

RAISING THE BENCHMARK

The RMIT Academic Building is an innovative, state-of-the-art educational facility for the RMIT quarter in Melbourne's CBD.



Image courtesy of John Gollings/RMIT

BROOKFIELD MULTIPLEX HAVE DELIVERED A 1ST OF IT'S KIND FOR RMIT SWANSTON

Main Image One of the 12
tiered lecture theatres
Inset Image A workspace area

RMIT SWANSTON / BROOKFIELD MULTIPLEX



Images courtesy of John Gollings/RMIT



Brookfield Multiplex were formally awarded the construction project of the Royal Melbourne Institute of Technology (RMIT) Swanston Academic Building in September 2010. With a construction budget of \$170 million, the building is an innovative, state-of-the-art educational facility for the RMIT quarter in Melbourne's CBD. It delivers 35,000m² over 12 levels. Located on the corner of Swanston and A'Beckett Streets, surrounding the historic Oxford Scholar Hotel on Swanston Street, the Swanston Academic Building is now an unmistakable part of Melbourne's backbone.

Key attributes of the Swanston Academic Building include 12 tiered lecture theatres with seating for 90 to 360 people and a cinema facility. There are 64 teaching spaces and 10 specialist learning venues. The teaching areas enable a mix of traditional lecture theatre teaching and the latest in collaborative teaching modes. Three street frontages (Swanston, A'Beckett and Stewart) provide retail offerings, with new public space next to Melbourne's iconic City Baths and greater pedestrian access on Swanston Street. A cantilevered, two-storey student portal is suspended over Swanston Street.

The building achieved a 5 Star Green Star (design) rating (Education v1) by the Green Building Council of Australia. Grey water recycling, solar hot water, chilled beams and natural ventilation have been incorporated into the design.

The highly complex performance façade is visually interesting with shapes, colour and texture, featuring exterior double glazing and angular sun shades. There are also landscaped indoor gardens and designated spaces for curated public art.

Andrew Deveson, Senior Project Manager for Brookfield Multiplex on the Swanston Academic Building said the project was complete in July 2012, just in time for the start of Semester Two and five months ahead of schedule. The project took 22 months and peaked out at 550 workers, with around 50 subcontractors onsite throughout construction. High levels of safety and quality were maintained and implemented throughout the project.

The main challenge for Brookfield Multiplex during the construction of the Swanston Academic Building was the façade curtain wall, which was designed to have no straight edges. "We ensured time was spent upfront on the design development and shop drawing process to mitigate error in aluminum extrusions and other procurement items," says Deveson. "Furthermore, to minimise discrepancy between perimeter edges on each level, we installed precast slab edges which were cast into in-situ slab at band beam locations. This minimised error in forming edges onsite and assisted in onsite progress as we no longer needed to manually form varying edges."

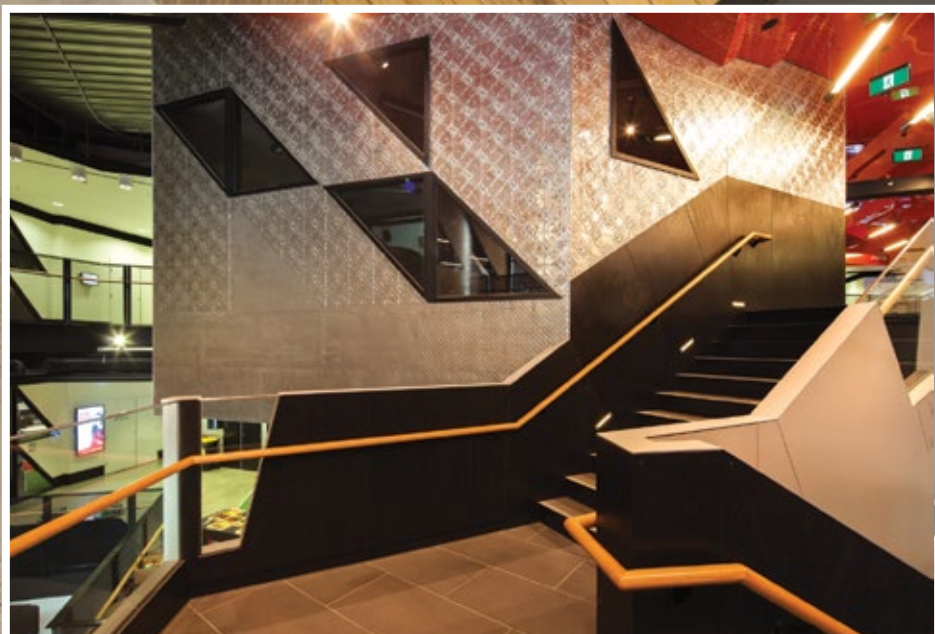
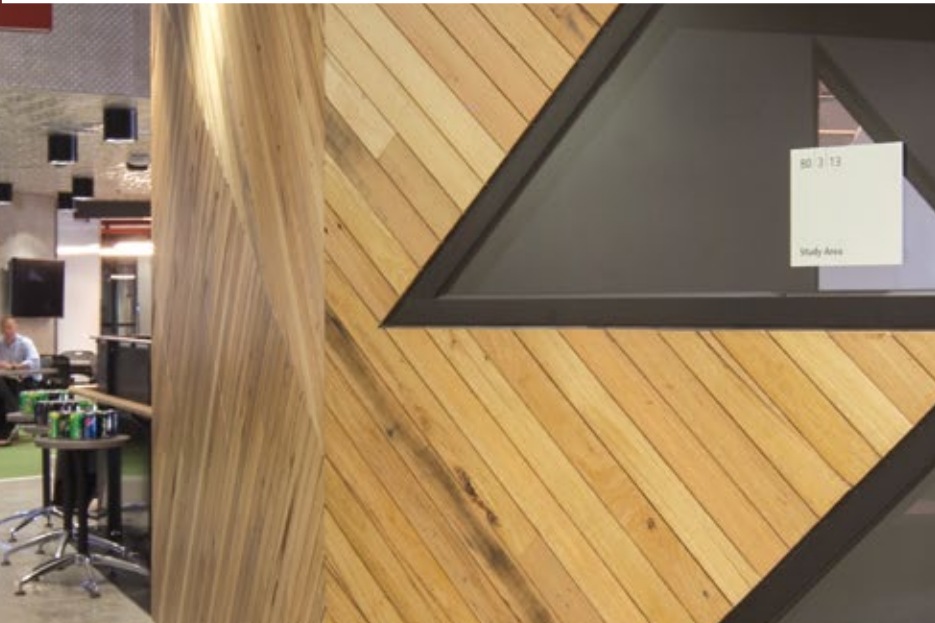
Procurement and lead times for the façade as well as variations in architectural internal finishes and services proved complex but not insurmountable. The feature walls and folded ceilings were shop drawn and fabricated off site. The aluminium frames were fixed to slab soffit and then lined with plasterboard. Finishes to the feature ceilings and walls include acoustic panels, timber cladding/recycled timber lining, pressed metal, feature paint and 2-pack paint MDF panels. Deveson believes achieving the design vision of these complex feature ceilings and walls was one of their key achievements on this project, as well as implanting leading technologies and services.

RMIT hopes that as well as catering to today's leading teaching methods, they have anticipated future academic practices. The transfer of knowledge, engagement of people and collaboration of ideas has been paramount in the design.

The RMIT Swanston Academic Building is the centrepiece of a \$600 million upgrade to the RMIT quarter in Melbourne, and a fitting symbol of RMIT's movement from a University of Technology to a University of Technology and Design. Brookfield Multiplex are an international contractor - they build property and infrastructure around the world.

For more information contact Brookfield Multiplex Victoria, Level 2, 32 Lincoln Square North Carlton VIC 3053, phone 03 8341 4500, website www.brookfieldmultiplex.com

Image Timba Windows supplied all of the internal windows and glazed doors to the RMIT Swanston project.



Timba Windows were contracted to supply all the internal windows and glazed doors for the new RMIT Swanston Academic Building. There were over 700 windows and 300 doors to manufacture at their Melbourne factory – the contract was worth around \$1 million and the job took six months to complete.

Students were consulted at the design phase of the RMIT Swanston Academic Building design and their recommendations led to a new ethos of the learning process being on display. The new building is open and collaborative, the teaching and learning is not hidden away like traditional closed classrooms and lecture theatres. The huge amount of internal windows assist in realising this principle.

Timba Windows have been manufacturing windows in their factory in East Keilor for 12 years. They started in Melbourne and can now work all over Australia. Noel Britt, Manager at Timba Windows said that jobs of the scale of the RMIT building were unusual, but that Timba Windows were positioned well to win the tender. Noel actually brought their supplier in to the tender process and was able to show that they could facilitate the colossal amount of timber needed at the set lengths required.

The Timber supplier used by Timba Windows was Britton Timbers – the only company in Australia that could supply the resource the quantity required at the time. The window frames are all made out of Australian native timbers Victorian Ash and Tasmanian Oak. The timber was sourced from sustainable forests Three different mills over Two states.

Window dimensions varied, most were around 2.4m high and 2.4m to 4.5m wide. The frames were select grade, kiln dried hard wood, which Noel notes ‘Gives them a moisture content of between 10-12% and makes them stable for the internal environment’.

Timba Windows also provided all the entry doors to the classrooms which were a window/door combination including both standard size hinge doors and sliding doors to the office areas.

The window frames and doors were all painted at the Timba Windows factory. Two coats of Porter’s paint in a lime wash stain were brushed on before a final coat of clear. Once the windows and doors were manufactured and painted, they were bubble wrapped ready for delivery.

Inevitably with many hundreds of items, there was the odd discrepancy with dimensions which was dealt with quickly and efficiently; ‘They were all made to shop drawings,’ says Noel, ‘There were a couple that didn’t quite fit so we just had to make some modifications - that wasn’t a big issue onsite’. The sheer volume and weight of the glass involved meant that the window panes were all glazed onsite by a glazing company.

Working extensively in both the private and commercial sectors in a range of areas means that Timba Windows are fluid and flexible in their approach to custom-making windows and doors. Keeping abreast of technology is integral to their ethic and they are able to install innovative new systems such as ‘lift and slide’ doors.

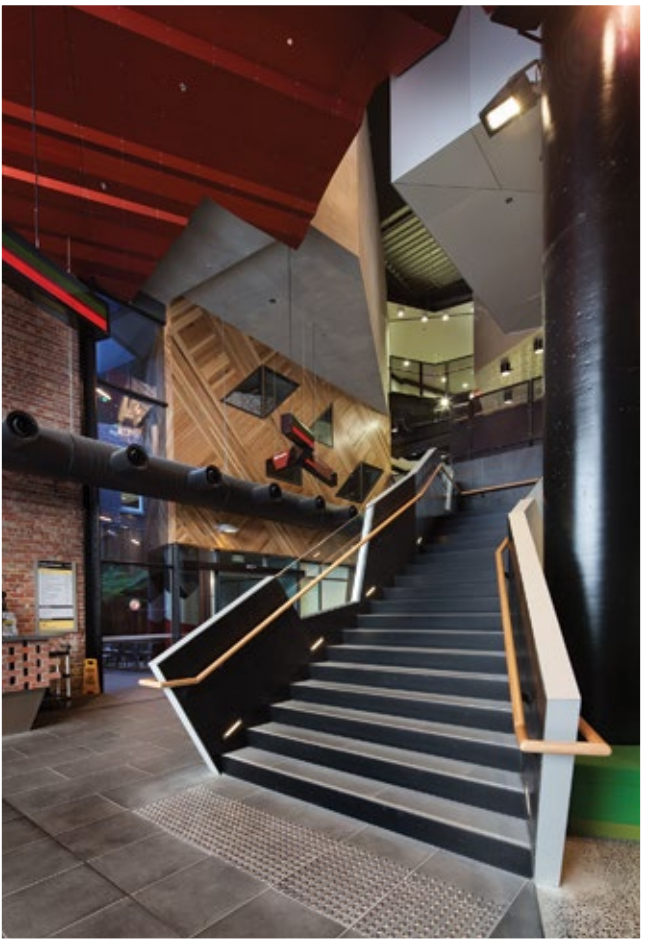
Timba Windows have carved a niche in their industry. They are able to find the best solutions both mechanically and aesthetically for interior and exterior doors and windows and use the highest quality hardware. ‘We cater to the whole market’ says Noel, ‘We are based in Victoria but we will go interstate.’

For more information contact Timba Windows, 59A Slater Parade East Keilor VIC 3033, phone 03 9331 5683, fax 03 9331 5783, website www.timba.com.au

Below Donald Cant Watts Corke were the project managers on the RMIT project.



Image Bonacci Group were the structural and civil engineers from concept to completion.



Donald Cant Watts Corke (DCWC) Management delivered Strategy and Procurement Advice, Project Management and Change Management to RMIT throughout the delivery of a world class \$230 million facility for RMIT University. John O’Callaghan Director of DCWC Management notes “The SAB is another major university project that DCWC have completed, we’ve done several of these over the past few years for other Universities across Victoria and the ACT”

The project which has a 5 Star Green Star Design Rating Education Tool V1, was delivered 108 days ahead of schedule. The building is a new teaching facility for RMIT. It incorporates the latest information technology and sustainability initiatives, including virtual desktop application support, integration of the building automation systems with timetabling, mixed mode environmentally controlled spaces and utilisation of sustainable materials.

“DCWC worked with the University and the design and construction teams to provide innovative solutions across all facets of the project”, says Ronan Walsh Associate at DCWC. The 12 storey building will provide of 35,000m² of lecture theatres, teaching spaces

and academic offices. Each area has looked to the future to enable better peer to peer learning for students and a more collaborative environment for staff.

Change management formed a major component of the SAB project to enable RMIT to successfully transition into both the physical environment and the new modes of operation.

DCWC worked energetically to ensure engagement across the whole university during the construction and post occupancy phases. “The journey really was a positive experience for all involved” says Marcus Bailey from DCWC who oversaw the 8 Strategic User Groups and the change management process.

DCWC have been around since 1966, they have worked with government, private and public organisations to successfully deliver many of the nations most ambitious and complex developments.

For more information contact DCWC, Upper Level 3, GPO Building, 350 Bourke Street Melbourne VIC 3000, phone 03 8662 1111, fax 03 8662 1122, website www.dwc.com.au

Another project has been successfully completed, facilitated by the close relationship formed between Bonacci Group Pty Ltd, Lyons Architects and Brookfield Multiplex. The RMIT Swanston Academic Building is a 5 star green rated project which delivers a major new teaching and learning centre for RMIT University. Engaged under Lyons Architects, Bonacci Group provided structural and civil engineering services from concept design through to project completion.

The initial architectural concept described the functional layout for the building with the multiple number of lecture theatres arranged in different locations both laterally and vertically within the building form. The proposal to rearrange the building layout so that the lecture theatres were “vertically stacked”, over the same two bays, realised significant cost savings and allowed the balance (largest area) of the building floor plate to be constructed using commercial and readily procurable structural systems.

Bonacci Group adopted several significant structural systems in order to overcome the complexity of the floor plates on this project. These included:

- Steel composite floors formed on metal tray formwork for the lecture theatre areas requiring 21 metre clear spans

- Post tensioned banded slab structures in the public, teaching and administrative areas.

The structure delivery ran smoothly for Bonacci Group and the client applauded the fact that the base structure was completed well ahead of schedule. This is testament to the ease at which Brookfield Multiplex was able to construct the chosen structural system for what was a complex floor arrangement.

Bonacci Group was established 30 years ago and founded on the principle of specialising in structural and civil engineering. Through this specialisation, the company has not only developed new engineering techniques, but has set standards that are recognised nationally for their innovation in making landmark architectural building forms economic. Lyons, Multiplex and Bonacci collaborated recently to successfully complete the prestigious Kenneth Myer (Melbourne Brain Centre) at Melbourne University.

For more information contact Bonacci Group Pty Ltd, 50 Hoddle Street Abbotsford VIC 3067, Contact: Stephen Payne (Director) phone 03 9418 4000, email Melbourne@bonaccigroup.com

The colourful interior of the RMIT
Swanston Academic Building project, VIC

Image courtesy of John Gollings/RMIT



Image Wilde and Woollard were responsible for the cost management for the RMIT Academic Building project.



Image Permasteelisa provided the RMIT project with the design, manufacture and installation of the complex façade.



Images courtesy of John Gollings/RMIT

National Quantity Surveying group Wilde and Woollard were commissioned by RMIT to undertake cost management services for the Swanston Academic Building. Following their appointment in mid 2008, and drawing on their extensive experience throughout the Higher Education sector, Wilde and Woollard worked with the consultant team on space modeling options to determine the right balance of building area to allocated project budget. From this initial phase onward, Wilde and Woollard have steered a detailed cost management process that has seen the project constructed and delivered within budget. At around \$230M, the Swanston Academic Building is one of the larger projects delivered by the Practice and sits proudly amongst other landmark Education facilities undertaken in their 50 year history in Victoria.

Services provided for the project were essentially a traditional cost planning process to capture all stages of a progressive and evolving design and documentation programme. Full value management and whole of life cost modeling along with robust analysis of proposed ESD features also were prominent components of the Wilde and Woollard service.

Through the tender and contract negotiation phase Wilde and Woollard were active in a process that ultimately saw the construction contract awarded to Multiplex Constructions. During construction, Wilde and Woollard

undertook site progress evaluations and progress claim recommendations, in addition to review of major project variations and detailed financial reporting to RMIT. During the busiest period of the job, a team of 12 staff from Wilde and Woollard were allocated to the project. Wilde and Woollard Director Mike Bennett explained the number of challenges faced by the cost planning team were numerous. Due to the history of the site there was extensive contamination that had to be treated and/or removed. The proximity to the underground rail loop necessitated a particular foundation system and the complexity of the building façade required countless hours of cost modeling and consultation with façade specialists and other consultants. In respect of the façade, we are particularly proud of our role in rising to the challenge of achieving a good cost outcome for RMIT, in what is a truly unique piece of architecture on Swanston St, Mr Bennett added.

Wilde and Woollard are not only leading providers of cost management and asset management services to the Education sector, but through their network of interstate and international offices, enjoy an outstanding reputation in Commercial, Residential, Health and Defence projects also.

For more information contact Wilde and Woollard, 37-41 Prospect Street Box Hill VIC 3128, phone 03 9899 0411, fax 03 9890 3123, website www.wwmelbourne.com

The new RMIT Swanston Academic Building is far and away the most dramatic building façade in the Melbourne CBD. The multitude of textures, angles, materials, juxtapositions and intricate design detailing offers the kind of challenge that Permasteelisa thrive on, with their global experience and deft technological prowess making the whole vision possible.

“The eye catching iconic 5-star green star RMIT building has a dramatic façade that epitomises the innovative design of the building,” said Permasteelisa Managing Director, Rocco Tropea.

“The façade was made as a modular panel system comprising of triangular shaped high performance double glazed units and triangular shaped aluminium panels externally and timber lining to the internal face.”
“The façade also features sunshading made of multi-coloured anodised aluminium in varying triangular shapes.”

“Permasteelisa is proud to have been involved with the RMIT project demonstrating its expertise in the design, manufacture and installation of such a complex façade.”

Permasteelisa was first established in 1973 in Italy (originally with the name of ISA), and have grown to become one of the world's leading

contractors in engineering, project management, manufacturing and installation of architectural envelopes and interior systems.

The Australian operation is part of the Asia-Pacific division, and its skills have left a lasting mark on the built landscape, with projects including the 70,000sq/ft custom-made curtain wall for the Sydney Opera House; and the high-tech unitised curtain wall system which stretches for the 92 storey height of Melbourne's Eureka Tower. Worldwide, the Permasteelisa Group's achievements include using advanced computer technology to tailor the building envelope of the Guggenheim Museum in Bilbao, Spain – 36,000m² of pure titanium cladding which responds dynamically to wind, shaped to fit a spectacular, complex built form.

Permasteelisa constantly engage in research and development of new materials and methods, with a strong focus on sustainable building envelopes and energy-efficient façades. The fully tested and meticulously engineered results create remarkable, iconic forms which embody the meeting of architectural imagination and leading-edge construction skills.

For more information contact Permasteelisa, 21 Translink Drive Keilor Park VIC 3042, phone 03 9357 8122, fax 03 9357 8282, website www.permasteelisagroup.com

Below: Fabmetal Specialists fabricated and installed handrails and balustrades throughout the building. The main stairway features anodised aluminium, glass and timber. Fabmetal also clad the exterior wall of an existing neighbouring building in TiVox black satin stainless steel.

Below Richstone group were responsible for the plant room, roof, roof access and cladding.

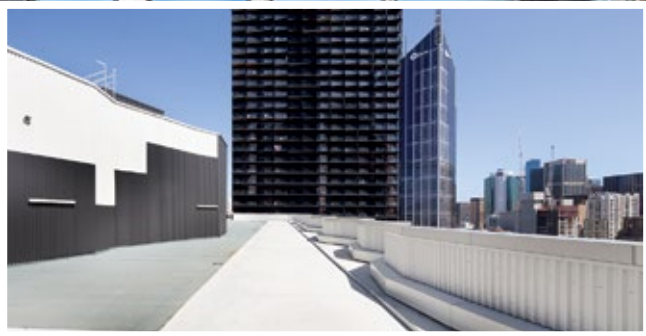


Image courtesy of John Gollings/RMIT

For 20 years Fabmetal Specialists Pty Ltd has worked with major construction companies on the largest projects in Melbourne. The latest of these is Swanston Academic Building (SAB), RMIT’s biggest investment in a teaching and learning facility to date. SAB is eleven storeys high and forms a significant part of RMIT University’s “Swanston Street precinct.”

Fabmetal Specialists was engaged in several areas of the SAB project, providing 15 spectacular 6.5 metre high ‘Trees of Light’ for internal illumination in public areas and fabricating and installing balustrades and handrails throughout the building.

Fabmetal was also awarded the task of cladding the exterior wall of the old RMIT building next door which borders a landscaped area outside the SAB. The wall measures 6 metres wide by 13 metres high and due to its age presented some unusual problems. Different finishes over the years had created an uneven surface with levels ranging up to 200mm.

Fabmetal Specialists developed a special adjustable support structure in order to provide a flat surface for the cladding. The cladding that was chosen was TiVox black satin coloured stainless steel.

TiVox panels consist of a stainless steel substrate with a coloured titanium coating. The titanium coating renders the TiVox surface far more durable and with ten times the scratch resistance of ordinary stainless steel. TiVox comes in many different finishes: mirror, satin, hairline, vibration and etched designs. TiVox alone has been able to achieve a true mirror finish.

The team at Fabmetal Specialists value the integrity of individual design, and therefore work closely with architects, engineers and builders to ensure that the vision of each project is brought to fruition and the desired intention is delivered and installed as a quality product, within budget and on time.

Fabmetal Specialists Pty Ltd supply several different types of decorative metal including stainless steel balustrading, staircases, cladding and other specialised products.

For more information contact Fabmetal Specialists Pty Ltd, 18 Brunson Street Bayswater VIC 3153, phone 03 9720 2177, fax 03 9720 3277, website www.fabmetal.com.au

Richstone Group installed a high-level plant room (Level 12), roof and cladding for the RMIT Swanston Academic Building.

Sam Goldberg, Project Manager at Richstone Group said that it was an interesting job because the design of the building façade is multi-directional, “They followed the building design with the plant room - generally the plant room gets left behind, but not this time. Cladding of this type generally doesn’t have many directional changes - this one had a few hundred.’ The purpose was purely aesthetic and the over-all finish is impressive.

Justin Tassell, Site Foreman for Richstone on the RMIT SAB, said ‘It was challenging with the different directions and the different colours of the sheeting - the sheets actually change colour to resemble a picture of the Melbourne city skyline’.

Richstone Group installed the roof and enclosed the building using hi-tensile Apspan, made from Colorbond® - painted squares of corrugated zinc aluminium. They completed the roof access system with walkways and access ladders and also installed the inside parapet of the walls and stainless steel box gutters for drainage - there were

a few tricky angles to contend with when installing the flashing on the roof too.

Integrated into the roof were four 1200x1200mm double glazed skylights – positioned together in a square to provide light down to the atrium, a space which drops down from Level 13 to Level 4. Two further skylights were positioned on level 12.

Richstone Group has several divisions, including civil inground plumbing, hydraulic plumbing, roof plumbing including architectural cladding and composite aluminium cladding. RMIT Swanston Academic Building required 2500m² of roof and cladding, but Richstone Group are no strangers to jobs of this scale - Margaret Court Arena, starting the first quarter of 2013 will be around 6 times the size of this job.

For more information contact Richstone Group, 17B Nathan Drive Campbellfield VIC 3061, phone 03 8339 3777, fax 03 8339 0300, website www.richstonegroup.com.au

The exciting exterior of the RMIT
Swanston Academic Building project, VIC

Image courtesy of John Gollings/RMIT



Below Premium Shower Screens design
and manufacture shower screens,
wardrobes, mirrors and splashbacks.



Stylish, custom-made products and excellent customer service has the commercial division of Premium Shower Screens in Melbourne at it's busiest yet. They've doubled their staff in the past 12 months, and are still growing. Premium Shower Screens supplied and installed 70 mirrors and 9 shower screens in the new RMIT Swanston Academic Building.

The 6mm flat polished mirrors were installed in toilet areas and in the corridors from Levels 3 to 7. Premium Shower Screens bought in the glass for the mirrors before cutting and sizing at their factory in Derrimot. 'The shower screens were made with a heavy weight glass ordered in pre-toughened', said Anton Kokke, Commercial Projects Manager, 'They're 10mm frameless doors made with minimal aluminium – they have a chrome on brass fitting and are fairly heavy gauge bulky things'. The sturdy nature of the doors will ensure durability with expected high-usage. The doors will be positioned in the change rooms on Level One and in a cleaner's change room on Level 6.

Premium Shower Screens started in 1998 and are now pushing 300 employees, with 25 installers in the commercial division. Their most

popular items are shower screens and built in wardrobes. Wardrobes can be 'built in' or 'walk in' and can be made with a range of colours and finishes. Mirror work is also in constant demand at Premium Shower Screens. Glazing is done on-site for glass kitchen splashbacks & vanity mirrors. Products are manufactured and designed to high standards - quality materials and dedicated manufacturing technologies produce solid, reliable products that last.

Premium Shower Screens have just recently finished working on '50 Claremont Street' in South Yarra and were also contracted for 'Harbour One' at Docklands and 'A Place to Live' in Richmond. Their work will also be found at 'Upper West Side' and '33m' (33 MacKenzie Street) in the city and 'Tower 8' at Yarra's Edge.

For more information contact Premium Shower Screens, 2-8 Oxford rd Laverton Nth VIC 3026, phone 03 9394 0700, fax 03 9394 0770, email enquire@premiumoz.com.au, website www.premiumoz.com.au