



The Final Product •

Epoxy Injection is a good solution because it is quick and easy to implement. The materials are readily accessible and minimal experience is necessary

About The Palace

Open to the public, Mrigadayavan Palace serves as an educational museum for the local and international community. Exhibits display information on conservation and history.

Mrigadayavan Palace Foundation is under the patronage of HRH Princess Berjaratana. The Foundation manages and funds Palace operations and restoration works.



Let's Connect

Phone

123-456-7890

Website

www.mrigadayavan.or.th/landing/english/eng_home.html

Email

mrigadayavanpalace@gmail.com



พระราชนิเวศน์มฤคทายวัน
MRIGADAYAVAN PALACE
美麗閣夏宮

Column Deterioration & Rehabilitation

The Process

Breaking down the problem.



Assess Damage



Determine method



Rehabilitate column



“

What is the best method to use?

EPOXY INJECTION

Epoxy Injection was used to treat this type of column. When the column did not contain any steel reinforcement and experienced large cracking, epoxy was used to rehabilitate the column.

UP TO 30%
Columns
were
corroded

Approximately 250 columns at the Palace experienced deterioration through cracking and spalling.





The Final Product •

Sealants are a good solution to reduce moisture and chemical attacks on the columns. Most often used as a preventative measure.

About The Palace

Open to the public, Mrigadayavan Palace serves as an educational museum for the local and international community. Exhibits display information on conservation and history.

Mrigadayavan Palace Foundation is under the patronage of HRH Princess Berjaratana. The Foundation manages and funds Palace operations and restoration works.



Let's Connect

Phone

123-456-7890

Website

www.mrigadayavan.or.th/landing/english/eng_home.html

Email

mrigadayavanpalace@gmail.com



พระราชนิเวศน์มฤคทายวัน
MRIGADAYAVAN PALACE
美麗閣夏宮

Column Deterioration & Rehabilitation

The Process

Breaking down the problem.



Assess Damage



Determine method



Rehabilitate column



“

What is the best method to use?

SEALANTS

Sealants were used on columns with cracking greater than 5mm. This was used for columns with and without steel reinforcement present.

UP TO 30%

Columns were corroded

Approximately 250 columns at the Palace experienced deterioration through cracking and spalling.





The Final Product •

Patching is easy to implement and results in a quick solution for minor cracking in columns at the Palace.

About The Palace

Open to the public, Mrigadayavan Palace serves as an educational museum for the local and international community. Exhibits display information on conservation and history.

Mrigadayavan Palace Foundation is under the patronage of HRH Princess Berjaratana. The Foundation manages and funds Palace operations and restoration works.



Let's Connect

Phone

123-456-7890

Website

www.mrigadayavan.or.th/landing/english/eng_home.html

Email

mrigadayavanpalace@gmail.com



พระราชนิเวศน์มฤคทายวัน
MRIGADAYAVAN PALACE
美麗閣夏宮

Column Deterioration & Rehabilitation

The Process

Breaking down the problem.



Assess Damage



Determine method



Rehabilitate column



“

What is the best method to use?

PATCHING

The patching method was best used to fix columns with cracks smaller than 3mm. This was used only on columns that contain steel reinforcement and experience minor cracking.

UP TO 30%
Columns
were
corroded

Approximately 250 columns at the Palace experienced deterioration through cracking and spalling.





The Final Product •

Concrete casting is a method of fixing chipped concrete by either taking a mold of a missing section and filling it with concrete or by filling the holes that can easily be sectioned off with concrete directly.

About The Palace

Open to the public, Mrigadayavan Palace serves as an educational museum for the local and international community. Exhibits display information on conservation and history.

Mrigadayavan Palace Foundation is under the patronage of HRH Princess Berjaratana. The Foundation manages and funds Palace operations and restoration works.



Let's Connect

Phone

123-456-7890

Website

www.mrigadayavan.or.th/landing/english/eng_home.html

Email

mrigadayavanpalace@gmail.com



พระราชนิเวศน์มฤคทายวัน
MRIGADAYAVAN PALACE
美麗閣夏宮

Column Deterioration & Rehabilitation

The Process

Breaking down the problem.



Assess Damage



Determine method



Rehabilitate column



“

What is the best method to use?

CONCRETE CASTING

The method of concrete casting was used on columns with and without steel reinforcement. Best used for either chipping or minor spalling in the columns.

UP TO 30%

Columns were corroded

Approximately 250 columns at the Palace experienced deterioration through cracking and spalling.





The Final Product •

Reinforced concrete jacketing is a good solution because the columns gain 100% of initial strength.

About The Palace

Open to the public, Mrigadayavan Palace serves as an educational museum for the local and international community. Exhibits display information on conservation and history.

Mrigadayavan Palace Foundation is under the patronage of HRH Princess Berjaratana. The Foundation manages and funds Palace operations and restoration works.



Let's Connect

Phone

123-456-7890

Website

www.mrigadayavan.or.th/landing/english/eng_home.html

Email

mrigadayavanpalace@gmail.com



พระราชนิเวศน์มฤคทายวัน
MRIGADAYAVAN PALACE
美麗閣夏宮

Column Deterioration & Rehabilitation

The Process

Breaking down the problem.



Assess Damage



Determine method



Rehabilitate column



“

What is the best method to use?

REINFORCED CONCRETE JACKETING

This method was used only for concrete columns with steel reinforcement that experienced major spalling.

UP TO 30%
Columns were corroded

Approximately 250 columns at the Palace experienced deterioration through cracking and spalling.





The Final Product •

Cathodic protection will not undo the effects of corrosion, but will prevent further damage.

About The Palace

Open to the public, Mrigadayavan Palace serves as an educational museum for the local and international community. Exhibits display information on conservation and history.

Mrigadayavan Palace Foundation is under the patronage of HRH Princess Berjaratana. The Foundation manages and funds Palace operations and restoration works.



Let's Connect

Phone

123-456-7890

Website

www.mrigadayavan.or.th/landing/english/eng_home.html

Email

mrigadayavanpalace@gmail.com



พระราชนิเวศน์มฤคทายวัน
MRIGADAYAVAN PALACE
美麗閣夏宮

Column Deterioration & Rehabilitation

The Process

Breaking down the problem.



Assess Damage



Determine method



Rehabilitate column



“

Why use cathodic protection?

CATHODIC PROTECTION

Some form of cathodic protection or chloride extraction is necessary when there are signs of steel reinforcement deterioration because the problem will persist if not properly addressed

UP TO 30%
Columns
were
corroded

Approximately 250 columns at the Palace experienced deterioration through cracking and spalling.





The Final Product •

Concrete overlay accurately restores the look of concrete as well as the function in a aesthetically pleasing way

About The Palace

Open to the public, Mrigadayavan Palace serves as an educational museum for the local and international community. Exhibits display information on conservation and history.

Mrigadayavan Palace Foundation is under the patronage of HRH Princess Berjaratana. The Foundation manages and funds Palace operations and restoration works.

Let's Connect

Phone

123-456-7890

Website

www.mrigadayavan.or.th/landing/english/eng_home.html

Email

mrigadayavanpalace@gmail.com



พระราชนิเวศน์มฤคทายวัน
MRIGADAYAVAN PALACE
美麗閣夏宮

Walkway Deterioration & Rehabilitation

The Process

Breaking down the problem.



Assess Damage



Determine method



Rehabilitate column



“

What is the best method to use?

CONCRETE OVERLAY

This method was used on concrete walkways that experienced cracks in the top half of concrete.

CRACKS ON The Concrete Walkways

There was no major structural renovation on the concrete walkways since the first construction in 1924





The Final Product •

Partial depth repair solves the issue of thermal expansion by inserting compressible materials between the new concrete and the old slab.

About The Palace

Open to the public, Mrigadayavan Palace serves as an educational museum for the local and international community. Exhibits display information on conservation and history.

Mrigadayavan Palace Foundation is under the patronage of HRH Princess Berjaratana. The Foundation manages and funds Palace operations and restoration works.



Let's Connect

Phone

123-456-7890

Website

www.mrigadayavan.or.th/landing/english/eng_home.html

Email

mrigadayavanpalace@gmail.com



พระราชนิเวศน์มฤคทายวัน
MRIGADAYAVAN PALACE
美麗閣夏宮

Walkway Deterioration & Rehabilitation

The Process

Breaking down the problem.



Assess Damage



Determine method



Rehabilitate column



“

What is the best method to use?

PARTIAL DEPTH REPAIR

This method was used on concrete walkways that experienced cracks throughout the entirety of the concrete.

CRACKS ON The Concrete Walkways

There was no major structural renovation on the concrete walkways since the first construction in 1924

