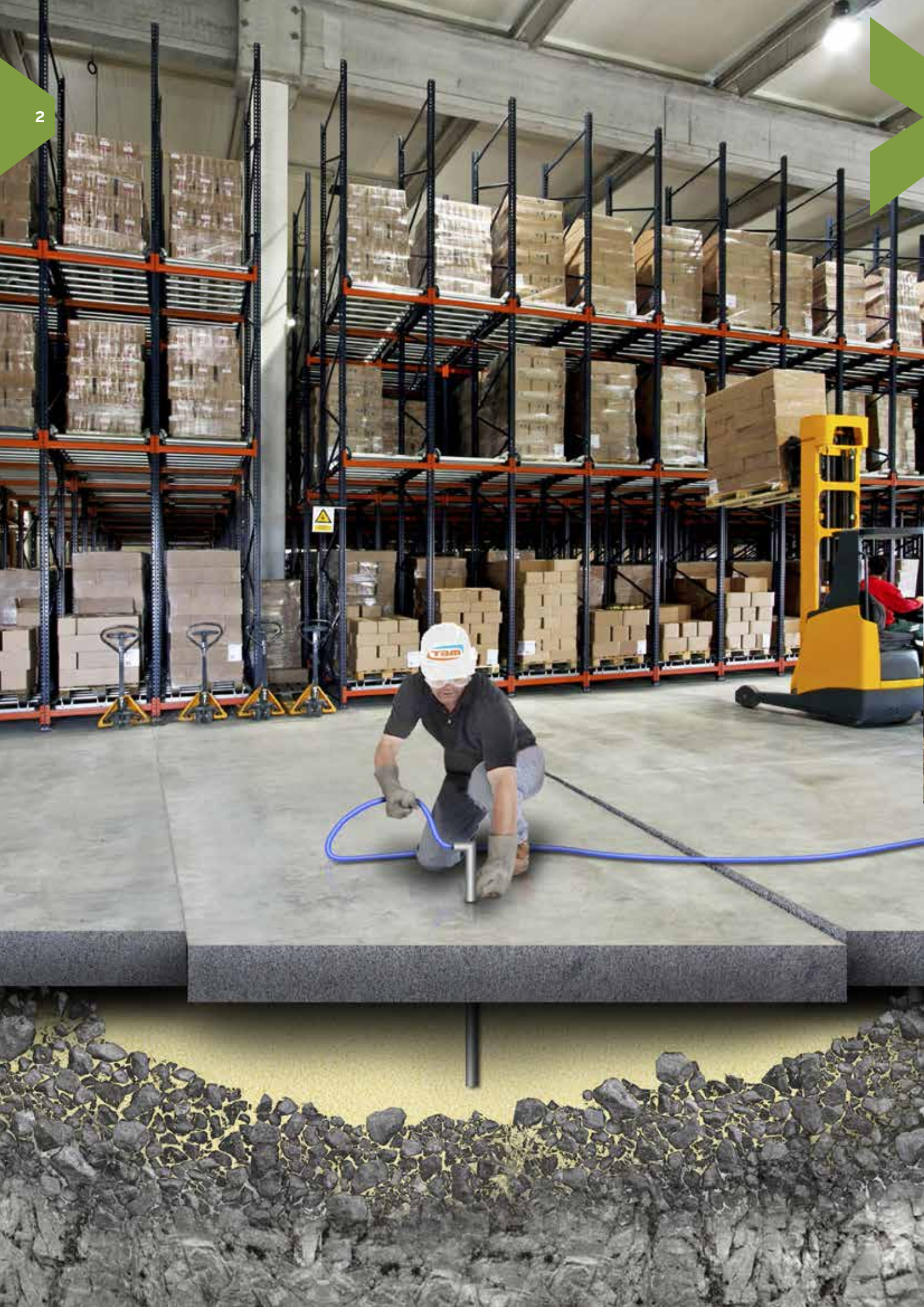


GROUND ENGINEERING

Foundation Strengthening and Underpinning | Slab Jacking | Stabilisation and Void Filling





Normet's GeoTek Resins and Grouts

3

Normet Construction Chemicals has been actively involved in ground engineering works worldwide for over 30 years, both manufacturing and supplying specialist chemical resins and grouts to the building and civil engineering industry. During this time, Normet have continued to develop materials and methodologies to suit a wide variety of applications for permeation grouting, void filling, underpinning and slab jacking using the GeoTek range of resins and grouts.

Today we are recognised as the market leaders with our specialist products, systems and applications.

We are committed to remaining at the leading edge of product development and product performance improvement. We continually invest in technically advancing our materials and are renowned for providing excellent technical support to the building and construction industry.



Our market leading position has been built on expertise and knowledge of the chemistry, and how this can be best utilised in the building construction world. Today we bring all that accumulated knowledge to our customer's projects by offering market leading products, service and support including full technical on-site consulting and assistance.

Normet has sales, distribution and manufacturing facilities worldwide, making us well positioned to serve the construction industry on a global scale.

Foundation Strengthening and Underpinning

Normet's GeoTek resins and grouts have been used globally for over 30 years in consolidating ground and significantly improving soil bearing strength.

The Normet methodology, utilising the GeoTek range of low viscosity, high strength resin foams is non-intrusive, fast, cost effective and an alternative to conventional underpinning or piling.

Increasing bearing capacity using specialist resins is a precise business and as such, all parameters need to be considered to ensure optimum, long term performance is achieved.



Prior to any works commencing, our team of Approved Specialist Contractors liaise closely with the Site Engineer and owner of the property to analyse and determine:

- Soil Data
- Positioning of Services
- Site Conditions
- Calculation of Resin Quantity Required
- Injection Lance Positioning
- Pressure of Resin Injection
- Schedule of Works



Slab Jacking

The use of specialist resin foam to raise sunken slabs, walls, pavements and decks is becoming a popular alternative to conventional methods.

The Normet GeoTek system makes use of modern innovative technology with resin compounds that have been specifically formulated for such applications. Controlled expansion, high early strength and excellent chemical resistance and durability ensure that any work undertaken stands the test of time.

The methodology involves the introduction of a specified amount of resin beneath the slab where it then reacts, forming a controlled expansive mass that physically jacks the slab back up to the original profile. Laser guides are typically used to measure the precise amount of lift occurring during the injection stage. The result is a system that is fast, effective and competitive.

This system is especially suited for raising highway pavements and other trafficable locations as “down time” is kept to a minimum due to the speed of application and resin cure time.

Slabs can be lifted and back into operation during one shift!

Prior to any works, the Specialist Contractor liaises with the Engineer to review ground conditions, services, site access and schedule of works. This provides vital information in establishing the correct type and amount of resin to use, method of injection and works program.

Benefits & Advantages

- Fast & effective
- Provides long term ground consolidation and support
- Works undertaken by Approved experienced Specialist Contractors
- Non-Intrusive



Stabilisation and Void Filling

Specialist resins and grouts have been used extensively for many years to stabilise soil and rock prior to excavation, control erosion, form water cut off barriers and fill voids. Normet offer a complete range of environmentally friendly materials designed specifically for these purposes.

Normet's GeoTek range of materials for fissure and permeation grouting include low and ultra low viscosity polyurethane and acrylic resins, a broad range of microfine cements and sodium silicate and colloidal silica solutions. We also manufacture a comprehensive range of admixtures designed to enhance the grout characteristics of cement, providing greater inject-ability, open times and strength.

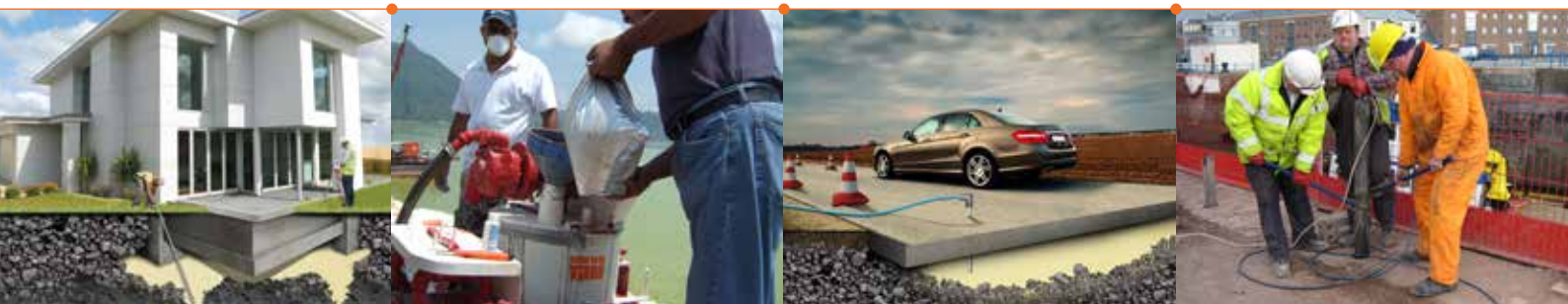


Our void filling GeoTek resins and grouts are pure hydrophobic systems designed for infilling mine shafts, redundant tunnels, tunnel annuluses, pipes and other locations where a cost effective void filling system is required.

To complement the range of resins and grouts, Normet provides a selection of injection tubes, pumps and accessories along with comprehensive technical assistance.

Benefits & Advantages

- Environmentally friendly
- Flame resistant
- Fast & effective
- Durable



Typical Applications

Highways

Pavement subsidence due to sub-base washout is commonplace on our aging road infrastructure. Conventional repair methods are time consuming, which often causes long traffic delays and extended work programs. Normet's GeoTek range of polyurethane foams and methodology offers a fast and effective method for replacing washed out sub-base materials, reinstating pavements back to their original level.



Residential

Subsidence can cause cracks in walls, pavements and foundations. In extreme cases, it can cause a house to "tilt, sink or collapse". The introduction of Normet GeoTek resin foam or grout beneath the foundation is a proven and accepted method. The method is non-intrusive and can be completed, in a fraction of the time compared to most current traditional repair methods.



Waterways

Water damage to banks, walls and concrete linings are normally difficult to repair due to the degree of water flow and the logistics in diverting water from the affected area. Normet GeoTek resins and grouts offer many benefits over conventional grouts due to their excellent hydrophobic characteristics, anti-wash out properties and controlled speed of reaction. They also have greater penetration capability into varying soil types due to their low viscosity.



Commercial Buildings

Sunken floors are commonplace due to washout of the slab sub-base as a result of broken drains, loose water pipe fittings or through daily wash down procedures. Uneven floors can cause many issues with transport vehicles such as forklifts and commercial delivery trucks. The longer these issues are left, the worse the problem becomes. Normet provides "quick fix", permanent solutions for commercial property owners and operators allowing continued operations without delays.



Typical Applications

Utilities

Utilities such as water treatment plants, electrical sub-stations and sewage works are fundamental in our everyday existence. Utility owners operate these plants 24 hours a day and downtime is not an option. Leakage from concrete joints or cracks in water retaining structures and sewage treatment plants can cause washout and subsequent deterioration of the plant and its functionality. Normet GeoTek resins and grouts have been used extensively throughout the world to re-instate washed out material avoiding downtime and subsequent loss of profit.



Airports

Airport runways are continuously subjected to extensive loading forces and as a result, degradation of the runway and apron is inevitable. Conventional pavement lifting methods are normally time consuming and inconvenient to the operator. It is therefore imperative that any repair system used is fast and effective. Normet GeoTek resin reacts within seconds or minutes depending on the grade of material used. GeoTek resins and grouts have been specifically designed to be introduced beneath runways and pavements subjected to high loading forces to form a fast, effective and permanent solution.



Railways

Ageing infrastructure and higher capacity trains ultimately result in track and bridge deterioration, creating delays, possible track renewal and direct loss of profit. Embankment stabilisation, underpinning abutment walls, water control and track level reinstatement can be effectively undertaken using specialist resin technology. Normet has completed a number of projects on the UK, Hong Kong and Australian rail networks using products from both the Normet's GeoTek and general leak sealing and repair range.



GeoTek AC

A two-component, water based, ultra-low viscosity hydrophilic acrylic grout which when set forms a resilient impermeable gel. GeoTek AC is ideally suited for permeation grouting where a controllable grouting system is required.

GeoTek LV

A hydroactive, single-shot, low-viscosity polyurethane resin designed for grouting into varying soil types to form water cut off barriers or to increase soil bearing capacity. The system reacts and expands on contact with water or moisture (including mineral and saline water) to form a rigid foam.

GeoTek HS

A two-component, pure hydrophobic resin designed for injection into dry zones, slab jacking, fissure grouting and increasing soil bearing capacity. GeoTek HS has water already built into its components negating the need for free water in the injection zone.

GeoTek VF

A two-component, low viscosity, flame resistant polyurethane resin offering an expansion value up to 30 times original volume. GeoTek VF is typically used as a void filler for redundant mine shafts, tunnels, pipelines and other areas where an economical void filler is required.

GeoTek SM

A two-component, silica modified, solvent-free polyurethane designed specifically for rapid stabilisation of coal, concrete and ground, providing structural strength and flexibility.

GeoTek SS

A single-component, environmentally-friendly, ultra low-viscosity sodium silicate. Gel times can be varied by adjusting the hardener dosage. It is ideally suited for permeation grouting in varying soil types and for fissure grouting.

GeoTek CS

A single-component, environmentally-friendly, ultra low-viscosity colloidal silica. By adjusting the accelerator dosage, it can be used where slow migration and penetration are required. It provides excellent adhesion to wet/saturated surfaces.

GeoTek MF

A range of microfine and ultrafine cements for rock and soil injection, offering a wide range of open times with high final strengths, durability and good penetration characteristics.

Normet Construction Chemicals does much more than provide solutions to ground engineering projects

Normet Construction Chemicals has over 30 years of problem-solving experience in locations around the world.

Other Normet Construction Chemicals product groups

Normet also manufactures and distributes products for -



> Mining

complete range of specialist resins and grouts for water control, pre-injection, fissure grouting, void and cavity filling, stabilisation and rock support. Injection packers, rock bolting systems, along with high performance sprayed concrete and mine backfill additives.



> Tunnelling

sprayed concrete technologies including high performance water reducing admixtures, alkali-free accelerators and hydration control additives. Spray applied waterproofing systems, specialist injection resins and grouts for water leakage control. TBM tail skin grease, soil conditioning foams and backfill grouting solutions.



> Rehabilitation and Maintenance

comprehensive range of leak sealing resins, cement and epoxy based structural repair mortars and grouts, bonding agents, additives, protective coatings and impregnation systems.



> Readymix and Precast

solutions to enhance concrete placing efficiency and optimizes overall concrete performance for all types and grades of pre-cast, pumped and sprayed concrete.



> Watertight Structures

includes a range of coating and liquid applied impregnating systems, providing an in-depth or integral waterproofing function.

Please ask for more information or visit
www.normet.com

Note to Specifiers

Normet's technical team are available to assist you with any questions on product suitability along with technical support on the installation or application of our ground engineering materials and systems.

Please contact your local Normet office, distributor or applicator for further advice or information.

Global Presence / Local Support

11



For more information, please contact your local Normet representative,
visit www.normet.com for contact details.

NORMET CONSTRUCTION CHEMICALS BROCHURES

CONSTRUCTION CHEMICALS

MINING

TUNNELLING

REHABILITATION & MAINTENANCE

► GROUND ENGINEERING

READYMIX & PRECAST

WATERTIGHT STRUCTURES

