



GROUND DEVELOPMENTS TURBOJET DEEP SOIL MIXING

Turbojet deep soil mixing is the combination of mechanical mixing and jet grouting developed by Soilmecc Italy, and we are the only company in the UK to have invested in this technology and one of a handful in Europe. When compared with mechanical deep soil mixing, Turbojet DSM can be used in a wider range of soil types, can achieve higher rates of production and more effective mixing which results ultimately in a higher quality soil mixed column. Importantly Turbojet is very effective in high plasticity clay soils, where standard mechanical deep soil mixing techniques are not effective.





BENEFITS

- Increases allowable bearing pressure
- Controls settlement
- Reduces soil permeability

ADVANTAGES

Advantages over Mechanical Deep Soil Mixing and our other deep ground improvement techniques

- No "horizontal hydro fracturing (claquage)"
- Less spoil on surface
- No shock and vibration during columns installation
- Good mixing quality also in plastic clay
- Precise diameter and extreme verticality
- High production rate



THE PROCESS

Grout is injected at very high pressure through a series of outlet nozzles blending soil as the mixing tool advances. High pressure cutting is effective in most soil types including problematic cohesive plastic clays. The mechanical mixing of grout and soil is achieved using a mixing tool featuring cutting teeth, blades and a mixing head. The type and configuration of tool is selected for project specific requirements and soil types. Turbojet columns are 600mm – 2400mm diameter with a strength up to several MPa depending on soil types and binder design. Column depths of up to 25 metres are achievable.

TECHNICAL DATA

- Columns diameter: 600 to 2400 mm
- Columns depth: up to 25m depending on column diameter and soil parameters

TABLE SHOWING RANGE OF WORKING PARAMETERS

Application limits for ground improvement techniques

- TurboJet Deep Soil Mixing
- Mechanical Deep Soil Mixing
- Displacement Columns

nv = low viscous
hv = high viscous

- ◀ economical
- ◀ uneconomical

