

Job Reference

CONIROOF® 2160
Outstanding Protection
– Rain, Hail and Shine!

**Solar Reflective
Waterproof
Membrane System**

Project:

Digital Reality Data Centre

Clients:

FDC
Greenbox Architecture
Digital Reality

Contractor:

Sydney Seal Insulation Works Pty Ltd

Location:

Sydney, Australia

Completed:

2012

Product:

CONIROOF® 2160

 **BASF**

The Chemical Company



Project Background

Located in Erskine Park in Sydney's outer-west, the new Digital Realty data centre is one of Australia's largest purpose-built data centre facilities. Constructed by FDC for international data centre provider Digital Realty Trust, the 8,000m² facility will house the main 'off-site' data centre facilities for a number of major clients.

The Challenge

When it comes to designing and constructing facilities such as these, ensuring the building's internal environment is fully controlled is of paramount importance.

Moisture and high temperatures are the 'natural enemies' of computer equipment, and as such, waterproofing and temperature control are critical factors in protecting the computer equipment. Put simply, in data centres such as these, a leaking roof or an excessively hot room can spell disaster!

What's more, with an ever-increasing emphasis being placed on reducing carbon emissions and the environmental impact of the built environment, the owners of the new high-tech data centre were also looking for ways to help reduce the building's 'carbon footprint'.

The Solution

When it came to selecting an appropriate waterproofing membrane for the data centre roof, the building's designers, Greenbox Architecture, specified the state-of-the-art **CONIROOF® 2160** system from BASF.

Based around BASF's unique **CONIPUR®** high performance waterproofing membrane technology, the **CONIROOF® 2160** system combines outstanding waterproofing performance, high quality aesthetics and a unique solar reflective membrane in a fully-bonded monolithic system.

As with any waterproofing or surface coating project, surface preparation is a critical factor in ensuring the long-term performance of the system. Prior to the application of the **CONIROOF® 2160** system, the roof was shot blasted and all vertical surfaces were prepared using a special diamond head grinding profiler. This mechanical preparation was followed by an application of **CONCRETSIVE® 2525**, a solvent free epoxy binder and structural adhesive which forms the base layer of the **CONIROOF® 2160** system.

A 2mm thick trowel application of **CONIPUR® M860** waterproofing membrane followed. **CONIPUR® M860** is a



solvent free, two component, self levelling polyurethane based elastomeric coating that combines outstanding crack-bridging capabilities with a robust trafficable surface to deliver a seamless, reliable waterproofing membrane.

The final component of the **CONIROOF® 2160** system is the unique solar reflective top coat. Based around BASF's **CONIPUR® TC 459** top coat, the low VOC, lead-certified solar reflective top coat incorporates special solar reflective pigments which reflect the sun's rays to significantly reduce heat transmission. Indeed, extensive testing has shown that the solar reflective top coat can reduce the transmission of heat through the roof by as much as 15°C, significantly reducing the cost and energy required to cool the building.

The Result

Speaking about the new roof, Chadi Al Hakim, Projects Manager with specialist waterproofing and surface coating contractor Sydney Seal Insulation Works Pty Ltd, commented:

"While we have used the **CONIPUR®** systems for many other projects in both Australia and in Dubai, this is the first Australian project to incorporate the Solar Reflective membrane - and everyone is extremely pleased with the results."

"The roof is completely waterproofed and it looks great. What's more, it's also helping to reduce the amount of heat being transmitted through the roof into the building, which in turn helps to significantly reduce the amount of energy required for cooling," he added.

"This is the first time we've used this product in Australia and I believe it will change the way many people think about reducing the environmental impact of their buildings," Chadi Al Hakim said.

CONIROOF® 2160 solar reflective waterproofing system not only delivers a robust and reliable waterproofing solution and a finished roof that is both attractive and easy to clean, it also provides a practical and functional method of reducing cooling costs, energy consumption, the carbon footprint and overall environmental impact of a building.