



# EXTENDING THE LIFE OF YOUR CONCRETE BUILDINGS

Concrete repair systems for concrete  
protection and strengthening



# CONTENTS

<b>ALL ABOUT MAPEI</b>		<b>CASE STUDIES</b>	<b>11</b>
Mapei UK	2	Seafield House Aberdeen	11
<b>MAPEI BUILDING PRODUCTS LINE</b>	<b>3</b>	University of Essex	12
BS EN 1504	3	Kings Building - London	13
How Mapei can help You	3	<b>MAPEI BUILDING PRODUCTS LINE</b>	<b>14</b>
Mapei Markets	4		
<b>BS EN 1504 REPAIR PROCESS</b>	<b>5</b>		
Investigation	5		
Repair	5		
Repair Solution	5		
Protecting the Concrete	5		
<b>MAPEI SUPPORT</b>	<b>6</b>		
Survey	6		
Objectives	6		
Solution	6		
Contract Support	6		
<b>MAPEI SYSTEM SOLUTIONS</b>	<b>7</b>		
Steel Protection	7		
Concrete Reinstatement	7		
Corrosion Control	7		
Smoothing Coat	8		
Structural Strengthening	8		
Protection	8		
<b>COMPLEMENTARY SOLUTIONS</b>	<b>9</b>		
Basement Refurbishment	9		
Crack Injection	9		
Masonry Repairs	9		
Façade Sealant	10		
Coatings	10		
Balcony Waterproofing	10		

---

# MAPEI UK

---

Manufacturing facilities at Halesowen are capable of producing 103,000 tonnes of product annually. Over 150 product SKU's are manufactured in the UK at the 24 hour operational site, employing over 245 members of staff to provide support and assistance to an ever increasing customer base of more than 700.

In addition to an expanding manufacturing plant and offices in the West Midlands, Mapei UK has a dedicated nationwide network of Specification Managers who offer a full NBS specification service with products listed in the BIM library. The Specification Managers work closely with the Technical Services Department to ensure seamless advice throughout each project from initial specification stage, to installation and post-completion.

As part of the learning and product education events Mapei hosts, a fully equipped training facility is located in the West Midlands which offers both general product range training and more in-depth seminars to demonstrate Mapei's system solutions for a range of construction queries.

Mapei UK is on hand every step of the way to assist with your project, making the conventional, exceptional.

## HEAD OFFICE

Mapei House  
Steel Park Road, Halesowen  
West Midlands. B62 8HD

---

Halesowen,  
West Midlands. B62 8HD

## DISTRIBUTION CENTRE



Mapei World London City  
6 Great Sutton Street  
Clerkenwell, London, EC1V 0BX

---

Mapei Academy  
Steel Park Road, Halesowen  
West Midlands. B62 8HD





## MAPEI BUILDING PRODUCTS LINE

Mapei's concrete repair, concrete protection and structural strengthening range incorporates products from treating the steel, reinstating the concrete, controlling reinforcement corrosion reinforcement steel, protecting the concrete and using carbon fibre to strengthen the concrete to increase its capacity.

These products allow Mapei to provide a range of solutions, to increase and prolong the life of concrete buildings and assets. Mapei's renowned technical support, including our specification advice, site visits, and on going project support help clients bring their buildings quality.



## BS EN 1504

There are many reasons why a concrete building needs to be refurbished and how it can be done.

The standard BS EN 1504, "Products and systems for the repair and protection of concrete structures – definitions, requirements, quality control and evaluation of conformity" give a framework to ensure the best options are considered.

BS EN 1504 gives a framework which should be used to repair and protect concrete buildings and covers topics such as surveying, an important requirement to understand the causes and extent of any concrete distress, selection of the concrete materials and how to help prolong the life of the building. All Mapei's products within the range comply with BS EN 1504.

## HOW MAPEI CAN HELP YOU

Mapei offers advice from early involvement in the project, discussing survey requirements, right through to on site support and includes specification writing, site visits and full technical support from our technical department.



## MAPEI MARKETS

Mapei concrete repair, protection and strengthening products provide solutions to prolonging the life of your building in markets which include:



HEALTHCARE



COMMERCIAL



EDUCATION



RESIDENTIAL



INDUSTRIAL



RETAIL



## BS EN 1504 REPAIR PROCESS

To successfully prolong the life of your building BS EN 1504 suggests the following steps are included.

### 01 INVESTIGATION

At the start of any concrete repair project, one needs to understand what has caused the concrete to deteriorate and the extent of the concrete distress. This should be done by means of a concrete conditioning survey, which is part of the process within BS EN 1504, and will allow you to understand the problems on the building.



### 02 REPAIR

There are many options that are available to repair your structure, the results from any surveys will allow you to consider the best way to meet the clients requirements from performance, and durability through to budgets.



### 03 REPAIR SOLUTION

Once the repair option has been chosen, the best and most appropriate products and solutions should be selected.



### 04 PROTECTING THE CONCRETE

On completion of all repair the building can be protected to stop the concrete distress happening again to prolong it's life and to enhance it appearance.



## MAPEI SUPPORT

Mapei's support services is renowned for its excellence across all markets. This continues with concrete repair and protection providing support through the whole project from early discussions, providing specification through to on site support.



### 01 SURVEY

Surveys range from a simple visual inspection through to a concrete conditioning survey including corrosion rate monitoring. Mapei can assist in discussing the survey options and once complete can assist in interpreting the results.

### 02 OBJECTIVES

Once the survey results have been interpreted, Mapei can discuss the options available to meet the clients objective and can range from holding repairs through to long term repairs involving corrosion control, Anti-carbonation protective coatings and structural strengthen.

### 03 SOLUTION

Once a solution is decided upon from Mapei's extended range of products we can provide a material specification for the required solution for the building to meet the clients requirements.

### 04 CONTRACT SUPPORT

Mapei's support; Mapei are able to help, advise and support the project at all stages from initial consultation, through the specification and tender process and continues when the project gets to site. We can provide full material specification, give advice on specialist contractors and support the project when on site with regular site and technical visits.



## MAPEI SYSTEM SOLUTIONS

Listed below are some of the products within the Mapei range of concrete repair and protection.

### STEEL PROTECTION

- Mapefer 1K



### CONCRETE REINSTATEMENT

- Mapemortar HB R3
- Mapegrout Hi Flow
- Planitop Smooth & Repair R2
- Planitop Smooth & Repair R4
- Mapegrout SV
- Mapegrout Gunita
- Mapegrout Gunita FSD



### CORROSION CONTROL

- Mapeshield I
- Mapeshield E



All relevant references for the product are available upon request and from [www.mapei.co.uk](http://www.mapei.co.uk)

### SMOOTHING COAT

- Planitop 100
- Planitop 200
- Planitop Smooth & Repair R2
- Planitop Smooth & Repair R4



### STRUCTURAL STRENGTHENING

- Carboplate
- Mapewrap
- Adesilex PG1



### PROTECTION

- Mapelastic Guard
- Elastocolor Paint
- Colorite Beton
- Colorite Performance
- Elastocolor Tonachino Plus



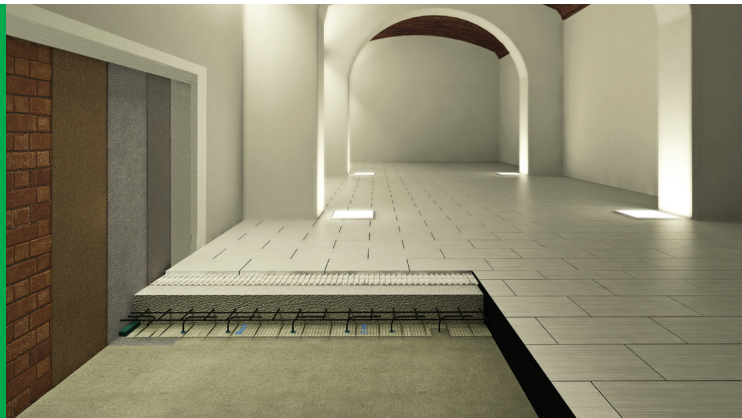


## COMPLEMENTARY SOLUTIONS

Within Mapei's 16 product lines are other complementary solutions that make up complete systems from substrate to finish.

### BASEMENT REFURBISHMENT

Mapei supply a range of internal waterproofing solutions for basement refurbishment.



### CRACK INJECTION

A range of resin based crack injection systems.

### MASONRY REPAIRS

A range of specialist mortars for renovation and restoration work on brick buildings.





## FAÇADE SEALANT

A range of external sealants for all types of façades and windows.



## COATINGS

External wall insulation. A complete EWI build up solution from insulation through to render and coatings, meeting all the latest regulations.

## BALCONY WATERPROOFING

A range of products to waterproof balconies and walkways.



## CASE STUDIES: SEAFIELD HOUSE ABERDEEN

Mapei system of corrosion inhibitor, concrete repair and protective coating featuring **Colorite Beton**. Semi-transparent, anti-carbonation acrylic paint with a smooth finish, for coating concrete structures and reinforced concrete leaving the natural building aesthetic visible.



### MAPEI PRODUCT SYSTEMS

- **MAPEFER 1K** - Protection of reinforcing rods
- **PLANITOP SMOOTH & REPAIR R2** - Non-structural repair mortar
- **PLANITOP 200** - Fine textured skimming mortar
- **MALECH** - Primer and building protector for Mapei coating range
- **COLORITE BETON** - Semi-transparent anti-carbonation acrylic paint
- **MAPEFLEX PU 45 FT** - Rapid hardening sealant





## CASE STUDIES: UNIVERSITY OF ESSEX

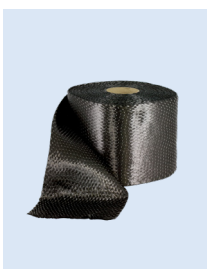
Mapei products have been specified for a structural repair project based at the University of Essex in Colchester. In a structural survey commissioned by the university, and undertaken by engineers Mason Navarro Pledge (MNP), it was concluded that the second beam required strengthening to support loads that would be applied in a permanent state due to the heavy use of

the link bridge. The beam showed signs of significant corrosion at the support of the existing footbridge, and the columns had areas with steel corrosion and delamination of concrete due to low concrete cover.



## MAPEI PRODUCT SYSTEMS

- **MAPEFER 1K** - Protection of reinforcing rods
- **MAPEMORTAR HB R3** - Medium strength high build repair mortar
- **PLANITOP SMOOTH & REPAIR R4** - Structural R4 class repair mortar
- **MAPEWRAP PRIMER 1** - Epoxy primer for MapeWrap System
- **MAPEWRAP 31** - Epoxy adhesive for impregnating MapeWrap
- **MAPEWRAP C UNI-AX NM 600** - Carbon fibre structural strengthening fabric wrap.
- **MAPELASTIC GUARD** - Elastic cementitious mortar for protecting large concrete structures subject to high stress

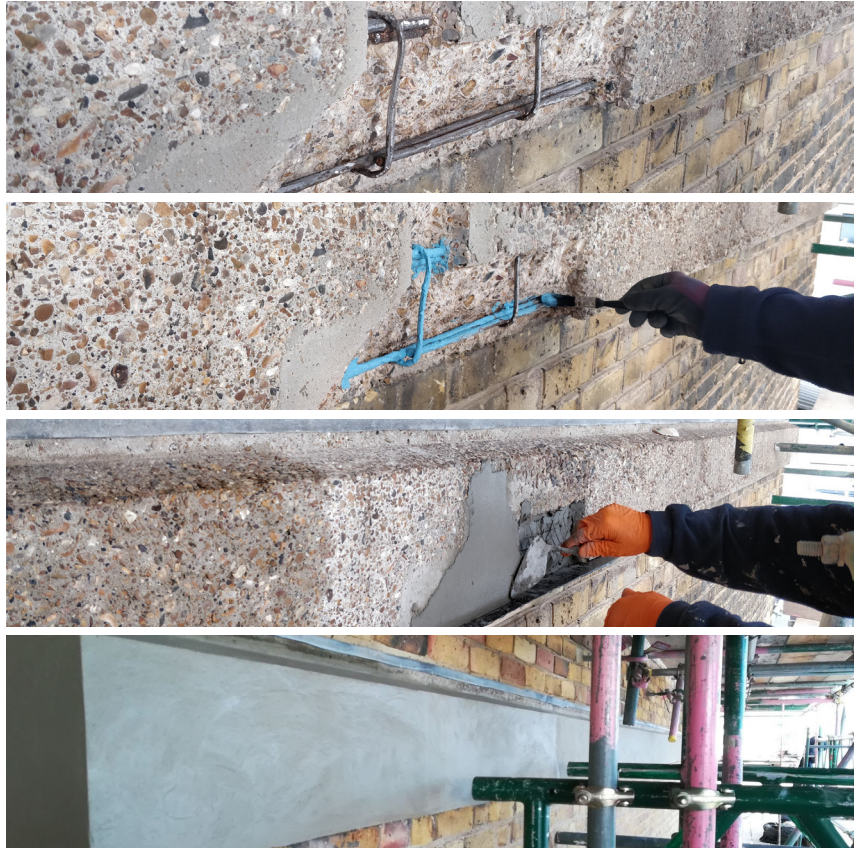




## CASE STUDIES: KINGS BUILDING - LONDON

The King's Building is a Grade I listed building, built between 1829 and 1831, that forms part of the Strand Campus of King's College London in the United Kingdom. The façade of the building was in need of refurbishment and Mapei offered a solution for the concrete repairs required to the elevated reinforced concrete ring beams, which had areas with visible

corrosion damage and spalled concrete. The ring beams had an exposed aggregate finish, which was very porous and permeable. The high penetrability allows the ingress of agents such as carbon dioxide (carbonation), which is widely recognised as a significant factor in the corrosion of reinforcement and deterioration of concrete structures.



### MAPEI PRODUCT SYSTEMS

- **MAPEFER 1K** - Protection of reinforcing rods
- **MAPEMORTAR HB R3** - Medium strength high build repair mortar
- **PLANITOP 100** - Quick setting, one component mortar for smoothing concrete and render





## MAPEI BUILDING PRODUCTS LINE

We meet the needs of all our clients with the most comprehensive offer in the world of products for the building sector. We are committed to using the best raw materials and employing the most qualified personnel so we can always offer the best service possible.

Our products allow Mapei to provide a range of solutions, to increase and prolong the life of concrete buildings and assets. Mapei's renowned technical support, including our specification advice, site visits, and on going project support help clients bring their buildings quality.

Mapei places a significant emphasis on the importance of training and CPD. We have a dedicated training facility at Mapei Academy, Halesowen, West Midlands and can offer CPD presentations at your premises and at our Mapei London City Specification Centre in Clerkenwell, London.

For further information on booking courses please email: [concreterepair@mapei.co.uk](mailto:concreterepair@mapei.co.uk)

# EVERYTHING'S **OK** WITH **MAPEI**

## **MAPEI WORLD LONDON CITY**

6 Great Sutton Street  
Clerkenwell  
London  
EC1V 0BX  
020 3302 9610  
[concreterepairs@mapei.co.uk](mailto:concreterepairs@mapei.co.uk)

## **MAPEI UK LTD**

Mapei House  
Steel Park Road  
Halesowen  
West Midlands. B62 8HD  
0121 508 6970  
[concreterepairs@mapei.co.uk](mailto:concreterepairs@mapei.co.uk)