

# Commercial buildings

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.



**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.

## Solutions for today's structures

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.

The **Intercrete®** range of concrete repair and protection products 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, the **Intercrete 4890** series of weatherproof anti-carbonation coatings provides the ultimate protection against the ingress of carbon dioxide, oxygen and water.

**Intercrete** 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 and refurbishment

**Intercrete** 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



Intercrete concrete repair solutions provide versatile protection for buildings & commercial construction

# Concrete repair & protection challenges for buildings



Intercrete products have been used successfully for over 30 years to solve structural problems experienced by buildings and commercial construction.

## Refurbishment of carbonated concrete

**Problem:** Carbonation is a problem that causes 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.



Intercrete 4800 can be applied in thicknesses of up to 80mm in a single layer

**Solution:** Following surface preparation, any missing concrete can be reinstated using **Intercrete 4801**, a high build structural repair mortar. **Intercrete 4822** can then be applied to achieve a fair-faced finish. The complete structure is then treated with **Intercrete 4891**, 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.

## Rendering and 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.



Intercrete 4823 cures rapidly to produce a waterproof, fair-faced render

**Solution:** **Intercrete 4823**, 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, **Intercrete 4800**, a low density, high strength structural repair mortar can be used to reinstate and match the original concrete profile on detail areas such as lintels.

## 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.



Intercrete 4893 has an equivalent air layer resistance to CO<sub>2</sub> diffusion of 81m

**Solution:** Any minor defects can be repaired using **Intercrete 4822**, available in grey or white to match the parent concrete. **Intercrete 4893**, a transparent anti-carbonation coating can then be used to effectively prevent the ingress of chlorides, whilst also allowing the release of moisture from the substrate. **Intercrete 4893** is ideal for decorative concrete finishes, exposed aggregate panels and textured or coloured concrete.

## Reinstatement of soffits and balconies

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



Intercrete 4892 is ideal for waterproofing surfaces with a rough, uneven finish

**Solution:** Following preparation, areas requiring concrete repair can be treated with **Intercrete 4871** and **Intercrete 4803** repair mortar. **Intercrete 4824**, 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, **Intercrete 4811** can be applied to seal the substrate prior to the application of one of the **Intercrete 4890** range of anti-carbonation coatings.

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