

Waste water structures

Intercrete® products have an outstanding track record in the waste water sector and include advanced cementitious mortars and coatings to repair existing deteriorated structures and enhance durability in new construction.



Reinforced concrete forms the basis of many waste water installations, but concrete alone cannot withstand chemical attack from raw sewage and aggressive condensates. This issue is often exacerbated by regular abrasion and the general effects of weathering and freeze/thaw damage.

Concrete damage is determined by the corrosive nature of the substances present and the quality of the existing concrete. For example, Biogenic Sulphuric Acid Attack can cause the most serious forms of damage. European Standard EN 206-1 defines various levels of chemical attack on concrete in sewage facilities and we have developed an extensive range of compliant systems designed to provide the ultimate in protection.

Intercrete can provide a complete repair and protection system, ranging from engineering grade fairing coats and rapid setting mortars to water-based, cementitious coatings which are impermeable to water and provide exceptional protection against chemical attack, thus extending the service life of structures significantly.

Minimising downtime

In addition to proven concrete repair and protection materials, the **Intercrete** product portfolio includes innovative epoxy and polymer cement technology to prevent corrosion of steel in humid or immersed conditions. Typically, our materials are applied directly to the substrate without primers, and can be applied in both damp and dry conditions, enabling facilities to be rapidly returned to normal.

Environmentally friendly and sustainable

Intercrete materials are water-based, ultra-low odour and solvent free, and can be safely applied whilst facilities are in operation. In some countries, additional taxes must be paid for products that release Volatile Organic Compounds (VOC's), but this is not a concern when **Intercrete** materials are specified. As our products are Portland cement-based, they are fully compatible with original concrete and the single pack nature of the majority of our products makes them user-friendly and easy to apply on-site with the simple addition of clean water.

Waste water applications

Intercrete products are suitable for the most demanding environments and are ideal for repairing and protecting many structures in the dirty water industry, including:

- Aeration tanks
- Digester tanks
- Sludge tanks
- BAFF tanks
- Storm water tanks
- Support chambers
- Primary settlement tanks
- Filter plants
- Spillways
- Weirs
- Bunds
- Humus tanks
- Flume channels
- Final filtration tanks



Intercrete provides reliable solutions to complex challenges faced by dirty water structures

Typical problems and challenges in the waste water industry



Intercrete's repair and protection range helps to reinstate and extend the lifespan of structures in this highly demanding sector.

Biogenic sulphuric acid attack

Problem: Bacteria present in sewage can form acidic gases which condense on surfaces in confined areas and break down to form sulphuric acid which attacks concrete.



Solution: Eroded surfaces can be reinstated with **Intercrete 4820**, an engineering grade fairing coat, prior to overcoating with **Intercrete 4840**. This unique epoxy and cement modified polymer coating can be applied with minimal substrate preparation and offers excellent resistance to aggressive acids and sewage chemicals.

Degrading settlement tanks

Problem: Chemical attack from raw sewage breaks down the matrix of the concrete whilst abrasion accelerates surface deterioration.



Solution: Damaged areas can be reinstated with **Intercrete 4800**, or **Intercrete 4802** where fast-track remediation is required. Both offer long-term, durable repairs with excellent chemical resistance. An overall application of **Intercrete 4840**, incorporating advanced cementitious technology, protects existing concrete from further deterioration.

Intercrete 4840 - in a class of its own

Intercrete 4840 is extremely versatile and is applied without a primer both to concrete and ferrous metals in the dirty water industry.

	Strength @ 28 days		Adhesive bond		Equivalent concrete thickness	
	Compressive	Flexural	Concrete	Steel	Permeability to CO ₂	Permeability to water
Intercrete 4840	50-60 Mpa	50-60 Mpa	> 2 Mpa	> 3 Mpa	100mm	6000mm

Leaking storm water tanks

Problem: Concrete tanks, particularly circular tanks, within a treatment works are prone to thermal movement and cracking, leading to leaking of the structure.



Solution: **Intercrete 4842** has outstanding crack bridging properties and its high elongation combined with excellent resistance to storm water make it ideal for sealing cracks subject to further cyclic movement. Where there are joints, **Intercrete 4842** can be reinforced with **Intercrete 4872**, a waterproof tape with 600% elongation.

Reinstatement of manholes and sewers

Problem: Manholes and sewers are under constant attack by sewage and sulphuric acid, leading to degradation and costly leaks.



Solution: Cracked or damaged concrete can be rapidly repaired and water ingress arrested using **Intercrete 4802**. **Intercrete 4820** can be trowel applied to rough surfaces to provide a smooth, engineering finish with excellent abrasion resistance and durability. Further protection can be provided by overcoating with our epoxy and cement modified polymer coating, **Intercrete 4840**.