RECENT SITES OF INTEREST 2005

Radcrete Pacific presents: Commercial Buildings





FIGURE 1.

Front view of the Centrar Project, Zagreb, Croatia

Radcon Formula # 7's successful debut in the Croatian market

SITE DETAILS:

COUNTRY - Croatia

PROJECT NAME - Centar Projekt

DEVELOPER - Stridon, Zagreb

ARCHITECT - Ade Studio d.o.o.
CONTRACTOR - Centar Projekt d.o.o.

APPLICATOR - Gifiks GM d.o.o. SIZE - 1,833 sq mtr

312L - 1,033 sq IIIti

Radcon has once again entered a new market with a 100% watertight result on its first application.

Our Croatian colleagues, Gifiks GM d.o.o., have completed their first application of the world's best waterproofing technology in Zagreb.

Roof tops, podium decks and the adjoining walls were treated with Radcon and the area was flooded to ensure it was waterproof.

After two days, there was no leakage and both the applicators and the contractors were impressed with Radcon Formula #7 outstanding performance.

We hope to bring you many more success stories from Croatia, in the near future.





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Radcon Formula # 7 for the new Ibere Camargo Foundation Headquarters in Brazil.

Netherland Engenharia, Radcrete's exclusive representative in Brazil, commenced waterproofing and protection of the country's new architectural landmark and international site reference, the Ibere Camargo Museum in Porto Alegre.

The project was coordinated by Jose Luis Canal and designed by Architect Alvaro Siza and Engineer Jorge de Silva of GOP Portugal. It also won Arq. Siza the Golden Lion award at the 2002 Venice Architecture Biennial.

Radcrete global network played a key role in the specification of Radcon for this site; it was Nuno Guimaraes, Radcrete's representative in Portugal who was responsible.

The building's pure white facades were designed as a 45mpa concrete but reached as high as 60mpa. Being located on the Guaiba River it required protection against chloride ingress & chemicals due to the heavy traffic in the area.

Radcon will also protect the construction from dust and resist staining from graffiti, which significantly reduces the maintenance and cleaning costs.

The Museum will exhibit more than 4000 works by Ibere Camargo alone, as well as featuring numerous Brazilian and international artists.

SITE DETAILS:

COUNTRY PROJECT NAME Brazil - Porto AlegreIberê Camargo Museum

NAME - Iberê Camargo Foundation &
CLIENT Construcoes e Comercio Camargo

Correa

APPLICATOR - Netherland Engenharia ltd

SIZE - 6,337.10 sq mtr



A plan for a broad program of activities in the field of modern and contemporary art is also under way.

The facilities will include 9 exhibition rooms, an etching studio, a multi-use studio, an auditorium, a research and information centre, an atrium, a bookshop, a café and underground parking.

We will be bringing you more details on this interesting project as the application works progress.



RADCON'

RECENT SITES OF INTEREST 06 - 07

Radcrete Pacific presents: Commercial Buildings



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FIGURE 1.

Salt water aquarium in the Mega Commercial Centre in Kaunas.

Launching new territory - Lithuania

The new MEGA Commercial Centre is conveniently located in the very heart of Lithuania, the Vilnius - Klaipeda highway running through the city of Kaunas.

This historical city dating back to the 10th century AD is an important cultural and economical centre where rapid growth and a skilled workforce led to the need for this retail / leisure facility.

This huge shopping and leisure center is the largest shopping complex in the Baltic countries, spaning across an area of 72.000 sq mtrs.

A 50 million Euro project responded to a big demand for retail premises in Lithuania which is behind the European average consumption levels due to the lack of retail facilities. This is despite of being one of the fastest growing economies in the EU.

The Plant room floor adjacent to the giant salt water aquarium (figure 1.) was waterproofed and protected with RADCON Formula #7, mainly to contain any leaks or spillages of liquids and fluids from faulty tanks.

Specifiers paid special attention to characteristics such as resistance to chemicals and surface hardness where RADCON #7, once again, exceeded any other waterproofing products presented to the specifiers.

SITE DETAILS:

COUNTRY - Lithuania

SIZE

PROJECT NAME – MEGA Commercial Centre

DEVELOPER - Baltic Shopping Centres

APPLICATOR - Porto Statyba

- 200 sq mtrs



FIGURE 2.

Porto Stavba applicator Mr Edgaras Kaveckas sealing all visible cracks with RADCON #7 prior to the treatment.

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Radcrete Pacific presents: Trafficable Areas

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Latest site reference news from **Radcrete Pacific's USA** representative Smartech Structure **Protection**

As part of the refurbishment program, Express Polymers, Inc. (Smartech's regional representative in the US northeast) was successful in having RADCON Formula #7 specified for waterproofing and protection of the top deck of this car park structure in Pittsburgh, Pennsylvania.

The structure, considering it is some 20-years old, was in relatively good condition with no cracking evident of any note.

Prior to the RADCON Formula #7 application spalling and patch repairs were undertaken to the deck.



This application was interesting in a number of ways;

- 1) The specification went down to the wire against an industry competitor. Express Polymers' principal, Nelson Tonet, P.E., was able to confidently present to the owners a lower cost option plus RADCON Formula #7's proven lifetime crack sealing and concrete waterproofing capability.
- 2) As a busy office/shopping complex car park, application could only be effected at night - and then only at the weekend.

SITE DETAILS:

COUNTRY

- USA

PROJECT NAME

- Greentree Parking Garage

TREATED AREA

- Top carpark deck

APPLICATOR

- Anthony Pesante Contractors

SIZE

- 3, 000 sq mtrs (32,000 sq ft)

3) The contractor sourced a novel gas-powered mechanical pump unit with a caddy capable of holding 200-litre drums of RADCON Formula #7 providing mobility with minimal product handling.



4) The contractor, in addition to the easy-to-move mechanical pump and product drum caddy, used an extended boom sprayer to increase application efficiency and consistency in the low light conditions.



Radcrete Pacific presents: Trafficable Areas



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FIGURE 1.

Top level of the Ferrara Plaza car park waterproofed with RADCON #7

RADCON Formula # 7 protecting the ground breaking shopping complex in Portugal – FERRARA PLAZA.

The latest RADCON #7 application in Portugal was a car park area of the new "Commercial Theme Centre" - the Ferrara Plaza Shopping complex.

The project began in November 2006 and is the most significant construction in the Pacos de Ferreira region, fro a communal perspective.

This entertainment and leisure centre will feature 130 stores, Carrefour hypermarket, 5 cinemas and a 1,400 space car park already waterproofed with RADCON Formula #7.

Thanks to the expertise of Radcon #7 applicators Coala S.A., this mega complex is another entry on the high profile site reference list in Portugal.

SITE DETAILS:

COUNTRY

- Portugal

PROJECT NAME - Ferrara Plaza DEVELOPER

- Martifer Group

APPLICATOR

- Coala S.A.

SIZE

- 6,000 sq mtr

This 60 million Euro investment will feature a unique and ever changing of furniture, display desian decoration, representing the region's biggest industry. Its doors are due to open in August 2007.



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RECENT SITES OF INTEREST 06

Radcrete Pacific presents: Trafficable Areas





RADCON Formula #7 features in New Jersey DOT Surface-Applied Corrosion Inhibitor Study

As part of an ongoing evaluation of new technologies and products, RADCON Formula #7 was selected as one of three products in a demonstration program by the New Jersey Department of Transportation to evaluate the performance of surface-applied corrosion inhibitors.

The objective of the program is to determine and compare the effectiveness of the three treatments - each of a different technology - in mitigating corrosion under New Jersey conditions; premature deterioration of the concrete caused by chloride-induced corrosion of deck reinforcement and freezethaw damage.

RADCON Formula #7 was applied to 4 bridge decks on a very busy Interstate 295, Mercer County, New Jersey in November 2005. The process was completed in eight nights followed by three night watering procedures.

SITE DETAILS:

COUNTRY - USA

PROJECT NAME - Interstate 295 TREATED AREA - 4 Bridge Decks

APPLICATOR - Express Polymers, Inc.

SIZE - 3, 100 sq mtrs (33,500 sq ft)

Nelson Tonet, P.E., principal of Express Polymers, Inc. (Smartech Structure Protection's regional representative in the US northeast), worked closely with the New Jersey DOT in evolving the test application program for RADCON Formula #7 and then supervising the contractors in all aspects of the application program and post treatment waterings.

First results from this surface-applied corrosion inhibitor study should become available from the New Jersey DOT's New Technologies and Products section in mid-2007.



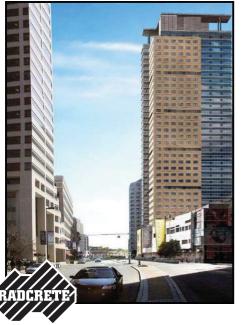
Pictured above: RADCON Formula #7 application - electrical pump/tank with a hose spray wand or a boom with a number of sprayers.

RADCON FORMULA#7

RECENT SITES OF INTEREST 06 - 07

Radcrete Pacific presents: Trafficable Areas

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SITE DETAILS:

COUNTRY - USA

PROJECT NAME - Town Square / Hartford 21 Project CONTRACTOR - Turner Construction Company

TREATED AREA - 3 Car Park Decks

APPLICATOR - Armani Restoration, Inc.

SIZE - 13,005 sq mtrs (140,000 sq ft)

Pictured left: Artist visualisation of the Harford 21 Structure.

RADCON Formula #7 used in major development project

RADCON Formula #7 was used, as part of renovation project in Hartford, Connecticut, to waterproof and protect three levels on one of the refurbished parking garages.

The US \$160 million project, called Town Square/Hartford 21, transformed the aging retail, office and restaurant portion of the facility attached to the Civic Center Coliseum into an attractive new residential, retail and entertainment center in the heart of downtown.

With a new 36-story, structural steel apartment tower as the centre piece of the project, Turner Construction Company was the construction manager for the one million sqft development that includes 262 apartments, 100,000 sqft of office space, 53,000 sqft of retail, and two parking garages with 800 spaces.

Approved Applicator, Armani Restoration, Inc. of Hartford, undertook the RADCON Formula #7 application with client support from Express Polymers, Inc.

The three level parking garage (shown during construction in photo below), being part of a restored structure, involved integrating existing floors/slabs with new concrete columns, slab infill areas and topping slabs.

With construction work already completed prior to the RADCON Formula #7 application time was taken to ensure Turner Construction understood the limitation of the product on existing cold joints and patch repairs.



Pictured above: Part of one of the three car park levels waterproofed with RADCON Formula #7 featuring a slab infill area.

RADCON FORMULA#

RECENT SITES OF INTEREST 06 - 07

Radcrete Pacific presents: Trafficable Areas



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SITE DETAILS:

COUNTRY - Czech Republic
PROJECT - The Imperial Mill
CLIENT - Seisin Development
APPLICATOR - Realsan

APPLICATOR - Realsan TREATED AREA - Car Park SIZE - 1,700 sq mtr

FIGURE 1

Reconstruction works on the Czech national heritage, The Imperial Mill, dating back to the $14^{\rm th}$ century.

RADCON #7 waterproofs a car park for a 600 years-old heritage structure in Czech Republic

The Imperial Mill is one of the oldest buildings recorded near the spectacular Stromovka Park in Prague, with the first chronicle record going back as far as 1395.

Because it remained the property of the Czech Kings until 1786, the original Renaissance style was redecorated a few times already, mainly in the Empire and later Classicist style.

This beautiful heritage building is receiving another 'facelift' today, being converted to a luxurious residential complex of centuries old walls filled with all modern day facilities and amenities.

The underground car park area of 1,700 sq mtrs was a 14 day challenge for our Czech representatives of Realsan, facing poor curing conditions and questionable mix design.



Mr Celis, the Director of Realsan advised Radcrete that "...the concrete was poured in winter, the appropriate procedures were not followed thoroughly and there was not enough aggregate in the mix design to start with."



The surface needed to be first blasted, levelled out with a fast-drying cementitious gravel and then ground off using a 1 ton diamond disk (pictured left).

Prior to RADCON Formula #7 application, the area was further cleaned using a special vacuuming equipment (pictured above) and roughened as per the client's specification.

Nevertheless, the new car park is now waterproofed and protected for lifetime, thanks to RADCON #7 and of course the expertise of our Czech colleagues.



TECHNICAL ARTICLE.

Radcrete Pacific presents: Technical Article

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FIGURE 1
Radcon Formula #7 application onto a rooftop area of the State Prison in Czech Republic.

Radcon Formula #7 - the only waterproofing solution

Waterproofing of the State Prison rooftop in Minkovice - Czech Republic wasn't an easy task.

The area has been previously treated with various waterproofing and water repellent products without success.

Firstly, the structure could not hold additional weight load, such as concrete topping required when using traditional bituminous membranes.

Secondly, there was a ponding problem, most likely responsible for hasty failures of the previous waterproofing solutions.

Mr. Petr Celis, the managing director of RealSan, was confident that Radcon applied to grooved surface will solve the problem once and for all.

The rooftop was first grooved to ensure a fall line which may drain any excess water (as shown in figure 2 & 3) then Radcon Formula #7 was spray-applied to the exposed area.

Radcon's waterproofing performance was proven shortly after application by a successful pond test and this "problematic" area became yet another lifetime concrete waterproofing reference in Czech Republic.



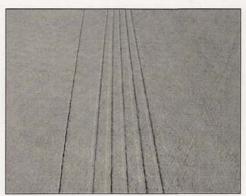


FIGURE 2 & 3
Grooved rooftop surface - drainage solution

Radcrete Pacific presents: Technical Article



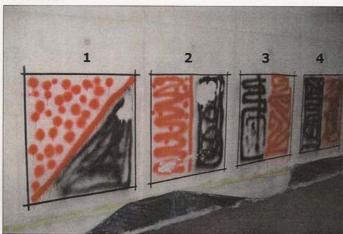
Most of our readers are familiar with the spectacular RADCON project - the Ibere Camargo Museum in Porto Alegre, Brazil. Click here to read the article

With the application works progressing, our Brazilian colleagues - Netherland Engenharia and their client Ibere Camargo Foundation & Construcoes e Comercio Camargo Correa completed some very interesting testing on RADCON's protection performance against graffiti.

The stunning visual impact of the building is threatened by graffiti – a common problem all over the world.

The client not only feared the permanent marking and damage to the structure but also the enormous cleaning and maintenance costs.

Six different treatments were tested using the same specially formulated paint remover on all areas.



Pictured left are areas 1 to 4:

- 1 no treatment
- 2 RADCON treatment
- 3 RADCON and anti-graffiti product type 1 treatment
- 4 anti-graffiti type 1 treatment

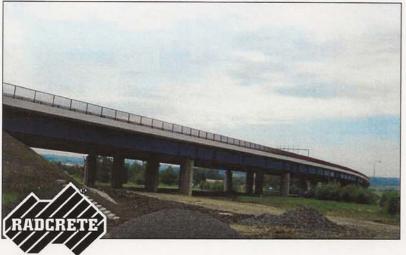
The fifth area was treated with RADCON and anti-graffiti product type 2 and the sixth one with anti-graffiti product type 2 only.

The best results were achieved with RADCON treatment combined with anti-graffiti product type 2, as it required minimum cleaning time.

Radcon on its own provided protection however it took a little longer to remove the paint.







...continued

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FIGURE 4. Bridge in Ostrov - Czech Republic.

A new bridge was designed to aid the growing traffic issues on route between a popular spa resort Karlovy Vary and the capital city Prague, in Czech Republic.

Prior to it's opening it was rejected by the client - the Department of Transport Czech Republic, due to new cracks appearing around the drainage areas.

The developer, company San Green, approached Radcon Formula #7 representatives in the Czech region Realsan for assistance.

Petr deployed customised application of Radcon Formula #7 - a "brush injection" and achieved the desired 100% watertight result.

In his email to Radcrete he concluded that given his long-term career in the construction industry he couldn't recommend or even source any waterproofing solution for both these projects other than Radcon Formula #7.



FIGURE 5 & 6 Cracks on the drainage areas



Dear Petr,

Thank you for the site stories vis rooftop and bridge application.

You are right; the prison roof could only be done with Radcon due to ponding problems combined with weight loading problems if a topping had to be applied over a traditional membrane approach.

From the photos of the bridge application there is no evidence of these 2.00 mm cracks referred to although I have no doubts they existed.

With cracks of this size, to my mind certain areas of the bridge must be settling.

This settlement may be complete or continue, causing 2.00 mm cracks to open further beyond Radcon's ability to re-seal, lets hope not.

Ed Byrne Managing Director Radcrete Pacific Pty. Ltd.

Summary Sheet - Consulting Engineers and Project Consultants Vietnam Bridge Projects

1. Letter from: Guangxi Road and Bridge Engineering Corporation - Developers of Road and Bridge projects in China.

Requesting approval from the head engineer for approval for RADCON Formula #7 to be used on MD2 Bridge project.

2. Letter from: Mekong Transport and Flood Protection Project - National Highway No.1 Rehabilitation.

This project is engineered by:

<u>Halcrow</u> - Is one of the largest planning, design and management services for infrastructure development worldwide, with offices in over 70 countries.

See: www.halcrow.com

<u>Meinhardt</u> - The Meinhardt Group provides consulting engineering, planning, management and technology services to clients worldwide.

See: www.meinhardtgroup.com

Apeco - Sinagpore based and specialists in engineering maintenance

Most of these projects use the resources of the best engineers in the world.

This letter gives the required approval for RADCON Formula #7 to be used on the MD2 bridge project.

Letter from Joint Venture of IHI - Shimizu-Sumitomo, one of Japans largest and highly respected construction companies - also involving:
 <u>Chodai Co. Ltd</u> - Japanese construction consultant and comprehensive technical consulting services including structure planning, road and city planning, their website is in Japanese, see: www.chodai.co.jp

FINNROAD - private consulting company established by leading private Finnish transport infrastructure consulting and engineering firms.

See: www.finnroad.com

4. Letter from Ishikawajima-Harima Heavy Industries Co - another highly respected Japanese company with a solid reputation and integrity.





5. Letter from the National Highway No.10 Improvement Project Approval from NH10 for the use of RADCON Formula # 7 on the Tan de Bridge.

Note that this is signed by the Resident Engineer for the Nippon Koei Co - one of the leading and most respected Japanese Engineering firms.

See: www.n-koei.co.jp

6. National Highways No.1 Bridge Rehabilitation project This letter is relating to 19 bridges between Ho Chi Minh City and Can Tho, specifically New Ben Luc Bridge and the waterproofing membrane.

From the "Director General" of the project Management unit for the **Ministry of Transport and Communications** stating that 'spray applied' waterproofing treatment is preferred over the 'felt-type' waterproof membranes and gives the reason why and keeping quality as a primary concern.

Note: RADCON Formula # 7 is the only spray applied penetrating sealer that can form a sub-surface membrane waterproofing both the concrete and cracks present up to 2.00mm in width.

Therefore RADCON Formula #7 is certified as a waterproofer and "NOT" just a chemical concrete sealer material.

- 7. Haivan Pass Tunnel Project Joint venture of: Nippon Koei Co One of Japan's largest engineering firms. See: www.n-koei.co.jp

 Louis Berger International Inc USA Leading infrastructure engineering operations in the world. See: www.louisberger.com

 TEDI Transport Engineering Design Incorporation. See: www.tedi.com.vn

 NOTE: Product called RD-07 is RADCON Formula # 7
- 8. Further communication with regard to the Haivan Pass Tunnel Project same companies involved as in letter number 7.
- 9. Further communication with regard to the Haivan Pass Tunnel Project same companies involved as in letter number 7.
- 10. Further communication with regard to the Haivan Pass Tunnel Project same companies involved as in letter number 7.

Site reference list of completed RADCON Formula #7 bridge projects in Vietnam





GUANGXI ROAD AND BRIDGE ENGINEERING CORPORATION

广西壮族自治区公路桥梁工程总公司

Head Office: Zhonghua Road 17, Nanning, Guangxi, P. R. China Tel: (86-771) 2108066; Fax: (86-771) 2108362; Email: grbc@gx163.net

Ref: MD2/1596

Date: 08 August 2005

To:

Mr. M.G. Fareed Pirzada

The Resident Engineer MD2

From:

Liang Zhe

Acting Project Manager MD2, GRBC

Subject: Submission of Waterproofing Membrane for Bridge Deck

Dear Sir,

Based upon the Specifications on providing the waterproofing membrane for bridge deck, further to the letter reference ref. RE/ MD1/ S46/ 1745 regarding the approval of Radcon Formula # 7 for waterproofing at bridge decks.

We herewith submit the documents and quality certificates of Radcon Formula # 7 for waterproofing at bridge decks for your review and approval.

Your prompt approval and continuing cooperation would be highly appreciated.

Yours faithfully

Liang Zhe

Acting Project Manager

Encl: 1.44 page + 3 sets

Copy to: Mr. Gordon A. Edwards, the Engineer

Mr. Tran Van Thi, Deputy Chief PMD.3, PMU.1 Mr. Hoang Viet Hung, Counterpart, PMU.1

Click Here for



Site Office (MD2): Hoa Binh Town, Vinh Loi District, Bac Lieu, Vietnam Email: chenlisong1@sina.com Fax: (84-781) 881896 - 881899 Tel: (84-781) 881896

MEKONG TRANSPORT AND FLOOD PROTECTION PROJECT NATIONAL HIGHWAY No.1 REHABILITATION CONTRACT PACKAGES (MD1 - MD2 - MD3 - FL1 - FL2)



Halcrow

Resident Engineer's Office - MD2

Hoa Binh Town, Vinh Loi District, Bac Lieu Province, Vietnam

Tel: +84 781 881904 Fax: +84 781 881902 E-mail: md2re@yahoo.com



Date: 13 August, 2005

Ref: MD2 - 1155

Ret. MD2 - 1133

Mr. Liang Zhe,

Acting Project Manager, GRBC.

Re: Application of RADCON # 7 for Water Proofing of Bridge Deck.

Dear Sir,

This is in reference to your letter MD2/1596 dated 08 August, 2005. This product is considered satisfactory and allowed for water proofing of bridge deck.

You are instructed to ensure application of this product strictly according to the instructions of the manufacturer, copy attached for reference and compliance. Unsatisfactory application will be rejected.

Yours truly.

Fareed Pirzada

Resident Engineer

Cc: Mr. Gordon A. Edwards

Mr. Tran Van Thi

Mr. Hoang Viet Hung

Mr. Can Hong Lai

R.E. Staff

- The Engineer

- Deputy Chief, PMD3, PMU.1

- PMU.1 Counterpart

- Deputy General Director, CIENCO 1

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RADCON

FROM : ISSJ!! Site Office

FAM NO. :031 540608

Jun. 04 2003 08:43AM P3

BINH BRIDGE PROJECT





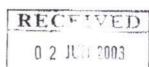




HECO

Mr Hideo Honjo Project Manager,

Joint venture of IHI-Shimizu-Sumitomo



Ref No Binh/CONTR/579

Date: May 30, 2003

Re: Deck Slab Waterproofing (RADCON Formula #7)

Dear Sir,

We refer to your letter No. BP/ISS/HP/ENG/J-187 dated May 13, 2003 and approve RADCON Formula #7 to be used for deck slab waterproofing.

Yours sincerely,

Yusuke KajimuraO,

Project Manager/ Consultant Office for Binh Bridge Project

On behalf of RMU Binh

CC: Mr Vu Duc Thien, PMU Binh

BE (Yamashina, Lilja, Anh, Thanh)

ME (Morishita)

DS 604

Click Here for



FROM : ISSJU Site Office

FAX NO. :031 540608

Jun. 04 2003 09:07AM P1



Ishikawajima-Harima Heavy Industries Co., Ltd.

Hai Phong Binh Bridge Project (Superstructure Parts)

Ref. No: BP/JHJ/HP/IDC/J-001

Date : 03 June 2003

INDOCHINA CENTEPRO 65 Mac Dinh Chi Street, District 1 Ho Chi Minh City, Vietnam

Attention:

Mr. Cao Thanh Thai, Deputy Director

Subject : Binh Bridge project (Superstructure Parts)
Deck Slab Waterproofing (RADCON Formula #7)

Dear Sir,

Please find the enclosed Engineer's letter ref. no. Binh/CONTR/579 dated 30 May 2003 for the approval of RADCON Formula #7 to be used as deck slab waterproofing material for Binh Bridge Project.

Please be informed that our schedule to commence waterproofing works for deck slab shall be about October (or earlier) next year.

However, we shall prepare your contact based on your latest quotation that was submitted to us as described on your letter ref. no. 67/BG-CEN dated 13 May 2003 and our letter ref. no. BP/IHI/HP/MIS/J-010 dated 13 May 2003. We shall immediately inform you to come to our office as soon as we finished the draft of your contract.

For your information.

Click Here for



Very truly yours,
Histor HONJO
Project Manager

RADCON FORMULA#



NATIONAL HIGHWAY NO.10 IMPROVEMENT PROJECTIN \ PACKAGE B-3: TAN DE BRIDGE (CONST

Contractor:

Keang Nam - Clenco1 - Cienco4

Joint Operation

Employer:

The Socialist Republic of Vietnam

Ministry of Transport - PMU 18

Keangnam - Clenco 1 - Cienco 4

Joint Operation. 88 Thai Binh Road Num Dinh City Met Nam,

Engineer's Site Office

88 Thai Binh Road Nam Dinh City Vietnam

Tel

:0350 - 635 551 Fax :0350 - 635 549

Your ref: KCCJO-01-411

Our ref: VIET 10 -B3/1644

Date: 26 September 2001

For the attention of Mr. Sae - Kyung Oh, Project Manager

Dear Sirs,

Subject: Package B3, Tan De Bridge: Waterproofing treatment for Bridge Deck.

We refer to your letter dated 29 August 2001 and the literature from RADCRETE submitted with your letter.

We would approve of the use of "Radcon 7" on condition that this is applied strictly its accordance with the manufacturer's directions. You should be aware that the following mandatory application procedures - which must be observed, may restrict construction activity.

- 1. Radcon For la 7 must be applied to a clean, dry, dust free concrete surface at least 28 days old. This means that the sealant must be applied to a cleaned and dried surface no earlier than 28 days after casting the deck slabs.
- 2. Application of the sealant shall be followed by a 3 day watering (quaixs.
- 3. Etc. (as prescribed by manufacturer).

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Website

Hippon Koel Co. Ltd (Jepan)

in association with

Hyder Consulting Co. Ltd and TEDI (Viet Nam)

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NATIONAL HIGHWAY NO.10 IMPROVEMENT PROJECT IN VIETNAM

PACKAGE B-3: TAN DE BRIDGE (CONSTRUCTION PHASE)

We shall, in due course, require a simple method statement from you explaining how you intend to observe the above two procedures with due regard to practical considerations and the avoidance of interference from other construction operations.

In writing, we advise you to pursue enquiries to SIKA with a view to obtaining their recommendations on the suitability of "Sikatop Seal 107" for the purpose required.

Yours faithfully,

A. Briggs

Resident Engineer
p.p. Nippon Koei Co. Ltd

Copied to:

- Mr. Minco Endo, Project Manager (Supervision), Nippon Koei Co. 13d.

- Mr. Le Van Thong, Director PID5.

. Mr. Peter Gran, Senior Bridge Engineer.

- Site Office: Mr. Tam.

Huder

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Consultants:

Nippon Koel Co. Ltd (Japan) in association with

lyder Consulting Co. Ltd (England) and TEDI (Viet Ham):

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CONGTY-CTGT-499 SUBCAMBOFFICE PHONE NO. : 070 800212

Mar. 06 2003 11:09AM

NATIONAL HIGHWAY No. 1 BRIDGE REHABILITATION PROJECT

PACIPIC CONSULTANTS INTERNATIONAL and NIPPON KOEI Co., Ltd

Ca.04

in association with

ASIA PACIFIC ENGINEERING CONSULTANTS

Office: 2º floor, No. 21, I ang Ha Street, Lang Ha Precinct, Ba Dinh District, Hanoi, Vietnam Tel: ++84-4-5144190, 5144191, 5144162 Fax: ++84-4-5144161

Our Reference: BR-1123

Date: November 26, 2002

Mr. Bui Tien Dung General Director No. 18 Project Management Unit Ministry of Transport and Communications

Dear Sir,

Re: NATIONAL HIGHWAY No. 1 BRIDGE REHABILITATION PROJECT (PHASE I)
PACKAGE 3: 19 BRIDGES BETWEEN HO CHI MINH AND CAN THO
NEW BEN LUC BRIDGE – BRIDGE DECK WATERPROOF MEMBRANCE

We refer to your letter ref. 4047/PID 3 dated 13th November, regarding the above, and to our subsequent discussions in your offices on 20th November. Our comments regarding this matter are as follows:-

- Felt-type waterproof membranes have been replaced by sprayed treatments in many countries including SE Asia for these reasons.
- They are easier to apply
- They require less preparation of the deck surface, smoothness etc.
- They require no future maintenance
- They spray seals the concrete by absorption into the concrete. The interface between
 the concrete to be protected and the waterproofing material is not a concern as it is
 with membranes.
- In the future, during scarifying and replacement of the deck asphalt surfacing ho damage is possible as with membranes where replacement is necessary.
- The above leads to a higher initial cost but a more economic long-term solution.
- Quality of finished product is our first consideration. Construction time is also a main concern. The spray applied treatment can be completed much more quickly than the felt-type.

Given the above, we recommend the use of a spray-applied waterproofing treatment for which there are several alternative products and suppliers already available in Vietnam. We do not consider the advantages versus the disadvantages of using felt-type membranes to be cost effective. We would recommend no treatment if sprayed waterproofing is not possible to be approved.

Yours faithfully,

RADCRETE

Website

Click Here for

Seiichi Iida Project Manager

RADCON FORMULA#7

HAIVAN PASS TUNNEL PROJECT

Joint Venture of NIPPON KOELCO, LTD, JAPAN and LOUIS BERGER INTERNATIONAL INC.

In association with TRANSPORT ENGINEERING DESIGN INCORPORATION (TEDI), VIETNAM

Project Office in Danang, Vietnam Suoi Luong, Hoa Hiep, Lien Chieu District Danang City, Vietnam

(84) - 511- 841924 - 841925 (84) - 511 - 841928 Fax.:

TLC - TSC Joint Operation Tel: 54-873651 / Fax: 54-873652

Ref. No. PK2A - 125-03 October 9th, 2003 Date:

CONTRACT :

Package 2A, Lang Co Bridge Section

ATTENTION :

Mr. Nguyen Binh

SUBJECT

Deck Waterproofing membrane for Lang Co Bridge

REFERENCE:

none

Dear Sirs.

Previously, you have submitted material of deck water proofing type of IMPER ITELIA.

We approved this type of material (4mm thick) with condition that you must assure construction progress, because using this material requires strict construction technology and take much time to assure quality for technical requirements.

Basing on construction progress of Lang Co Bridge of the Contractor, you must work very urgent because of your delay.

Basing on your actual deck slab of completed span, surface is not even, many cracks are on the surface.

Basing on some water proofing materials have been used for some bridges, which was approved by MOT, to treat above matters in Lang Bridge Construction,

According to preliminary studying, you are requested to recommend using waterproofing membrane for Lang Co Bridge Construction in spray type of Grace Bitutheme 5000 or RD-07 to submit us for revision and approval.

> FAXED 1 0 OCT 2003

Thank you for your attention.

Sincerely yours,

Ichizuru Ishimoto Project Manager

(DCH)

C.c.: 1) PMU 85 South, 2) PMU 85 North, 3) CT-2A, 4) RT3-2A

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HAIVAN PASS TUNNEL PROJECT

TLC - TSC Joint Operation Tel: 54-873651 / Fax: 54-873652

Ref. No. PK2A - 132 - 03

Date:

October 24th, 2003

CQNTRACT

Package 2A, Lang Co Bridge Section

ATTENTION

Mr. Nguyen Binh

SUBJECT

Comment and Instruction of Bridge Deck Waterproofing Material

REFERENCE

TLC-TSC-03-179 dated October 21st, 2003

Dear Sir.

Refer your letter No. TLC-TSC-03-179 dated October 21st, 2003.

We have comment and instruction as follows:

:

- 1. In basically, we can give approval for you the waterproofing material type of RADCON formula #7 for Lang Co Bridge.
- 2. For the final approval, you are requested to submit us:
 - Construction technology of this material
 - Technical requirement of supplier in construction of this material
 - Total construction schedule for all deck slab of Lang Co Bridge
 - Other concerned requirements for guarantee.

Thank you for your attention.

Sincerely yours,

Ichlzuru Ishimoto Project Manager

(DCH)

C.c.: 1) PMU 85 South, 2) PMU 85 North, 3) CT-2A, 4) RT3-2A

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HAIVAN PASS TUNNEL PROJECT

TLC - TSC Joint Operation Tel: 54-873651 / Fax: 54-873652 Ref. No. PK2A - 018 - 04 Date: Apr 02, 2004

CONTRACT

Package 2A, Lang Co Bridge Section

ATTENTION

Mr. Nguyen Binh

SUBJECT

Crack Repair on Surface of LCB Desk Slab Concrete

REFERENCE

Contractor's letter Ref. No. TLC - TSC - 04 - 019 dated Mar 25,

2004

Dear Sir,

After review meeting minutes enclosed in your above letter, we confirm that:

Cracks on surface of LCB desk slab concrete will be repaired pursuant to instruction of Prof. Le Van Thuong as well as the meeting's conclusion.

Due to RADCON#7 is a liquid, it is easy to confuse this material with water. Consequently, the material should be sealed and kept with care to transport to site. Only after be confirmed by the supplier of exact material, it will be unsealed for construction.

Preparation work and construction steps should be carried out according to the technology submitted by you, including instruction of TCQM (MOT) at the meeting on December 25, 2003.

Thank you for your attention.

Sincerely yours,

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Ichizuru Ishimoto Project Manager

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HAI VAN PASS TUNNEL PROJECT

TLC - TSC Joint Operation Tel: 54-873651 / Fax: 54-873652

Ref. No. PK2A - 024 - 04 Date: Apr 13, 2004

CONTRACT:

Package 2A, Lang Co Bridge Section

ATTENTION:

Mr. Nguyen Binh

SUBJECT

Additional Waterproofing Material on Lang Co Bridge

REFERENCE:

None

Dear Sir,

Following our letter Ref. No. PKIIA - 018 - 04 dated April 02, 2004 instructing you to repair cracks on concrete desk slabs and the construction of waterproofing membrane on Lang Co Bridge and as directed by Mr. Vu Bay - Vice Chairman of Transport Construction Quality Management (MOT) at the meeting on December 25, 2003, you are required to execute additional construction of waterproofing material RADCON#7 inside parapet surface of Lang Co Bridge upward 10 cm from parapet foot.

Thank you for your attention.

Sincerely yours,

Ichizuru Ishimoto

Project Manager

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Originator: DCH

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