COMPACTION METHODS

Compaction methods increase the density of soil by sand column piling on the ground or by vibration or compaction. As the soil density rises, its bearing capacity and shear strength likewise increases improving the stability of the ground.

Compaction methods are reliable and widely employed in many projects than other ground improvement methods.

Features
1. In compacting, the density of soil rises improving its shear strength and vulnerability against liquefaction.
2. In case the sand compaction pile method is used for clay ground, sand piles are formed on the ground to reduce the clay consolidation settlement and the bearing capacity increases.
3. The Ram-Drop Compaction Method is applicable to non-homogenous ground due to mixture of refuse or waste material.

Examples of Application
Application to Clayey Ground

Application to Sandy Ground

Applicable Types of Soil & Improvement Specifications

<table>
<thead>
<tr>
<th>Method Name</th>
<th>Sandy Compaction Pile</th>
<th>Rod Compaction</th>
<th>Vibratory Float</th>
<th>Ram-Drop Compaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandy Ground</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Clayey Ground</td>
<td>○</td>
<td>×</td>
<td>×</td>
<td>○</td>
</tr>
<tr>
<td>Execution on Land</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Execution at Sea</td>
<td>○</td>
<td>×</td>
<td>×</td>
<td>○</td>
</tr>
<tr>
<td>Improvement Depth (on land)</td>
<td>50m</td>
<td>20m</td>
<td>18m</td>
<td>20m</td>
</tr>
<tr>
<td>Improvement Depth (at sea)</td>
<td>70m</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Categorization of Methods

Theory

- Pressure / Compression
- Vibration
- Percussion

Method Name

- Roller, Tamper, Rammer, Mammoth Vibratory Tamper Method
- Vibration Float Method
- Vibratory Rod Method
- Rod Compaction Method
- Sand Compaction Pile Method
- Ram-Drop Compaction Method