

A night-time photograph of construction workers performing foundation stabilization. In the foreground, a worker in a white hard hat and orange safety vest is kneeling, operating a mechanical device that injects material into the ground. A green laser line is projected across the work area. Another worker in a white hard hat and orange safety vest is visible in the background. The scene is illuminated by artificial lights, creating a high-contrast environment.

— FOUNDATION — **SUPPORTWORKS®** POLYLEVEL® SYSTEM

STABILITY. SECURITY. INTEGRITY.

Foundation Supportworks offers a complete line of foundation stabilization products for use in a wide variety of residential, commercial, industrial and municipal applications.

About Foundation Supportworks

Foundation Supportworks is a leading manufacturer of helical pile systems, hydraulically-driven push pier systems, earth retention systems and geopolymer stabilization systems. **Foundation Supportworks** was founded on the principles of integrity, quality and service, and it is our mission to provide the industry with innovative solutions that are appropriately designed and tested, expertly installed and dependable to perform as promised.

Foundation Supportworks' commitment to its network of installing contractors and ultimately, the end consumer, is apparent by employing a team of customer service and dealer support staff unparalleled in the industry. Our staff of full-time employees includes professional corporate trainers, geotechnical and structural engineers, product installation experts, and an entire dealer support department.

With major dealer support facilities in Omaha, Nebraska and Seymour, Connecticut, **Foundation Supportworks** operates with a long-term vision.

Engineering

Foundation Supportworks has both geotechnical and structural engineers on staff for product design, quality assurance of products and support to our network of installing contractors. Our in-house engineers are available to assist with preliminary designs and provide technical support to engineers, architects, building departments and general contractors. Our engineers are experts in the industry and routinely present technical information at industry trade conferences, engineering and architectural seminars, as well as to contractors and home inspectors.



PolyLEVEL System

The **Foundation Supportworks PolyLEVEL** system utilizes high-density polymers to stabilize and level concrete. With multiple formulations available, **PolyLEVEL** is able to fit the needs of any job, large or small. **PolyLEVEL** is a two-part urethane polymer that expands into rigid, structural foam to fill voids, stabilize and lift concrete, and offer solutions to a wide range of geotechnical and structural applications. Polyurethane has been used beneath slabs for decades, and it has proven to be a superior solution compared to traditional methods of grout injection and concrete replacement.



PolyLEVEL Advantages

Lightweight – **PolyLEVEL** weighs approximately 4-6 pounds per cubic foot when installed, which is significantly less than the 120 pounds per cubic foot of typical fill material. This means there is almost no additional load added to the supporting soils.

High Capacity – Lifting action is a result of the expansion of the polymer, allowing for lift on much higher loads than typical mudjacking that relies on hydraulic pressure being contained under a slab.

Accurate Lift – Calculated reaction time of the **PolyLEVEL** foam allows for a targeted, precise lifting operation.

Waterproof – **PolyLEVEL** is fully waterproof so it cannot washout. In addition, because it cannot take on water, it is not impacted by freeze/thaw cycles. Additionally, **PolyLEVEL** can be used to under-seal slabs and stop a variety of infrastructure leaks.

Non-Invasive – The equipment used to install **PolyLEVEL** can be used in extremely limited access areas, is far less messy than other methods, and can be installed more quickly.

Cure Time – Quick cure time allows for immediate loading, even heavy traffic, within 15 minutes after injection.

Compressive Strength – The in-place compressive strength of commercial grade **PolyLEVEL** material is minimally 11,000 pounds per square foot, and often exceeds 15,000 pounds per square foot.

Consolidates Soil – As **PolyLEVEL** foam exerts the energy to lift a slab, it is placing an equal amount of pressure on the soil beneath the slab. This process not only fills the void and raises the slab, but also densifies the soil below.

PolyLEVEL Applications | Roads & Bridge Approaches

Settlement of highways and roadways is a problem that Departments of Transportation across the country are tasked with correcting on a regular basis. As expansion joint materials break down over time and allow water to penetrate below the slab, and the subgrade below the concrete compresses as a result of heavy traffic flow, sags often form in the roadway. These sags create difficult and unsafe driving conditions to the general public.

Bridge authorities face similar issues when dealing with the settlement and misalignment of bridge approach slabs. Often, these approach slabs are supported with backfill material which is both loose and poorly compacted. The stress and constant vibration the slab encounters during daily traffic compresses this fill material, thus creating voids below the concrete. As a result, many bridge approaches settle to the point where they are no longer within tolerance of what is considered a safe and acceptable gradient.

The **PolyLEVEL** system offers a long-lasting solution to repair sinking highways, roadways, and bridge approaches, while also providing many benefits that alternate options fail to achieve. While traditional methods of repair such as diamond grinding or removal and replacement of the concrete have been used in the past, these solutions are often temporary, cost prohibitive, time consuming, and fail to address the underlying cause of the problem - the soil beneath the slab. With the **PolyLEVEL** system, city and state agencies are able to correct the problem quickly, effectively, and with little inconvenience to the public. With its quick cure time, high compressive strength, and efficient installation, **PolyLEVEL** is often installed without having to completely shut down the roadway or bridge, allowing traffic to continue to flow without any major disruptions.





PolyLEVEL Applications | Industrial/Commercial Buildings

In many warehouse environments, minor voids under the slab or under control joints cause concrete flexing or displacement which creates unsafe working conditions, as well as maintenance issues with equipment. These voids are typically caused by traffic flow of heavy machinery coupled with poor compaction of the soils beneath the slab. As the slabs begin to flex or settle, sags within the concrete and displacement at the joints often disrupt efficiencies and productivity within the warehouse. The **PolyLEVEL** system provides a superior solution to fill voids, densify the soils below the slab, and raise the settled concrete. With its quick cure times, high compressive strength, and minimal disruption during installation, **PolyLEVEL** offers an effective solution with little or no disruption to normal work flow.

Concrete settlement and uneven floors affect commercial properties and office buildings everywhere. Whether the building was constructed on poorly compacted fill, water infiltration underneath the slab caused washout of the soils, or air leakage from under-performing duct work below the concrete resulted in shrinkage of the subgrade, this settlement causes significant damage to the interior finishes of the structure. Often, the damages are so severe that businesses are forced to cease operations until the problem is corrected. The **PolyLEVEL** system offers many advantages over traditional methods of repair such as mudjacking or tear out and replacement of the concrete. With its ability to access tight areas, precise lifting ability, and quick cure time, **PolyLEVEL** provides a superior solution that is unmatched. Unlike other repair options, the installation of **PolyLEVEL** can also be completed in a matter of days, if not hours, without having to remove any interior finishes. This allows the tenants to continue working with little or no disruption to normal business operations.

PolyLEVEL Applications | Airports, Railroads & Infrastructure Repairs

As communities grow, maintaining functionality of the aging infrastructure is an issue that is both pressing and common. Without having effective rehabilitation systems in place to keep things such as airports, public railways, and sewer systems operating at efficient levels, our cities would not be able to operate as needed. In the past, settling concrete at airports and railway crossings, or leaking sewer lines below roadways, were often fixed by tearing out the old and replacing with new. This solution is not only expensive and time consuming, but also causes major inconveniences to the general public.

The **PolyLEVEL** system offers an excellent solution to these aging infrastructure problems that allows our towns and cities to maintain operating efficiencies and serve the public while repairs are taking place. With its non-invasive, superior adhesion and waterproof characteristics, **PolyLEVEL** provides a safe and effective repair to leaking water and sewer lines. The system also provides many benefits when fixing sinking concrete over alternative methods such as tear-out and replacement or grout injection. With its high compressive strengths, quick cure times, and non-invasive equipment, **PolyLEVEL** gives airport and railway authorities a cost effective solution without compromising service levels.



PolyLEVEL Applications | Pipelines

One of the most important elements needing to be addressed during the construction of a pipeline is ensuring that appropriate water control measures are in place. Prior to backfilling the trench, **PolyLEVEL** trench breakers, or water stops, should be installed to control excessive amounts of water from flowing through the porous soil material and compromising the stability of the pipeline. These breakers also prevent erosion and wash-out of the soils within the trench, which is valuable when protecting native soils and sediment that would otherwise be washed out by the trench.

PolyLEVEL Trench Break Foam offers many advantages over alternative options such as sandbags or imported clay, some of which include:

Safety – **PolyLEVEL** foam can be installed from grade level, thus eliminating the need to work within the trench.

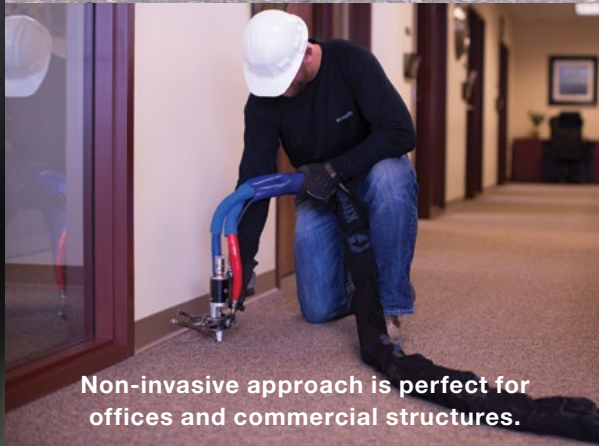
Efficiency – Several trench breaks can be installed utilizing **PolyLEVEL** foam in the time it takes to install one trench break utilizing other methods.

Performance – Superior adhesion of the **PolyLEVEL** foam contours to the shape of the trench and pipeline, creating a completely watertight seal to eliminate erosion of the soils.

Cost Effective – With the speed of installation allowing the trench to be backfilled within 15 minutes after application, superior long term performance, and less labor needed for installation, **PolyLEVEL** trench breakers can offer significant cost savings over alternative options.

Durability – **PolyLEVEL** foam is specifically engineered with an extremely low exothermic reaction, allowing it to be installed quickly in deep trenches without breaking down.





PolyLEVEL Design Considerations

Foundation Supportworks offers several different polymer blends, each specifically tailored to the needs of the application, including: void filling, concrete lifting, soil stabilization, pipeline support, and joint stabilization.

PolyLEVEL 250

Ideal for use on typical flatwork with lighter loads

PolyLEVEL 400

Higher capacity allows for use in commercial and industrial applications where higher loads are anticipated

PolyLEVEL JS

Formulated for joint stabilization when material flow is required

PolyLEVEL 400H

Hydro-insensitive foam used when water is present

PolyLEVEL TB

A fast setting foam engineered with an extremely low exothermic reaction temperature used to minimize erosion on excavations

PolyLEVEL SS

Single part polyurethane designed to bind and stabilize loose soil

Authorized Dealer of **FOUNDATION SUPPORTWORKS®**

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