

FLEXCRETE TECHNOLOGIES LIMITED

SPECIALIST REPAIR AND PROTECTION SYSTEMS



Flexcrete Technologies Limited



Waterproofing



Repair and Protection



Chloride Resistance

civils & building structures - refurbishment



Heritage

“Flexcrete continually strives to provide ever more advanced technical solutions with outstanding performance for the refurbishment of Civils and Building Structures.”



Asbestos Encapsulation

If modern reinforced concrete structures had proved to be as durable and resistant as was once anticipated, there would be no need for further work to ensure their full design life could be achieved. Unfortunately, this is far from the case, and a programme of maintenance, often expensive if the right materials are not selected, must be undertaken to ensure they remain serviceable and above all, safe.

These structures are all around us and play an important part in our everyday lives: from the buildings where we live, work and are educated, to the infrastructure networks providing utilities and transportation.

Even the best-designed modern structures will benefit from specialist intervention to correct problems that may arise during construction; and after a period of exposure to environmental attack 24 hours a day, 365 days a year, older buildings will often require urgent remedial action.

Flexcrete offers a range of advanced repair and protection systems which provide durable, engineered solutions to concrete repair problems. Structural integrity can be fully reinstated and future protection against carbonation and chloride attack is assured. Decorative finishes can also be added in order to disguise repairs and to improve the overall appearance of an ageing concrete structure. Based on Flexcrete's unique proven polymer cement technology the products are backed by an international track record extending well over 20 years in the most onerous conditions.



Fair Faced Finish



Filling Tie Holes



Reinstating Defects

civils & building structures - new build



Low Cover

With the current emphasis on concrete as an aesthetic finish in its own right, it is no longer acceptable to leave behind visible blow holes, surface defects and tie holes when formwork has been removed. The exciting, complex designs we are now able to produce can create their own problems with compaction producing honeycombing, whilst inadequate formwork support may result in grout loss and unsightly blemishes. Even the removal of formwork often damages edges, arrises and fine detail work. All of these defects require reinstating prior to completion with materials that are visually and structurally compatible.

“The Flexcrete range includes all the necessary finishing and reinstatement materials needed in new construction.”

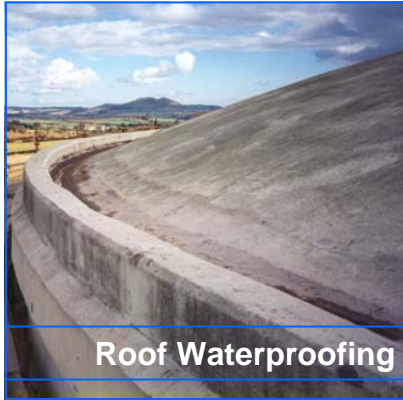
Flexcrete has a range of materials to suit all applications, whether it be a structural mortar for reinstating large areas of honeycombing right through to colour-matched, fine grade mortars to produce the finest fair faced or “superfine” finish.

Durability cannot be ignored as even well designed structures can soon start to suffer deterioration as a result of poor workmanship during the construction sequence. Inadequate securing of the formwork or fixing of the reinforcement can lead to low cover and if this is not identified and appropriate remedial action taken, premature failure can be guaranteed.

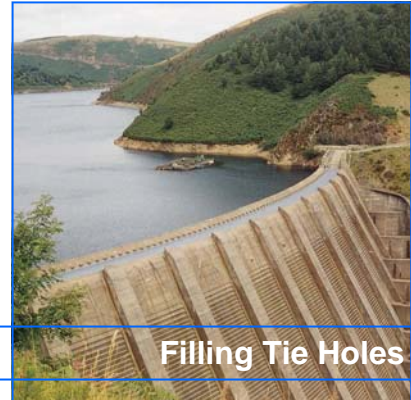


Chloride Resistance

Just 2mm of a Flexcrete cementitious coating is equivalent to a minimum of 70mm of additional good quality concrete cover. These advanced products offer outstanding resistance not only to water and carbon dioxide but also to chlorides. They form a homogenous bond to the substrate and their excellent UV and weathering resistance ensures that they will never need replacing during the design life of the structure.



Roof Waterproofing



Filling Tie Holes



Internal Tanking

clean water

“Flexcrete’s products are suitable for the treatment and upgrade of a wide range of clean water installations.”

Materials for use in clean sector of the Water Industry must be inert in their service condition, must not affect the water quality and must not support the growth of micro-organisms or leach potentially toxic compounds.

Flexcrete’s cementitious coatings and repair mortars are water-based minimising health and environmental risks in application. Many have been independently tested and are approved for use in contact with drinking water in public water supplies.

water industry

dirty water



Concrete Repair

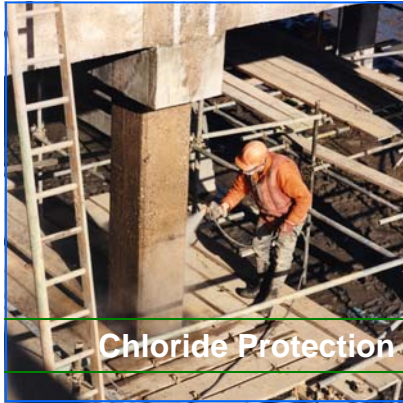
“Flexcrete’s advanced technology provides durable repair and protection for many structures in the dirty water industry.”

The dirty sector of the Water Industry has its own highly demanding requirements and chemical resistance to raw sewage is amongst the most important. Another related problem arises from bacterial activity in sewage creating gasses that dissolve in water to produce strong acids. These often lead rapidly to the deterioration of concrete and the subsequent corrosion of steel.



Chemical Resistance

Flexcrete’s water-based, cementitious polymer and epoxy modified coatings are impermeable to water and form a durable, protective surface on both concrete and metal substrates with excellent chemical resistance. They also exhibit high diffusion resistance to oxygen, carbon dioxide and chloride ions, ensuring effective long-term protection against the principal causes of corrosion.



Chloride Protection



Sprayed Repairs



Tidal Zone Repairs

coastal engineering structures



Corrosion Protection

“Flexcrete is committed to providing innovative solutions to the rigorous demands facing the Marine Industry today.”



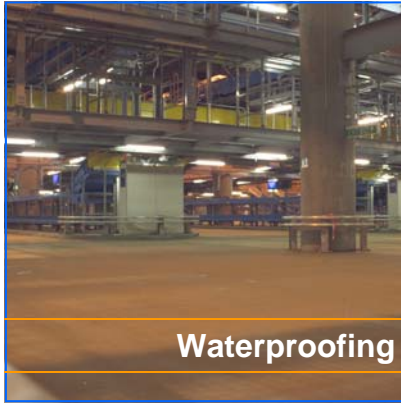
ALWC

Marine environments impose rigorous and unique demands on those authorities, engineers and specifiers responsible for maintaining the integrity of coastal defences, wharfs, piers and jetties. High chloride levels in seawater, combined with the aggressive action of waves and currents, push structural integrity to the limits, whilst, at the same time, offering only fleeting opportunities for repair and refurbishment.

Flexcrete’s range of purpose designed marine mortars, sprayed mortars and unique cementitious coatings are based on the Company’s own highly advanced microsilica, polymer and fibre technology. These products exhibit excellent wash-out resistance and can be installed between tides to damp substrates. They will cure under water to form a resilient, durable finish that resists abrasion and chloride ion diffusion.

Accelerated low water corrosion (ALWC) has become an increasingly worrying phenomenon since it was first identified in the 1960’s. ALWC, or concentrated corrosion as it is often known, is a form of bacteriological corrosion and is primarily found on sheet piled quays and flood defences. In ALWC affected areas corrosion rates can be as high as 1mm per annum dramatically reducing the design life of the piles.

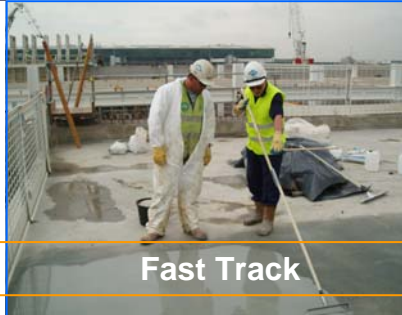
Flexcrete’s cementitious coating technology provides a unique solution, which has a number of benefits over traditional application systems and is perfectly suited for use in tidal areas to combat the problems associated with ALWC



Waterproofing



Airfields



Fast Track

floors and trafficked areas

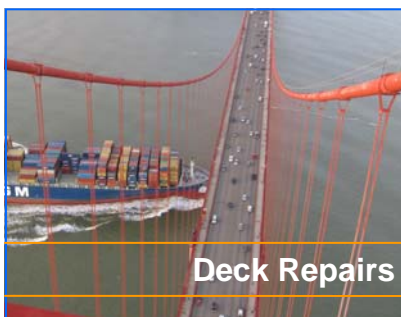


Joint Repairs

External flooring, including car parks, roadways, taxiways, balconies and walkways, are all highly vulnerable to damage and potholes often develop in the most critical areas. Years of trafficking and exposure to freeze thaw cycles result in mechanical damage not only to the concrete deck, but also degradation of the existing waterproofing system. Industrial floors and loading bays will also show signs of distress in areas subject to the continual pounding from fork lift trucks whose solid wheels and high point loads are very unforgiving. Distress is usually found in areas which cannot be taken out of service for long periods, requiring rapid, yet durable and reliable reinstatement.

“Flexcrete’s cement and epoxy modified ultra-thin, waterproof toppings provide excellent chemical and skid resistance.”

The Flexcrete range of fast setting mortars is based on advanced Portland cement technology to give a controllable setting time and very low shrinkage. They also benefit from polymer and fibre modification, which ensures that high bond strength is generated to the substrate and this is maintained through the life of the repair. They cure rapidly to enable reinstatement of vehicular traffic generally within 2 hours.



Deck Repairs

Flexcrete’s cement and epoxy modified ultra-thin toppings are impermeable to water and provide excellent chemical and skid resistance. They can be applied to wet substrates and withstand light foot traffic within 6 hours of application. They also have a valuable role to play internally in buildings where the design calls for the application of resin, sheet vinyl or carpet flooring. They are widely used as a levelling, waterproofing layer to prevent osmotic blistering in fast-track construction on damp or green concrete, which would otherwise require an unacceptably long drying out period.



Tanks



Tunnels



Corrosion under Insulation

anti-corrosion



External Pipe Coating

“Flexcrete’s portfolio of advanced, water-based cementitious coatings for corrosion protection of steel piling, pipelines and structures.”



Internal Pipe Coating

Giving excellent stand-alone corrosion protection, the Cemprotec range is a major advance in thin-film cementitious coating technology, incorporating the benefits of copolymer and epoxy resin chemistry. This makes low energy application possible in the most demanding environments, without any need for expensive or sophisticated equipment. The cohesive nature of the products provides excellent wash-out resistance, which means they can be easily used on damp or even wet substrates in tidal zones.

Specialist primers, for so long the primary weapon against corrosion are now superfluous; the stand-alone system is applied directly to ferrous metals and reacts chemically to provide outstanding protection against corrosion. When cured, it forms an armour-like coating which exhibits ultra low permeability and high diffusion resistance to oxygen and water (the fuels for corrosion), whilst creating an effective barrier to chloride ions.

This technology offers many distinct advantages over traditional coating systems and, regardless of how extreme the climatic and environmental conditions may be, has the ability to provide durable corrosion protection to sheet piling as well as to the internal and external surfaces of pipes.

Applied directly to the pipe, without the need for a primer, Cemprotec coatings are highly effective in eliminating the risk of rusting. They are now in regular use in the petrochemical industry in particular, either as the first recourse whenever CUI is suspected, or as a primary preventative measure.



On-Site Training



CPD Presentations



R&D Facilities

the company



“Dedicated to developing customer loyalty by setting industry standards for service, quality and technical excellence”



Since the mid 1980's, the Flexcrete brand has been associated with high quality engineering solutions for the civil engineering and related industries. Our modified cementitious coatings and technical mortars offer outstanding reliability and ease of use, together with unsurpassed levels of performance and durability.

Flexcrete serve the following markets:

- ◆ Building and Civil Engineering Structures
- ◆ Clean & Dirty Water Industry
- ◆ Coastal Engineering
- ◆ Floors and Trafficked Surfaces
- ◆ Anti-corrosion

We offer guidance in determining which Flexcrete systems are best suited to the technical and budgetary parameters of the project. We can provide detailed written specifications and we are always on hand to provide any additional advice or support.



Flexcrete Technologies Limited
 Tomlinson Road • Leyland • Lancashire • PR25 2DY • England
Tel: +44 (0) 845 260 7005
Fax: +44 (0) 845 260 7006
Email: info@flexcrete.com
www.flexcrete.com

The information herein is correct to the best of our knowledge, but it does not necessarily refer to the particular requirements of the customer. If customers have any particular requirements, they should make them known in writing to Flexcrete Technologies Limited, and obtain further advice accordingly.

