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Solutions for Dirty Water Structures



Protection Against
Strong Chemicals & Acids



Non-Hazardous,
Water-Based Products



Ideal for Application
onto Damp Substrates

Structural Challenges in the Dirty Water Industry

Flexcrete products have an outstanding track record in the dirty water sector and include advanced cementitious mortars and coatings for both the repair of existing deteriorated structures and for the enhancement of durability in new construction.

Reinforced concrete forms the basis of many dirty water installations, but concrete alone cannot withstand chemical attack from raw sewage and aggressive condensates, often exacerbated by 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. Pan European standard EN 206-1 defines various levels of chemical attack on concrete in sewage facilities from low to very severe and at Flexcrete, we have developed an extensive range of compliant systems designed to provide ultimate protection against the most severe forms of attack.

We can provide a complete repair and protection system for dirty water installations, extending 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.

Keeping Downtime to a Minimum

In addition to proven concrete repair and protection materials, our 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 & Sustainable

Flexcrete 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 Flexcrete 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 use on-site with the simple addition of clean water.

Dirty Water Applications

Flexcrete's 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



Flexcrete provides reliable solutions to complex challenges faced by dirty water structures.

Typical Problems and Challenges in the Dirty Water Industry

Flexcrete'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, in confined areas, condense on surfaces and break down to form sulphuric acid which readily attacks concrete.

SOLUTION:

Eroded surfaces can be reinstated with **Monolevel 844SP**, an engineering grade fairing coat, prior to overcoating with **Cemprotect E942**. This unique epoxy and cement modified polymer coating can be applied to the substrate with minimal preparation and offers excellent resistance to aggressive acids and chemicals found in sewage.



▶ 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:

Cemprotect Elastic 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. For joints, **Cemprotect Elastic** can be reinforced with **Cemprotect 2000-S**, a waterproof tape with 600% elongation.



▶ 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 **Monomix**, or **Fastfill** can be used if fast-track remediation is required. Both offer long-term durable repairs with excellent chemical resistance. An overall application of **Cemprotect E942**, incorporating advanced cement chemistry, fibre, epoxy and styrene acrylic copolymer technology, protects existing concrete from further deterioration.



▶ Reinstatement of Manholes & Sewers

PROBLEM:

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

SOLUTION:

Cracked or damaged concrete can be rapidly repaired and any water ingress arrested with **Fastfill**. **Monolevel 844SP** 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 Flexcrete's epoxy and cement modified polymer coating, **Cemprotect E942**.



E942 - In a Class of Its Own

Cemprotect E942 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
Cemprotect E942	50-60MPa	11-14MPa	>2MPa	>3MPa	100mm	6000mm



UK MANUFACTURING AT ITS BEST  Structural Repair & Protection Technology from Flexcrete 

- ▶ Concrete Repair & Protection
- ▶ Protective Coatings
- ▶ Structural Waterproofing
- ▶ Enhanced Durability for Concrete & Steel
- ▶ Waterproofing of Roofs & Floors

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Members of the

