

## Leveling Sunken Slabs in a Pole Barn

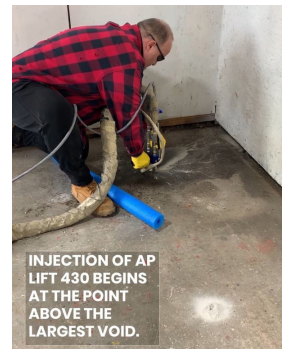
A 25' x 40' residential pole barn in Carbondale, Illinois was built on a 6" floating concrete slab on grade. The concrete was poured into four 10'x 25' sections. Each section had multiple cracks and breaks throughout, and in some cases the broken sections had a drop of up to 3". ETRU Spray Foam and Coatings was hired to stabilize the ground and level as much of the concrete as possible. During the inspection, it was discovered that the pole barn 4 corner beams were driven into the ground and the concrete poured around them. The front of the property was pitched towards the pole barn and it showed no signs of ever having gutters and downspouts attached. After drilling an injection hole, the crew inserted a probe to check the depth of the void and the stability of the ground. In some areas the void was 6" and the probe was hand driven to a depth of 3' before hitting hard ground. The homeowner planned to utilize the space as a game room.

Among the most dependable products for geotech applications, AP Lift 430 structural foam provides an exceptional DOT grade solution for these types of situations.

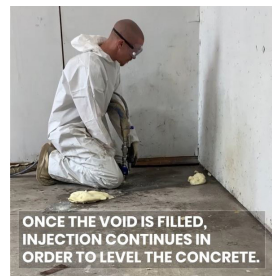
This 3 lb. density, high-strength, hydro-insensitive structural polyurethane foam is perfect for densifying soil and lifting concrete slabs.

The ETRU crew walked the project with the property owners. We pointed out how waterlogged the ground was and that they needed to add gutters and downspouts, as well as pitch the ground water away from the pole barn. We also talked about possible blowout from under the slab during the injection process and how to handle it. We drew up a plan, indicating exactly where the injection points would be located (knowing that the plan might change due to the ground moisture and the number of voids to be filled). All injections were completed from inside the pole barn with a crew member on the outside to alert the others when product broke through the ground. First, they injected in the back corner which had the 3" drop. The plan was to establish a base slab height on the side with the most soil problems and then level everything else to that slab. Spacing between injection points was approximately 3-4 feet, with 38 total injection locations.

The ETRU Spray Foam and Coatings crew achieved a three-inch lift and was able to bring all the other slabs within 1/8" from the adjoining slab. The customer was extremely happy with the results.



INJECTION OF AP LIFT 430 BEGINS AT THE POINT ABOVE THE LARGEST VOID.



ONCE THE VOID IS FILLED, INJECTION CONTINUES IN ORDER TO LEVEL THE CONCRETE.



THE DIAL INDICATOR MEASURES SLAB LIFT MOVEMENT BY 1/10 OF AN INCH.