

# THE AUSTRALIAN RED CROSS BLOOD SERVICE NEW FACILITY

MAIN CONSTRUCTION COMPANY : Buildcorp Contracting

COMPLETION : 2011

ARCHITECT : BVN Architecture

PROJECT END VALUE : \$115 Million

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Many projects enhance lives, but the new Australian Red Cross Blood Service manufacturing and testing centre at Alexandria will be literally saving them; testing and processing approximately 30 % of the Blood and Blood products for Australia.

This \$72.5 million purpose-built facility represents a significant investment in the processing of blood and blood products, distribution, blood testing and tissue typing, and will provide research laboratories, warehousing, ancillary office/administration and staff amenities for the NSW branch of the Blood Service.

Across four levels and 13,577m<sup>2</sup>, the building incorporates 5,830m<sup>2</sup> of PC2 labs and process areas, 600m<sup>2</sup> clean storage, open plan office accommodation and a 97 bay basement car park. The basis of the design was to ensure the building would be stable and fit for use for up to 4 days in a level 4 event on a 42 deg ambient temperature day with high humidity, and with a year 2031 population.

The façade is a mix of precast and off form concrete elements with precast concrete as a feature to the front façade. DGU high performance glass has been used, giving better than required results, and the extensive use of Kingspan cladding gives the structure a greatly increased thermal performance. The building has 24km of sub mains cabling, 72km of TPS cabling and 224km of data cabling.

Complex by its function this project has added complexity of the fit out being designed as the base building was being constructed to satisfy the accelerated programme. The collaboration required

to successfully complete this task was only possible by creating a collaborative contractual arrangement.

Two contracts were formed a \$33million lump sum D&C base building contract for Goodman Property Services which gave them the confidence the team at Buildcorp were creating a commercially viable solution. A \$35 million D&C cost plus fit-out contract with the Blood Service provided the flexibility to ensure this unique facility worked. BVN Architecture undertook the design, and a massive team of 81 direct consultants from D&C engineers to process and validation consultants contributed to the project.

Buildcorp had 20 staff onsite, and the majority of the time 235 or more in the subcontractor workforce, with 2,250 trades people inducted overall.

Fit out to the Blood Service specifications included installing and commissioning the -35 deg freezers and 2-6 deg fridges used for blood products. The freezers needed to be 'pulled down' to operating temperature over a 10 to 15 days period to stop the internal slab from cracking. Successfully managing this level of painstaking detail shows Buildcorp's outstanding ability to meet demanding specifications.

Relentless testing and checking regimes, constantly integrating new information client-driven design modifications added extra challenges to this job.

"This was a very complicated project and our contractors have been instrumental to the methods of design. We have been able to produce coordinated shop drawings right down to the lengths of ducts and cable lengths, which is traditionally done across weeks of meetings

and redrafting. This has also given the client and end user, the ability to understand the complexity of the project. We have been given thorough advice from our consultants, especially Zektin Engineering, and SeerPharmma and, therefore have been able to streamline a very complicated validation process, reducing our client's risk of validation costs," said Buildcorp's Steve Taunton, Senior Project Manager.

"The requirement to have this facility "validated" in accordance with the requirements of the Therapeutic Goods Administration means that once the building work is completed it had to be tested to prove that it meets the user's specified requirements.

"First step was to ensure that the correct items have been installed through a process called Installation Qualification. There are approx 170 rooms that require 60 items per room to be inspected and verified that the right ceiling type, paint finish, light fitting, floor finish and so on has been installed in the room.

The second step is to test the plant and equipment work within the design limits. "All this needed to be witnessed by Buildcorp's validation consultant. Data needed to be collated and reports written to qualify the facility as fit for producing Blood and Blood products. In addition to the qualification tests, there was an equally monumental task of inspections and testing on systems and equipment that do not have a direct impact on the Blood or Blood products.

"The project has been run in a team environment focusing on the required outcome of the Blood Service, and all members have been equally diligent in that process, from the labourers to upper management."

Contaminants including dust were avoided where possible. In selection of materials, the VOC values were considered on all products prior to them coming to site; dust was controlled on site by using cutting booths and prefabrication where possible.

"We had to pay attention to transportation of the duct work to the HVAC system and had the temporary covers for the duct work during construction," said Steve.

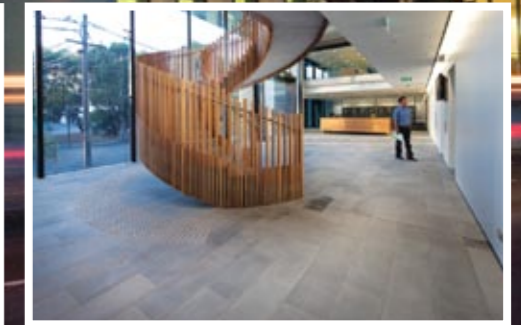
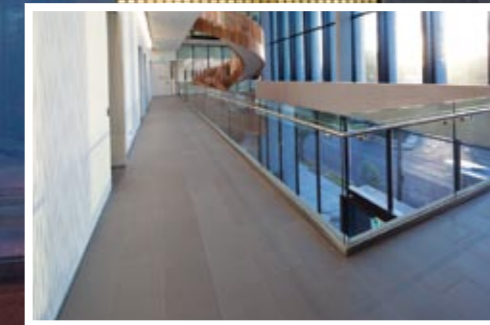
"There is no appropriate rating for this type of facility under the Green Councils guidelines, however the design tool was used to assess the site and the fundamental building materials. Good building practices have been followed, such as reuse of the waste testing water, solar hot water to the office areas and reclaimed hot water through the HVAC to the non potable hot water in the labs."

Buildcorp have over 50 trained Green Star Professionals, and have incorporated a commitment to ESD in every aspect of their daily work and company procedures. Buildcorp also have a Certified Quality Management system to ISO 9001, OH&S Management System to ISO 9001 and FSC safety accreditation.

Working across all construction sectors in New South Wales for over 21 years, Buildcorp has successfully completed over 1,000 projects with a combined valued of more than \$1.8billion. Across all of the sectors and markets it is an ongoing commitment to collaboration that results in long term relationships and successful project outcomes like those seen at Australian Red Cross Blood Service NSW Headquarters.

# DMF HIGH SPEED ROLL DOORS

# TILING LIKE LIVES DEPEND ON THE RESULT



The High Speed PVC Roll door is a very popular door for the controlling of areas against fumes, dust, temperature loss, vermin and internal security. DMF International is proud to have been associated with the new Red Cross facility in Sydney, where a number of these specialised doors were installed.

DMF is the only fully Australian owned and Australian manufacturer of these industrial fast roll doors, and have been providing solutions for over 20 years, of specialised doors to various applications in the food, pharmaceutical and health industries.

With fast operation speeds of up to 1.5m/sec, the custom sized DMF high speed roll doors can operate hundreds of times per day, working effectively for combinations of forklift, trolley or pedestrian traffic. The speed of operation allows increased control of atmospheric conditions in operational areas, and with the auto closing function, this is even further enhanced.

All of the high speed roll doors come with a variety of safety mechanisms. For the Red Cross project, the doors are fitted with inline photo electric light beams within the doorway, a touch sensitive bottom beam, and safety motion sensors guarding the vicinity of the door way. Each of these sensors work to quickly return the door to the open position if any obstruction or

movement occurs within or near the doorway during the closing cycle of the door.

DMF manufactures these specialised doors in their Sydney based factory, employing over 20 staff in various roles. Their market extends throughout Australia, NZ and SE Asia, with installation and servicing achieved through trained agents.

The doors are made to custom sizes, and many options are available to configure the doors to suit the client's needs, whether this be size, panel colour, type of activation, air pressure resistance or electrical needs.

Whatever the need, DMF can best construct the roll door to suit, and so contact DMF for more information and for a no obligation quote. Ph 02 9636 5466 or [www.dmf.com.au](http://www.dmf.com.au)

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To meet the stringent hygiene needs of the Red Cross facility at Mascot, extensive tiling was required. Nash Tiles undertook all the supply and fixing of the tiles for walls, floors and also the stone treads for the four level feature staircase.

Over six months, a crew of ten dedicated perfectionists completed 800m<sup>2</sup> of wall tiling with ceramic tiles, 1600m<sup>2</sup> of ceramic tile floor tiling and cut and laid 390m<sup>2</sup> of Basalt stone for steps. The biggest challenge apart from the impeccable standard of work required was the need to cut each step of the staircase individually on site, using a template, due to the custom timber balustrade. Nash Tiles also completed all the waterproofing for the Facility, using low VOC products.

Nash Tiles sourced and supplied most of the tiles, and used initiative to meet the designer's brief of 150 x 150mm tiles within a limited budget, sourcing a 300 x 300mm tile and cutting it down to the required size; a total of 330m<sup>2</sup> of tiles were cut down to 150 x 150mm.

Nash Tiles has more than 15 years experience, and are a family owned company which focuses on giving their clients outstanding results - on time, within budget and of guaranteed quality. Their crews of experienced tilers have completed numerous multi-million dollar projects throughout New South Wales, the ACT and Queensland.

Other recent prestige projects have included Wollongong Central, Gateway Plaza and Westfield Sydney City.

With the recent shift into larger premises, with a larger warehouse and a showroom open to the public, Nash Tiles are now able to supply both direct to builders, architects and tradesmen Australia-wide, and also direct to the public. They source quality tiles from around the world, with an extensive range to choose from, including mosaics (glass, stone and ceramic), stone, vitrified, ceramic and porcelain.

The company goal is to build long lasting relationships with clients and suppliers, offering competitive pricing for supplying and fixing while never compromising the quality of the end result. There can be a great deal riding on the end product, in the case of the Red Cross Facility, the purity of the blood products which save countless lives.

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