CASE STUDY - FOUNDATION CRACK INJECTION

Residential home in Manitowoc, Wisconsin

THE PROBLEM

A residential home in Manitowoc, WI, was experiencing persistent water seepage through a thin, nearly full-height crack in the foundation wall. The crack had gradually worsened over time, allowing moisture intrusion, which led to interior water damage. Traditional patching methods had proven ineffective due to the crack's narrow width and depth. The property owner sought a permanent, minimally invasive solution to stop water infiltration and protect the foundation.

THE SOLUTION

HMI® proposed Soil Link™ Acrylate Grout Injection, an ideal solution for sealing hairline cracks in below-grade structures. The acrylate grout's low viscosity allowed it to penetrate deep into the crack, ensuring a watertight seal. The project followed a precise six-step injection process:

1. **Drilling:** Small-diameter holes were strategically drilled along the crack to intercept it and allow injection points.
2. **Injection Port Installation & Water Testing:** Ports were installed at drilled points and tested with water to confirm crack interception and flow paths.
3. **Indicator Ports & Epoxy Sealing:** Additional indicator ports were set up to monitor the grout's travel, and the surface of the crack was sealed with epoxy to contain the injection.
4. **Mixing & Testing:** The acrylate grout components were mixed, and small test batches were used to confirm reaction times and ensure optimal gel formation.
5. **Injection & Solidification:** Using an easy-to-use pump, the grout was injected with water, filling the entire crack from bottom to top, penetrating tight spaces, and forming a flexible, watertight seal.
6. **Port Removal & Patching:** Once the grout was fully cured, the ports were removed, and the drilled holes were patched for a clean, finished appearance.

THE SUMMARY

The **HMI® Soil Link™ Acrylate Grout Injection** successfully sealed the full-height foundation crack, eliminating water seepage and restoring the basement to a dry condition. The low-viscosity acrylate gel effectively permeated the narrow crack, forming a long-lasting waterproof barrier. Unlike rigid repair materials, the flexible nature of the acrylate grout allows for minor foundation movement without compromising the seal. The use of a pump made the injection process efficient and precise. The project provided a **non-invasive, cost-effective, and permanent** solution, preventing further water damage and giving the homeowner peace of mind.