Wing-System Solidification Method

The Wing-System Solidification Method aims to improve the ground of existing structures such as roads, retaining walls and abutments while limiting its effect to a minimum level. A small hole, just enough to insert a rod serving as solidifier feeder, is drilled and enlarged diametrically on the ground to be improved. Then, cement slurry is mixed into soft soil and stirred so that the strength of soil can be increased in its natural position.

★ A pilot drilled hole of a small diameter (=200 mm) yields substantial improvement in a large-diameter (=1,200 mm)

★ Minimized ground displacement in adjacent area since the pilot hole drilling machine has slight wing opening

★ An improvement coverage can be controlled by changing the opening width of the wings

★ High mobility of the machine allows to drill a hole diagonally.

Working Procedure
1. Penetration with Closed Wings
2. Penetration for Drilling with Slightly Opened Wings
4. Stirring, the machine drawing while discharging cement slurry.
3. Completion of Penetration with Fully Opened Wings

Equipment to be Used
Machine used for Treatment
Machine with Opening Wings
Improvement in Progress

Completed Projects Record

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Duration</th>
<th>Project Site</th>
<th>Objective</th>
<th>Quantity of Blended Solidifier</th>
<th>Site Strength</th>
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<tr>
<td>Independent Test Work</td>
<td>99.3</td>
<td>Tochigi</td>
<td>Confirmation of Effect of Improvement</td>
<td>50kg/m³ 100kg/m³ 180kg/m³</td>
<td>qu= 700KN/m²</td>
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