

GEOPIER®

GEOSPIKE® SYSTEM

Railway Subgrade
Improvement Technology



The GeoSpike® system is Geopier's solution to shallow to medium depth soft subgrade conditions for railroads. GeoSpikes are HDPE pier elements that transfer loads from the ballast, through soft soils, and into more suitable bearing layers. This installation method allows for the system to be installed without the removal of the track, rail, or ties. The result is a plastic column filled with aggregate that provides excellent track deformation control and Cooper E80 bearing capacities.

APPLICATIONS

Railroad maintenance applications related to:

- Mud spots
- Dips
- Surface defects

DESIGN CONSIDERATIONS

- Designed for maintenance applications, GeoSpike can be used for existing tracks
- GeoSpike can be installed under existing special trackwork to improve deflection
- Can be installed to depths of 20+ feet

CONSTRUCTION CONSIDERATIONS

- Eliminates the need for removing the track and excavating the subgrade
- Often results in 20% to 50% cost savings compared to traditional alternatives
- Can be installed before or after track is surfaced
- Rapid installation process means shorter track outages
- Can be installed while on-track or adjacent off-track

INSTALLATION PROCESS

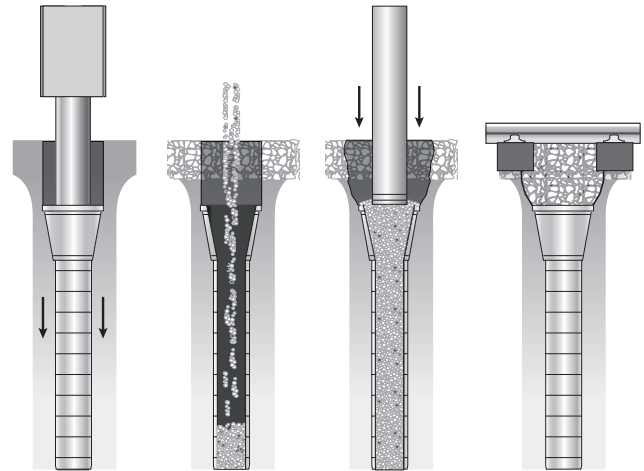
GeoSpikes are installed as follows:

Step 1: Geopier licensed crews drive the pre-manufactured polymer shells in pairs between ties at regular intervals.

Step 2: The shell is driven in-place by inserting a driving mandrel within the shell and advancing the mandrel to design depths.

Step 3: The expanded top of the shell compresses between ties during insertion and expands back to its original shape after clearing the ties to allow for efficient load transfer from the ballast to the GeoSpike system.

Step 4: After driving to design depths, aggregate is placed within the confining GeoSpike shell.



Watch system installation videos at
www.geopier.com

Whether you are an engineer, contractor, or owner - We can help.

For more information on Geopier solutions, call **800-371-7470**, visit www.geopier.com
or email info@geopier.com

