

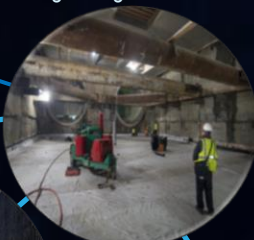
# Polymer Rubber Gel Technology High Performance Waterproofing For Shotcrete and Blindside Applications

WTC  
2019

24 Years  
Of Technological  
Development



440 Thousand +  
Square Meters  
Installed and growing



300 Projects +  
Installed using  
Polymer Rubber Gel



3 Membrane Layers  
Defense Against  
Water and Vapor



100 Meters Deep  
Polymer Rubber Gel  
Successfully Applied



.0143 Perms  
System Protection  
Keeping water and moisture out

## Challenges of Underground Waterproofing

For underground construction, shotcrete and blindside waterproofing systems play a significant role to protect from water intrusion. The challenge in this type of construction is that the waterproofing must endure the exposure to adverse environments, survive and withstand the concrete pour or shotcrete pressure. In addition, rebar must be supported, the waterproofing will have numerous penetrations from tie-backs and rebar making these areas prone to water leakage. Most importantly, it is critical that concrete or shotcrete must bond to the waterproofing after placement. This will ensure that water does not migrate between the membrane and the concrete. Inspection and monitoring during application is critical since the waterproofing will be inaccessible once concrete is in place.

392 Percent  
Elongation  
Seismic Friendly

## Solution: Composite Waterproofing

Polymer Rubber Gel (PRG) waterproofing systems have performed to the requirements of challenging underground waterproofing applications. Developed specifically for underground construction, Polymer Rubber Gel is composed of a polymer modified rubberized bituminous emulsion. However, unlike typical rubberized bitumen materials, PRG's polymers never completely cross-link. This retains the gel always in a semi-cured state. This innovation enables PRG to act as an exceptionally flexible, adhesive, never-cured, continuously self-healing membrane. As a proven concept in waterproofing, composite waterproofing systems utilizing a PRG component exhibit superior elongation properties, adhesion and self-healing ability. A PRG composite waterproofing system consists of a layer of polymer rubber gel at minimum thickness of 2.5 mm +/- .5 mm combined with a sheet membrane of laminate fleece reinforced HDPE. PRG with varying manufacturer-produced viscosities permits different delivery methods including (1) spray applied, (2) trowel applied, and (3) preformed waterproofing sheet applied. The flexible, non-curing, highly adhesive PRG combined with a durable, chemical resistant, hydrostatic pressure resistant HDPE sheet creates a dynamically responsive high-performance waterproofing system for demanding conditions of underground structures. Application of a PRG system is effective, efficient, and economical.

Gel-Type  
Non-Curing  
Self-Healing  
Chemical Resistant  
Blindside Shotcrete  
Waterproofing  
Membrane  
System