre-applied fully bonded tanking system. SOPREMA, in collaboration with the main contractor, Donrose, and the architectural firm Nordon Jago Architects, provided comprehensive support from design conceptualisation to construction completion, ensuring a seamless and efficient process.



SOPRASOLAR® Fix Evo Tilt, SOPREMA's solar waterproofing solution for flat roofs without roof penetrations

Requirement and Approach

SOPREMA proposed the implementation of the FLAGON 2mm

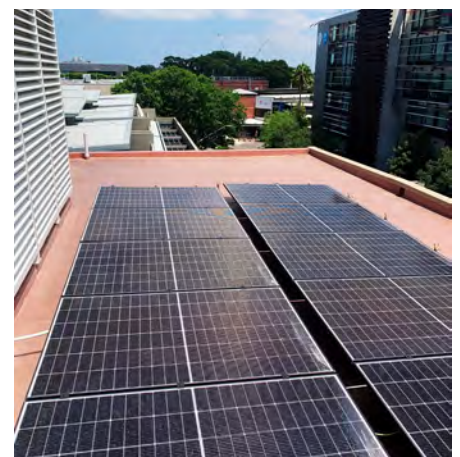
Copper Art PVC insulated roofing system, which not only addressed the functional waterproofing aspects but also offered an aesthetically pleasing copper coloured solution. The use of SOPRAVAP'R vapour control layer served a dual function, acting as both a VCL and providing temporary waterproofing during installation. Additionally, the project incorporated a 80mm SOPRA-ISO PIR insulation board to achieve an impressive R-value of R4.00. This provided the client with a roofing system that is both waterproof and thermally efficient, eliminating the risk of condensation problems.

SOPREMA also supplied our COLPHENE BSW pre-applied fully bonded tanking system for the basement under slab and walls. This system comprises a high-performance modified SBS bitumen membrane that is 4mm thick, ensuring the durability and longevity performance characteristic of SOPREMA's waterproofing systems. Unlike other systems that utilise tapes or glues, the COLPHENE BSW laps are welded on-site, showcasing a fully sealed joint with a visible bitumen bleed.

To enhance the project's sustainability, SOPREMA integrated the SOPRASOLAR FIX EVO TILT solar support pedestal onto the roof. This non-penetrating solution for the installation of solar panels aligned with the project's environmental objectives and provided an innovative approach to sustainable energy solution without compromising the waterproofing

system of the roof.

The installation was carried out by SOPREMA's approved installer, Superseal Protective Coatings (SPC), whose outstanding workmanship ensured the seamless integration of the insulated waterproofing systems and solar support components. The collaborative effort between SOPREMA, Donrose, and SPC resulted in a high-quality, aesthetically pleasing roofing solution that met the client's exacting standards.



Completed FLAGON Copper Art insulated PVC single-ply roofing system

Results

The client expressed delight in SOPREMA's copper-coloured PVC membrane, which not only met functional requirements but also enhanced the aesthetic appeal of the project. Additionally, SOPREMA's offer of a 20-year manufacturer's warranty underscored confidence in the longevity and durability of the roofing system, providing the client with peace of mind for the future.

The 4-8 Garden St, Alexandria, NSW project stands as a testament to the successful collaboration between SOPREMA, Nordon Jago Architects, Donrose, and SPC, resulting in the delivery of a high-quality, aesthetically pleasing roofing solution that met the client's requirements and contributed to the sustainability of the building.

Photography: Supplied by Soprema



External view of 6-8 Garden Street



Asics Head Office, Marsden Park, NSW



The ASICS Oceania Head Office in Marsden Park, NSW, is a state-of-the-art facility spanning an impressive 57,000 square meters. This landmark project stands testament to modern commercial architecture which is made into a reality through advancements in building materials.

Designed by a collaborative team including Reid Campbell, SBA, Siren Design, and London-based WDC Design, and constructed by Richard Crookes and Renascent, the warehouse showcases two key Stramit products: Speed Deck Ultra® concealed fixed roofing and Monoclad® walling.

valued for its excellent spanning ability and water-carrying capacity.

Approach

The project integrates multiple sustainability measures, such as energy-smart metering and stormwater quality improvement. The choice of



Asics Head Office, ariel view situated in Marsden Park, NSW



Stramit Speed Deck Ultra® roofing and Monoclad® walling seamlessly working together

The facility is a functional working ecosystem, optimised, multi-purpose and includes 24,960 sqm warehouse and distribution centre; 4,000 sqm office space featuring conferencing facilities, a gymnasium, and an internal Japanese-inspired garden; 1,500 sqm retail factory outlet and 4,500 sqm private multi-use sports playing field.

Requirement

For Stramit, the highlight of the project was the warehouse and distribution centre, which required innovative building solutions to meet the client's project vision.

100% Australian manufactured steel roofing and wall sheeting are roll-formed using COLORBOND® steel. Stramit's Speed Deck Ultra® and Monoclad® used over long spans not only improve structural fortitude and are efficient to install but execute a quality finished appeal. Outstanding feature highlights include Speed Deck Ultra® with exceptional wind load resistance, water carrying capacity at very low slopes, and ease of installation; and Monoclad®,

steel roofing and wall cladding with water-efficient features underscores this commitment to sustainability.

The Stramit products used in this project are available in a variety of COLORBOND® steel finishes. For the Asics Head Office, the preferred choice was COLORBOND® steel Monument®, a deep, empowering grey that exudes confidence, strength, and sophistication.

Results

By combining innovative design, sustainable materials, and a commitment to quality, the Asics Head Office in Marsden Park, NSW, is a landmark project that exemplifies the best of Australian commercial construction.

Architect: SBA Architects

Builder: Richard Crookes Constructions

Structural Engineer: Rodrigo Vargas
Architectural Photography



Stramit Monoclad® walling in COLORBOND® steel Monument®



0311p STRAMIT Condeck in concrete formwork 0341p STRAMIT purlins and girts in structural steelwork
0423p STRAMIT roofing – profiled sheet metal 0431p STRAMIT in cladding – combined

www.stramit.com.au



Stratco is one of the largest producers of building products in Australia with manufacturing facilities in every State and Territory.

Established in 1948 Stratco has been at the forefront of product development through Industry Engagement, Research & Development, Engineering, and Certified Testing.

Stratco Architectural Solutions will continue to offer quality service, innovative products, and push the boundaries of what is achievable in Commercial and Residential construction.
www.stratco.com.au



Tactile Systems is a leading provider of high-quality products and services in the building industry and public sector. With a strong track record since 1999, we have established ourselves as a trusted name in the industry. Our commitment to delivering products that meet Australian Standards, the National Construction Code, and other relevant regulations ensures that our clients receive top-notch solutions and a one-stop solution for their project requirements.

www.tactilesystems.com.au



Taubmans is a proud PPG Architectural coatings brand in Australia. Your local Taubmans team supports the industry with high quality performance paint and colour support for residential and commercial projects.

PPG works every day to develop and deliver the coatings that customers have trusted for more than 135 years. PPG makes coatings which support high specification requirements in the architectural space as well as high performance industries like automotive, aerospace, industrial, packaging and more.

www.taubmans.com.au



For 30 years, the TERMIMESH SYSTEM has come with unreserved guarantees for product efficacy in construction projects. TERMIMESH protects buildings as well as the reputations of architects and builders. TERMIMESH were the first to issue a warranty of substance covering workmanship, materials and consequential termite damage and continue doing so.

Only the TERMIMESH Pledge Guarantee delivers the first 10 years of protection without compulsory annual termite inspections and with the opportunity for indefinite ongoing extensions.

www.termimesh.com.au



TermShield are Australian termite specialists with extensive experience in installing physical termite management systems for residential, commercial and industrial buildings. As an Australian owned and operated company, we pride ourselves on providing a friendly, personalised and professional service for all our clients. Our expert team is trained and skilled in stainless steel physical termite management systems. TermShield is CodeMark certified and is backed by TermShield's industry first 60 Year \$1,000,000 Diamond Warranty. <https://termshield.com.au/>



Clayton Church Homes - Summerhill, Uraidla, SA



CCH Summerhill is a state-of-the-art senior living facility located in the picturesque township of Uraidla, Adelaide Hills. Founded on the principles of small house design and conceived as a village on the hill the building connects 4 houses around a main street with a palette of external materials and natural light.

rainwater goods, sheds, patios and fences ensuring a single supplier could offer this whole of project solution.

Approach

Stratco was approached to provide a comprehensive range of products tailored to meet the specific needs of the CCH Summerhill project. The

throughout the project.

Benefits

The benefit of working with a leading manufacturer of roll formed and pre-engineered structures ensures a high-quality build, integrity of design and speed of supply.

Pre-fabricated trusses were designed and engineered with speed of install and clash detection at the forefront, all trusses were assembled at Stratco X1.

Maximus 33 was the chosen roofing profile for strength, performance, and aesthetics. With a sense of scale in mind, the large corrugation remains defined despite covering expansive roof areas, thanks to the 33mm high end corrugation.

Providing useable outdoor space was front and centre with Stratco's Freestanding Open Slat roof patio designed to give the residents a place to connect while outside. Sheds are custom designed and custom engineered to satisfy site requirements.

Ultimately, this project demonstrates a high level of respect for people, culture and community. For Stratco this project demonstrates our capabilities to offer a Whole of Project solution and our willingness to work with a Project Team to achieve high level results.

Stratco were pleased to play a part in bringing CCH Summerhill to life along with the dedicated Project Team.

Architect: Brown Falconer

Client: Clayton Church Homes

Builder: Kennett Constructions

Structural Steel Installer: Gant & Sons

Framing/Trusses Installer: Hilton Construction

Roofing Installer: SA Construct



Prefabricated roof trusses assembled offsite at Stratco X1 for precise and efficient installation

Brown Falconer worked with CCH to provide a facility that gave residents functional and attractive resident rooms, dementia care units planned for best practice, and carefully designed lifestyle spaces with shared community places and environmental considerations at its core.

Requirement

Blending a large commercial building within a quiet Adelaide Hills community required complementary finishes and profiles to ensure the village on the hill was sympathetic to its surroundings. A Whole of Project supply partner offering solutions, products, engineering, and design support was critical as the building required significant customisation due to location and design.

Stratco have the largest range of lightweight steel framing, trusses, structural purlin, roofing profiles,

lightweight framing and prefabricated trusses, made from 90mm TRUECORE® Steel, were supplied for structural integrity and efficiency in installation. Stratco also provided 2400 lineal metres of 150 C and 200Z structural purlins with bridging connections for robust structural support. For the roofing, Stratco supplied 2000m² of Maximus 33 corrugated profile COLORBOND® in Gull Grey and an additional 1000m² of Superdek profile in the same finish, ensuring both strength and aesthetic appeal. The rainwater goods, including Continuous Metal Fascia and Smoothline Eaves gutters in COLORBOND® Ebony, were installed to manage water flow effectively. Custom gable sheds were designed for bore water and cold water plant rooms, while the freestanding open slat roof patio provided a comfortable outdoor space for residents. Stratco worked closely with the builder to maintain a seamless schedule and clear communication



Final stage construction featuring Stratco Whole of Project solutions; Maximus 33 Roofing, Gutters, Fascia, Sheds, and Patios



0423p STRATCO roofing - profiled sheet metal
0436p STRATCO cladding - profiled sheet metal

www.stratco.com.au

Zupp Property Commercial Development, Ormeau, QLD



Leading construction company specialising in commercial and industrial developments. Known for delivering high-quality, state-of-the-art facilities, DeLuca needed to ensure that their Zupp Property project met rigorous

tailored to the client's needs. Our approach began with an in-depth site assessment to identify specific requirements and challenges. We then developed a detailed plan to install the necessary safety and compliance

with each installation phase and line marking carefully scheduled to align with the broader construction timeline. We prioritised worker safety by using specialised equipment and procedures to minimise silica dust exposure. Pre-installation site measurements, the use of specialised tools and materials, and rigorous quality checks ensured compliance with all relevant standards.

Outcomes

The project was completed on schedule and within budget, meeting all the client's objectives. The installations and precise line marking significantly improved the safety, compliance, and functionality of the site, ensuring the development adhered to Australian standards.



Compliance reached with Tactile Systems installed on the kerb ramp at dusk

safety and compliance standards. For this development, they required the installation of Tactile Indicators, Stair Nosing, Concrete Wheel stops, Cast-In Bollards, Bike Racks, Road Signs, Height Bars, and Line Marking.

features, ensuring all products were correctly positioned and securely installed. The line marking was designed to enhance the site's overall functionality and safety.



Aerial view of the commercial project at sunset

Challenges

The Zupp Property site posed several challenges, particularly the need to meet Australian safety and compliance standards. Key concerns included pedestrian safety, vehicle management, and ensuring clear traffic guidance throughout the site. Additionally, the project demanded strict adherence to tight timelines, requiring precise coordination and execution to avoid any delays in the construction schedule.

Solutions

To meet the client's needs, we installed Tactile Indicators to improve accessibility for visually impaired individuals and applied Stair Nosing on all staircases to enhance safety and comply with relevant standards. Concrete Wheel stops were strategically positioned in parking areas to protect both vehicles and infrastructure, while Cast-In Bollards were installed to safeguard pedestrian areas and manage vehicle traffic effectively. We also set up Bike Racks to provide secure and convenient bicycle parking and erected Road Signs to ensure clear and effective traffic management. Height Bars were installed at entry points to restrict over-height vehicle access, and the entire site was completed with precise Line Marking to clearly define parking bays, pedestrian walkways, and traffic flow, ensuring optimal safety and guidance.

Benefits

The long-term benefits for DeLuca Corporation include a site that is safe, compliant, and well-prepared for future use. The installations and line marking provided by Tactile Systems will continue to serve the property, ensuring ongoing safety and satisfaction for all users.

The Zupp Property Commercial Development project underscores Tactile Systems' ability to deliver high-quality, compliant solutions within tight timelines. We look forward to continuing our partnership with DeLuca Corporation on future developments, offering reliable and professional service every step of the way.



The main entrance protected by Tactile Systems

Approach

Tactile Systems was tasked with delivering a comprehensive solution

Process

Our team worked closely with DeLuca Corporation to ensure smooth project execution. The process involved meticulous planning and coordination,

Architect: Design Inc – Director: Grant Hinds

Client: DeLuca Corporation

Photographer: Marty Pouwelse Photography



Sunshine Coast City Hall, Maroochydore, QLD

TAUBMANS

Located in the heart of Maroochydore, The Sunshine Coast City Hall is an iconic space designed for community engagement. The vision of this new building was to create something modern that is accessible and welcoming to all people within the community. The area is very versatile, being used for a wide range of community events, ceremonies, and workshops. A key focus of this build was to achieve a 5 star 'Green Star' accreditation; therefore, the paint job was led by Taubmans who champion ecofriendly initiatives and are continuously working towards reducing their environmental footprint.

The Problem

The main challenge of this project was achieving the builder's objective to have a Green Star rating for the site.

A competitor's products were originally listed on the specification; however, the project team requested Taubmans to be used as they could better meet the projects requirements.

Requirements

Low VOC: This project was chasing a Green Star accreditation; therefore, sustainability was a key consideration when sourcing coatings. Low VOC materials translates to low odour and reduced environmental impact which contributed to the 5 star result.

Durability: Located in the Sunshine Coast, this building is exposed to

extreme weather conditions. The coatings chosen for this project need to be durable, to endure high heat and humidity without any fading or cracking.



Exterior areas used Taubmans All Weather and Armawall

Approach

The project specification was promptly switched to Taubmans after understanding Taubmans offer products with reduced environmental impact, relative to competitors.

To achieve a Green Star rating on this project, Taubmans implemented a unique recycling plan. The process involved removing all paint drums from the site, transporting them to a Taubmans store and organising a green company to collect them. The drums were then recycled into diesel.

Benefits

Painting the Sunshine Coast City Hall aimed to both beautify and protect this impressive new building. Given its location, a durable exterior was essential to guard against UV damage. Taubmans' Advanced Nanoguard

Technology provided a highly washable surface, effectively resisting dirt and stains. Moreover, the chosen Taubmans paint boasts very low VOC and low odour, ensuring a safe and comfortable environment. The inclusion of Microban technology offers protection against mould and bacteria growth, keeping the painted surfaces cleaner and fresher for longer. Collectively, these features enhance the longevity, cleanliness, and overall appeal of the Sunshine Coast City Hall.

Results

The Sunshine Coast City Hall has been carefully designed to boost motivation, creativity, and engagement within the community. The exterior utilises dark, organically shaped materials to imitate the Glass House Mountains and create a warm aesthetic. In contrast, the interior mainly consists of light-toned neutral walls, curved timber columns, and an abundance of circular shapes. Most rooms utilise the natural light and bright colours to stimulate collaboration amongst teams. The build also employs a biophilic design. Native flora from the region decorates each balcony which has been proven to increase relaxation, improve mental health and aid cognitive function.

Overall, this versatile space has produced numerous benefits for the community of Maroochydore as it caters to all demographics and can be utilised for a range of activities and events. It's 5 Star rating from Green Building Council Australia was an outstanding achievement that heavily relied upon Taubmans' ecofriendly product range and the project's innovative recycling initiative.

Outstandingly, McNab was Awarded the coveted 'Professional Certification Group Project of the Year Award' as well as 'Commercial/Industrial Building over \$50 million Award' for the construction of this iconic project.

Builder: McNab Builders

Architect: Cottee Parker Architects

Painter: Universal Coatings

Photography: Willem-Dirk du Toit



Interior areas used Taubmans Pure Performance



Queensland Government Satellite Hospital Program, South East, QLD



Commissioned by Queensland Health to meet the growing demand for healthcare services in southeast Queensland, a series of seven satellite hospitals have been approved for construction as part of the Queensland Satellite Hospital Program which is part of the \$11 billion investment by the Government directed at infrastructure projects.



Completed Redlands Satellite Hospital with Termimesh System installed - Image supplied by Hutchison Builders

Designed to alleviate patient volumes at larger hospitals, each hospital delivers a variety of minor injury and illness clinics, medical imaging and diagnostic services and referral-based outpatient services to accommodate individual catchment area requirements.

Consultation on the specification and the installation of Termimesh by our Queensland Service Centre network extended to hospital sites located in Bribie Island, Caboolture, Eight Mile Plains, Kallangur, Redland Bay, Ripley and Tugun. The project commenced in 2022 and is expected to be completed in 2024 with over 350 new hospital beds becoming available.

Requirement

For this critical infrastructure project, architects Conrad Gargett outlined a NATSPEC Branded Worksection for termite management, with Termimesh TMA725 woven stainless steel barrier mesh selected to provide termite protection to concrete slab joints, service penetrations and other concealed access points found throughout all building works.

Installation of Termimesh ensures compliance with the Australian Standard for Termite Management (AS 3660.1) and delivers an uncompromising

poison-free termite management solution, which is the prime reason that Termimesh becomes specified on many critical government infrastructure projects throughout Australia.

Approach

Construction plans provided by Hutchinson Builders were precisely marked up to accommodate the unique configuration of medical services on each satellite hospital site. Our team of experienced estimators provided an accurate estimate of the quantity surveying requirements of Termimesh, Termiflanges and Termiparge required for each hospital. As per specification requirements, the Termimesh System was fitted to all cold joints, construction joints, perimeters, service and conduit penetrations, piers, and steel posts.

In total, certified Termimesh technicians collectively installed over 400 m² of the highest grade termite barrier stainless steel mesh available in Australia to the perimeter of all sites and provided protection to over 520 cold joints and 770 construction joints.



Pre-installation of Termimesh along a construction joint before concrete slab pour

To prevent concealed termite entry through expansion gaps arising from singular and clustered service and conduit penetrations, over 1,500 Termiflange termite mesh collars were cut, secured and embedded into concrete ground slabs.

Termiflange termite mesh collars were also installed and embedded around a clustered set of horizontal

penetrations exiting from an electrical pit. The attributes of stainless steel mesh ensures termite protection for this application was not compromised by the weight of the concrete slab pour or the curing process.



Vertical installation of Termiflange termite mesh collars on horizontal penetrations in an electrical pit

Results

Working closely with construction teams, our technicians installed Termimesh across all project sites, delivering confidence that each satellite hospital is now protected from concealed termite entry for its entire practical life.

The necessity of a chemical-free environment to keep hospital patients and staff safe made Termimesh an obvious choice for this project.

Acting as a physical barrier against termite entry, the Termimesh System eliminates the requirement for poisonous and obnoxious chemicals and any subsequent chemical reapplications to maintain termite protection.

Architect: Conrad Gargett and Fulton Trotter Architects

Builder: Hutchinson Builders

Photography: Supplied by Hutchinson Builders and Termimesh



HOLD POINTS AND WITNESS POINTS

INTRODUCTION

Hold points and *Witness points* are construction stages which may need additional inspection, verification and documentation to make sure of:

- The safety of the personnel, environment and the public, before proceeding.
- The technical quality and any legal requirements have been satisfied.
- The next stage in the construction process can be completed.

Verification measures will vary with the specification method. For performance specifying, verification involves testing. For specifying by reference, verification is to a standard, or through third-party certification to that standard. Verification procedures are documented in the specification Inspection and test plan designated as *Hold points* and *Witness points*.

HOLD POINT

A *Hold point* is a mandatory verification point beyond which a work process cannot proceed without authorisation by the contract administrator. *Hold points* are usually assigned to those critical aspects of the work that cannot be inspected or corrected at a later stage because they will no longer be accessible. The relevant work cannot proceed until the contract administrator is able to verify the quality of the completed work and releases the *Hold point*.

Hold points can be nominated by:

- The principal, in the contract documents.
- The contract administrator, with a Non-conformance or Corrective action report.

Use *Hold points* sparingly as each potentially affects project duration and cost.

WITNESS POINT

A *Witness point* is an identified point in the work process where the contract administrator may review, witness, inspect or undertake tests on any component, method or process of works. The contractor is required to notify the contract administrator who may or may not take the opportunity. The subsequent activity however, may proceed.

CONTRACTOR'S ROLE

The contractor is responsible for satisfying the documented contract requirements and planning, developing and maintaining a system assuring the detection of non-conformances and control of their resolution. The issue of a Non-conformance report or a Notice of non-conformance automatically creates a *Hold point*.

AUS-SPEC APPROACH

AUS-SPEC is a specification system for the life-cycle management of assets. In AUS-SPEC *Templates*, *Hold points* are part of:

- *0136 General requirements (Construction)*, *0161 Quality management (Construction)* and *0167 Integrated management worksections*. The Quality plan for the works incorporates checklists, inspections, testing and documentation to make sure that the works comply with the contract documents. *Hold points* and *Witness Points* should be included in the checklists. Examples of submissions include a quality plan or soil compaction test results for a prepared sub-base.
- The summary of *Hold points* and *Witness points* in the annexure of each construction worksection provides a checklist for programming sequential activities and communication obligations.
- A Maintenance management plan combines the requirements of the Technical specifications, Quality manual and the Quality plan, for assuring quality in construction projects. The Maintenance management plan covers policy, organisation, selected procedures, maintenance planning and Activity specifications for maintenance activities. The Activity specifications form the core of the document and include the nominated *Hold points*, e.g. test results confirming compliance of materials like asphalt or requirements of the work order for the proposed maintenance work.

AUS-SPEC TECHguides provide further guidance on the use of *Hold points* and *Witness points* for the AUS-SPEC specifications.

NATSPEC APPROACH

NATSPEC *Templates* do not nominate *Hold points* in *Normal* style text. The **INSPECTION** clause in individual worksections includes *Guidance* text for nominating *Hold points* where they may be appropriate for inclusion in a project specification, e.g. inspecting formwork and reinforcement prior to placement of concrete.

NATSPEC *Templates* use **INSPECTIONS**, **Notice** in lieu of *Witness points*. TECHnote GEN 014 provides more information on submissions and testing.

AUS-SPEC definitions:

Hold point: A mandatory verification position in the contract beyond which work cannot proceed without designated authorisation.

Witness point: A nominated position, in the different stages of the Contract, where the option of attendance may be exercised by the Superintendent, after notification of the requirement.

Non-conformance report (NCR):

A mandatory (standard format) submission by the contractor that details the non-conforming work and the contractor's proposed disposition of the non-conformance.

Notice of non-conformance (NNC):

Formal instruction to the contractor of product non-conformance to documented requirements. It automatically creates a *Hold Point* and requires a non-conformance report (NCR) from the contractor.

Corrective action request (CAR):

A formal advice/instruction to the contractor requesting action to eliminate the cause of a detected nonconformity.

Disposition (of non-conformity):

A remedial action to be taken concerning material, components or product about which a decision has been made. The resolution of a non-conformance. (This should not be confused with Corrective Action.)

NATSPEC definitions:

Hold point: The activity cannot proceed without the approval of the contract administrator.

NATSPEC defines **Hold points** in *Optional* style text in *0171 General requirements* worksection along with *Guidance* text on minimising Contract administrator intervention of this kind to *accord with principles of quality assurance and risk allocation*.

Contract administrator: Has the same meaning as 'architect', 'superintendent' or 'principal's authorised person' and is the person appointed by the 'owner' or 'principal' under the contract.

Relevant documents

0136 General requirements (Construction) (AUS-SPEC)

0161 Quality management (Construction) (AUS-SPEC)

0167 Integrated management (AUS-SPEC)

0171 General requirements

AUS-SPEC TECHguides

TECHnote GEN 014 *Submissions and testing*

Austrroads AGPD03/22 Guide to project delivery – Part 3 Contract management.

Austrroads AGPD05/18 Guide to project delivery – Part 5 Road construction quality assurance.

James Cook University, Engineering & Innovation Place, Townsville, QLD



The new James Cook University, Engineering & Innovation Place, located in Townsville, QLD, is a hub of cutting-edge research and development, dedicated to fostering innovation in engineering and related fields. The construction of this state-of-the-art facility presented an opportunity to implement sustainable building practices while ensuring long-term protection against termite infestation.



Construction joint protection around pre-formed square pier

Requirement

The client, JCU sought a termite management solution that aligned with their commitment to sustainability and environmental responsibility. This building needed to meet LEED Gold standard and target WELL rating. Additionally, they required a solution that would provide effective termite

protection with minimal ongoing maintenance costs and warranted long term protection of the structure.

Approach

The use of the Termshield system provided a sustainable and highly effective termite barrier solution. Termshield is a pesticide-free alternative that offers long-lasting protection against termite intrusion while minimising environmental impact. Our approach involved collaborating closely with the project team to integrate Termshield seamlessly into the building design and construction process.



Upstand and construction joint protection incorporating a pre-cast circular pier

Results

The implementation of Termshield stainless steel mesh at Engineering & Innovation Place yielded outstanding results at a practical level. The building has been safeguarded against termite infestation, providing peace of mind to stakeholders and occupants alike. By utilising Termshield, the project team avoided the need for ongoing pesticide treatments, reducing environmental

risks and ensuring a healthier indoor environment for building occupants. Both LEED Gold certification and WELL targets were met in part using sustainable materials and focussing on the removal of toxins.

Benefits

The client benefited from our work in several ways.

Firstly, Termshield's sustainable and pesticide-free nature aligned perfectly with the client's commitment to environmental responsibility, contributing to the overall sustainability of the building.

By achieving LEED Gold certification and WELL targets these buildings are healthier for the occupants and more sustainable for the building owners.

Secondly, the long-lasting protection provided by Termshield, coupled with its minimal maintenance requirements, resulted in cost savings over the lifespan of the building. Additionally, Termshield's seamless integration into the building design preserved the structural and architectural aesthetics while ensuring effective termite protection.

In conclusion, the implementation of Termshield stainless steel mesh at James Cook University Engineering & Innovation Place exemplifies a successful integration of sustainable building practices and effective termite management.

By choosing Termshield, the client achieved their goal of ensuring long-term protection against termites while upholding their commitment to sustainability and environmental stewardship.

Design Consultants: Richard Kirk Architect Pty Ltd with i4architecture & Charles Wright Architects

Builder: Besix Watpac Constructions Pty Ltd

Photographs: JJ Maher Pest Management



James Cook University Townsville Engineering and Innovation Place



PRODUCT SPECIFYING AND SUBSTITUTION

PROPRIETARY SPECIFYING

In NATSPEC, proprietary means *identifiable by naming the manufacturer, supplier, installer, trade name, brand name, catalogue or reference number.*

GENERIC SPECIFYING

The aim of the specification writer in customising NATSPEC for a project is to describe performance as follows:

- Measurable outcomes in terms of:
 - Conformity to a standard.
 - Product tolerance.
 - Construction tolerance.
 - Delivery and energy use.
 - Durability.
 - Compatibility with existing systems.
- Comparable outcomes in terms of:
 - Colour and texture.
 - A benchmark description.

Evaluation criteria include:

- Type tests.
- Evidence of conformity to a standard by a Accredited Testing Laboratory or JASANZ accredited certification body.

SUBMISSIONS

NATSPEC has provisions for specifying particular requirements for submissions. Provision is also made for specifying time and program constraints for submissions. The subclause relating to information submissions for building products under *0171 General requirements*, SUBMISSIONS AND INSPECTIONS, **SUBMISSIONS** is:

Project requirements

Products and materials: Products and materials data, including manufacturer's technical specifications and drawings, product data sheets, type tests results, evidence of conformity to documented requirements, product certification, performance and rating tables, service connection requirements and installation and maintenance recommendations.

NATSPEC POLICY ON SUBSTITUTIONS

In order to maintain the contractor's contractual responsibility regarding supply, NATSPEC allows for substitution within *0171 General requirements*. The following italicised text is an extract from PRODUCTS AND MATERIALS, **SUBSTITUTIONS**:

General

Identified proprietary items: Identification of a proprietary item does not necessarily imply exclusive preference for the identified item but indicates the necessary properties of the item.

Alternatives: If alternatives to the documented products, methods or systems are proposed, submit sufficient information to permit evaluation of the proposed alternatives, including the following:

- Product, method or system identification.
- Product data sheets.
- Manufacturer's contact details.
- Detailed comparison between the properties of the documented product and proposed substitution.

- *Details of manufacturer and/or installer warranty.*
 - *Statement of NCC compliance, if applicable.*
 - *Evidence of conformity to a cited standard or code of practice.*
 - *Evidence that the performance is at least equal to that specified.*
 - *Samples.*
 - *Essential technical information, in English.*
 - *Comparison between the products in relation to assembly method, finishes, installation methods and any protection/packaging.*
 - *Reasons for the proposed substitutions.*
 - *Statement of the extent of revisions to the contract documents.*
 - *Statement of the extent of revisions to the construction program.*
 - *Statement of cost implications including costs outside the contract.*
 - *Statement of consequent alterations to other parts of the works.*
 - *Statement of consequent maintenance conditions of warranty.*
- Availability: If the documented products or systems are unavailable within the time constraints of the construction program, submit evidence.*

Criteria: If the substitution is for any reason other than unavailability, submit evidence that the substitution:

- *Is of net enhanced value to the principal.*
- *Is consistent with the contract documents and is as effective as the identified item, detail or method.*

Optional style text

Costs: Pay the cost of submissions and of evaluations and tests of proposed alternatives, whether subsequently adopted or not. The costs will be calculated at the current charge-out rates of the relevant consultant(s).

ACUMEN ADVICE ON SUBSTITUTIONS AND VARIATIONS

An architect administering the contract should be aware that:

- *A substitution may be contrary to the owner's requirements. When the owner signs a contract with the contractor, the materials described in the specification are a requirement under that contract and the substitution of materials without approval may be a breach of the contract and any applicable warranties.*
- *If the contractor substitutes materials without approval, the owner is entitled to give notice to the contractor that the specified materials must be installed, or in the alternative, the owner may claim damages for the substitution because without approval by the owner the contractor may be in breach of the contract.*

(Italicised text is an extract from **Substitutions** in acumen.architecture.com.au, the Australian Institute of Architects' practice advisory subscription service.)

NATSPEC PRODUCT PARTNERS



A NATSPEC Product Partner is a building product manufacturer with an agreement with NATSPEC to include a purpose edited worksection in NATSPEC.

A NATSPEC branded worksection is a technical worksection produced in NATSPEC format in conjunction with a Product Partner. Branded worksections provide specifiers with an alternative to the generic worksection where a particular product has been selected at the design stage.

The research prior to the selection of a product or system is filtered, to eliminate inappropriate choices. The requirements of the client, regulators, standards, and the designer all affect whether the selection is presented as a generic or a proprietary item. The NATSPEC worksections facilitate the recording of both types.

All manufacturers are acutely aware of the problem of substitution by the contractor. It is being exacerbated by the lure of cheap and sometimes fake imports. Consultants are also affected as they spend considerable time and effort selecting a product, finish or electrical/mechanical system as part of their design responsibilities.

Relevant worksection

0171 General requirements

Related TECHnotes

GEN 014 Submissions and testing



“Standards Australia endeavours to shape a safer and efficient Australia, cementing our role within the building and construction sector. Sharing the same values as NATSPEC, Standards Australia are proud to be key partners. The ongoing quality and productivity focus with the beneficiaries of a safer community being Australians.”

Emma Harrington, Chief Executive Officer, Standards Australia



GETZNER was the first company in the world to effectively solve vibration engineering challenges using polyurethane materials. Headquartered in Austria, GETZNER, has been developing polyurethane-based solutions for the isolation of undesirable vibrations and noise for over 50 years. Its Sylomer, Sylo-dyn, Sylo-damp and Iso-top products were developed and manufactured at GETZNER’S own facility. They are used in the construction and industry sectors to reduce vibrations and noise to create a higher standard of living. www.vibrationsolutions.com.au

Wattyl - Solutions for every project.



Wattyl has been at the forefront of surface coating technology since 1915. With a comprehensive range of market-leading ultra-premium paints, lacquers, varnishes and specialised coatings, Wattyl’s iconic brands include Wattyl Solagard, Interior Design, Estapol and Killrust. Wattyl is owned by Valspar, a global leader in quality paint and coatings solution. With detailed architect and specifier support services, Wattyl covers everything inside and outside, from residential to large-scale commercial projects. www.wattyl.com.au



White, Main Beach, QLD



A luxurious haven perfectly situated to embrace the beauty of the Gold Coast. The attention to detail in both its architecture and interior design creates an atmosphere of refined elegance, while still capturing the essence of coastal living.

incredible views of the coastline and the Gold Coast Hinterland.

Approach

The balanced design of wood and stone finishes pair effortlessly with the spacious and airy interiors of Wattyl Vivid White in each full-floor apartment



White Main Beach Living Area

Requirement

The emphasis on expansive views and spacious living areas ensures resident can fully immerse themselves in the breathtaking surroundings and with only one apartment per floor, privacy and exclusivity are guaranteed, elevating the experience of luxury living even further. Each level of White, Main Beach has been designed to optimise the

and Wattyl Granosite in Wattyl Solagard Vivid White creating a stark exterior.

Results

The grandeur of White, Main Beach with its double storey foyer and stunning ocean vistas, paints a vivid picture of an unparalleled lifestyle offering a residential sanctuary where one can truly unwind and appreciate the beauty of coastal living.



White, Main Beach

Architect: Russell Grady from WMK

Developer: White and Partners

Builder: McNab

Interior Design: Renee Popovic of WMK

Paint Contractor: Ushers and Sons



White Exterior Pool



“The Australian Institute of Building is proud to support the work of NATSPEC.”



“The Product Partner Case Study Magazine is another useful guide which provides examples of a Product Partner and subscriber’s capacity and credibility. It also adequately addresses the necessity of high-quality construction specifications. The magazine increases exposure of manufacturers who have achieved high-quality projects which add value to the built environment. We congratulate NATSPEC for sharing such a valuable resource with the industry. This type of initiative when utilised by designers and constructors to achieve a universal quality of material selection will assist in creating Building Confidence for end consumers.”

Scott Reid, National President, AIB

“It’s incredibly important to manage processes, it’s incredibly important to manage information: to know what information is correct, what information is out of date, and what is the current information. NATSPEC is very important because it is a common language and what it does is, it creates a whole specification database for the elements we’re proposing to build. Essentially, working through NATSPEC provides you with a full gamut of opportunities that you can potentially face, so it acts as an aide-mémoire as well as working through the documentation.”



David Sutherland, Fender Katsalidis Architects

“An architectural practice should have, amongst other things, three fundamental project control documents: its Integrated Management Manual, the National Construction Code and NATSPEC.”



Tony Kemeny, Gran Associates

“...Hence, the courts and others often look to the specification in particular to determine the message conveyed by the contract documents to those who work with them.”

Acumen, Australian Institute of Architects

“Using good design documentation, you protect your reputation, you reduce defects, you produce high quality, you reduce costs, and most importantly, you deliver on time. And without good documentation you can’t achieve these objectives.

“Clearly defined quality requirements reduce construction cost blowouts that result in re-work, redesign, variations and disputes. Good quality construction increases asset value due to longer asset life.”

Mario Macri, Lendlease



SPECIFYING QUALITY

INTRODUCTION

Communicating the requirements for quality is the main technical function of the specification. This TECHnote outlines how the NATSPEC specification system may be used to promote quality in construction projects.

DEFINING QUALITY

Quality must be defined; it cannot be managed if it is not defined. Quality can have different meanings for different people in different situations. In construction this problem is amplified because the responsibility for a project is divided between many different people, within many organisations. Therefore, agreement on a defined quality level between all parties, and how it is to be measured, is key to achieving the desired quality to the satisfaction of the principal.

QUALITY LEVEL

Several factors drive the desired quality level of a project and its components; the main factor being anticipated life. It would be a false economy to poorly construct something which must last for many years or over-design something which may only be required to last a number of weeks.

Other factors that influence the desired quality level include:

- The purpose of the building - Prestige or utility, flexibility or permanence.
- Required functional performance - Design repetition or one-offs, environmental.
- User perception - Convenience, comfort, ease of maintenance and repair.

WHEN CAN QUALITY BE ACHIEVED?

There is a common misconception that the quality of a project can be completely controlled during the construction stage. However, the level of quality that can be demanded during construction cannot be higher than that which is specified in the contract documentation, without additional cost.

The quality of a project is therefore dependent on documentation and supervision. The contract documentation includes the conditions of contract, the specification, the drawings and the schedules.

To achieve quality, care must be taken in material selection, documentation, workmanship and supervision. This does not necessarily increase time and cost, however these factors must be considered and balanced when defining the quality level required. Failure to take care may lead to poor quality and increased costs with greater rework, repair and maintenance required.

ROLE OF THE SPECIFICATION

Whilst the specification is a multi-purpose document, its primary role is to define precisely and succinctly the quality required and the processes necessary for achieving it. This also includes, but is not limited to, defining clear acceptance criteria for any item of work.

If specified acceptance criteria match the agreed defined quality level, then ultimately, conformance with the specification will achieve quality.

USING NATSPEC TO ACHIEVE QUALITY

The NATSPEC worksection *Templates* include the construction processes required for each particular item of work and also define clear industry standard acceptance criteria in the form of tolerances, performance requirements and testing and certification requirements. All can be modified if necessary, to suit the defined quality levels agreed for each individual project and its components.

NATSPEC promotes the achievement of quality through coordination of the contract documents. Guidance text discourages duplication of information included on the drawings or within the specification, to avoid potential discrepancies and ambiguity. Duplication of information within the specification is minimised by reference to relevant worksections.

NATSPEC references and monitors updates to relevant Australian and International standards, including those cited within the NCC. Where standards define alternative levels of service, NATSPEC provides prompts to be completed by the specifier. It is essential that the specification defines the requirement, as blanket references to standards may not achieve the desired quality.

NATSPEC and AUS-SPEC also cover the requirements for project Quality Management Systems based on AS/NZS ISO 9001 and the provision of project Quality Plans in the **Relevant worksections** listed in the sidebar.



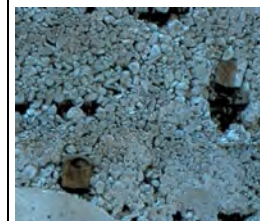
Poor quality timber construction – Split base-plate used.



“...If the building contract documents permit a sow’s ear then all the quality control in the world cannot demand a silk purse.....”



Inspection to confirm quality level achieved.



Poor quality concrete – Honeycombing and timber.

Relevant worksections

- 0010 Quality requirements for design (AUS-SPEC).
- 0121 Tendering
- 0160 Quality.
- 0161 Quality management (Construction) (AUS-SPEC).
- 0162 Quality (Supply) (AUS-SPEC).
- 0163 Quality (Delivery) (AUS-SPEC).

Advantages of using a NATSPEC Product Partner Branded Worksection

The following excerpts from subscriber case studies offer valuable insights into the benefits of using branded worksections. Subscribers emphasise how branded worksections ensure accurate and up-to-date product specifications, reducing errors and ensuring compliance with industry standards, including Australian Standards (AS) and the National Code of Construction (NCC). Additionally, they highlight the ease of customisation and streamlined processes, which help achieve high-quality project outcomes.

BVN

“Certain elements of the project were specified using supplier-specific specifications generated efficiently by using NATSPEC’s Product Partner specifications. Minor adjustments are easy as these specification worksections fit easily into the project format”.
(Case Study Magazine 2018) **BVN Architects**

GRAY PUKSAND

“Having dedicated resources to maintain, update and disseminate this information can be challenging. NATSPEC dramatically reduces the risk of missing important updates to standards and manufacturer specific updates. For some time now, The Victorian School Building Authority have had a dedicated ‘VSBA’ branded version of NATSPEC, which Principal Design Consultants must use as the basis for Project Specifications”. (Case Study Magazine 2021) **Gray Puksand**

HUNT ARCHITECTS

“Extensive integration of branded worksections within the base trade specifications have allowed us to utilise the most recent up to date product information to match the selections of the designed building. The branded information has proven invaluable to ensure compliance and selection of the correct information to ensure discrepancies and differing information across the contract documents is minimised and eliminated”. (Case Study Magazine 2021) **Hunt Architects**

JPW

“NATSPEC promotes collaboration through the sharing of information between suppliers and designers. Where it was required in worksections, supplier specific information and stakeholder input during the design development stages of the project was incorporated. This was further developed using benchmarks and standards to succinctly communicate to all the expected quality of the project”. (Case Study Magazine 2021) **Johnson Pilton Walker**

KENT LYON ARCHITECT

“Kent Lyon Architect was able to access, download and rely on the most up to date worksections, including Product Partner worksections ensuring that the products available meet current Australian Standards (AS) and the National Code of Construction (NCC). Risks were reduced with the product specifications being constantly updated according to the industry standard. Since establishment of our practice in 1996, we have found NATSPEC to be a reliable resource with its specific worksections that are customisable according to the specific project requirements”.
(Case Study Magazine 2018) **Kent Lyon Architect**

mgs

“Writing an architectural specification for contract documentation requires precise and accurate description of the products, execution methods and procedures. With NATSPEC, MGS were able to access and download all of the latest and up to date information on specific products available in the construction industry and ensure that the products meet Australian Standards (AS) and National Code of Construction (NCC) via the live website”. (Case Study Magazine 2016) **MGS Architects**

silver thomas hanley ARCHITECTURE

“NATSPEC is a comprehensive classification system and an indispensable architectural design and documentation tool. The system provides a foundation of information, which is reflective of current industry standards, as well as Product Partner worksections featuring current products. These worksections clearly outline product performance and characteristics, allowing us as specifiers to assess which products are best suited and meet the requirements of the NCC”.
(Case Study Magazine 2019) **Silver Thomas Hanley**

spowers

“At The Regent, we were able to assess comfort and thermal requirements and use the NATSPEC branded worksections to specify insulation and flooring underlay that would suit the needs of users and authorities. We selected powder coating and roofing that would perform at industry best practice levels whilst contributing positively to the overall aesthetics of the building. Our office has been using NATSPEC for many years now. In fact, it is even easier than ever with the inbuilt formatting of the document templates, resulting in a well organised, user friendly and professional document”.
(Case Study Magazine 2019) **Spowers Architects**



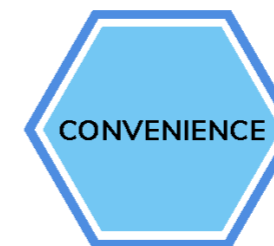
Branded Worksections are developed in conjunction with NATSPEC Product Partners. Product performance characteristics are correctly documented to minimise substitution.

Branded Worksections are part of NATSPEC, the National Building Specification. NATSPEC has been trusted by designers, consultants and contractors since 1975.



Like all NATSPEC specifications, Branded Worksections are updated every April and October. They align with current regulations, standards and industry practices.

Branded Worksections are up to 90% pre-edited, reducing time and risk. Minimise editing time by selecting options and adding project-specific information.



Branded Worksections are easy to add to your project specification in NATSPEC's online specification compilation software SPECbuilder.

Branded Worksections help to deliver projects on time and on budget. NATSPEC creates economies of scale to save specifiers time and money.



“Specifiers are assured that Branded Worksections show conformance with the appropriate standards referenced by NATSPEC.”

Alphington Primary School Modernisation, Alphington, VIC

BCBA Studio

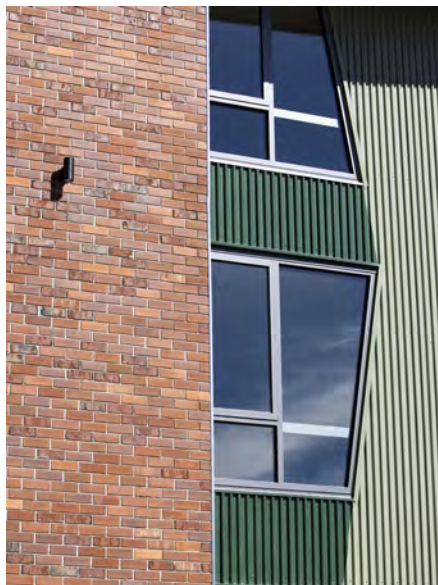
What was unique about the project?

This exciting project saw the need to increase enrollment numbers at the much-loved Alphington Primary School from 500 students to a 700-student capacity, to accommodate the population growth in the suburb. This was particularly challenging as the school is on a constrained site, in a built up but predominantly low-scale urban setting. To add to the complexity, the Department of Education wanted to ensure that there was no net loss of open play space, given that the school was already under-endowed with playground area prior to the expansion. This posed a challenge.

A bright and airy new vertical learning building of three levels was designed, with a minimal site footprint, to make room for the incoming students. The efficiency of the building is such that the upper level is not excessively higher than the ridge of the early 20th Century original school building's roof. The design sits well in its context, with a colour palette that draws on the eucalyptus and other greens of native vegetation and the rich materiality of glazed and unglazed brickwork.

The interior of the classrooms is designed around the concepts of 'campfires' and 'caves', providing a range of enclosed and open spaces that suit different types of self-directed

and directed learning, with centralised breakout areas. The palette of materials in the interior is warm and inviting to students, who have taken to the new accommodation with enthusiasm.

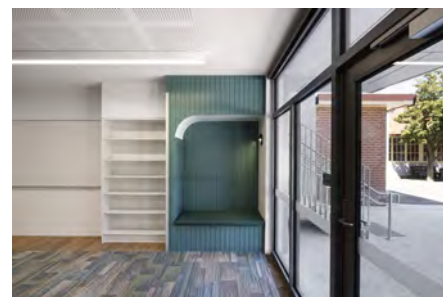


Detail view of facade design

A favourable tender saw the expansion of the base scope of the build to include the replacement of the tired school administration wing, combined with library spaces and staff areas on the upper level above a greatly improved school reception and entry. Finally, a new competition grade gymnasium adds additional amenity to the site, ready for shared community and school use around the clock.

What were the advantages of using the NATSPEC system?

The NATSPEC system utilised for Victorian School Building Authority projects greatly simplifies the specification process. A standardised specification and clearly articulated methodology across VSBA projects means that tenderers know exactly what they are responding to, and the streamlined format saves a huge amount of time in documentation. Assessment of received tenders is also made more straightforward due to the consistency in the specification format. Trustworthy development to the public and restore customer confidence and trust back to the building and construction sector as a whole.



Classroom interior showing 'cave' for quiet learning

What are the lessons learnt from the project that you are prepared to share with other designers?

We learnt - and resoundingly demonstrated - that a well specified and well coordinated set of documents can result in a favourable and highly competitive tender result across all bidders, even in the midst of the COVID crisis with its impact on supply chains and tender prices.

Builder: Plan Group
Structural & civil: CREO Consultants
Services engineering & vertical transportation, mech, elec: Fryda Dorne & Associates
Hydraulics & wet fire: Cortese Consultants
Building surveyor: SWA Consultants
Fire engineer: Intuitive Consulting
Energy & Part J: Energylab
Photography: © Dianna Snape Photographer



New vertical learning building



GETTING HELP

INTRODUCTION

This TECHnote summarises the various ways that NATSPEC provides help to specification writers.

NATSPEC Guidance

NATSPEC worksections include extensive *Guidance* text with suggestions on filling in prompts, alternatives, and background material. *Guidance* is in Microsoft Word hidden text format which can be turned on or off, and appears like this:

NATSPEC does not recommend the use of Scope of Works clauses. If you wish to include such a general description you may add it here, or in the corresponding location of selected worksections.

If you work with an office master, you may find it convenient to add your own guidance notes using NATSPEC's hidden text styles.

See NTN GEN 029 for more on design and specification *Guidance* text.

NATSPEC Optional style text

Some worksections include *Optional style text in this font (blue with a grey background)* that covers items specified less frequently. It is also a Microsoft Word hidden text format which can be incorporated into *Normal* style text, where it is applicable to a project, by highlighting the text and changing the style and format.

NATsource

NATsource lists more than 1200 documents cited in the specification packages. Use it to check document titles, currency, content and publishers. Access *NATsource* via SPECbuilder/Resources/Standards Info. Changes to cited standards are summarised in *SPECnotes*, a quarterly newsletter for subscribers.

NATSPEC TECHnotes, TECHreports and AUS-SPEC TECHguides

TECHnotes provide guidance of a more general nature that either relates to several worksections, or does not fit into the normal worksection structure, TECHreports provide more detailed information on specification issues and TECHguides provide guidance on compiling contract documentation for local government projects.

All these documents continue to be developed and updated. The latest versions are available in the Technical Resources area of the NATSPEC website or via the Resources link in SPECbuilder.

NATSPEC Website

See www.natspec.com.au. NATSPEC's website has a range of material including:

- Details of NATSPEC specification packages, including abstracts of worksections.
- A link to SPECbuilder and Domestic Online.
- A link to NATSPEC Class 2 Reference Specification.
- Links to Product Partners' websites arranged by worksection.
- Information on publications relating to specification writing.
- Answers to frequently asked questions (FAQs) on specification writing, purchasing NATSPEC, getting started with NATSPEC and word processing.

NATSPEC BIM Portal

The BIM Portal is home to the *NATSPEC National BIM Guide* and related documents. It also includes resources and tools to assist the implementation of BIM in the construction industry. To go to the BIM Portal, click on the *NATSPEC BIM* logo on the NATSPEC website.

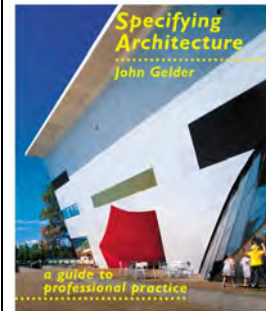
NATSPEC Training

NATSPEC provides training in specification writing-related subjects.

For details of monthly *Getting started with NATSPEC* webinars and annual training courses in venues around Australia see www.natspec.com.au.

Videos of previous courses are also available on the website. Subscribers are notified of upcoming training courses.

Relevant Publications



Specifying Architecture - a guide to professional practice

NATSPEC assistance

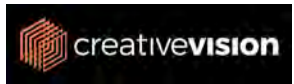
NATSPEC does not provide a design or specification service but we can assist with specification writing techniques and dealing with problems using SPECbuilder and NATSPEC in Microsoft Word.

If you have problems finding what you want, feel free to contact us directly.

CONTACT INFORMATION

NATSPEC
Level 4
263 Clarence Street
SYDNEY NSW 2000
Australia
PHONE 1300 797 142
FAX 1300 797 143
EMAIL
mail@natspec.com.au
WEB
www.natspec.com.au

The Atrium, Blacktown, NSW



What was unique about the project?

What distinguishes The Atrium project is its purposeful design and one of a kind amenities, crafted to meet the specific needs of Blacktown, New South Wales' most populous city. Designed for future urban living, this seven-storey residential building covers a gross floor area of 15,320m², boasting 82 apartments and 19 NDIS units. With two basement levels and a trafficable rooftop featuring outdoor Gym and landscaped gardens and a kids playground, it also offers residents a communal space tailored for modern urban living.



View internal from Ground floor looking up through the Atrium space looking up to the sky, giving the building its name

In collaboration with Dencon Construction and IDA Design Group, Creative Vision effectively translated complex requirements into reality, ensuring that the project resonated with the growing city's needs and aspirations. Our ICIRT 4-gold star rating, not only serves as a testament to our excellence in project management but also amplifies our commitment to creating projects that are safe, reliable, and of the highest building quality. This certification, along with our ISO accreditations underlines our dedication to maintaining rigorous safety, implementation and facilitation of an integrated management system and quality benchmarks, playing a crucial

role in strengthening consumer trust.

What were the advantages of using the NATSPEC system?

Incorporating the NATSPEC system into our detailed scope of works and project-specific requirements for The Atrium project offered multiple advantages that significantly enhanced the development's quality and efficiency. NATSPEC's standardised framework ensured that all project specifications, testing, sampling, and delivery of works were consistent with national standards and codes. This minimised misunderstandings and facilitated clear communication between consultants, subcontractors, and suppliers. The standardisation ensured seamless collaboration throughout the project's lifecycle, covering the five core building elements:

1. Structure
2. Waterproofing
3. Fire Safety systems
4. Key Essential Services (Base Building)
5. Building Enclosure

Quality assurance was another key advantage. Our detailed Inspection and Test Plans (ITPs) aligned with NATSPEC guidelines, ensuring high-quality construction practices that minimised errors, deviations, and non-compliances. This facilitated regulatory compliance with the DBP and RAB Acts, reducing costly delays and non-compliance issues. The system's comprehensive documentation streamlined project planning and procurement, allowing us to focus on essential details without reinventing specifications. NATSPEC also provided the flexibility to customise project-specific requirements, maintaining consistency while adapting to the unique needs of the development. NATSPEC's regular updates ensured The Atrium project benefited from the latest standards and industry practices, ensuring compliance and relevance in the future. This allowed our team to deliver a Trustworthy development to the public and restore customer confidence and trust back to the

building and construction sector as a whole.



Showcasing the external private courtyards of the lower ground floor units

What are the lessons learnt from the project that you are prepared to share with other designers?

Managing The Atrium taught us a valuable lesson: effective communication and collaboration are non-negotiable in any construction project. Serving as the core link between all project stakeholders, we learned firsthand how transparent communication streamlines decision-making in ensuring project success. Leveraging our proven reverse engineering strategy, we meticulously ensured that every stakeholder was aligned with a unified vision, which promoted seamless collaboration. This method allowed us to tackle challenges, adapt to unforeseen circumstances, and maintain project momentum. By efficiently orchestrating coordinated efforts among builders, architects, consultants, and all other contractors and project stakeholders we navigated the project's complexities with agility and precision. The collaborative effort of one dedicated team, guided by integrity and best practices, proved instrumental in achieving our shared vision of an excellent project that exceeds industry standards.

Builder/Developer: Dencon Constructions

Architect: IDA Design Group

Project Manager: Creative Vision

Photography: Dencon Constructions



BRANDED vs GENERIC WORKSECTIONS

BRANDED OR GENERIC?

The foundation unit of the NATSPEC specification system is the worksection. NATSPEC worksections are selected and customised by the specifier to produce a project specification. In some instances, the specifier can choose between a generic worksection and a branded worksection when compiling the specification. This TECHnote defines the alternatives and outlines their advantages.

BRANDED WORKSECTION	GENERIC WORKSECTION
<p>Definition A NATSPEC branded worksection is developed by NATSPEC in conjunction with the manufacturer, known as a NATSPEC Product Partner. It is a MS Word document <i>Template</i> which follows NATSPEC style and format and can be customised by the specifier.</p>	<p>Definition A NATSPEC generic worksection is a MS Word document. It is a comprehensive <i>Template</i> which the specifier must customise by completing prompts, adding relevant material and deleting material which is not applicable to the particular project.</p>
<p>Classification Each branded worksection is based on the associated NATSPEC generic worksection and shares the same classification number.</p>	<p>Classification NATSPEC worksections are classified and sequenced in a logical order corresponding to common Australian construction industry sequence.</p>
<p>Advantages</p> <ul style="list-style-type: none"> • Provides an alternative to a generic worksection where a particular product has been selected at the design stage. Associated generic material not manufactured by the Product Partner is still provided. • Minimal customising required as the <i>Template</i> has been approximately 90% pre-edited in conjunction with the Product Partner. • Current product information is readily available and accessible via hyperlinks between the <i>Template</i> and the Product Partner's website reducing research time and facilitating early decision making. • The possibility of product substitution by the contractor may be reduced as the unique performance characteristics of the product are clearly specified. 	<p>Advantages</p> <ul style="list-style-type: none"> • Provides comprehensive coverage of a particular work area. • Adaptable for open proprietary specification where more than one brand or model number is acceptable. • Adaptable for closed proprietary specification where a branded worksection is unavailable. • Useful where the inclusion of brand names is not permitted. • The <i>Template</i> can be modified to create a new worksection where a NATSPEC worksection is not available.

Regulations, standards, client and designer requirements will all have some influence on whether a generic or branded worksection is appropriate.

SUBSTITUTION

Manufacturers are aware of the problem of substitution by the contractor. To maintain the contractor's contractual responsibility regarding supply, NATSPEC allows for substitution. However, text in the *0171 General requirements* worksection requires the contractor to provide the contract administrator with the appropriate technical information to make an informed decision regarding the proposed substitution. See related TECHnote *GEN 006 Product specifying and substitution*.

Worksection Structure

Each worksection is divided into:

GENERAL - applies to the worksection as a whole and includes cross referencing, standards, interpretation, tolerances, submissions and inspections.

PRODUCTS - describes the basic materials, components and fabricated items.

EXECUTION - sets out the construction performance criteria to prepare the substrate, assemble materials to produce an installation and carry out the works.

SELECTIONS - contains schedules that refer to the selection of proprietary products or to generic products by their properties.



Open specifications, such as descriptive, performance or reference specifications, can be satisfied by more than one product. An open proprietary specification is where there is more than one acceptable brand or model number.

Closed specifications can be satisfied by only one product. A single brand or model number may be nominated. However, some specifications which seem open are actually closed as only one product on the market will satisfy the criteria specified.

Related TECHnotes

NATSPEC TECHnote *GEN 006 Product specifying and substitution* sets out the difference between proprietary and generic specifying, and explains the policy and means of managing contract variations related to requests for substitution.

Related Worksection

0171 General requirements

Youth 2 Independence, nipaluna/Hobart, lutruwita TAS

LIMINAL
ARCHITECTURE

What was unique about the project?

The Youth 2 Independence Campbell Street project (Y2I) reimagines social housing for young adults. At its core, Y2I provides accommodation for youths at risk of homelessness, interwoven with a youth hub, social activities and life-long learning opportunities.



The modular form responds to individual expression within a greater whole. An elevated 3-point basketball court encourages social engagement

Rising five stories above an underused concrete podium covering two levels of an existing carpark, Y2I reclaims wasted urban space and transforms it into a vibrant, activated contribution to the city. Embraced by the warmth of the custom LIMINAL-Orange perforated screening, the housing hub presents a city 'marker' within the urban precinct.

From rooftop social areas and edible gardens to an elevated, open-air 3-point basketball court encouraging active living and cohesion, Y2I fosters a sense of belonging and empowers residents to form sustainable independence.

Homes Tasmania, and service provider Anglicare, consider Y2I an innovative example of social housing, demonstrating a progressive approach that fosters independence through supportive networks.

What were the advantages of using the NATSPEC system?

LIMINAL worked with Dulux to expand the Duratec Intensity colour range to reflect the design intent and tailored the NATSPEC Dulux Branded Worksection to capture LIMINAL-Orange.

Dulux Construction Solutions produced options consistent with the technical properties of the Duratec Intensity range and suitable for a perforated aluminium mesh façade application, specific to the local environmental conditions. Adapting the NATSPEC Dulux Branded Worksection ensured the preparation, application and finish matched the approved prototype. LIMINAL worked within the minimum quantity constraints to ensure the process was viable with minimal subsequent wastage, in turn influencing design, procurement and construction.

Following prototyping and refinement, LIMINAL-Orange was applied to the perforated aluminium veil that cloaks the precast enclosure.

What are the lessons learnt from the project that you are prepared to share with other designers?

Reclaiming an underutilised site and providing a life-changing social program, Y2I restores coherence to the urban fabric and provides much needed housing density with social enterprise and life-long learning an integrated component of the housing model.

Expressed housing modules heighten individuality within the composition and the translucent skin adds vibrancy, abstracting the orange hues of the contextual masonry heritage palette, while offering shading and privacy for the building's occupants. The existing palette overlaid with colour psychology, led LIMINAL to create an orange that represents optimism, warmth and rejuvenation. In collaboration with Dulux, LIMINAL-Orange was developed - a new blood-red orange powdercoat, to resonate with the residents' aspirations and vibrancy.

The tight budget, site constraints, a complex client brief and changed conditions post-Covid required effective and seamless collaboration with the project team to foster clever outcomes and to provide a unique approach to common, utilitarian materials.

The contextual impact of the LIMINAL-Orange powdercoated façade has resulted in an urban beacon. The process has strengthened LIMINAL's collaborative relationship with Dulux and allowed continued use of LIMINAL-orange in future applications.

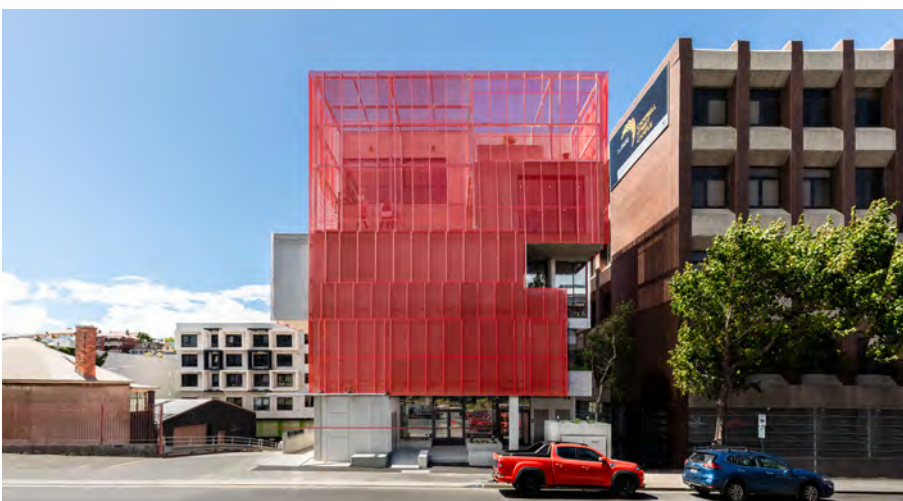
Architect: LIMINAL Architecture

Interior Architect: LIMINAL Spaces with Maher Design

Documentation: LIMINAL Architecture with Taut Architects

Builder: VOS Construction and Joinery

Photographer: Natasha Mulhall Photography



The LIMINAL-Orange powdercoated façade to the Y2I housing hub celebrates independence, vibrancy and identity



NATSPEC'S USE OF STANDARDS

QUALITY AND STANDARDS

'... the level of quality that can be policed in the construction stage cannot be higher than that which is spelt out in the contract. If the building contract documents permit a sow's ear, then all the quality control in the world cannot demand a silk purse ... True quality control starts with the documentation for a project and in the project specification in particular ...'

'... for many years an army of experts has been producing minimum quality standard specifications for reference in a variety of industries, including the building industry, and in regulations relevant to those industries.'

'Nothing could be more necessary, more logical, more timely or more useful in today's building industry or more responsive to the call for quality control than a specification system tied to relevant Australian standards. That is what NATSPEC sets out to be.'

NATSPEC AND AUSTRALIAN STANDARDS

'The NATSPEC method of using relevant published standards is to incorporate them by reference and not to quote, transcribe, repeat or paraphrase the text of the standards. To do so would not only interfere with copyrights but would also breed errors of transcription. It would also increase the physical size of NATSPEC and its derivative specifications, unnecessarily.'

'NATSPEC deliberately avoids blanket referencing of standards, the system by which specifiers expect contractors to allow for every conceivable and inconceivable standard in the world.'

'NATSPEC provides a checklist of possible relevant standards. It also provides a means of exercising options contained in standards. It also allows for manufacturer's recommendations to be referenced or 'called-up' in the same way as standards. NATSPEC recognizes the need for care in the specifying of standards.'

- Bryce Mortlock, RAIA Practice Division Report, August, 1989.

STANDARDS IN NATSPEC

NATSPEC continues to incorporate standards by reference to the standard's designation, number and year of publication. Where there are options in standards and decisions to be made, NATSPEC provides prompts and guidance. NATSPEC, with research and feedback from subscribers and industry, fills gaps that the consensus approach can leave out of standards.

NATSOURCE

The publication NATsource includes all NATSPEC cited standards, and their abstracts. It is provided to subscribers as part of their package and also available for purchase.

STANDARDS TO OWN

The following should be considered:

- Design standards cited in the NCC and other regulations, with which you are legally bound to comply.
- Design standards that relate to your discipline and project type.
- Standards and handbooks that relate to construction.
- Lists of suggested standards for the offices of architects, landscape architects, structural, mechanical, hydraulic and electrical engineers provided in the paper *Specification Writing* on the NATSPEC website, under Suggested Standards for offices.

Whether the owning of a standard should be regarded as essential is a matter of professional judgement. Standards relating only to product manufacture or type testing may be considered non-essential provided compliance can be demonstrated by other means, such as certificates of compliance and labelling schemes.

KEEPING STANDARDS CURRENT

- Every three months, NATSPEC lists the most important of these standards in SPECnotes, which is available on SPECbuilder.
- Standards are updated every six months, preceding the April and October specification updates. Standards cited as older versions in the BCA are retained, with additional guidance on the newer version for the specifier.
- Every six months, in April and October, NATSPEC issues updated specification material to its subscribers via USB and SPECbuilder.

Some National and International standards cited by NATSPEC



Australian Standards.



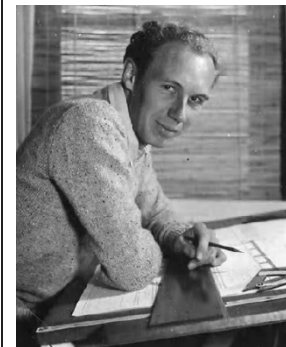
British Standards Institution.



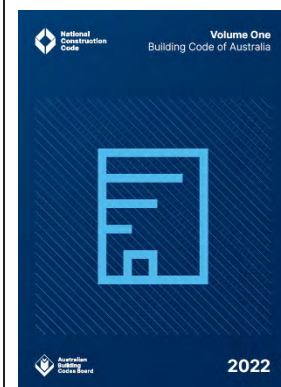
American Society for Testing and Materials.



International Organization for Standardization.



Bryce Mortlock - Father of NATSPEC, RAIA Gold Medallist.



Relevant Websites

NCC

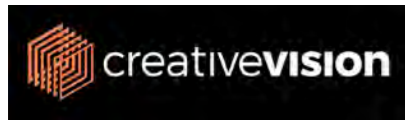
www.abcb.gov.au/

Acts and regulations

www.austlii.edu.au/

Standards Australia

www.standards.org.au/



Creative Vision's Blueprint for Construction Excellence!



David Kamel - Director - Creative Vision

1. How does Creative Vision prioritise and maintain quality standards throughout the construction process?

As part of our company Governance, systems and process, Creative Vision prioritises and maintains quality standards throughout the entire project life cycle from the development of Initiation briefs & PPR development with the client, to developing consultancy and sub-contractor scope of works during procurement phase and finally head contractor and sub-contractor scope of works capturing construction delivery requirements.

Quality Assurance commences well before the design coordination and construction stage, it is most vital in the procurement phase, no matter what stage the project is in (From DA, CC through to Construction).

Creative Vision applies this through the development of detailed project specific requirements for all consultants/subcontractors/head contractors/Suppliers, depending on the project phase. Using NATSPEC as the basis or benchmark for all work, from design to construction.

Creative Vision ensures that proper documentation and referencing are implemented from project commencement to project completion. NATSPEC, being one of our key reference documents serves as a guiding resource and provides relevant details to the stakeholders on the specifications that meet the industry standards. By adhering with the specifications outlined in NATSPEC, the quality is maintained at every stage of the construction process.

We ensure the tender documents, and the subsequent contracts include all current code requirements into the agreed scope. This includes AS, NCC, NATSPEC, DBP & RAB Act requirements and all 6 pillars of reforms ensuring we capture the 5 key building elements of any build specifically Class 2 and Class 3 type construction such as:

- Fire safety systems
- Waterproofing
- Structural issues such as load bearing, foundations, footings, floors, walls or roof
- Building enclosure such as external cladding and façade
- Key services such as plumbing, electrical and lifts

The internal QA and IMS system created and used by Creative Vision ensures we convert on what we say when it comes to the 6 pillars of construction and building industry reforms set out by the NSW Building Commissioner & NSW Building Commission Office such as:

- Building Better Procurement Methods
- Building the reputation of quality research
- Building skills and capabilities
- Building a better regulatory framework
- Building a rating system
- Building a digital future

2. Can you share any specific strategies or initiatives Creative Vision employs to ensure that construction projects consistently meet or exceed quality benchmarks?

As early as the project initiation stage, it is essential to establish clear guidelines regarding adherence to the standard codes and specifications. Creative Vision ensures to highlight these in the project documentations provided to the stakeholders. The Project Specific Requirements, Principal's Project Requirements, and the Pre-Qualification Schedule within project documentation clearly state the need to adhere to codes and specifications, including NATSPEC. This ensures that all parties involved understand their responsibilities in maintaining industry standards and helps prevent any deviations that could compromise the project's quality or regulatory compliance.

All projects commence with a principal's project requirements, allowing us to break down and detail the projects specific scope and the clients' requirements. This ensures we meet specific compliance non-negotiables and outline the current compliance/standards the project must meet, including the use of NATSPEC as a basis for this. Further to this, QA points are implemented throughout a project's lifecycle within both designs through to construction stage, with relevant design reviews, checklists, ITP's, defect walkthrough inspections, etc depending on a projects current stage.

3. In your experience, what are some of the key challenges or obstacles faced in maintaining high standards of quality in construction, and how does Creative Vision address them effectively?

The proper process of delivering issued for construction drawings during the construction stage is one of the key challenges to obtain high standard quality in construction. Creative Vision addresses issues such as this through Action Plans, ITPs, Engineering Certifications, Trade Coordination meetings, and Progress Site Inspections.

Key challenges involve builders / head contractors pushing to commence construction as the construction certificate is reached and not following approved and declared drawings, this places pressure on all stakeholders and can lead to the rushed procurement of sub-contractors which may/may not be capable to deliver the works, cut corners in key scope deliverables or do not have a full picture of the scope of works required, including satisfying compliance requirements.

This is addressed by Creative Vision through the development of a detailed procurement schedule which is based on the project's construction program. Detailing each trade and their required commencement on site and prior to this, the required submissions which include SWMS, insurance, returned project specific requirements (PSR)/SOW based on the specific NATSPEC requirements as well as other compliance requirements, their qualifications and required inductions forming part of the final subbies pack for site activities to commence.

Poor quality in construction often is a result of non-compliant work. Creative Vision identifies risks associated in a project risk register and recommends action plans for rectification which is reviewed monthly. Communication of site instructions to rectify defects/ non – compliant work are issued via RFI register using our digital Project management software Procure and mechanisms in each contract allow for a deadline to rectify defects and any deviations to the approved and declared drawings which is one item we strongly demonstrate and police showing a high conversion of another key Pillar of industry reforms being Building a digital future.



Former NSW Building Commissioner David Chandler and Creative Vision Director David Kamel discussing the 'Why, What and How' of Creative Vision Total Project Control.

How Engineers Australia Supports Construction Quality in the Built Environment



Through competency assessments, continuous professional development, professional standards, and advocacy, Engineers Australia ensures that the engineering profession continues to meet the challenges of modern construction.

Professional Development

Continuing professional development is how engineers maintain, improve, and broaden their knowledge, expertise, and competence. Engineers Australia offers various resources and training programs designed to keep engineers at the forefront of industry standards and innovations. By fostering a culture of learning and improvement, members can address the evolving challenges within the construction sector, from sustainability issues to the integration of new technologies.

Professional Standards Framework

The Engineers Australia Professional Standards Framework is an integrated

system of policies, processes and resources that guide and support engineers to practice ethically, competently and responsibly.

The framework is designed to set, uphold and enhance standards that protect the community, help consumers understand what is expected of engineering professionals, and to build trust in the profession.

It guides the career development of engineering professionals throughout their employment and provides the basis of professional accountability for Engineers Australia members.

State and National Registration

The framework underpins the processes for state registration and supports the requirements for nationally consistent registration of engineers.

It also improves the mobility of engineering professionals by ensuring

that accreditation and professional practice standards meet those set out in the International Engineering Alliance (IEA) Accords and Agreements.

Advocacy and Public Engagement

Engineers Australia is the engineering profession's peak body. As the voice of the profession, an integral role is to publicly advocate on issues that affect the profession and the broader community.

Engineers are enthusiastic contributors to public discussions about policy and issues affecting society, with policy work addressing building sector reform, climate change, STEM and diversity, professional indemnity insurance and other issues important to the profession. As the built environment evolves, the role of Engineers Australia in maintaining and raising construction standards will remain crucial for the wellbeing of society and the sustainability of our cities and infrastructures.



Managing Materials: Remembering the Fundamentals

From the Sydney Opera House to the most mundane storage shed, every building is a one-off design. Even commonplace materials will be used in subtly different combinations on each new project. This constant reconfiguration creates a risk of gaps and miscommunications in the specification process that can lead to legal claims. How can we reduce this? Let's start with the basics.

Legislative Framework

The primary measure for compliance is the National Construction Code/Building Code of Australia ("NCC"), which is given the force of law by building legislation across the country. Its Performance Requirements must be complied with; the only variable is whether the compliance pathway will be Deemed to Satisfy, or Performance Solution, or both.

In 2022, extra requirements for documenting Performance Solutions were added to the NCC. Part A2G2(4) sets out the required procedure, beginning with a briefing process involving all relevant stakeholders, and concluding with a report that captures key information including the relevant Performance Requirements and Deemed to Satisfy provisions, the evidence of suitability relied on, and the analysis that confirms the Performance Requirement has been met. An example of this process in action is the reports for compliance with FP1.4 (Weatherproofing) that have become common on multi-storey projects.

Specifications must avoid the use of

products that are banned by legislation. Asbestos is prohibited nationally, most states and territories have at least some restrictions on aluminium composite panels, and a national ban on engineered stone has been announced commencing 1 July this year. Unfortunately, there is no definitive national register of banned products.

Procedures and Principles

At a practical level, some fundamental good habits can help reduce the risk of errors arising from specifications:

- Use clear, concrete and consistent language to describe measurable outcomes (standard specifications can help here);
- Account for specific project risk factors (e.g. seaside salt corrosion)
- Consult with relevant specialists and keep records of their advice and approval;
- Check details like samples and material boards (small errors can cause large claims);
- Treat builder change requests with the same care and skill as the original specification and reject them unless satisfied they comply.

A range of legal protections are also available. At *informed* Lawyers (ACN 635 862 145), some avenues we have explored through our advice on consultancy agreements and related documents include:

- Amending contract clauses that effectively require consultants to guarantee the performance of specified products;



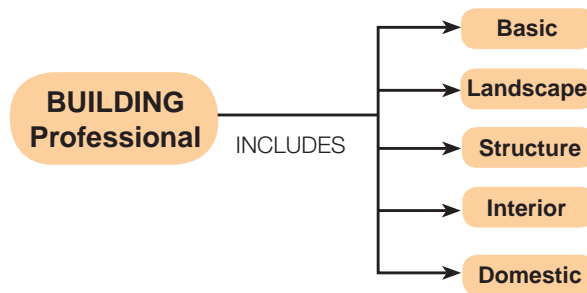
Wendy Poulton - Principal

- Clarifying where amendments or repeated work qualifies for a fee variation;
- Amending scopes of services to state that value management is limited to a defined process rather than constant substitution requests;
- Creating change request forms that prompt the builder to provide key information such as evidence of suitability and warranty details;
- Drafting deeds of release and indemnity where the client requires the use of a risky product against the consultant's advice.

While contractual protections like these can reduce liability, the single most effective way to stay out of court is to work collaboratively with good project teams to produce a compliant building. Sometimes this means saying no to cost-cutting changes, bearing the unpopularity in the short term for the sake of producing a building that leaves a legacy of good quality.



Parliament House Canberra. Author: JJ Harrison, Wikimedia Commons: <https://creativecommons.org/licenses/by-sa/3.0/deed.en>



Professional Package Inclusions

- Twice yearly update including changes to the National Construction Code and Standards.
- SPECbuilder online specification compilation software compatible with all versions of Windows, Macintosh and Linux operating systems.
- Editable worksection Templates in Microsoft Word *.docx format. See the National Worksection Matrix for the worksections included in this package and NATSPEC Worksection Abstracts for a summary of each worksection's content and application.
- Hidden text Guidance for developing project specifications for tender and contract documentation.
- Fully searchable pdf version of package with highlighted updates.
- Instructional guides and technical resources.
- Package USB for backup.
- Unlimited use of Domestic Online.
- Branded Worksections are meticulously prepared documents that are editable with guidance text, and product options. This ensures consistency, clarity, and adherence to good industry practices for achieving success in building projects.

Subscribe to NATSPEC at www.natspec.com.au and transform your specification experience.

Call 1300 797 142 or **email:** mail@natspec.com.au for assistance.

NATSPEC

the National Building Specification

Government departments and clients prefer NATSPEC

In the majority of Australian States and Territories, NATSPEC specifications are required for building projects. Government departments and clients prefer NATSPEC specifications so that they are assured of a baseline level of project quality. Whilst drawings and schedules only provide the form and materials, it is a properly constructed specification that outlines the quality desired. For over 45 years NATSPEC has been trusted to deliver quality results.

Consultants prefer NATSPEC

The number of regulations that change each year continues to increase. Pressures on consultants' fees and the time required to design do not allow for individual organisations to monitor all the regulatory changes. NATSPEC provides the economies of scale to keep consultants up-to-date. Consultants know that NATSPEC is comprehensive and provides a clear outline of the quality of materials and tolerance of construction required. NATSPEC specifications save litigation and support the team's desire for successful projects.

Contractors prefer NATSPEC

It is a competitive world and as the industry continues to consolidate, greater emphasis is being placed on the cost of a project. Contractors want to compete on an even footing and a NATSPEC specification means that the job will not be lost to someone who will cut the quality of construction. NATSPEC is independent and does not favour one party over another.

Project managers prefer NATSPEC

When all parties are clear on the expected outcome, the project progresses quickly and without undue confrontation. NATSPEC's template specifications are written in simple plain English without duplication or contradiction so that Project Managers do not waste time clarifying project requirements.

NATSPEC is a national not-for-profit organisation, owned by Government and industry, whose objective is to improve the construction quality and productivity of the sustainable built environment through leadership of information. It is impartial and is not involved in advocacy or policy development.

www.natspec.com.au

Tel: 1300 797 142

Email: mail@natspec.com.au