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## Solutions for Buildings - Concrete Repair & Protection

### CONCRETE REPAIR



5mm-100mm Build in Single Application



Non-Hazardous,  
Water-Based Products



2mm Coat = 100mm  
Quality Concrete Cover

## Overcoming Structural Challenges

Over time, the effects of weathering mean that even the most well designed buildings and commercial structures will degrade. As a result, they will require refurbishment in order to extend their design life or improve their appearance.

**However, these problems are not just limited to older buildings and there are often structural challenges to overcome with new build projects. Whether it's down to design complexity, poor workmanship or other environmental factors, it's equally important to protect new structures in order to avoid a reduction in the anticipated service life.**

### Ensuring Structural Integrity

Factors such as carbonation, water penetration, chemical attack, freeze/thaw cycling and chloride attack can all lead to significant deterioration of precast and in-situ concrete. This in turn can cause steel reinforcement to quickly corrode and compromise the overall structural integrity of the building.

It is therefore essential to carry out periodic maintenance in order to guarantee the original design life of buildings and, above all, keep the people and contents within them safe.

### Meeting the Needs of Today's Structures

At Flexcrete, our technical expertise lies in the concrete repair and protection of all types of buildings and structures. We have a vast range of specialist products designed to solve complex structural problems whilst causing the minimum of disruption during application.

Our concrete repair and protection product portfolio includes structural repair mortars with exceptional high-build qualities, fast-setting repair solutions for heavily trafficked areas, and technically advanced cementitious coatings designed to reinstate low concrete cover. For a decorative finish, we offer a range of Monodex weatherproof anti-carbonation coatings which provide the ultimate protection against the ingress of carbon dioxide, oxygen and water.

Flexcrete's repair and protection systems deliver long-term, dependable solutions to typical concrete repair problems. Structural integrity and the original design life can be restored, and the overall aesthetic appearance of ageing concrete structures can be significantly improved.

## New Build & Refurbishment

Flexcrete products can be found on some of the world's most iconic buildings, and are trusted to perform by engineers and clients alike. They utilise state-of-the-art cementitious and polymer technology to provide many important benefits:

- Excellent low sag properties enabling high build application in vertical, horizontal and overhead situations
- Exceptionally high bond & tensile strength
- Low permeability to water, even at 10 bar negative pressure
- Quick to install and non-toxic when cured



*Flexcrete's concrete repair solutions provide versatile protection for buildings & commercial construction.*

### Concrete Repair & Protection Challenges for Buildings

Flexcrete has over 30 years' experience in solving structural problems experienced by buildings and commercial construction.

#### ► Refurbishment of Carbonated Concrete

##### PROBLEM:

Carbonation is a common problem that can cause localised corrosion of steel reinforcement, leading to spalling of the surrounding concrete cover. If left untreated, the design life of the structure can be severely compromised.

##### SOLUTION:

Following preparation of the surface, missing or removed concrete can be reinstated using **Monomix HD**, a high build structural repair mortar. **Monolevel FC** can then be applied to achieve a fair-faced finish. The complete structure is then treated with **Monodex Smooth**, a coating with outstanding anti-carbonation properties. This highly aesthetic coating also has excellent weathering and UV resistance and a serviceable life of at least 15 years.



*Monomix can be applied in thicknesses of up to 80mm in a single layer.*

#### ► Clear Anti-Carbonation Protection

##### PROBLEM:

Harmful weathering can affect all types of buildings, and sometimes an anti-carbonation solution is required that will also enable the original surface appearance of the concrete substrate to be maintained.

##### SOLUTION:

Minor defects can be repaired using **Monolevel FC**, available in either grey or white to match the parent concrete. **Monodex Clear**, a transparent, elastomeric waterborne coating can then be used to provide excellent anti-carbonation protection. It is ideal for decorative concrete finishes, exposed aggregate panels and textured or coloured concrete, and effectively prevents the ingress of chlorides, whilst also allowing the release of moisture from the substrate.



*Monodex Clear has an equivalent air layer resistance to CO<sub>2</sub> diffusion of 81m.*

#### ► Rendering & Profiling of Concrete

##### PROBLEM:

Building movement and the effects of ageing can cause decorative cladding and rendering to crack and delaminate. Careful removal and replacement of the damaged areas is therefore essential.

##### SOLUTION:

**Monolevel RM**, a polymer modified, fibre reinforced cementitious render is perfect for achieving a high quality finish. It has low sag qualities, excellent tensile and impact strength and effectively protects against the ingress of moisture, gases and chlorides. Elsewhere, **Monomix**, a low density, high strength structural repair mortar can be used to reinstate concrete on detail areas such as lintels, enabling the original profile of the concrete to be effectively matched.



*Monolevel RM cures rapidly to produce a waterproof, fair-faced render.*

#### ► Reinstatement of Soffits and Balconies

##### PROBLEM:

Concrete soffits and balconies can decay badly over time, allowing water to seep through and cause corrosion. A solution is required that bonds effectively to the existing substrate whilst also providing a highly decorative appearance.

##### SOLUTION:

Following preparation, areas requiring concrete repair can be treated with **Steel Reinforcement Protector 841** and **Monolite** repair mortar. **Monolevel 250F**, a fine grade cementitious fairing coat, can then be used to level out the surface of the balconies and soffits and provide an even surface. Following this, **Bond-Prime** can be applied to seal the substrate prior to the application of one of the **Monodex** range of protective anti-carbonation coatings.



*Monodex Textured is ideal for waterproofing surfaces with a rough, uneven finish.*



Structural Repair & Protection Technology from Flexcrete

- Concrete Repair & Protection
- Protective Coatings
- Structural Waterproofing
- Enhanced Durability for Concrete & Steel
- Waterproofing of Roofs & Floors

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