

BELOW-GRADE INJECTION WATERPROOFING



CONCRETE GEL INJECTION

CONCRETE | BRICK | STONE | RUBBLE

CELLARS | ELEVATOR PITS
FLOOR SLABS ON GRADE
MECHANICAL ROOMS | PARKING GARAGES
PIPE PENETRATION | TUNNELS



The CGI Waterproofing System | A Two-Part Liquid Component System

The CGI Waterproofing System is a cost-effective and environmentally safe solution to stopping water infiltration in below-grade foundations, cellars, elevator pits, tunnels, mechanical rooms, vaulted structures, and garages.

CGI performs "concrete gel injection" by drilling and injecting a two-component hydrophilic resin system through the negative, or interior, side of the structure using our specialized equipment. The two liquid components, which are water-like in viscosity, penetrate the tiniest cracks, fissures and water pockets to the full depth of the substrate and travel to the compromised membrane above, chemically reacting to form a flexible gel barrier. CGI's methodology is beneficial and advantageous as a result of the gel's properties, and, by implementing its technology from the negative side of the foundation, all costly and disruptive exterior excavations, common with traditional waterproofing applications, are avoided.

Component A
Gel acryl by De Neef, combined with accelerator, results in precise tuning based on desired setting time. Set time can be as quick as five seconds.

+

Component B
Water is combined with catalyst to enable gel reaction.

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Flexible Water Sealing Gel
demonstrates superior elasticity, adhesion and durability.

Specialized equipment
is utilized to inject at a working pressure exceeding 3,200 psi to combat hydrostatic groundwater pressure.

Properties

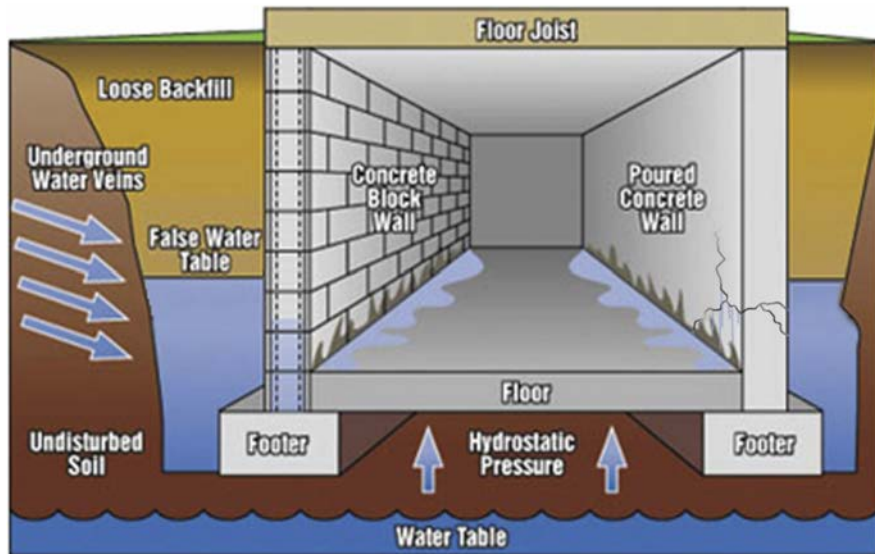
- Water-like viscosity
- Highly elastic and adhesive
- Lab tested as non-toxic, non-flammable and non-hazardous
- Little to no odor produced during and after reaction
- Will not promote growth of fungi, mold or bacteria
- Cleans with water requiring no cleaning solvent
- Resilient against water containing oil, salt and/or sewage

Advantages

- Disruptive exterior excavations avoided
- Implement technology during active leaks
- No drilling to the positive side required, avoiding damage to existing waterproofing membrane(s)
- Controlled setting time calculated based on active water pressure and volume
- Occupies and seals water entry points for the life of the structure

Benefits

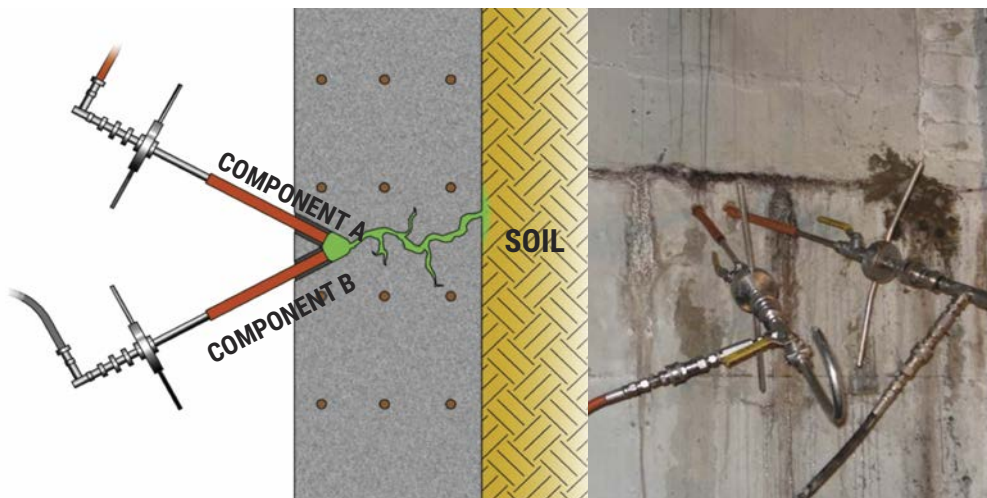
- Reclaim unusable space
- Restore structural integrity, durability and appearance
- Reduce unhealthy and unsafe tenant conditions



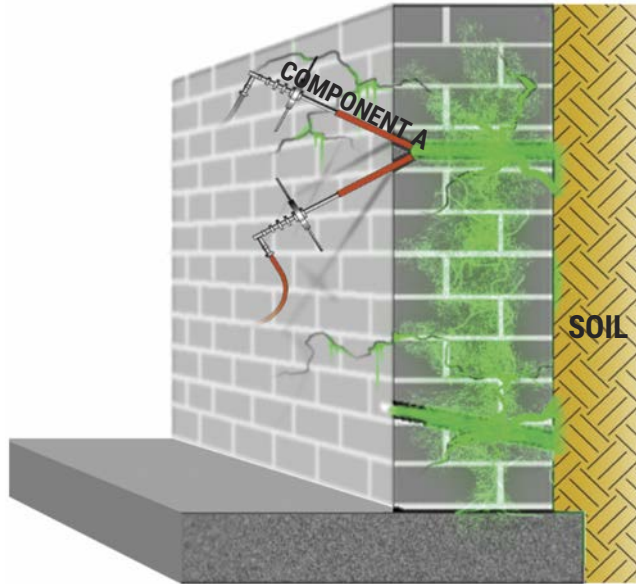
Active Groundwater Infiltration Through Cracks and Cold Joints

Concrete Wall Injection

Holes are drilled from the interior side, next to cracks/cold joints, where the two liquid components are then pressure-injected within the substrate to form a flexible water sealing gel, which eliminates water intrusion.

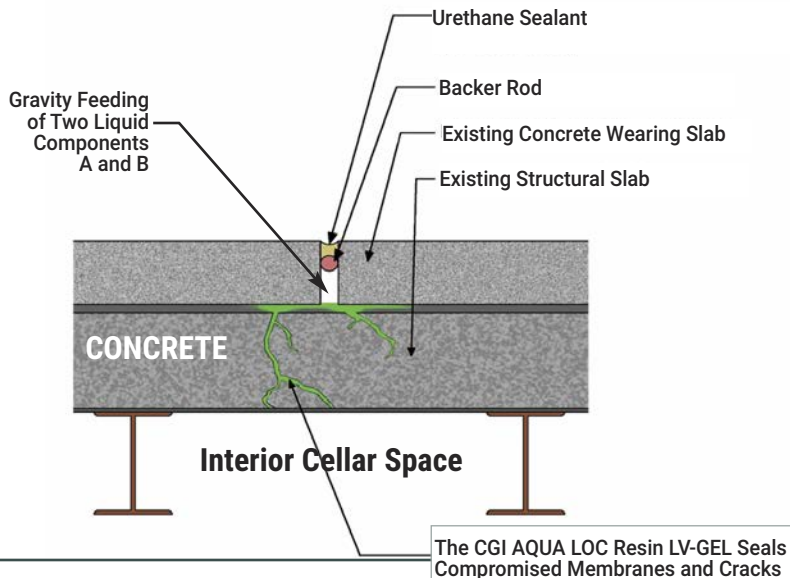


Masonry Wall Injection

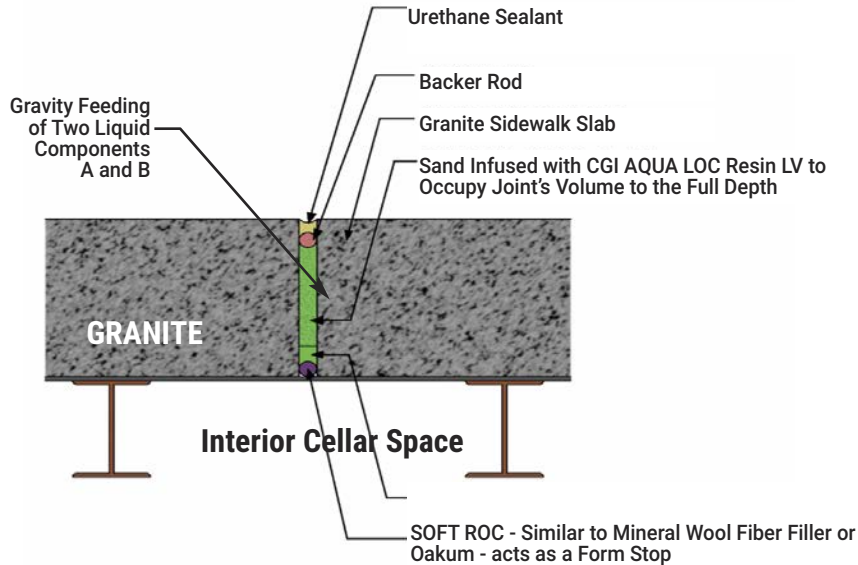


Holes are drilled from the interior side, next to cracks/cold joints, where the two liquid components are then pressure-injected within the substrate to form a flexible water sealing gel, which eliminates water intrusion.

Vaulted Concrete Sidewalk Application



Vaulted Granite Sidewalk Application



CGI Specialized Equipment | Automatic Injection Tool Utilizing Compressed Air



CGI Specialized Equipment | Pipe Penetration Tools



CORE TO PIPE PENETRATION



CONDUIT SLEEVE TO CABLE(S) PENETRATION
(ANNULAR INJECTION)

CGI Specialized Equipment | Pipe Penetration Tools



CONDUIT SLEEVE TO CABLE(S) PENETRATION (ANNULAR INJECTION)



Address: One World Trade Center
285 Fulton Street , New York, NY
Building Type: Commercial
Location: Oil Tank Room
Substrate: Concrete
Owner: The Durst Organization
General Contractor: Tishman Construction

Featured Project

In the C4 Level Broadcast Tank Room, the south facing concrete foundation wall was showing signs of active below-grade water infiltration along with signs of previous water staining and efflorescence. Upon review, our team found vertical foundation wall cracks that started at the floor slab and continued upward on the wall, in addition to several locations with 3/4-inch diameter holes that were actively leaking. As a result of the structural defects, ponding of water was found on the floor slab on grade. The elevation of the cracks and holes were well within the groundwater table and under tremendous hydrostatic pressure as this C4 Level was at least 50 feet below-grade and very thick, as this structural wall was necessary to support the Freedom Tower above.

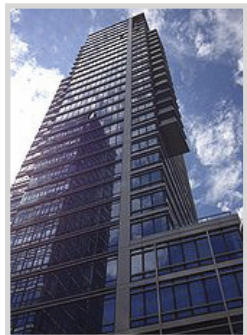
It was very critical that these actively leaking locations were rectified so that the specialized epoxy floor slab coating could be properly applied to a dry surface. These water entry points were successfully resolved using the CGI waterproofing system where our specialized pumps created the necessary pressure output of over 3,000 psi for the two-component gel to penetrate full depth toward the exterior side. Thus, the resulting gel was able to reach deep within the cracks and the holes for a complete waterproofing seal. Consequently, the general contractor was able to perform the application of the specialized epoxy coating effectively.



Concrete Floor Slab Cracks

CGINORTHEAST.COM

BELOW-GRADE INJECTION WATERPROOFING



1 Northside Piers, Brooklyn, NY



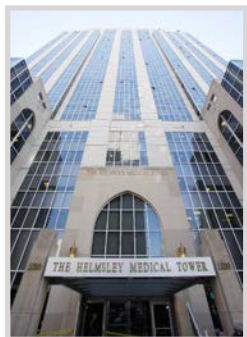
Concrete Floor Slab Cracks & Seams

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BELOW-GRADE INJECTION WATERPROOFING



The Uniondale Public Library
400 Uniondale Avenue, Uniondale, NY



NY-Presbyterian Hospital
The Helmsley Medical Tower
1320 York Avenue, New York, NY



After



Before



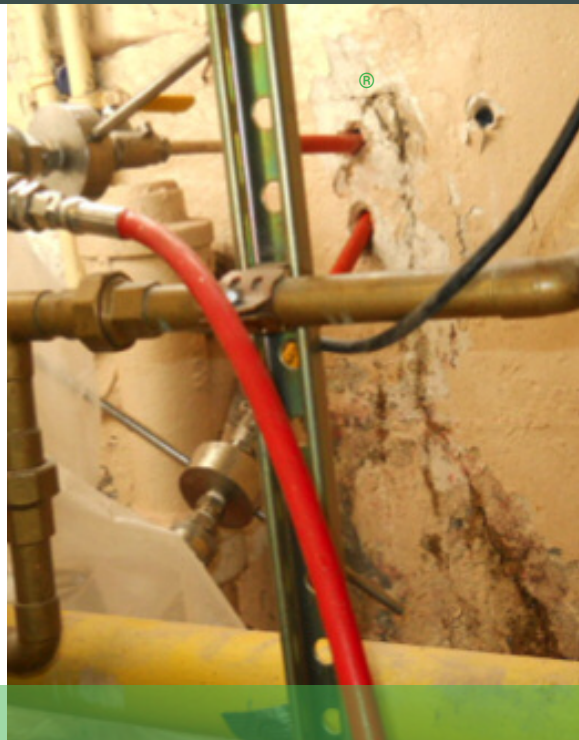
After



Public School 101
The Verrazano School
Brooklyn, NY



Before injections



Vaulted Structural Slab Below Courtyard

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BELOW-GRADE INJECTION WATERPROOFING



London Terrace Gardens
435 West 23rd Street, New York, NY



Cracks



Parking Garage Below

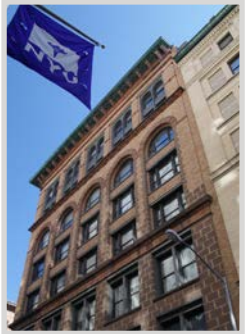


Perimeter Expansion Joints



The GM Building
The Fifth Avenue Apple Store
767 Fifth Avenue, New York, NY





New York University
246 Greene Street, New York, NY

Vaulted Masonry Structure | Below Street Grade

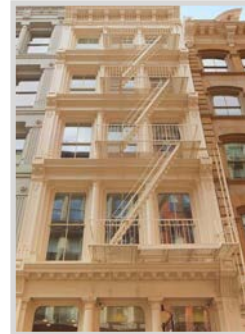
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The Evelyn Hotel
7 East 27th Street, New York, NY

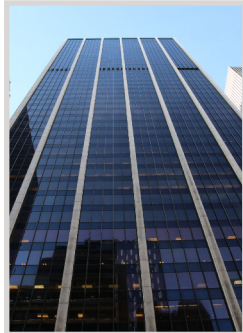




111 Mercer Street, New York, NY

Vaulted Sidewalk | Expansion Joints Above Cellar Level

CGINORTHEAST.COM



1185 Avenue of the Americas, New York, NY

BELOW-GRADE INJECTION WATERPROOFING



Gravity Feeding Two Liquid Components



Cellar Level

| After



Before



Silver Towers South
620 West 42nd Street, New York, NY



Lincoln Center
70 Lincoln Center Plaza, New York, NY

BELOW-GRADE INJECTION WATERPROOFING







CONCRETE GEL INJECTION

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