



CONCRETE REPAIR, **WATERPROOFING &** DURABILITY SOLUTIONS

PROFILE

NCS (National Concrete Solutions) has a wealth of experience in concrete rejuvenation, repairs and new infrastructure solutions for the commercial, industrial, civil and residential sectors. Formed in 1993 under the name of XMS (Xypex Marketing Services), XMS was renamed to NCS to better reflect the diversification of its services and the company's expansion interstate. NCS now has offices located in Sydney, Brisbane, Melbourne and Albury.

Our experienced team of applicators provide quality solutions for concrete repair, concrete waterproofing, durability admixtures and crack injection. NCS also specialise in the installation of waterstop applications, Geo Synthetic Clay Liners (GCL) and roll on and spray on membrane systems.



PRODUCTS

NCS has access to specialist products used to undertake work in the areas of concrete construction and concrete repair. These products include:-

XYPEX[®]

NCS are Approved Contractors for the application of Xypex concrete waterproofing and repair products. Xypex is a cementitious, dry powder compound containing various proprietary chemicals that take advantage of the inherent porous and chemical characteristics of concrete.

These proprietary chemicals react with moisture and the natural chemical by-products of cement hydration to produce a non-soluble crystalline structure that becomes an integral part of the concrete matrix. Pores and capillary tracts are blocked, micro-cracks are sealed and the concrete becomes impermeable to water and other liquids.



Rawell

Rawell[®] Environmental Limited is one of the world's premier suppliers of bentonite based waterproofing materials. This includes Rawmat[®] HDB pre-hydrated bentonite membranes and Rawseal[®] high swelling hydrophilic waterstops. Rawell[®] products are suited to structural waterproofing, environmental protection and landscaping solutions.



Kuniseal

Kuniseal C-31DS is a composite product consisting of bentonite and mineral oil, which is designed to act as a moisture barrier in concrete construction joints. Kuniseal Tape TP-50 is specifically designed as a moisture barrier, ideal for treatment of penetrations.



OTHER PRODUCTS AND SYSTEMS

With full support from leading manufacturers, NCS and its experienced team of trained applicators are able to install various quality systems to suit a multitude of environments. These systems include flexible and liquid membranes, hybrid corrosion prevention, crack injection, industrial floor coatings, waterproofing, and structural strengthening for rehabilitation and remediation of concrete structures. Contact NCS to receive a personal consultation to meet your needs.

PROJECTS

Parramatta Trial Courts. Parramatta, Sydney

NCS was involved in a supervisory and hands-on capacity for construction of the Parramatta Trial Courts, part of the Parramatta Law Courts development. NCS provided onsite QA for basement slab pours, which included Xypex Admixture as part of the concrete mix. Additionally, NCS installed Rawseal® waterstops to lift shafts and waterproofed tie bolt holes within the basement slab hob.



Paradise Dam (Part of the Burnett Dam Alliance) Burnett, Queensland

The mini-hydro station at Paradise Dam required remedial repair due to insufficient concrete coverage. Xypex products were specified by Sunwater and applied to the mini-hydro station, under the supervision of NCS. The rectification method was designed to provide protection to the existing steel reinforcing and to enhance long term durability of the structure.



Chatswood Rail Interchange (Bridge) Chatswood, Sydney

The Chatswood Rail Interchange is a post-tension bridge structure that exhibited fine hair line cracking. NCS was contracted to apply the Xypex coating system, which involved brush application of Xypex Concentrate and Modified over the deck area. The Xypex treatment was specified to reinstate service life expectation by eliminating water ingress.



Earthen Inspection Tunnel SMEC (Snowy Mountain Engineering Corporation), Hume Dam Victoria

Excessive moisture ingress through construction joints and leaking floor wall joints required NCS to apply the Xypex crack repair and coating systems. Repairs were carried out in the Earthen Inspection Tunnel, which is an internal access chamber for inspecting dam stressing cables. The repair is regularly monitored and no moisture has been recorded.

ENVIRONMENTAL

Werribee Zoo Hippo Enclosure. Werribee, Victoria

NCS assisted in the provision of Xypex concrete waterproofing and repair materials, superior technical support, as well as Rawell® Pre-Hydrated Geosynthetic Clay Liner (GCL) for Werribee Zoo's new Hippo enclosure. Rawmat® GCL was installed in earthen filter beds to ensure the elimination of water seepage from the pond and provide a naturally aesthetically pleasing water feature. Xypex crystalline products were used in the enclosure's concrete pools and additionally used for spillway leak repairs.



Anchor Pad Rehabilitation. Bennelong Pt, Sydney

NCS was contracted to repair and rehabilitate anchor pads and associated works for an underground basement structure located eighteen metres below the Sydney Harbour waterline. The structure exhibited excessive moisture, which in turn was causing corrosion of the steel reinforcing cables. NCS utilised the Xypex repair system by scabbling the damaged concrete directly beneath the metal base plates and applying Xypex crystalline products to the prepared areas. Coating of the base plate with an epoxy was undertaken seven days after completion of the Xypex repair system.



PROJECTS

**Smiths Road & Williams Road Overpasses
Caboolture, Queensland**

NCS was contracted to treat excessive shrinkage cracking to the bridge decking of the Williams and Smith Rd overpass. The shrinkage cracks were the result of extreme weather conditions during the concrete pour and required remediation to ensure long term durability and protection. NCS applied the Xypex coating system to over 1000 square metres of the overpass.



Bio-Reactor Tank. Queensland

NCS was contracted to provide remedial repair to a newly constructed sewerage treatment tank. Cold joint repairs were conducted to the inside and outside of the tank, restoring the concrete back to original contour. The repair method required the affected area to be scabbled and Xypex Megamix II applied, ensuring long-term concrete waterproofing and durability.



Manhole Remediation

The destructive microbes present in concrete sewerage/inspection chambers require special coatings and knowledge of how microbiologically induced corrosion occurs. Utilising the unique Xypex repair system, NCS has been involved in the repair and rehabilitation of numerous manholes affected by aggressive environments.



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