



DURA-LIFT

IN THE CONCRETE BUSINESS SINCE 1954

UNDER SLAB POLYMER INJECTION

“An Effective, Clean and Non-disruptive process to fill voids and stabilize substrate beneath concrete slabs or to lift and re-align settled slabs.”

Injection Synopsis

Polymer injection is a proven chemical grouting technology that provides an efficient and cost-effective solution for the treatment and rehabilitation of settled concrete, void-filling or compacting weak subgrade. The principle of this unique resin injection process is based on the expansive capabilities of closed cell, high density resins that expand up to 20x its original volume, producing up to 40 tons/m² of lifting capacity.

The onsite procedure of drilling small 16mm holes is dependent on the condition of the subgrade beneath the slab or the amount of slab settlement.

Based on inspection results, a voiding condition beneath the slab would require a pattern of holes drilled to effectively create relief ports as the resin aggressively spreads under the concrete. This stabilization process would also apply in the treatment of control joints in warehouses where rocking slabs are occurring.

In the case of settled or unevenly aligned concrete panels, Bender technicians would determine injection locations in order to lift the slab and consolidate surrounding area of treatment. Slab settlement or voiding which is typically the result of moisture loss, inadequately prepared or improperly compacted subgrade can now be enhanced with this process.

The injection process is very controllable due to the extremely fast setting properties of the slightly heated resins that polymerize quickly to provide the required rate of expansion. As is the case with alternative methods, it is not dependent on pumping pressure, allowing for incremental lifts and reduced amount of slab cracking.

In a typical slab lift, expanding resins will compact the subgrade first to the point where it will effect a lift. Excavation equipment or removal of the slab is not necessary, with the process being quiet and executed with minimal disruption. This is a proven process internationally, with numerous successful injections in commercial, industrial, civil and residential sectors.



APPLICATIONS

- Processing Plants
- Industrial Plazas
- Office Buildings
- Stores & Restaurants
- Shopping Centres
- Loading Docks
- Walkways
- Parking Garages
- Warehouses
- Factories



Characteristics of the Resin

- Unique expansive properties of the closed-cell, high density polymer resins have capabilities to aggressively fill voids, raise sunken concrete slabs and compact weak substrate.
- Extremely lightweight expanding resins weigh 95% less than comparative volumes of various cementitious grouts resulting in less overburden of already distressed base soils
- Quick-setting resins are cured to 95% within 15 minutes of injection, enabling normal usage of treated area
- Long-term durability of rehabilitated slab is achieved, as resins will not deteriorate, lose stability or break down
- Chemical composition of resins are impervious to water and will displace any groundwater present in soils during injections, while effectively sealing underside of the slab to prevent water ingress
- Cured resins are inert and environmentally neutral, and provide safe injection that does not contribute to soil and water contamination or leaching
- Resins are not affected by the freeze/thaw cycle, preventing re-occurring washout and settlement in spring/fall seasons

TECHNICAL

There is a direct correlation between the density of the resin and its resistance to various forces such as compression. The resin itself can vary in density anywhere from 5 lbs/ft³ to 20lbs/ft³ which translates to compressive strength of 200psi to 1200 psi. This is dependent on the compaction of soils beneath

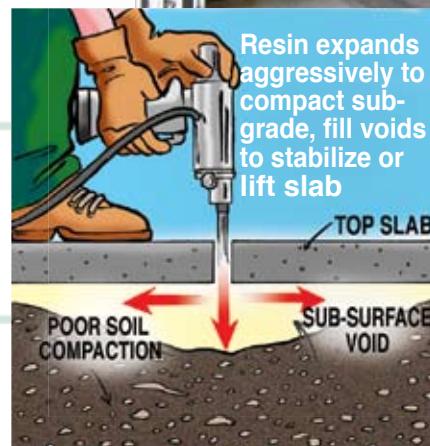
the slab and the weight/loading of the slab.

Testing has also proven resistance to various chemicals and solvents are very good, and excellent in the case of exposure to grease or oils. There will be some degradation with strong acids, but this typically is not a factor beneath the slab.

ADVANTAGES

- ✓ Ensures stability of slabs and control joints especially where expensive epoxy or various other flooring treatments are used
- ✓ Extend service life of slabs by enhancing base soils beneath the slab
- ✓ Savings up to 75% of slab replacement costs
- ✓ Eliminate trip hazards, potential accidents and resultant liability issues for owners
- ✓ Reduces material handling difficulty or wear on pumptrucks/forklifts where differential slab settlement or rocking occurs
- ✓ Entire injection process is clean with minimal disruption and noise, with usage of treated areas restored in minutes
- ✓ Drilling of small 16mm injection holes prevent underslab breakout of concrete typical with other methods as pressure-grouting
- ✓ Extremely cost-effective long-term solution

TEN YEAR WARRANTY ON RESIN



BENDER

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