

# The world of Intercrete

Structural concrete: repair and protection



# Born in 1984 in the UK, AkzoNobel's concrete repair and protection solutions started life as Flexcrete.



Acquired by AkzoNobel in 2017, and now sold as **Intercrete®** under the leading coatings brand **International®**, this range provides innovative mortars and coatings for the reinstatement and long term protection of reinforced concrete structures within both maintenance and repair and new construction. AkzoNobel's International® brand is the world leader in marine, yacht and protective coatings. A long-standing brand synonymous with innovation and collaboration, it is the preferred choice of industry leaders looking for excellence and expertise.

The International® range includes anticorrosive and fire protection, fouling control technologies and aesthetic solutions for on and offshore. Supported by high quality customer service and in-field support around the globe, our technologically advanced International product range strives to satisfy our customers' needs now and in the future.

## **International® Propelled by curiosity**

### **Advanced concrete protection from the Intercrete range:**

#### **Intercrete 4801**

High-build repair mortar for structural repairs of vertical, overhead and horizontal surfaces, including high-traffic areas. Single-component, fibre reinforced and solvent free.

#### **Intercrete 4802**

Fast setting mortar for durable repairs where time is of the essence, allowing quick turnarounds and rapid return to service. Excellent abrasion resistance for use in high-traffic areas.

#### **Intercrete 4820**

Versatile waterproof screed to provide an engineering-quality finish. Can also be used as a fairing coat on prepared concrete to fill minor blow holes and defects, creating a smoother finish ideal for overcoating.

#### **Intercrete 4840**

An easy to apply, direct-to-substrate cementitious coating that provides both concrete and metal with strong impact, abrasion and chemical resistance. Also protects against the ingress of water and acidic gases.

#### **Intercrete 4841**

A waterproof cementitious coating with a range of versatile attributes, including the ability to resist positive and negative pressure, protect concrete from chloride ingress and reinstate effective cover. Commonly used in new construction when low cover is identified.

#### **Intercrete 4890**

A unique water-based decorative concrete coating that provides excellent protection against carbonation and water without trapping moisture in the substrate. Elastomeric properties allow the system to accommodate hairline cracks and movement, with excellent adhesion to mineral substrates.

**Flexcrete founded**  
The start of an outstanding legacy in world-class concrete protection, now spanning over 35 years.

**Intercrete 4841 introduced**  
Under the name Cementitious Coating 851, Intercrete 4841 revolutionized concrete protection. It remains a market-leading solution today, protecting against corrosion in many challenging environments.

**Anti-chloride testing begins**  
A 2mm film of Intercrete 4841 was applied to a concrete test sample and sealed in a chloride ion diffusion cell. 30 years later the coating is still providing full protection, a testament to its long-lasting performance and the technical excellence of Intercrete.



**Emirates Spinnaker Tower**  
Opened in 2005, the 170m tower required long-lasting protection from the corrosive conditions of Portsmouth harbor. Flexcrete supplied Monodex (now Intercrete 4890) to protect the concrete 'legs' from carbonation, while several coatings from International® provided a complementary solution for the steel upper portions of the tower.  
Upon repainting the tower in 2015, it was found that very little maintenance was required due to the longevity of the system. Now a part of the wider International offer, Intercrete represents proven long-term protection.

**Flexcrete acquired by AkzoNobel**  
Combining decades of proven performance with the global expertise of AkzoNobel, Flexcrete became a part of the International protective coatings offer as Intercrete.



**1984**

**1985**

**1988**

**1998**

**2005**

**2015**

**2017**

**2018**

**Channel Tunnel**



**Hong Kong International Airport**  
Located below sea level, the airport's largest terminal was facing challenges from the ingress of seawater under pressure, making it impossible to achieve a dry substrate.

Cemprotect E-Floor system (now Intercrete 4851) provided the solution, as a waterproof coating that can be applied to damp surfaces with protective properties equivalent to an additional 2310mm of concrete, allowing the project to be completed on time.



**Black Hill Reservoir**  
Located in Australia, this 86 million liter reservoir faced leaks, requiring a cementitious coating that could be applied to a damp surface, renewing waterproof performance.

The sealing system had to be certified for contact with potable water, with a minimum 20 year design life and the flexibility for structural movement. Water loss was reduced by 75%, allowing the reservoir to achieve its original specified lifespan.

**Blyth Gravity Based Foundations**  
Five wind turbine foundations were constructed at a dry dock in Newcastle upon Tyne and installed offshore using a 'float and submerge' method.

To ensure achievement of the intended 26 year design life in this harsh marine environment, the reinforced concrete finishing was completed with Cementitious Coating 851 (now Intercrete 4841).

# Solutions to concrete problems

## Structural waterproofing

We specialise in protective coatings for structural waterproofing and tanking.

Many Intercrete products are approved under Regulation 31(4)(a), WRAS or equivalent, being tailored to offer ultimate waterproof protection and withstand high water pressure. Designed for application in damp environments, their ultra-low VOC content also makes them ideal for use in confined spaces. They offer excellent chemical resistance when applied to areas such as dirty water installations, and our specialist linings can be applied in new construction without waiting for a full cure of the substrate.

## Concrete repair

We offer high-quality waterproof concrete mortars for both structural and cosmetic repairs.

Highlights from our concrete repair range are Intercrete 4802, designed to allow rapid return to service in heavy-traffic areas, and Intercrete 4801, which can be easily applied up to 80mm (3.15in) in a single application, even on walls and overhead. Across the range there is no need for primers, the products can accommodate green or damp substrates and packs can be split and simply mixed with water.

## Below grade waterproofing

We provide complete waterproof protection for basements and below ground structures.

With the development of new buildings with larger underground areas and the increased desire to make use of existing underground spaces, there is a growing demand for effective basement waterproofing systems. Suitable for both refurbishment and new build work, our impermeable, sulphate resistant cementitious coatings are ideal for this purpose. Perfect for application to permanently damp surfaces, Intercrete 4851 and Intercrete 4852 for floors, and the Intercrete 4820 series for levelling walls, all provide long-term resistance to water ingress.

## Secondary containment

Our products are ideal for secondary containment, often combined with International® linings

Secondary containment or bunded areas are critical on any industrial site. Intercrete products can be applied directly to green or saturated concrete in these areas, rapidly accelerating construction timelines; instead of waiting 28 days, Intercrete can be applied in 24 hours, followed by suitable linings within another 24 hours. This system helps ensure a quicker return to service and reduced shutdown periods, potentially allowing a higher output in operations.

## Anti-carbonation coatings

We protect concrete structures through long-term resistance to carbonation.

For a decorative, protective finish our anti-carbonation coatings are water-based, environmentally friendly and available in a wide range of colours and finishes. With a design life of 10-15 years before first maintenance, the 4890 series provides long-term protection against general weathering, carbonation and water ingress, while preventing blistering or delamination by allowing damp substrates to breathe. Market-leading resistance to carbon dioxide diffusion provides complete assurance of protection for reinforced concrete assets.

## Enhanced durability for concrete and steel

Our highly engineered solutions enhance durability and extend the service life of concrete and steel.

Our cementitious coatings provide an excellent barrier against acidic gases, water and chlorides, with added chemical, abrasion and impact resistance. Where low cover is detected, a 2mm layer of Intercrete 4841 provides the equivalent of 100mm of concrete cover. Epoxy modification gives products like Intercrete 4840 excellent standalone corrosion protection for ferrous metals including marine sheet piling and pipework, without high levels of surface preparation.



## Hybrid linings

We offer a tailored combination of Intercrete and International® linings for a variety of end uses.

Intercrete cementitious coatings can be combined with other linings from the International range, providing a range of advantages including greater flexibility and increased productivity. Some projects include a variety of substrates and conditions, requiring a hybrid solution, and in other cases a combination of coatings can save significant downtime. International linings such as Enviroline 376-F60 or Polibrid can be applied over Intercrete after only 24 hours, complementing the ability to apply Intercrete over green concrete after 24 hours, cutting down overall downtime and getting assets into service quicker.





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