

LIFETIME WATERPROOFING AND PROTECTION FOR STRUCTURAL CONCRETE

RADCON[®]
FORMULA#7



WATER HOLDING
SITE REFERENCES

SITES OF INTEREST 2009

Radcrete Pacific presents: **Water Holding Vessels**

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SITE DETAILS:	
COUNTRY	- Bahrain
SITE	- City Centre
CLIENT	- Majid Al Futtaim (MAF)
ENGINEER	- Mott Macdonald
CONSULTANT	- Shankland Cox
ARCHITECT	- Woods Bagot
PROJECT MANAGER	- Mace International
TREATED AREA	- Water Park

FIGURE 1-3.
The Wahoo! Water Park located on top of the Bahrain City Centre .

RADCON #7 lifetime waterproofing holding 2 million litres of water above a shopping centre.

Developed by Majid Al Futtaim, creators of the Dubai ski fields, the Wahoo Water Park is without a doubt the most anticipated entertainment venue in Bahrain.

RADCON Formula #7 has successfully sealed all water holding areas of this biggest indoor/outdoor 'aqua-park', with wave pools, flow rides, and a host of other aquatic facilities.



EXCLUSIVE GLOBAL DISTRIBUTOR FOR **RADCON FORMULA #7** WATERPROOFING CONCRETE FOR LIFE

SITES OF INTEREST 2009

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SITE DETAILS:	
COUNTRY	- Oman
SITE	- Desalination Water Plant
CLIENT	- Veolia
CONSULTANT	- Mott MacDonald, Oman
APPLICATOR	- Bahwan Building Materials
SIZE	- 60,000 sq mtrs

FIGURE 1-3.

RADCON #7 treatment for desalination water plant in Oman.

RADCON #7 for Veolia desalination plant in Oman.

The OPW3 Sharqiyah Independent Water Project is a \$ 173 million desalination facility, the first of this kind in the country.

RADCON Formula #7 has been selected for treatment of its water holding areas spanning some 60,000 sq meters.

The consultants from Mott MacDonald in Oman were understandably concerned with *potability characteristics* of the bidding waterproofing products and *RADCON #7's approvals from Singapore, Australia, Brazil, Spain and Portugal spoke for themselves.*

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SITE DETAILS:	
COUNTRY	- Spain
SITE	- Potable Water Plant
CLIENT	- Canal de Isabel
DEVELOPER	- Sando Constuctions
APPLICATOR	- Ariadna
SIZE	- 9,000 sq mtrs

FIGURE 1-3.
RADCON #7 treatment for potable water plant in Madrid.

Spanish water utility chooses RADCON #7 for its potable water plant.

The potable water treatment plant in Majadahonda has been extended several times over some 30 years of its operation.

It facilitates water supply to Madrid from the Picadas Reservoir and recently underwent modernisation of its processes and capacity enlargement in compliance with the local quality standards.

RADCON Formula #7 has been widely used on potable water projects around the world due to its non toxic and environmentally friendly characteristics.



EXCLUSIVE GLOBAL DISTRIBUTOR FOR **RADCON FORMULA#7** WATERPROOFING CONCRETE FOR LIFE

LEAKING POTABLE WATER TANK SEALED WITH RADCON #7

Builder: ACS Construcciones
Technical: Ariadna Enterprise Ltd
Applicator: Repox s.a.
Area: 580 Sqm

This potable water tank is located at Linea De La Concepcion in Cadiz, Spain. After construction, settlement occurred causing cracking and cold joints to open up. This resulted in a loss of water and

ongoing leakage. To rectify the problem the first step was to determine that the initial settlement had finished. Hydraulic mortars were applied to the major cold joints and resins to major cracks for structural bonding purposes. The area was then treated with Radcon #7. This system approach achieved complete success with any further water loss eliminated.



WATER TANK, LINEA DE LA CONCEPCION, SPAIN

RADCON #7 SOLVES FAILED MEMBRANE PROBLEM

Builder: Construcciones Mateo Aldi S.L.
Applicator: Ariadna Enterprise S.L.
Area: 700 Sqm

Located in Benasque - Huesca, Spain this podium deck was originally waterproofed utilising a membrane. The membrane had failed causing

leakage and damaging cars parked below. The solution was to remove the concrete brick pavement and failed membrane and then treat the structural concrete with Radcon #7. Following treatment the deck was water tested and passed. The concrete bricks were then replaced to restore the original finish.



BENASQUE - HUESCA, SPAIN

RADCON #7 HOLDS MORE SYDNEY DRINKING WATER

Since the success of waterproofing the Tempe Water Tower (Newsletter No 11 Oct/Nov 1991), the New South Wales Water Board has awarded Radcon #7 three further tank renovation jobs.

This tower, located in the eastern suburb of Vaucluse in Sydney, required Radcon #7 waterproofing treatment to the entire structure (some 2,300 sq metres) followed by a Canyontone concrete stain treatment for aesthetic purposes.

The 60 year old tank was spalling and carbonating due to environmental deterioration over many years.

The Water Board specified Radcon #7 for the entire structure including the less critical areas of the tank columns/stands.



RADCON #7 PASSES 2 YEAR WATERPROOFING TEST ON CARPARK

Located in the Newcastle (some 140 kms north of Sydney) suburb of Kotara, this project was subject to a two year testing period with Radcon #7 which resulted in Radcon #7 being specified for the entire 6,500 sq metre car park area.

Product acceptance was confirmed by Civil & Civic, the builders, together with AMP Property Management, the current owners of this site, and Radcon #7 waterproofing was completed in November 1991.

Depicted in these photographs are certain features of the treatment and some of the aspects that one can come across in undertaking remedial work on a site.

The second photograph shows the site receiving its first watering after the Radcon #7 has been applied.



RADCON #7 - KOTARA, NEWCASTLE RE-VISIT

Client:	AMP Properties
Architect:	Thrum Architects
Engineer:	Hyder Consulting
Engineers Contractor:	Cordukes Ltd
Approved Applicator:	Hunter Valley Waterproofing P/L
Area Treated:	5,200 square metres above retail area

Nine years ago, in 1989, Radcon #7 was originally trialed on the top deck of the multi-storey car park at 'Garden City', Kotara, Newcastle - 2 hours drive north of Sydney.

Following a two-year test, Radcon #7 was applied to the entire top decking of the car park - some 6,500 square metres - in 1991.

In 1998, Radcon #7 was applied to a further 5,200 square metre area above the David Jones store.

Due to the seven-days-a-week operation of the retail complex, and to minimise customer inconvenience, the Radcon #7 application was conducted at night under floodlights. When a totally watertight seal was confirmed an asphalt topping was then applied over the Radcon #7 treated areas.

Further to the exposed sections treated with Radcon #7, an additional 4,500 square metre trafficable area above Woolworths supermarket was treated with Radfloor. Prior to the Radfloor concrete hardener and consolidator being applied, some leaking cracks in the area were treated and waterproofed with Radcon #7.

Radfloor was specified for this hardening task as it is totally compatible with Radcon #7. As the concrete slabs shrink with age, and water leaks eventually occur, Radcon #7 waterproofing can be applied at any time to realise and maintain a totally waterproof result.



TOP DECK OF CAR PARK

RADCON #7 - ATLANTIC PARK AQUARIUM, NORWAY

Client:	Atlantic Park Aquarium
Architect:	Lerviks Arkitektkontor
Engineer:	Ramstad & Taklo
Approved Applicator:	Berno Overflateteknikk AS
Area Treated:	3,000 square metres

Atlantic Park in Alesund is an aquarium with a difference. Unique to Norway and Europe, the large seascape tanks are actually built into the coast line. It is also the largest aquarium in Scandinavia.

Consisting of 10 separate aquarium tanks the capacity ranges from 27,000 up to 4,000,000 litres of seawater containing, in total, some 30,000 to 40,000 fish from many species. The pumping equipment takes in 40,000 litres of fresh, unfiltered seawater per minute.

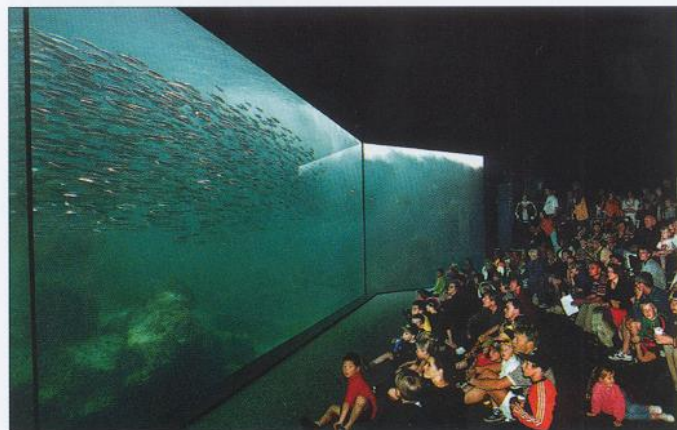
The fish can be viewed through one of the largest aquarium windows in Europe. Made up from 26.5cm thick acrylic, the window is 18 metres in length with a height of 4 metres.

The project covers an area of some 4,400 square metres. Construction commenced in August 1997 and it was opened by King Harald of Norway on June 16, 1998.

All concrete on the project has been treated with Radcon #7.



APPROACH TO ATLANTIC PARK, ALESUND, NORWAY



AQUARIUM VIEWING WINDOW

ITALIAN DAM WATERPROOFED WITH RADCON #7

Location: Olia River, Sardinia, Italy
Client: Sardinia Government
Consultant: Ing. Tomasi (Sardinia)
Application: August '99
Area: 12,500 Sqm

The Olia dam is the first dam in the world to be waterproofed using Radcon #7. Olia is a small river in the central region of Sardinia, Italy. The Sardinian summer is typically Mediterranean and very dry. As there is very little natural water resource the regional government maintains an active dam building program. The entire 12,500 Sqm internal face was treated with Radcon #7 to stop potential water loss through cracking and porosity.



OLIA DAM, SARDINIA, ITALY



OLIA DAM, SARDINIA, ITALY

WATER CANAL RESTORED WITH RADCON #7

Location: Cuneo, Piemonte, Italy
Client: Consorzio Elettrico di Pratti Soprani (Cuneo)
Consultant: Newres S.a.S. (Torino)
Applicator: Asfalti Vinovo (Torino)
Application: September '99
Area: 2,600 Sqm

This water canal carries water to the Central Energy Authority of Piemonte region in Italy. The Turin-based consultant, Newres S.a.S., is a well regarded practice and has recognised the benefits Radcon #7 in the restoration of existing infrastructure.

The canal had deteriorated badly and was losing water. Radcon #7 was specified to restore a watertight seal and to consolidate the exposed concrete surface.

RECENT SITES OF INTEREST 2005

Radcrete Pacific presents: Water Holding Vessels



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FIGURE 1.

Radcon Formula #7 waterproofing and protection - Brespel waste water concrete reservoir - Note the mechanical shovel that constantly agitates the fluid mass and creates an abrasion problem for waterproofing systems but NOT for Radcon #7.



Only 3 months after we visited Mr. Paulo Andrade for the first time he sourced an interesting project for Radcon application.

Brespel is a leather processing company (www.brespel.com.br), a partnership of the Rovel Group (Brazil) Genis & Antel Group (Spain), operating for more than 25 years in Brazil.

As an environmentally responsible company, Brespel takes very good care of the residues created in the manufacture of their products. They have recently expanded the waste water treatment plant, adding a new concrete tank, with two more to be constructed in the near future.

Radcon Formula #7 was chosen to waterproof this 1st reservoir.

The product is ideal for the site conditions, and would not be affected by the mechanical shovel used to agitate the fluid mass. The existing waste water tanks were previously waterproofed using a polyurethane, these constantly delaminated by the constant abrasive action caused by the fluid mass movement.

Radcon not only offers protection against mild acid attack it also provides the structure long-term durability.

SITE DETAILS:

COUNTRY	- Brazil
PROJECT NAME	- Brespel Wastewater Concrete Reservoir
CLIENT	- Brespel Cia Ind Brasil Espanha
ENGINEER	- Mr. Paulo Andrade Aterel
APPLICATOR	- Impermeabilizacoes Ltda
SIZE	- 600 sq mtr

RECENT SITES OF INTEREST 2005



Water Holding Vessels cont.

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FIGURE 2.

Radcon Formula # 7 application – Site was completed in 3 days, it was then filled with waste water. Some leakage was shown in the first week, the CSH gel created grew through the concrete pores, capillaries thus cracks and providing a 100% seal – a total success.

Netherland Engenharia have provided our network with a CD containing all www.radcrete.com.au Information Library, including the Rama VIII video. The CD offers faster access as no downloads are required and can be used where there is no Internet access. The Rama VIII video helped Mr. Paulo Andrade on the preparation of the surface (see left) and convincing Brespel on Radcon's features.

As Brespel is a Brazil / Spain joint venture, the Spanish partners required some site references in Europe. To show them our product is applied and represented in +45 countries around the world we have asked Mr. Aguado, from Ariadna Entreprise, SL (Toledo, Spain) to contact Brespel Spain. Mr. Aguado is the Radcrete distributor in Spain. This showed our client, and us, the power of global networking.



FIGURE 3 & 4

Surface preparation - Radcon was then applied to the concrete structure once thoroughly cleaned



The next 2 Brespel concrete waste water tanks to be waterproofed and protected with Radcon Formula #7.

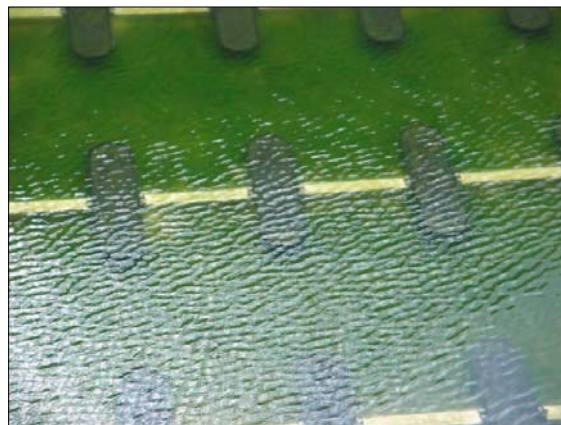


FIGURE 5.

Concrete reservoir operating – A 100% Radcon Formula # 7 successful application.

SEGA WORLD/DARLING WALK, SYDNEY

Client: Jacfun Pty. Ltd.
Architect: Cameron Chisholm Nicol
Main contractor: John Holland Construction
Applicator: Kratrim Pty. Ltd.
Area treated: lake
Size: 4,000 square metres

When a project is being fast-tracked Radcon #7 is the ideal waterproofing product to use. With tight deadlines set for the completion of Darling Walk - Sega World by John Holland Construction, Radcon #7 saved valuable time with its fast and easy application.

Kratrim, one of our Approved Applicators for Sydney, can be seen here spraying Radcon #7 with a motorised spray unit. The application rate for the product is approximately 1 litre per 5 square metres. This rate may vary depending on the finish of the concrete. Utilising the motorised spray unit shown in Figure 5 the product can be applied at rates of 600 - 800 square metres saving valuable construction time.

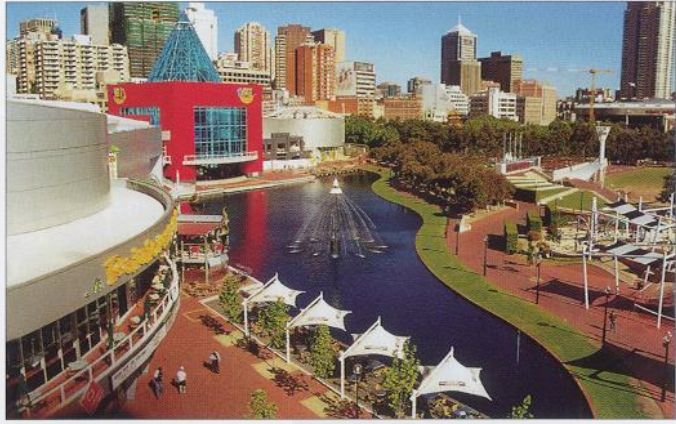


FIGURE 4 - DARLING WALK, SYDNEY

applications. Once the lake was waterproofed it was filled to a depth of just under 1 metre as seen in Figure 4.

Darling Walk is Australia's first interactive retail centre. There is the first ever Sega World which has the ultimate in computer technology and special effects. In retail, Australian shoppers can do more than just buy, touch, smell and feel. They will be able to bake their own biscuits at Arnott's Adventure Store, sample the world's best ice cream at Scoops, admire the sports sculptures that make up the Milo Walk of Fame, share in the anticipation of Sydney's 2000 Olympics at the Kodak Kiosk and Olympic Countdown Clock; and sip coffee at Cafe 43 while kids play at the Nestle Fountain.

Other entertainment operators at Darling Walk include One World Sport and Rainforest Cafe.



FIGURE 3 - RADCON #7 APPLICATION

Aside from application benefits of Radcon #7, the product was also ideal as: it is tested up to 400 metres head of water pressure, and is non-toxic, making it suitable for potable water

MINES BUSINESS PARK, KUALA LUMPUR

Architect: EDA Architects
Engineer: Primetech Engineers
Main contractor: Strategic Alliances Construction (SAC)
Applicator: Brunseal (M) Sdn. Bhd.
Areas: podium deck
Size: 1,200 square metres

A podium deck with tiled areas, water features and landscaping. A nightmare for the architect and the contractor. On any building site these factors traditionally present difficulties. You have a podium deck which is busy with sub-contractors moving around the site, and when the waterproofing is complete there is tiling, landscaping and plumbing, any one of which could damage the waterproofing system.

On this project Radcon Formula #7 offered a trouble free approach. Before any finishing trades began on the podium



FIGURE 5 - PODIUM LEVEL COMPLETED

deck it was completely waterproofed with Radcon #7. Firstly the product was flood sprayed onto a few shrinkage cracks that had developed prior to application, then the area was generally treated. As Radcon #7 penetrates into the

concrete forming a sub-surface barrier it cannot be damaged from surface abrasion, thus eliminating any risk of damage caused by other sub-contractors during construction.

The completed podium deck can be viewed in Figure 5. It is located between the two buildings shown in Figure 6 here on the lake foreshore.

The Mines Business Park is located in the Mines area just outside the Kuala Lumpur city centre. In this area Radcon #7 has been utilised on a few projects such as the Selangor Turf Club in 1993, and more recently the newly opened Palace of the Golden Horses where the product was used to waterproof some 20,000 square metres of rooftop of this luxury hotel. A full story on the 'Palace of the Golden Horses' will be covered in Newsletter No. 25.



FIGURE 6 - MINES BUSINESS PARK, KUALA LUMPUR



FIGURE 7 - PALACE OF THE GOLDEN HORSES, KUALA LUMPUR

FOUNTAIN PLAZA DE CASTILLA, MADRID

Radcon Formula #7 was recently utilised to waterproof the prestigious "Fountain Plaza De Castilla" in Madrid. The application was completed by Troway, our exclusive representatives for Spain as they enter their second year of distribution.

The fountain was built by F.C.C. under the direction of architect, Sr. Vallecillo for the City Council of Madrid.

Photo 12 shows, 2,000 square metres of Radcon #7 is being applied to the inside of the fountain. This



PHOTO 11 - FOUNTAIN PLAZA DE CASTILLA, SPAIN



PHOTO 12 - RADCON #7 APPLICATION

fountain, being a water holding vessel, is an ideal application for Radcon #7 as the product's waterproofing capabilities can

withstand hydrostatic pressure.

In technical detail, when a Radcon #7 application is placed under hydrostatic pressure, the positive water pressure causes an ongoing reaction with water and free lime creating more insoluble solids (calcium silicate hydrate complex) in the pores, capillaries and cracks to create a waterproof seal. Put simply, the greater the hydrostatic pressure applied to the treatment, the deeper the product permeates into the matrix until all leakage is eliminated.

The completed fountain, seen in Photo 11, shoots water to a height of 32 metres, and its' 12 jets enable the fountain to be changed into many different shapes.

PROBLEM SOLVING IN LATIN AMERICA

Imagine the frustration of protecting your car duco from high alkali water droplets as a result of persistent leaks through a concrete podium slab. From above you have a tiled deck which offers no clue to where the water source is coming. Below the tiles is a failed waterproof membrane.

At first, the leakage may only be in an isolated area, so gutters seem a cheap practical solution. As time passed the membrane delaminates further as a result of the elements, allowing the water to reach cracks further away. Before long the only sure way to protect your car is to place a rain cover over it.

Photo 13 shows Mr Geoff Parker of Parker Limited



PHOTO 13 - TILES BEING REMOVED TO REPLACE FAILING MEMBRANE



PHOTO 14 - GUTTERS USED AS SHORT TERM SOLUTION

on site with Mr Luis Hollanda and colleagues of Lienge Construtora inspecting this very problem.

Lienge

Construtora now

our exclusive representatives for Brazil were very interested to learn that an application of Radcon Formula #7 to the mortar joints could have solved all their clients problems, thus alleviating the necessity of tile removal.

In this applications there are a few considerations. Given the tiled deck is stable and mortar joints are in tact, then an application of Radcon #7 to the joints will prevent water penetrating to the membrane below.

This concept also applies to balconies and internal wet areas such as shower recesses. Another advantage of treating the mortar joints between tiles is that Radcon #7 will prevent efflorescence staining on the tiles as water evaporates out of the mortar bed.

RADCON #7 SAVES ANOTHER WATER TANK

Pictured here is the water storage tank for the ski slopes of Perisher Valley. This tank is repeatedly filled and emptied during the winter months to provide water for the snow making machines.

The tank was suffering severe leakage, to the extent where it would lose a quarter of its volume over a two week period. Efflorescence can be seen on the sides of the tank where there is evidence of hairline cracking.

Given Radcon Formula #7's ability to withstand unlimited hydrostatic pressure, the improved performance of treated concrete under freeze/thaw cycles and non-toxic nature, our product was the obvious choice for this waterproofing task.

The tank was first emptied and Conceal Concrete Waterproofing can be seen here applying Radcon #7 to the inside surface.



RADCON #7 AT THE RACES

One of the larger commercial projects completed by Green East Enterprise using Radcon Formula #7, is the Selangor Turf Club, Malaysia.

Radcon Formula #7 was utilised to waterproof the wet areas within the grandstand and on the various terrace levels.

Green East Enterprise are now entering their 4th year of waterproofing experience with Radcon Formula #7 in Malaysia.



RADCON #7 – GOES UNDERGROUND IN TRINIDAD

Client:	Government of Trinidad & Tobago
Site:	Fraud Squad Building (Port of Spain)
Main Contractor:	R. K. Plummer & Associates Ltd.
Application:	800 sq. metres Basement
Applicator:	Dover General Contractors Ltd.



TRINIDAD

It would be normal procedure for Radcrete to recommend our Radmyx crystal growth admixture for waterproofing such a basement area.

However the decision makers in this project were familiar with Radcon as a lifetime waterproofing technology for above grade and therefore chose Radcon #7 for below grade knowing it could by it's very nature outperform all crystal growth products which cannot produce long-

term results when subjected to high thermal movements in above grade applications.

Due to the construction timetable pressures the Radcon #7 treatment only received one of it's three required waterings prior to backfilling.

Soon the rain arrived and water particles appeared inside the basement area.

With our application procedures not followed from the outset it actually took some weeks before Radcon #7 fully reacted with the rain waters to achieve a 100% watertight result.

RADCON #7 – WASTEWATER PLANT – PORTUGAL

Here we actually see the Radcon team for Portugal "Coala S.A." applying Radcon #7 to structural concrete prior to decorative panels being placed over the top.

The application is actually a rooftop over a water treatment plant, which required Radcon #7 application to some 9,500 square metres.

On completion this roof area will be used as a car park, with Tennis Courts and Children's Play Area.

Once the wastewater has been treated and is bacteria free, it finds it's way to the City Centre where it helps supply a major lake near the City Centre.

In today's Eco-driven construction world waste water has become a major contributor to the City's prized Lake area.



ALBUFEIRA



ALBUFEIRA

RADCON #7 - HOLDS WATER - POTABLE WATER - SALT WATER -

Radcon #7 is used to waterproof all sorts of water holding vessels and has done so for many years to date.

Again, it is really many of the unique features of the product that make it the best available method of permanently waterproofing water holding vessels.

High on the list of advantages always is the totally non-toxic, environmentally friendly nature of Radcon #7.

One can do all sorts of non-toxicity tests in the laboratory but the best in-field test is to see Radcon #7 have no toxic effects when utilised in salt water aquariums, such as Australia's National Aquarium in Canberra and recently Atlantic Park Aquarium in Alesund, Norway.

With the most sensitive creatures on the planet safe from any harmful V.O.C. toxins, needless to say, potable water tanks for human consumption also make Radcon #7 ideal applications for global water authorities. Applications may include above ground header tanks, in-ground reservoirs and dam faces.

Furthermore, as Radcon #7 will eliminate any chloride ions reaching the re-inforcement even under hydrostatic pressure; our material is used on such projects as desalination tanks where seawater is held prior to final processing into drinking water.

Radcon #7 is also impervious to chemical, bacterial or fungal attack.

Swimming pool chlorine has no detrimental effects on Radcon #7 performance and the high pH of Radcon #7, (11.7 pH) means that it will act as a deterrent to bacterial and microbial growth again without any negative effects on long term product performance.

Unfortunately for many of our remedial clients we see attractive tiled swimming pools being jack hammered at great expense so the



SPAIN - ARTIFICIAL LAKE - 2300 SQ METRES



TOLEDO - SWIMMING POOL - 1200 SQ METRES



WATER TANKS - POWER PLANT - 6000 SQ METRES

failed membrane systems can be removed and the site faired up prior to Radcon #7 waterproofing.

As can be seen from our front cover we derive great pleasure applying Radcon #7 waterproofing to high cost swimming pool centres, knowing

that our product is delivering a lifetime waterproofing result first time around. Of course this can only be true when a total system approach is employed using other lifetime materials.

SEACON SQUARE, BANGKOK

these areas were ponded to verify that the cracks were leaking. Once this was confirmed and the areas were allowed to dry, Radcon #7 was applied. After the final watering, the areas were ponded for a period up to 2 months as seen in the photo here.



At the end of this on-site testing, Radcon #7 had shown 100% success rate in sealing the slab and was given final approval for the project.

Seacon Square is a low rise structure with 6 floor levels above ground. The building is approximately 500m long by 100 metres wide with 3 expansion joints acting as building breaks. The expansion joints are 50mm to accommodate the minimal thermal movement experienced in these tropical latitudes.

The concrete strength ranged from 20 to 25 MPa

(3000-3500psi) ordinary portland cement (OPC) with only a retarder used to cope with the heat and sometimes, extended travel time. For speed of construction in such a wide expanse low rise building, all floor levels, with the exception of the basement and rooftop, were constructed utilising precast units.

The structural design was conservative and generally based on American Standards, similar to the ELASTIC THEORY, which was formerly practiced in Australia. The roof deck which forms a car park area is a 250mm thick reinforced concrete slab.

In the Main Atrium at the entrance to the shopping centre large areas of free space were required. To accommodate this large space, steel roof trusses close to 50 metres in span were used to support a large glass roof. This internal area, is open from the roof to the ground floor.

Other Australian's involved in the site were: Lincoln Scott - Engineering Building Services, Chesterton Property Consultants, Art Busters - Interior artwork and Fantech.

JAPANESE WASTE TREATMENT PLANT

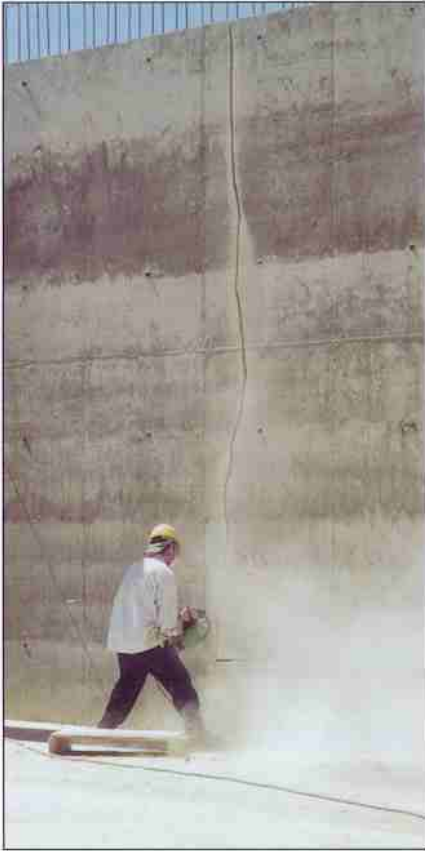
Nishimatsu Contractors, the builders of the Urayasu-City Industrial Water Disposal - Chiba Prefecture, utilised Radcon #7 on 7,000 square metres of this structure for concrete waterproofing and protection.

Radcon Japan, were initially called on site by Nishimatsu after a number of natural shrinkage cracks in some suspended slabs and walls showed signs of leaking. The total areas treated primarily for waterproofing, were the external facade, prior to painting, ramps and unloading areas as seen in the photos. Importantly, Radcon #7 treated concrete will not affect the adhesion of paint to the concrete surface. The painter may find that the coverage rate of the paint increases as the concrete's absorption rate is decreased.

More specifically for concrete protection, the entire inside of the huge concrete waste bin was Radcon #7 treated to increase the resistance of chemical attack from the industrial waste.



RADCON #7 – WATER RESERVOIR – SARDINIA



GRINDING CRACK.

Having successfully completed the Olai Dam project in Sardinia, Radcon #7 continues to be the preferred waterproofing system for potable water containments.

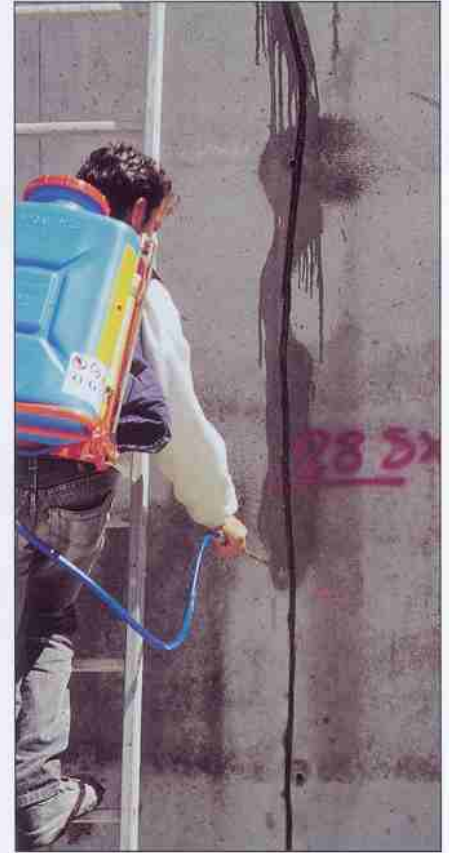
Photographed is one of two 10,000 sq. metre reservoirs to be Radcon #7 treated.

With severe cracking present major cracks were ground out, Radcon #7 sprayed and filled immediately with fresh mortar.

There was a concern, with cracking of this nature, that upon filling the reservoir, cracks present would expand under pressure and go beyond our product's ability to re-seal.

As a back up to these cracks an elastomeric mortar (Volclay) was emplaced with a glass reinforcement web to deliver a 100% watertight seal.

This was achieved with Stage II work soon to be undertaken.



SPRAYING CRACK.

AUSTRALIAN SPECIFIERS OBITUARY

Regular readers of our Newsletters would be expecting our normal highlight of Australian sites using the Radcrete system of concrete waterproofing and protection.

The size of the Australian construction market attracts a small dedication of Radcrete resources to maintain our place in providing 'fit for purpose' concrete waterproofing and protection for above ground concrete elements.

However the construction boom leading up to the Sydney Olympics and the rush to beat the GST on construction costs, has lead to the widespread use of "not fit for purpose" materials for concrete waterproofing and protection.

Unfortunately, old habits once entrenched appear to be dying hard!

We have taken this opportunity to both thank and congratulate professional specifiers in the construction industry be they Engineers, Architects or Builders in the Australian marketplace for ensuring structures are built to the requirements of the Building Code of Australia.

Unfortunately in a tight margin marketplace, all too often professional specifiers recommendations are ignored and changed to materials "not fit for purpose" under BCA minimum requirement guidelines.

This can leave the long term owners of such structures with maintenance and repair cost blow-outs which can be monumental.

Given that all building activity (whether it is commercial or residential) is legally required to meet the BCA requirements as legislated at a State and Territory level, developers not conforming to these requirements can face costly legal and rectification matters in the future.

In July 2001 Radcrete has been invited by the ABCB, Australian Building Code Board, to address various "not fit for purpose" product breaches and offer possible solutions to ensure Australian building standards are re-instated to conform to minimum stipulated BCA performance requirements in our deregulated environment.

We will keep you informed of the outcome of our meeting.

RADCON #7 HOLDS THE WATERS OF THE WORLD

We are most pleased to feature as our first "Water Story", repairs to the Venice Canals.

After some three years of comparative testing together with historical tests and Radcon #7 applications to historic sandstone buildings our product has been chosen as "World's Best" for Venice Canal repairs.

Approximately 40,000 square metres of Canal area will undergo repairs at this time.

The repair involves closing Canal sections, drying the Canal out, undertaking mortar repairs then applying Radcon #7 to create a totally watertight result. Not only will the mortar and stone become one waterproof mass but additionally by penetrating the stone and forming Calcium Silicate Hydrates, the Istrian stone itself will become harder, a more durable material than when it was first used in Venice as a construction material.

Moving on, yet another Swimming Pool application for the Linh Dam Sports Centre in Hanoi, Vietnam.

Poor vibration leading to honeycombing is our greatest challenge in less developed countries. However with an eye for detail and some manual hacking out and mortar filling, a 100% watertight result can be achieved on every occasion.

Our bottom photo on page six is an application to a drinking water tank in Abu Dhabi.

The tank, some 200 square metres is located in the basement of a residential building with product approval received from the consultants – Palestinian Engineering Consultants Bureau (PECO).

As we move over to page seven, some three photos of the Rio Chillon Water Treatment Plant in Peru.

This 20,000 square metre site was undertaken by our exclusive Peruvian representatives "SACOSI".



VENICE CANAL RESTORATION



LINH DAM – SPORTS CENTRE - VIETNAM



WATER TANK – ABU DHABI



PROJECT - RIO CHILLON

As we always say "We simply love cracks". If concrete didn't crack then waterproofing would no longer be needed.

The crack photo here is showing a Radcon #7 crack gauge which measures from 0.1mm cracks through to 2.5mm cracks.

The crack photographed has propagated to a 1.00mm opening.

Our readership often asks at what pressure head will Radcon #7 fail.

Well cracked cylinders with Radcon #7 waterproofed cracks in place were taken to a pressure head of 400 metres without any leakage.

Unfortunately we could go no further as the concrete itself exploded at this pressure prior to Radcon #7 failing.

We wish Hugo Bocanegra and the SACOSI team every success with Radcon #7 in Peru.

And of course congratulations Radcon Italia for securing one of our most interesting Radcon #7 applications ever!

Whether it be 5 star hotels, Nuclear storage facilities, undersea structures or Venice Canals, we deliver lifetime results in a totally environmentally friendly, non-toxic approach, Radcon Formula #7, World's Best In Action Again.



RIO CHILLON - PERU



WATER TREATMENT PLANT - PERU

RADCRETE



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EDITORIAL

RADCON #7 - NORWAY - POOLS

As Radcrete Pacific is an environmentally responsible company you will find all our products environmentally friendly producing no V O G emissions.



Furthermore all products are non-flammable, non-hazardous materials suitable for application to structural concrete.

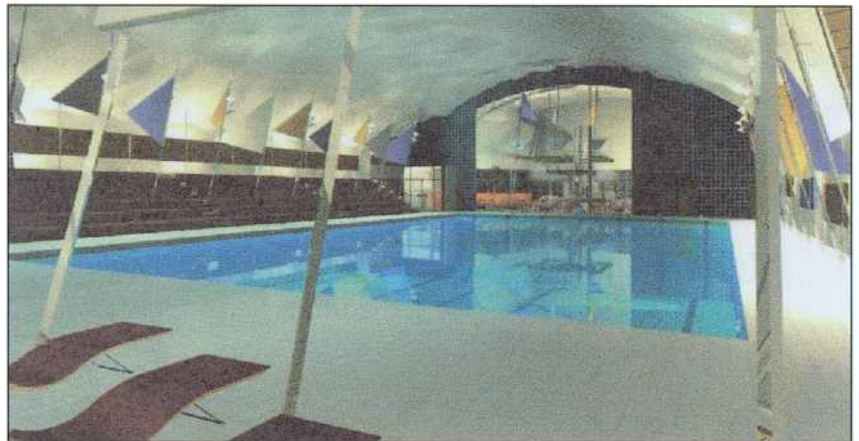
Being environmentally conscious we also support the use of blended cements providing they are compatible with our own products, and serve to increase the service life of the structure.

Our technical feature focuses on the chemical compositions of ash materials and their effects in structural concrete over the long term.

This current Newsletter focuses primarily on trafficable concrete applications and the broad use of Radcon #7 in water holding vessel requirements.



HARSTAD - CENTRE BUILT INSIDE MOUNTAIN



HARSTAD - SWIMMING POOL CENTRE



HOVEDBASSENG - SWIMMING POOL

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RADCON
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CONCRETE & MASONRY WATER REPELLENT

radmyx
CAPILLARY WATERPROOFING SYSTEM

RADELOOR
FLOOR HARDENING & DUSTBINDING

RECENT SITES OF INTEREST 2005

Radcrete Pacific presents: Water Holding Vessels

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FIGURE 1.

External view of the elevated concrete reservoir. Radcon Formula # 7 has been applied to waterproof an area of 200 sq mtr which is under 8 mtr of constant water pressure

SITE DETAILS:

COUNTRY	- Brazil
PROJECT NAME	- Elevated Concrete Reservoir
CLIENT	- Frigorific Sao Mateus
ENGINEER	- Eng. Paulo Torres
APPLICATOR	- Netherland Network
SIZE	- 200 sq mtr

Frigorific Sao Mateus is one of the biggest Brazilian pork and beef processors, with a processing capacity of average 10,000 tons a month.

The company's elevated concrete reservoir, previously waterproofed with asphaltic membranes, was constantly leaking until the membrane literally slid down along with the mechanical protection.

Radcon Formula #7 was chosen to restore the reservoir as it does not require regularisation of mechanical protection layers, provides 100% waterproofing and does not affect the potability of the water stored.

RECENT SITES OF INTEREST 2005

Water Holding Vessels continued

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Netherland Engenharia recommended the reservoir to be fully loaded before commencing application. This was vital to locate pouring flaws on the walls and the base slab, not visible during inspection. These concrete failures were corrected before the waterproofing works began.

As it was an existing concrete reservoir, a Calcium Acetate 10% solution pre-treatment was carried out.



FIGURE 2.

Internal view of the reservoir - job was completed in 5 days and the water tank was released for use.

Ancillary products complete the Radcon Formula #7 treatment performance. The drains and penetrations were treated with a polyurethane membrane, serving as a bridge between metallic and cementitious materials.



FIGURE 3.

Penetration before polyurethane treatment.



FIGURE 4.

Concrete pour joint before polyester reinforced polyurethane treatment

VERSATILE RADCON #7 SOLUTIONS FOR SINGAPORE



STERLING CONDOMINIUMS, BUKIT TIMAH, SINGAPORE

Main Contractor: Dragages Singapore Pte Ltd
Architect: D.P. Architects Pte Ltd
Approved Applicator: Reverton Engineering Pte Ltd
Area Treated: 26,200 Sqm

Radcrete's Singapore representative, Reverton Engineering, recently completed Radcon #7 waterproofing to "The Sterling" luxury private condominiums in the upmarket Bukit Timah district.

The areas treated included the rooftop swimming pool, covered link way and wet areas.

Reverton Engineering has, time and time again, demonstrated the multiplicity and flexibility of Radcon #7 applications within a single building structure. In turn, this highlights the shortcomings of tedious specialised approaches and materials for different applications - when the use of Radcon #7 achieves cost-effective lifetime waterproofing on every occasion.

RADCON #7 WINS AT NEW 'AUSSIE' SPORTS STADIUM

Builder Abigroup Contractors
Architects Scott Carver
Project Manager Incoll Management
Applicator Kratrim Pty Ltd
Area 1,300 Sqm

Located in the north of the greater metropolitan area, this new sports stadium complex is some 80 kilometres from Sydney's CBD at Gosford on the Central Coast.

This type of structure is ideal for pre-cast panel construction and will perform faultlessly provided no structural volatility is present under full loading. Radcon #7 waterproofing was applied to a structural topping slab that was emplaced over pre-cast panels.

The completed Grahame Park Stadium now provides the local community with an excellent venue for sports events and spectators alike.



GRAHAME PARK STADIUM, GOSFORD, AUSTRALIA

TELECOM EQUIPMENT BUILDING, SINGAPORE

Owner:	Telecom Equipment Pte. Ltd.
Architect:	Liu & Wo Architects
Engineer:	SCE Consultants
Main Contractor:	Tokyo Construction Co.
Applicator:	Reverton Engineering (S) Pte. Ltd.
Area treated:	ground level podium
Size:	3,000 square metres

A high traffic podium level with loading dock and heavy vehicular traffic. To take full advantage of all the benefits of using Radcon #7 this is the ideal place.

When Radcon #7 is treated onto structural concrete it absorbs into the matrix, and cracks. Through the 3 day watering process the product slowly reacts with free Calcium Hydroxide ions to form a gel-like material.

Aside from providing waterproofing abilities, Radcon #7 does significantly increase the hardness of the concrete surface. It does this by filling small voids in the surface of the concrete with the hard gel-like material. Our testing has revealed that Radcon #7 will raise the concrete hardness from 6 on Moh's scale to between 7-8. Keep in mind that 8 on Mohs scale is equivalent to the hardness of granite. When the application is complete, Radcon #7 has created a tough sub-surface waterproofing barrier in the concrete.

By sub-surface we mean that Radcon #7 is not a surface coating but a



FIGURE 42 - TELECOM EQUIPMENT BUILDING, SINGAPORE

product that penetrates the concrete. After treatment, there is no surface film as with membranes.

The two functions of the product highlighted above make it ideal for use in high traffic areas such as bridge decks, loading docks and car parks. There is no damage to the waterproofing during construction or after, and the structural concrete does not require any protective toppings as would be the case if membranes were to be used.

Radcon Formula #7 was applied to some 3,000 square metres of podium at ground level. This included all trafficable areas of the podium around the building such as the road and loading dock down the side of the building - Figure 42, and front foyer area - Figure 41 which are both suspended above lower levels.

The product was specified by Liu & Wo Architects and applied by our exclusive Singapore representatives, Reverton Engineering.



FIGURE 41 - ENTRANCE SUSPENDED OVER BASEMENT

CHOONG AM CULTURAL CENTRE, SEOUL

Radcon Formula #7 was used to waterproofing these three swimming pools as part of an upgrade of the Choong Am Cultural Sports Centre in Seoul. The pools were recently constructed at the Sports Centre and are suspended in the 4th floor. They include a 25 metre pool, children's pool, and spa.

This was the first major project completed by our newly appointed Korean representatives, Korea Castle Co. Ltd. With our 9+ years of experience with Radcon #7 in the Asian region, South Korea represents a new market for the product and we are glad to exhibit this first project.

As with any swimming pool waterproofing, Radcon #7 was spray applied directly onto the structural concrete. After the completion of the three waterings the tiles were simply installed directly onto the Radcon #7 treated concrete. Importantly, the product does not interfere with the bond of other materials placed over the treatment.

In fact when placing a cementitious material such as a mortar bed over the treated

surface there is in fact an increase in bond strength between the two materials up to 27%. This makes Radcon #7 ideal for tiled areas where mortar beds can easily become 'drummy' if they are not thick enough due to bond loss with the substrate.



FIGURE 43 - MAIN SWIMMING POOL WATERPROOFED WITH RADCON #7

DOVER PARKVIEW, SINGAPORE

Developer: Far East Organisation
Architect: Andrew Tan Architects
Engineer: KTP Ho Consultant & Partners
Main Contractor: Neo Corporation
Areas treated: rooftops, roof-garden, planter boxes, podium deck, car park roof-deck, swimming pools, wet areas
Size: 50,000 square metres
Representative: Reverton Engineering

The Miami Style **Dover Parkview** is now complete in Singapore. Designed by Andrew Tan Architects, developed by Far East Organisation, built by Neo Corporation. Claimed to be the most advanced high tech condominiums in Singapore, every home is fully automated with the Proteq 8X, one of the worlds most intelligent home automation and security systems.

This system provides around-the-clock protection by constantly monitoring each apartment. Combined with this household appliances can be remotely switched on or off by simply dialling the correct code on any phone line, while heat detectors forewarn and help prevent any potential fires.

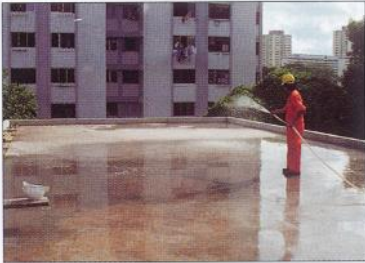


FIGURE 21 - 1ST WATERING AFTER THE RADCON #7 TREATMENT

High-tech wizardry aside, Dover Parkview also boasts one of Singapore's best private landscaped gardens designed by **Belt Collins**, the landscape architect behind the famous Shangri-La Hotel, Singapore.

As part of the resort living atmosphere, Dover Parkview has a full range of recreational facilities. These include an underwater-music swimming pool (see Figure 23), children's

play pool, jacuzzi, eurobath, sauna, outdoor fitness station, gymnasium, four tennis courts, BBQ pits and more.

The project is located off Dover Road, close to established schools, tertiary institutions and major conduits like the Ayer Rajah Expressway. In addition, residents can look forward to an air-conditioned shuttle service between Dover Parkview, Buona Vista MRT Station and the popular Holland Village.



FIGURE 23 - SWIMMING POOL WITH UNDERWATER MUSIC

Radcon Formula #7 was used as the exclusive waterproofing system for this project. The product was used in applications covering everything from high thermal stress slabs to water holding vessels to rooftop gardens - totalling some 50,000 square metres of waterproofing.

ROOFTOPS

Radcon #7 was used to waterproof all of the flat concrete rooftops on the 4 towers. Topside insulation was still required so the surface finish needed a topping that can be seen in Figure 24.

LANDSCAPED AREAS

This site combined planter boxes and extensive landscaping over the podium level which can be viewed in Figures 22 & 25. Importantly plant roots will not attack the integrity of the



FIGURE 22 - DOVER PARKVIEW, SINGAPORE

DOVER PARKVIEW, SINGAPORE

Radcon #7 waterproofing treatment. The depth of the soil on the landscaped areas was up to 1.2 metre.

WATER HOLDING VESSELS

A total of three suspended swimming pools were waterproofed with Radcon #7. Each of these pools are located in the podium deck which is suspended over the lower ground car park.

WET AREAS

All bathrooms in the 600+ condominiums were all waterproofed with Radcon #7. As the product penetrates into the concrete there is minimal risk of damage from other trades such as tilers. Even when traditional membranes are installed correctly they can be easily damaged after installation. Radcon #7 eliminates this problem.



FIGURE 25 - LOOKING DOWN ONTO SUSPENDED PODIUM DECK

in the minor role of ancillary detailing. This includes detailing to construction, cold and expansion joints, plus penetrations.

SITE SUMMARY

ROOFTOPS	5,500 square metres
WET AREAS	20,000 square metres
LANDSCAPING & PLANTERS	21,000 square metres
TENNIS COURTS	1,000 square metres
POOLS	1,500 square metres



FIGURE 24 - ROOFTOP WITH INSULATION AND TOPPING

Overall there could not be a better demonstration of the versatility of Radcon Formula #7 when waterproofing. It is important to note that Radcon #7 is a 'system approach' which includes the use of other products

AUSTRALIAN HIGH COMMISSION RESIDENCE, SINGAPORE

Owner:	Australian Government
Project Manager:	Overseas Property Group, ACT
Architect:	Kerry Hill Architects
Engineer:	Fraiser Worley Group
Main Contractor:	V3 Contractors
Representative:	Reverton Engineering

The Overseas Property Group primarily manage the construction of Government related buildings in overseas markets such as this Australian High Commission residence locate in Singapore. The requirements on these projects is to include as much Australian involvement as possible - from engineering to architectural services, to contracting and product supply.

Radcon #7 has been used on a number of major government projects in Australia such as the Australian Taxation Offices at Wollongong and Hurstville. Importantly the product has

received its Australian Building Systems Appraisal Council (ABSAC) Appraisal which is considered mandatory for products on government projects.

Added to this the product has had full representation in Asia for up to 9 years.

It was these reasons for the products acceptance and approval by the Overseas Property Group for this project. Radcon #7 was utilised on all exposed flat concrete roof decks and in the swimming pool. The application was undertaken by our Singapore representatives, Reverton Engineering.

We are proud to have been given the opportunity to be involved on this site representing Australia. Other Australian involvement included the engineers, Fraiser Worley (formerly Wholohan Grill & Partners) and Kerry Hill Architects, both well regarded for their work in the region.



FIGURE 26 - AUSTRALIAN HIGH COMMISSION RESIDENCE, SINGAPORE



FIGURE 27 - INTERNAL COURTYARD AND SWIMMING POOL

KVERNDALEN BRIDGE DECK, NORWAY

Name of section: Arteid Bridge - Kverndalen
Bridge: Kverndalen
Owner: NSB Gardermobanen
(Norwegian State Railways)
Main contractor: AP Spesialprosjekt/Skanska
Applicator: Minihaller AS
Area: Bridge deck
Size: 1,500 square metres



FIGURE 28 - BRIDGE DECK

The Arteid Bridge located forms part of the New Fast Train to Norway's new airport just outside Oslo. The railway project

includes several major bridges, of which Radcon Formula #7 has been applied to three - to the deck and culvert. One of the bridges, Kverndalen, can be seen in Figure 29.

A strong reason for choosing Radcon #7 on

these bridges is due to the crack sealing performance of the product. Any concrete protection product will provide some protection to the structure by protecting the general matrix of the concrete, but Radcon #7 can address cracks which may be present or develop in the structure. Local testing has been undertaken through SINTEF for chloride ingress and permeability.



FIGURE 29 - KVERNDALEN BRIDGE, NOOSDLO

By sealing cracks in the concrete as well as the matrix, Radcon #7's performance is greatly enhanced offering superior protection for concrete exposed to freeze-thaw attack, chloride ingress and other air borne pollutants.

Also a major consideration on this civil project was the extensive use of heavy balustrade (stones) along the rail tracks. Although Radcon #7 is a spray applied liquid it penetrates the concrete without leaving a surface film. The product works by reacting with the free Calcium Ions within the concrete to form a sub-surface waterproofing barrier. Therefore the placing of heavy balustrade onto the treated concrete does not damage the Radcon #7 treatment.

ITALIAN SWIMMING POOL

Main Contractor: Genio Militare - Ing. Tornabene
Application: Maffei Company - Mirandola, Modena
Pool Dimensions: 25m x 12m (up to 4m deep)

The Military Academy in Modena, Italy is the Training Base and home for the Italian equivalent of the Marines. Their swimming pool was built in 1950 and is suspended on beams and piers. The pool was leaking profusely producing 300mm calcium stalactites as seen in Figure 31. Traditional repair methods were more expensive than completely re-building the pool. Radcon Italia provided an alternative method to try to resolve a difficult problem.

The empty pool was washed and mortar joints in poor condition were re-grouted. Then the whole tiled internal area of the pool was treated with Radcon #7 with the first watering using a 3% calcium solution to help trigger the reaction in the older mortar joints. The pool was filled. During the first week



FIGURE 30 - SWIMMING POOL RE-FILLED AFTER SUCCESSFUL REPAIRS

there was no significant improvements. After 10 days large saturated areas started to dry. After 2 weeks, 70-80% of the problem was resolved.

The remaining problem was a construction joint running horizontally around the pool. A unique and untried method was put forward to seal this joint from the outside. Firstly the leaking joint was ground out 40mm deep and 20-30mm wide. A PVC tube of 15mm diameter with regular holes was placed in the cut-out. The tube was covered in a quick setting mortar. After 8 hours the tube was sealed at one end and injected with Radcon #7 at 2 atmospheres pressure. The Radcon #7 displaced the water and reacted with the calcium in the joint creating a watertight seal.

This methodology proved successful and was thought to be miraculous by the Military Engineers. The pool has been given a new lease of life at an exceedingly low repair cost.



FIGURE 31 - SOFFIT WITH 300MM CALCIUM STALACTITES

THE DATAI RESORT, MALAYSIA

This exclusive resort is located on the Island of Langkawi off the north-east coast of Malaysia near the boarder of Thailand. The resort was constructed by Penemba Construction and Radcon Formula #7 was used to waterproof approximately 3,000 square metres of concrete.

Radcon Formula #7 was specified by Arkitek Jururaneang Malaysia (AJM) for waterproofing the entire pool deck area

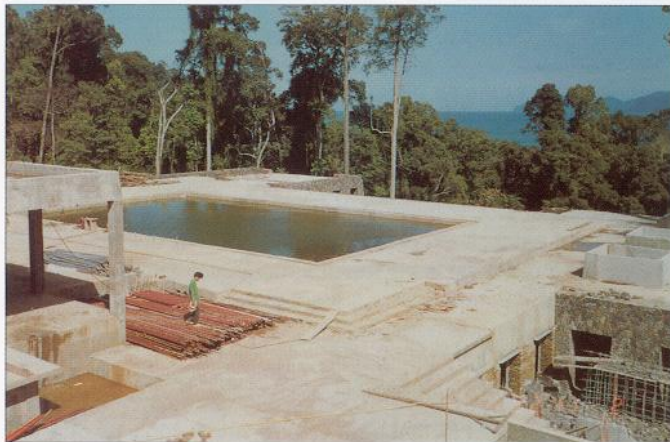


FIGURE 28 - EXPOSED DECKS DURING CONSTRUCTION

which is located over habitable living areas, the tiled walkways, and the large exposed forecourt area at the entrance of the resort.

In remote areas such as these, Radcon #7 is very convenient to ship due to its compact nature. Five 200 litre drums is sufficient to waterproof up to 5,000 square metres. This can save significant time and money when shipping.

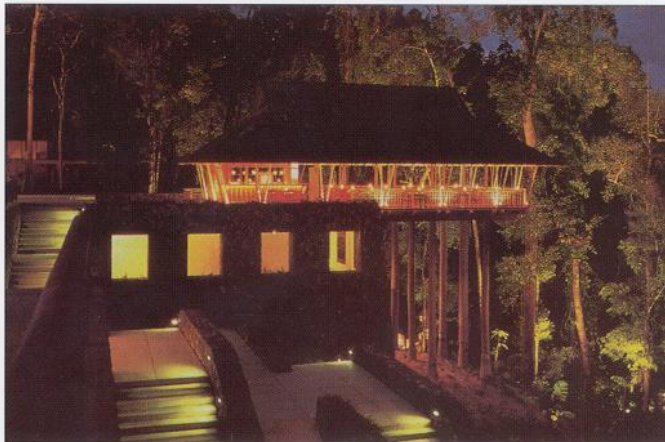


FIGURE 29 - THE DATAI RESORT BY NIGHT

GRAIN BERTH, PORT KEMBLA, NEW SOUTH WALES

The Port Kembla Port Corporation (formerly the MSB Illawara Ports Authority) who is responsible for the maintenance of many wharf decks was faced with a number of large cracks up to 2.5mm on their Grain Berth located in the Inner Harbour at Port Kembla.

The wharf deck was constructed in 1979, using Ordinary Portland Cement as the binder and during its life had developed some regularly spaced cracks running perpendicular to the wharf's length. Overall the wharf is in good condition but the cracks were leaking profusely which allows chlorides direct exposure to the reinforcement.

A number of products were considered from water repellents to cementitious crystal growth products. Radcon Formula #7 was chosen because the treatment would seal any crack right the way through, not just the top or the bottom. And secondly, the product will accommodate the movement associated with high thermal stress which is significant considering the length of the wharf. And finally, the complex gel that is created by the reaction between Radcon #7 and calcium is highly alkaline which maintains a passive environment for the steel reinforcement.

The cracked areas were thoroughly cleaned and then flood

sprayed with product. Due to the size of the cracking, they were taped on the underside to allow the product to pond and absorb into the cracks' face and form a gel. Due to the



FIGURE 30 - ONE OF MANY CRACKS IN THE DECK



FIGURE 31 - GRAIN BERTH, INNER HARBOUR

age of the leaking cracks, a calcium solution was used as the first watering to replace the calcium that had been leached out. This was considered essential to increase the reaction speed and bulk up the crack. The final two waterings were performed using normal tap water.

Upon practical completion, the treated areas were pond tested to confirm a seal had been achieved. A few stubborn cracks did require re-treatment to achieve a 100% result. To monitor the performance of the Radcon #7 treatment, the Port Kembla Port Corporation performs annual pond tests. The treatment was completed in mid-1993. The success of this treatment has led to other applications to the Multipurpose Berth and Outfitting Berth also located in Inner Harbour.

SITES OF INTEREST 2008

Radcrete Pacific presents: **Water Holding Vessels**

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SITE DETAILS:

COUNTRY	- Jeddah, Saudi Arabia
SITE	- Al Corniche Hotel
TREATED AREA	- Swimming pool
APPLICATOR	- Isam Kabbani Group

FIGURE 1.
The Al Corniche Hotel Jeddah, Saudi Arabia.

Rooftop pool protected by RADCON Formula #7 technology.

The newly erected Al Corniche Hotel in Jeddah solved once and for all any potential waterproofing issues in the final stages of the construction.

The hotel is at the centre of the Corniche, a popular waterfront area said to be one of the most spectacular places in Saudi Arabia. It features over 400 open air sculptures and the gigantic King's Fountain, situated opposite the Al-Salam Palace.

It has an open air rooftop pool, which is exposed to extreme weather conditions. Any leakage present could cause serious water damage to the floors below and even disrupt the hotel's operations.

Isam Kabbani, Radcrete's Saudi representatives, had the perfect and inexpensive solution for this situation – RADCON Formula #7.

The specifiers were doubting this 'miracle' product at first but after realising RADCON #7 was the only solution claiming to fix any leaking cracks present as well as any future hairline cracking without re-applying the product, they gave Isam Kabbani the green light.

RADCON #7 was spray-applied to the rooftop pool concrete surfaces and as confirmed by a successful pond test, will be protecting and waterproofing the concrete for the life of the structure.

The product has been available in Saudi Arabia for several years and is building a solid reputation being used on landmark projects such as the Al Corniche, Jeddah Shopping Center and the Royal Terminal at the Jeddah International Airport.

AMPANG HILIR CONDOMINIUMS, KUALA LUMPUR

Green East Enterprises completed approximately 3,000 square metres of Radcon #7 waterproofing to these swimming pools and surrounding podium deck. This application for I&P Fletcher Constructions is a typical example of Radcon #7's performance under constant hydrostatic pressure.

These two pools located at the Ampang Hilir Condominiums in Kuala Lumpur are suspended above the lower level car park. In this type of application, Radcon #7 is applied to the structural concrete prior to placement of tiles. An obvious advantage of the treatment is the concrete will be watertight and the tiles will still gain full adhesion to the concrete substrate.

In this site there were a few areas where the concrete was poorly vibrated resulting in honeycombing. These areas were chipped out, treated with Radcon #7, then were patched with a standard non-shrink grout.

By pre-treating the patched area, Radcon #7 increases the bond strength between the patch and substrate by up to 27% (ASTM-C925). When the



remedial preparation work is completed the entire surface area receives a treatment of Radcon #7 followed by the three day watering procedure..

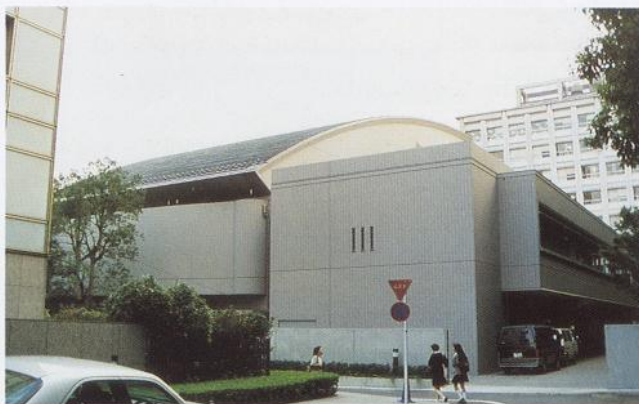
KEIO UNIVERSITY, TOKYO

New extensions to Keio University, one of the oldest Universities in Tokyo, were recently waterproofed utilising Radcon #7. Radcon Japan, our exclusive distributors for the Japan region undertook the application.

This new wing was constructed by one of Japan's most internationally recognised builders, Obayashi Contractors. As depicted in the photos, the construction incorporated an interesting curved concrete

rooftop. With the finished concrete rooftop remaining exposed to the elements, the Radcon #7 technology was ideal due to its being unaffected by UV light and acid rain.

Mr Itoh, one of the directors of Radcon Japan, can be seen here overseeing the application of Radcon #7. The applicator is utilising a low pressured motorised spray unit which enables application rates of up to 800 square metres per hour.



SITES OF INTEREST 2009

Radcrete Pacific presents: **Water Holding Vessels**

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SITE DETAILS:

COUNTRY	- Kuwait
SITE	- Al Faris Resort
APPLICATOR	- Al Rashed Company
TREATED AREA	- Pools & Water Feature

FIGURE 1-2.

RADCON #7 waterproofing being applied on the pool and water feature at Al Faris resort.

RADCON #7 enters market with pool protection project in Kuwait.

Al Faris resort is a sought after holiday spot on the Persian Gulf shore situated approximately 45 minute drive from the capital Kuwait City.

The resorts pools and water feature have been treated with RADCON Formula #7 (pictured) last year which makes it Al Rashed's first site in Kuwait.

Al Rashed Company, the local distributor and certified applicator of the technology, knew RADCON #7 was the ideal product for the job considering its superior performance under hydrostatic pressure and whilst being totally non-toxic in nature.



EXCLUSIVE GLOBAL DISTRIBUTOR FOR **RADCON FORMULA#7** WATERPROOFING CONCRETE FOR LIFE