

Solutions for infrastructure

When subjected to the elements and environmental attack, even the most well designed structures, constructed using the best quality concrete, need repair and protection in order to ensure that the intended design life can be achieved.



Factors such as carbonation, water penetration, chemical or chloride attack, and freeze/thaw cycling can all lead to significant deterioration of precast and in-situ concrete, quickly leading to corrosion of the steel reinforcement. It is therefore essential to carry out periodic maintenance in order to keep these structures in a serviceable and, above all, safe condition.

Impacts of a changing world

Concrete was once regarded as a low maintenance or maintenance-free material. In reality, structures which were originally created with an anticipated design life of 60, or even 120 years, can quickly show signs of degradation. In addition to aggressive environmental factors, there are increasing demands placed on modern infrastructure that can push the performance of concrete structures to the absolute limits.

Solving structural problems

Older bridges and highway structures can often need urgent remedial

action to reinstate their structural integrity. In such instances, **Intercrete®** products provide a comprehensive refurbishment solution incorporating a full range of engineering quality mortars and high performance cementitious and anti-carbonation coatings.

Intercrete products have an impressive track record of international performance in some of the world's harshest conditions, spanning over 30 years. They have been successfully used to weatherproof airports, bus stations, tunnels, rail structures, roads and other infrastructure in highly demanding environments such as nuclear power stations and chemical facilities.

Our range of advanced repair and protection systems provide durable, engineered solutions to concrete repair problems. Structural integrity and the original design life can be restored, whilst the overall appearance of ageing concrete structures can be significantly improved with the **Intercrete** range of weatherproof decorative finishes.

Engineered to perform

Intercrete concrete repair mortars have been designed to offer class-leading performance. They incorporate the latest 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 and tensile strength
- Low permeability to water, even at 10 bar negative pressure
- Quick to install and non-toxic when cured



Intercrete repair solutions are chosen because of their reliability and proven performance

Concrete repair and protection challenges for infrastructure



Intercrete cementitious technology is regularly applied to solve challenging structural problems experienced by concrete infrastructure.

Corrosion of reinforcement

Problem: Due to carbonation, localised corrosion of the reinforcement can occur, resulting in spalling of the concrete cover. If left untreated, the design life of the structure can be shortened significantly.



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

Solution: Following removal of unsound concrete and preparation of the steel, **Intercrete 4871** is applied by brush. Missing or removed concrete can then be reinstated using **Intercrete 4800**, a high build structural repair mortar. Afterwards, **Intercrete 4822** may be applied to all surfaces using a bag rubbing technique to achieve a fair-faced finish, prior to the application of an anti-carbonation coating such as **Intercrete 4891**.

Reinstatement of runways and bridges

Problem: Roads, runways and bridges are often subject to heavy wear, and cannot be taken out of service for long periods of time. Repairs to voids or worn trafficked surfaces require a fast-track, high strength solution.



Intercrete 4802 is extremely quick-setting, enabling rapid return to service

Solution: Where speed of reinstatement is important, all voids and removed concrete should be reinstated with **Intercrete 4802**, a shrinkage compensated, polymer modified, Portland cement based concrete repair mortar. **Intercrete 4802** sets in just 10 minutes and, when bulked out with aggregate, achieves a strength of over 30N/mm² in just 2 hours. As an additional friction wearing course, **Intercrete 4851** can be installed at a thickness of 2mm.

Chloride ingress

Problem: Chloride attack can severely damage bridges and other reinforced concrete structures that are exposed to de-icing salts. The result can be extensive corrosion, loss of steel section and large areas of spalled concrete.



Intercrete 4841 conforms with Highways Agency Specification Clause 1770

Solution: **Intercrete 4841** is a polymer modified waterproof coating that provides exceptional protection against water ingress, chloride attack and carbonation. It is quick, simple and safe to apply without the need for a primer, ensuring that any disruption is kept to a minimum. Independent tests prove that **Intercrete 4841** continues to provide an effective barrier to moisture, chloride ions and carbon dioxide after well in excess of 30 years.

Lining of concrete bunds

Problem: Concrete bunds often surround storage tanks containing highly hazardous chemicals. To ensure their structural integrity and eradicate the risk of harm to the environment, a chemically resistant lining is required.



Intercrete 4840 resists water, chloride ions and aggressive chemicals

Solution: **Intercrete 4840** provides a highly effective solution for waterproofing and protecting chemical bunds. Applied by brush or spray, it cures rapidly to form an exceptionally tough, chemically resistant finish and, with a water-based formulation, no hazardous solvents or heavy odours are released during application. **Intercrete 4872** can also be embedded into the coating over live cracks and expansion joints, providing permanent elasticity.