RIGID INCLUSIONS

GROUND IMPROVEMENT



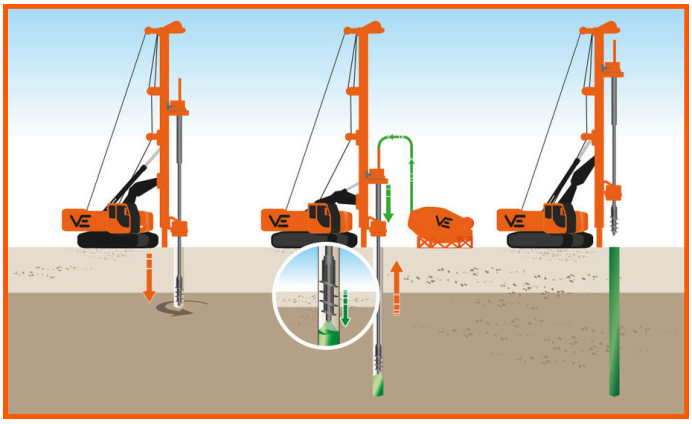
Rigid inclusions are a cost-effective ground improvement solution that increases bearing capacity and reduces settlement in weak or compressible soils, bridging the gap between vibro stone columns and traditional piling.

Constructed using a displacement auger, concrete columns are formed with minimal or no spoil generation. Columns are typically unreinforced, formed from low-strength concrete, and are commonly up to 350mm in diameter.

The system is used in conjunction with a load distribution mattress, enabling the use of conventional shallow foundation solutions such as pad foundations, strip footings, and ground-bearing slabs.

Rigid inclusions are well suited to industrial, commercial, and infrastructure applications, including warehouses, embankments, and, in some cases, residential developments.

UNDERSTANDING RIGID INCLUSIONS



Rigid Inclusions begin with the set up of a displacement auger over position and the commencement of drilling to design depth.

The use of a displacement auger forces the soil laterally into the ground around the position, improving the ground. Concrete or grout is pumped from a concrete drum through the centre of the auger while it is extracted.



PROJECT ADVANTAGES

- Increased bearing capacity
- Improved settlement performance
- Significant savings over piling
- Bearing capacities of up to 250kN/m2 achievable
- Up to 350mm diameter installed
- No pile caps / cropping required
- Installed to depths of up to 20m
- Displacement system – no spoil
- Modern fleet of rigid inclusion rigs – fully instrumented
- Fast process – suitable for any size site
- Improved ground allows the use of ground bearing floor slabs for further cost savings
- Fully validated by load testing

EXAMPLE APPLICATIONS

- Warehouses
- Distribution sheds
- Embankment support
- Commercial and industrial buildings
- Residential projects
- Wind turbines