

Infiltration Solidification Method

The Infiltration Solidification Method aims to increase the strength of ground foundation of a structure against liquefaction by feeding chemical solution to infiltrate extensively and solidifies the ground that likely to be liquefied. By this method, pore water in sand is replaced by a gel-like substance increasing the ground strength to about 50 ~ 200 kN/m², preventing the occurrence of ground liquefaction.

Features

- ★ Ground right below the existing structure can be treated.
- ★ Minimum environmental impact as improved soil becomes substantially neutral (pH=6 to 7).
- ★ Maintains the strength of improved ground by a dosed of permanent-type chemical solution. The solution has higher permeability than conventional equivalents and ensures improvement without using high pressure.
- ★ Workable in a very limited site area

Working Procedure

Drilling of Hole by Boring Machine

Pitching of Feeding Pipes

Feeding of Chemical Solution

Completion

Equipment to be Used



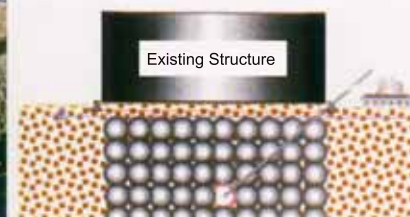
Small Boring Machine



Feeding Pipe Pitching



Improvement in Progress (Field Positive Test)



Conceptual Drawing of Improvement of Existing Structure

Completed Projects Record

Project Name	Duration	Project Site	Client	Objective	Improvement in Volume	Amount of Chemical Dosing	Site Strength
Tokyo International Airport New Runway "B" Ground Improvement and Other Projects	99.3~00.3	Tokyo	Transport Ministry	Measure to counter liquefaction of ground right below runway	21,200m ³	12,615m ³	qu= 70kN/m ²
Ishikari Bay New Port 10 m Quaywall (Corner Section) Improvement Work	99.12~00.3	Ishikari	Hokkaido Development Bureau	Measure to counter liquefaction of ground right below runway	10,300m ³	3,900m ³	qu=100kN/m ²
Ishikari Bay New Port 10 m Quaywall ("B" section) Improvement and a Series of Other Projects	00.3~00.9	Ishikari	Hokkaido Development Bureau	Measure to counter liquefaction of ground right below runway	9,500m ³	4,200m ³	qu=100kN/m ²
Port Repair Work (Phase 7)	00.3~00.10	Fujisawa	Kanagawa Prefecture	Measure to counter liquefaction of ground right below runway	2,800m ³	1,143m ³	qu= 90kN/m ²
Nishikawa Second Drainage Plant Construction Work	00.7~00.8	Niigata	Construction Ministry	Measure to counter liquefaction of ground right below runway	1,400m ³	560m ³	qu=100kN/m ²