



Concrete Repairs and Specialist Works
Yorkshire & Humber Region

CONCRETE REPAIRS AND SPECIALIST SERVICES



BUILDINGS

TRANSPORT

ENERGY

WATERFRONT

UTILITIES

humber.fibrwrap-ccuk.com



BUILDING TRUST



CONCRETE REHABILITATION & REPAIR

What Composites Construction has to offer beyond the expertise of most concrete repair contractors is an engineered approach to the restoration of concrete. We analyse the root cause of the degradation with our own structural engineers reviewing the all the field conditions, this added value allows us to offer more of a long- term solution, rather than a concrete patch.

The repair of concrete buildings and structures requires quality materials but more importantly experienced and skilled tradesmen to ensure that the repair is undertaken correctly.

The removal of the defective areas of concrete, preparation of the exposed steel reinforcement, and concrete reinstatement has to be done correctly for the repair to last.

For small repair areas we use electric or pneumatic tools to remove the concrete and for larger volumes we often use hydro demolition contractors. The concrete reinstatement can be hand applied mortars or for large volumes it may be sprayed concrete or flowable self-compacting mortars. The concrete surface finishing often needs to match the existing colour and texture.

After repairing the concrete, a protective coating can be applied to all the exposed concrete surfaces to enhance the durability and for aesthetic reasons. These coatings can protect against further carbonation of the concrete and chloride ingress.

CRSW's concrete repair division is a leading UK specialist asset maintenance contractor for buildings and structures operating across the UK through a network of 3 regional offices (London, Hull and Edinburgh)

Established in 2010 as Fibrwrap Construction we have built a reputation in the industry for the quality of our service and innovative engineering solutions underpinned by our commitment to safety and sustainability.

We are flexible and work collaboratively with our clients which has helped to secure a high percentage of repeat business across all industry sectors direct with clients as a specialist sub-contractor.

As a member of the EPS Group we have the support of our other group companies which provide composites strengthening validation, inspection and test services, structural strengthening, waterproofing, and fire protection services.

CRSW CONCRETE REPAIRS DIVISION SERVICES

- Concrete repair and crack injection
- Spray Concrete Services
- Waterproof Barrier Systems and Leak Sealing
- Resin Injection Services
- Corrosion and Erosion services



BUILDING TRUST



ADVANCED COMPOSITE STRENGTHENING SYSTEMS

Advanced Composite Strengthening Systems are specialist carbon, glass, aramid and hybrid fabrics combined with epoxy resins which, in unique combination, create Advanced Composite Systems or CFRP strengthening system, these technical designed systems are engineered, specified and installed to solve a host of structural deficiencies or demands in existing structures.

CFRP can enhance the structural capacity of existing structural elements which require additional strengthening, rehabilitation, and repair, including seismic retrofit, pipe rehabilitation, structural preservation, comprehensive force protection, blast mitigation, corrosion related repair and rehabilitation, additional loading, and environmental protection. Structural enhancement and preservation, pipe rehabilitation, comprehensive force protection, blast mitigation, corrosion related repair and rehabilitation, additional loading, and environmental protection.

Carbon, glass or aramid reinforcing fibers are combined with high quality resins to produce a multitude of high performance FRP strengthening systems, which - in turn - provide design engineers with a wide range of options to meet the individual needs of a project. The success is proven by the fact that the Fibrwrap System is a reliable composite strengthening system with more approvals and more demonstrated and proven installations than any other system in the industry.

The Fibrwrap System includes a carbon fiber solution that meets the International Building Code® (IBC®) requirements.

BUILDING TRUST



SPRAYED CONCRETE SERVICES

Spraying Concrete is commonly the most efficient method of concrete application, it exhibits particular properties that can often make it far superior to poured or hand applied concrete; this very fast application also has a high strength and extremely durable finish, the reduction in requirement for formwork also saves significant time and money.

CRSW use Sprayed Concrete for the strengthening and repair of existing structures, it is ideal for the reinstatement of concrete on vertical surfaces, overhead surfaces and also curved structures.

CRSW provide high quality Spray Concrete services that can be finished to suit the application. We are experienced specialist applicators of Sprayed Concrete and are also members of Concrete Society. We provide cost engineering solutions for our clients without compromising.

- Bonded overlay
- Structural repairs
- Ground stabilisation
- Additional cover to reinforcement
- Fire protection
- Swimming pool shells
- Basement waterproofing
- Repairs Division

The most common methods of Sprayed Concrete CRSW undertake are:

DRY SPRAY CONCRETE

This method of application can often be used where smaller quantities are required, more detailed and specific repairs can also be carried out. This method is also great for using in confined spaces. Dry spray concrete carries a deal of advantages due to its flexibility; it has a high very early strength for early curing and loading as well as stabilisation works, dry spray has an almost unlimited holding time and availability of stored material in addition to providing minimal waste when applied.

WET SPRAY CONCRETE

This method of application can often be used where higher outputs are required, large structures requiring more volume of repairs can be quickly and efficiently provided. Wet sprayed concrete carries advantages of providing much higher durability due to the controlled mixing water quantity). A much better working environment providing less dust and rebound/waste material as well as and reduced impact on the spraying equipment.



WATERPROOF BARRIER SYSTEMS

CRSW, concrete repair and waterproofing division have extensive experience with all the leading manufacturers of waterproofing systems to provide solutions in the following areas:

- Leak sealing joints in precast and in situ concrete structures and elements.
- Leak sealing cracks and fissures in concrete brickwork and stone structures
- Structural waterproofing solutions for manholes, pipes, tunnels, shafts and culverts
- Structural waterproofing solutions for bridge leak sealing
- Basement structural waterproofing and tanking systems
- Waterproof membranes and Injection grouting.

CRSW can provide a range of basement tanking systems for both internal and external tanking, recognised and authorised by the leading manufacturers.

We carry out full internal render systems to any underground structure to provide a watertight environment.



BUILDING TRUST



HYDROPHOBIC & HYDROPHILIC LEAK SEALING

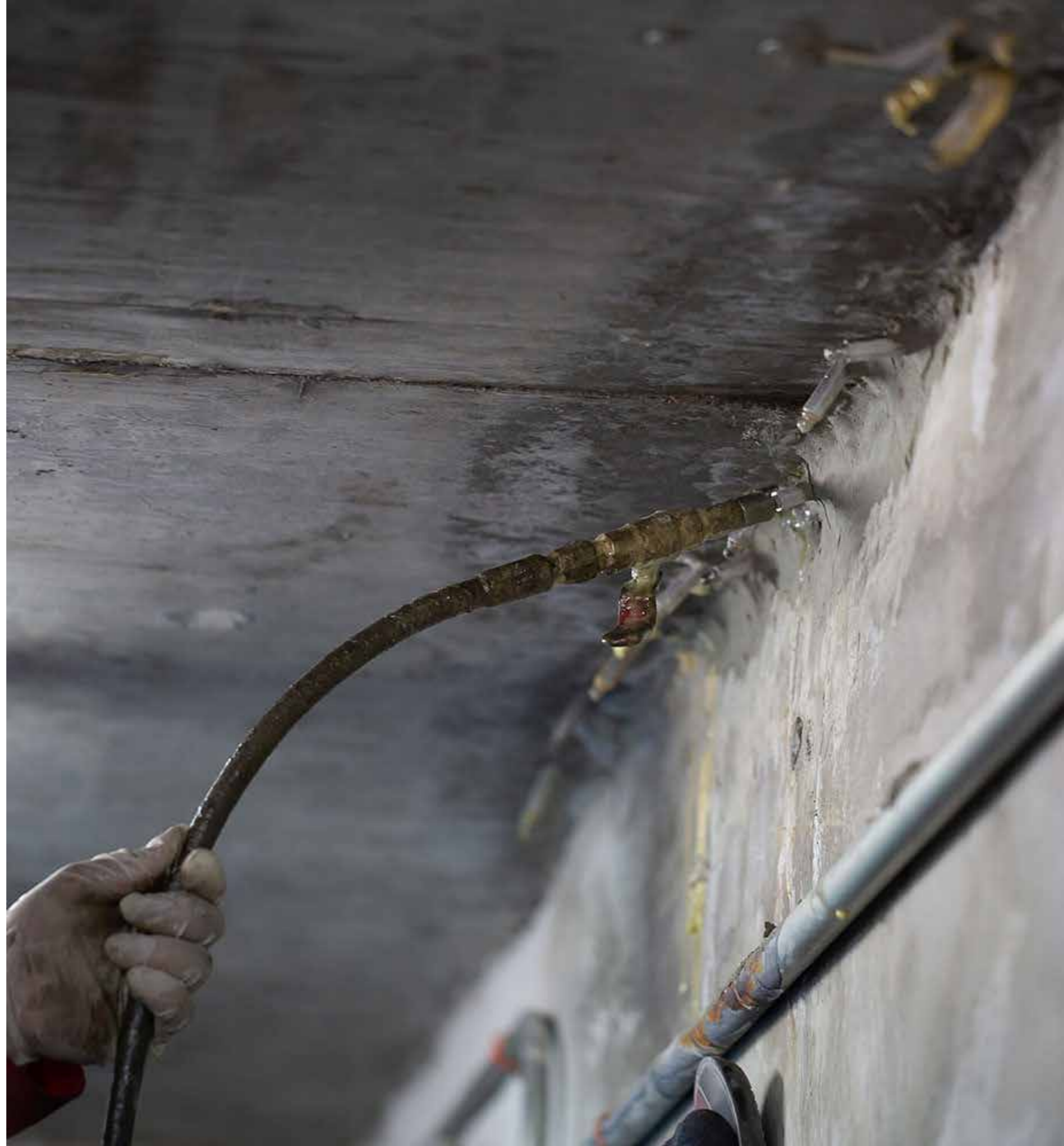
(Include Curtain Grouting)

We are one of the UK's leading specialists providing resin based leak sealing services.

Our injection waterproofing is perfect to fill any of your structural leaks.

Waterproof membranes and fillers are used to fill leaks, cracks and gaps on any surface that you need, providing a leak tight solution. A menu of specialist Polyurethane, Hydrophobic and Hydrophilic resins are available, we also carry out curtain wall grouting and ground stabilisation.

- Basement Waterproofing
- Leak Sealing and Stabilisation
- Soil Stabilisation
- Crack Injection
- Curtain Grouting
- Compaction grouting
- Slab lifting



CRACK INJECTION SYSTEMS

CRSW provide many different solutions for resin injection repair systems, options are available dependant on the type of structure and failure that is in need of repair.

- **Resin injection Systems** – for structural repairs
- **Flexible Systems** – for concrete crack repairs
- **Chemical Systems** – for use where joints are water bearing or open to chemical attack
Concrete resin injection may also fire resistant.

Resin injection systems offer the benefit of fire and heat resistance where high temperatures often occur.

As one of the UK market resin injection contractors our wealth of experience means we offer highly trained concrete repair teams specialising in providing an excellent resin injection service.



BUILDING TRUST



SPECIALIST SURFACE PREPARATIONS

Grit blasting, also known as abrasive blasting or shot blasting is a surface preparation technique used for the removal of coatings from any surface and any structure regardless of the situation.

Blast cleaning and preparation techniques include:

- **Soda Blasting** – Similar to abrasive blasting, soda blasting involves propelling crystallised particles of sodium bicarbonate (baking soda) onto an industrial surface using compressed air or water. Soda blasting is a gentler, milder version of classic abrasive blasting, and can be used to clean delicate surfaces. It is a quick and effective form of surface preparation with very little risk of damaging the profile or substrate of a surface area.
- **Grit Blasting or abrasive blasting** – Commonly known as sandblasting, is the operation of forcibly propelling a stream of abrasive material against a surface under high pressure to smooth a rough surface, roughen a smooth surface, shape a surface or remove surface contaminants.
- **Wet blasting** – Abrasive media with hot or cold water. Dust reduction, degreasing and surface profiling. This can also benefit in the removal of hazardous materials such as asbestos. This removal can also ensure effective decontamination of substrates.
- **Vacuum blasting** – A cleaner solution to wet blasting. There is no cleaning necessary and it is a fully justifiable method for surface preparation.



CASE STUDY

SOUTHMOOR INDUSTRIAL ESTATE

Southmoor industrial estate is a newly refurbished business park with multi use, mixed tenant units consisting of industrial and storage units alongside lovely Art Deco style office suites.

CARBON FIBRE STRENGTHENING AND CONCRETE REPAIRS

THE CHALLENGE

Two miles of unused service tunnels and basements had a series of structural, flood and repair issues.

THE SOLUTION

Various concrete repairs and strengthening works completed over a 12 week period including, concrete repairs, leak sealing, new concrete slab infills and columns strengthening all under asbestos and confined space controls.

Works include:

- Hand applied concrete repairs.
- Slab Infills with new reinforced concrete
- Crack Injection techniques
- Carbon Fibre Strengthening of columns
- New steel supports.

THE RESULTS

The works did enable some of the empty spaces to be available to be let again and the works made some parts of the structure safer.



CASE STUDY



IMMINGHAM JETTY

Immingham fuel terminals owned and operated by a major UK fuels provider is responsible for the operations and maintenance of these extensive jetties on the Humber Estuary in North Lincs. Our client is responsible for the pipeline systems between its facilities and localised refineries.

SURVEY OF THE DAMAGE TO THE CONCRETE JETTY

THE CHALLENGE

The client approached us in 2020 in relation to carrying out some concrete repairs to the jetty, unfortunately the condition survey dated back to 2016 and there had been a number of key personnel changes on the site that resulted in poorly or unfinished works. It was decided that a new condition survey should be carried out due to the time elapsed since the repairs were last looked at. The main challenges facing this task was access- how to get to the underside of each jetty or pier safely and also cost effectively.

THE SOLUTION

Whilst working with the site operations team it was discussed at length and decided that the quickest, safest and most effective means would be rope access. CRSW mobilised its team of level 3 IRATA trained rope access engineers located in our Edinburgh office to carry out these 2 weeklong visual surveys.

The three-man team works with the port and shipping management team to plan and carry out strategic surveys in what can be an extremely difficult environment to work.

THE RESULTS

Due to some very clever planning and good weather our team managed to complete the surveys to more than 12 different locations identifying more than 60 individual repairs.



 **CRSW**
Concrete Repairs and Specialist Works
Yorkshire & Humber Region

Dunston House, Hessle,
East Yorkshire, HU13 0EG
Tel: +44 (0)1482 425250
contact@fibrwrap-ccuk.com

humber.fibrwrap-ccuk.com



BUILDING TRUST

