

The Power Blender Method (Shallow Soil-Cement Mixing)



Fudo Construction, Inc.

1720 South Amphlett Boulevard, Suite 225, San Mateo, CA 94402, USA

Tel: +1-650-350-1120

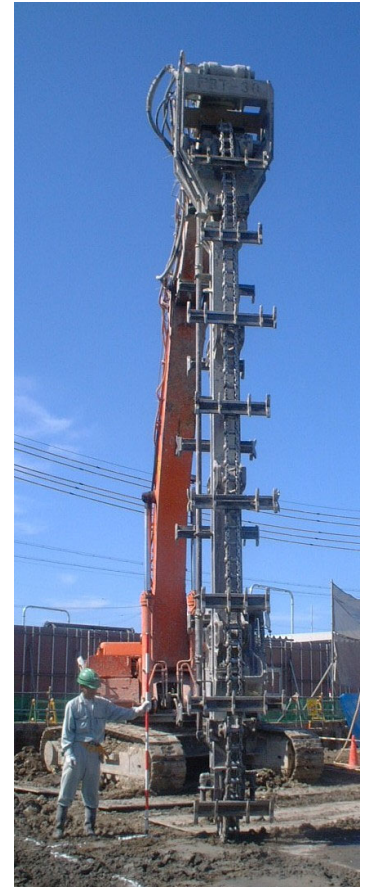
URL: www.fudo-const.com



1

Improvement Depth up to 30ft

The trencher type soil-cement mixing machine which can be mounted on an excavator establishes desired fluidity (table flow test) that allow improvement depth to reach up to 30ft with sufficient uniform quality. In Japan, the accumulated work volume is already around 3M cubic yard.



2

High efficiency and Uniform improvement

Using a combination of special vertical mixing and air jets, the Power Blender mixes the ground evenly and makes up an uniform strength distribution even in the multi-layer structure while lowering the cost and usage of reasonable cement.



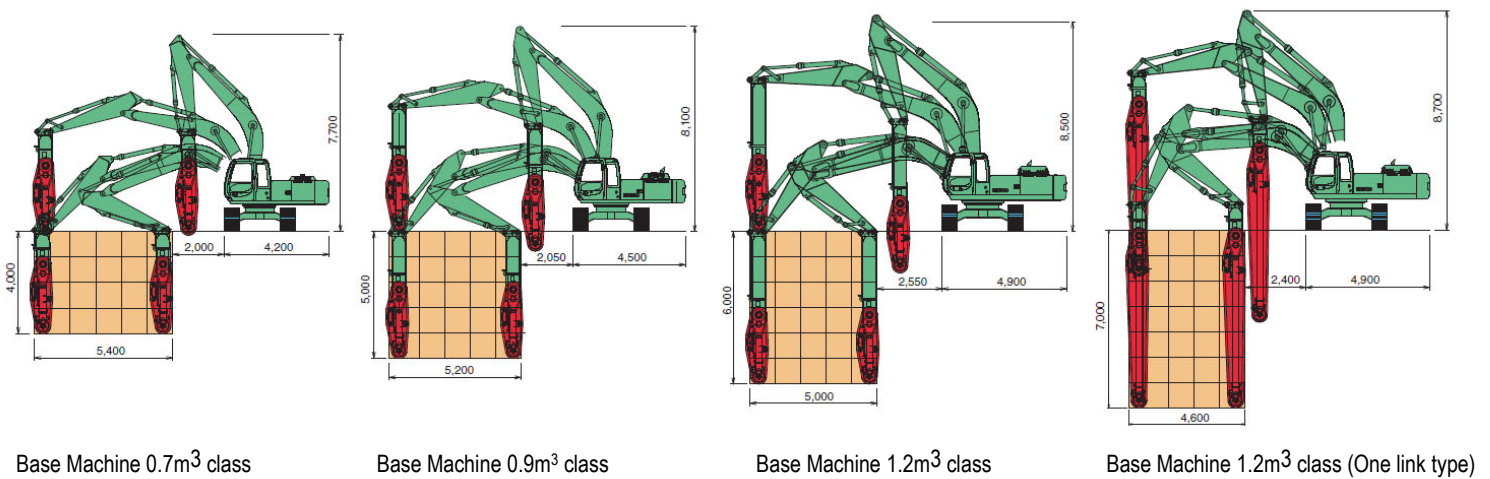
Mixing Blades



Air Jets

3 Superior Versatility

Various size of attachments can be equipped depending on the size of the excavator machine. Our method is also applicable to different environments such as narrow areas, soft ground conditions, and sloped ground surfaces all of which were difficult by older conventional methods.



4 High Reliability

The remarkable operation management system employed in the Power Blender Method ensures high quality and reliability. The operator can monitor the chain speed, verticality, and improvement depth as well as the ability to keep track of the cement slurry supply.



Operation Equipment



5 Ability to operate in close proximity to structures

Because of the vertical mixing direction of Power Blender method, the discharge pressure is easy to be released upward and therefore it causes to reduce the lateral deformation and to save the influence to the nearby structures.



PB Operation close to railway

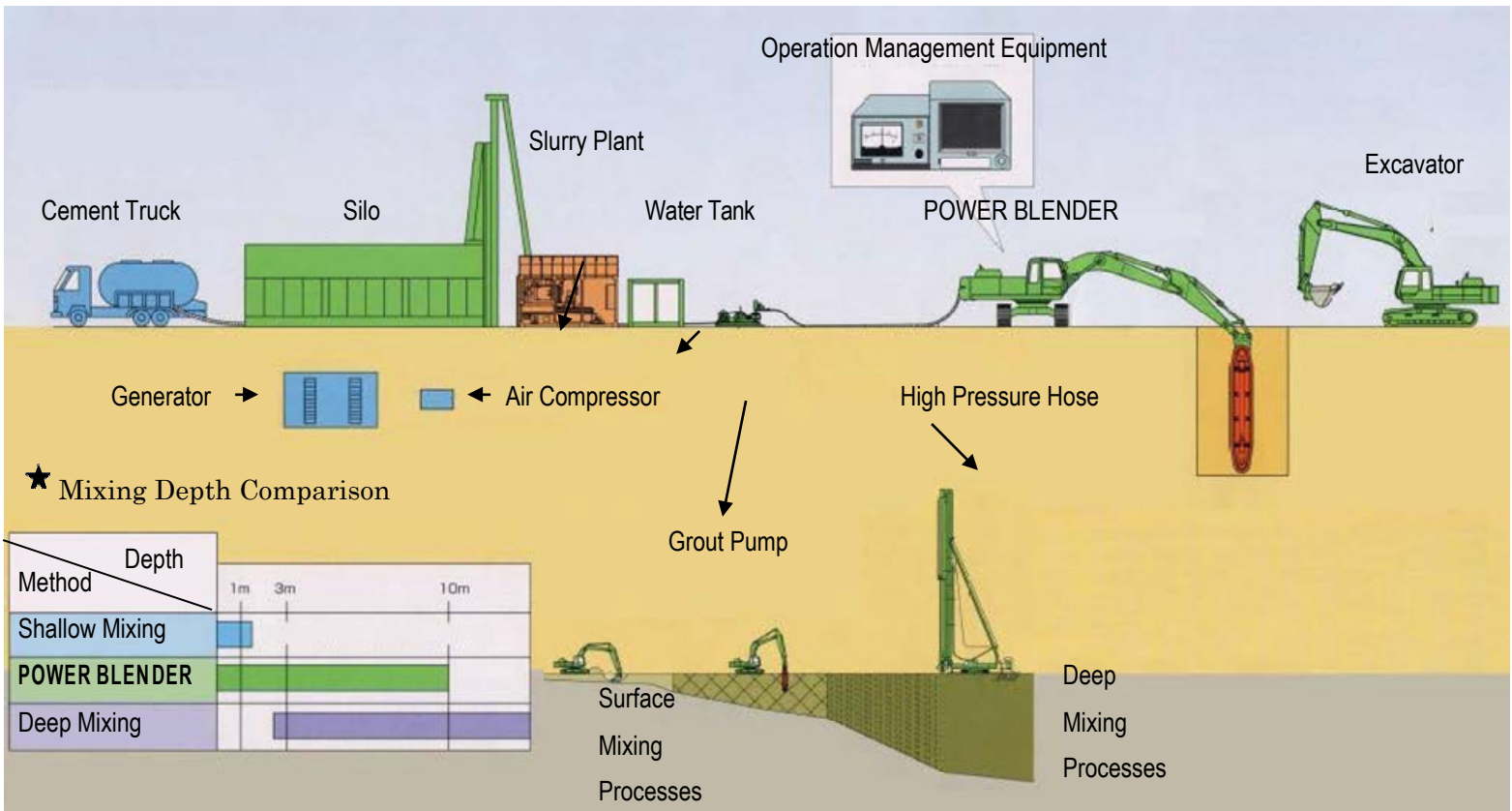
6 Wide range of improvement strength

In the Power Blender method, various materials can be used such as cement and cement-based hardening agents. In addition, the quality of solidification can be secured to a wide range from low to high strength by adjusting the water cement ratio.

Power Blender Advantages

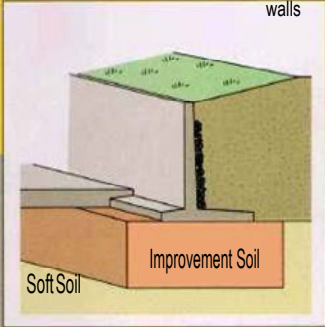
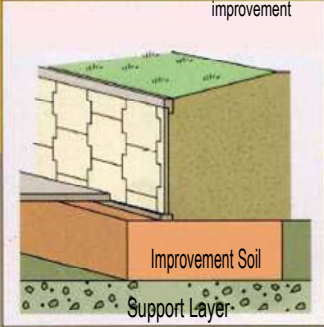
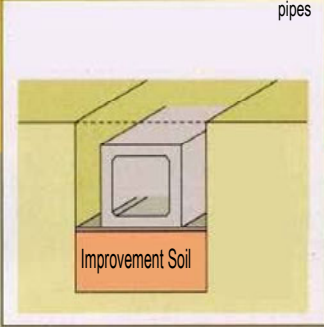
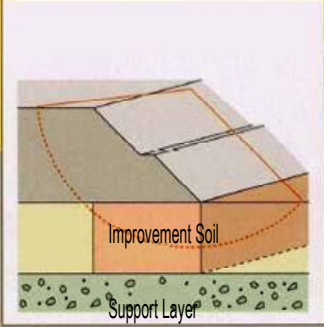
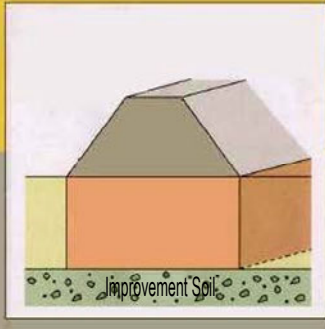

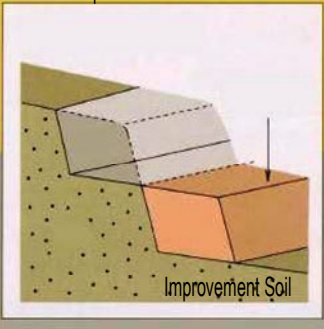
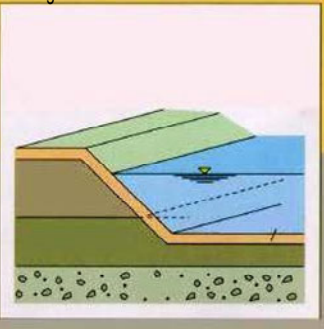



Operation Schematics





Application of the Power Blender

<p>◇ Basic ground improvement for retaining walls</p>  <p style="text-align: center;">Soft Soil Improvement Soil</p>	<p>◇ Reinforcement wall basic ground improvement</p>  <p style="text-align: center;">Improvement Soil Support Layer</p>	<p>◇ Basic ground improvement for sewage pipes</p>  <p style="text-align: center;">Improvement Soil</p>	<p>◇ Prevention of sliding mounds</p>  <p style="text-align: center;">Improvement Soil Support Layer</p>
<p>◇ Add safe measures for mounds</p>  <p style="text-align: center;">Improvement Soil Support Layer</p>	<p>◇ Improvement for buildings</p>  <p style="text-align: center;">Improvement Soil Support Layer</p>	<p>◇ Ground improvement of mounds</p>  <p style="text-align: center;">Improvement Soil Support Layer</p>	<p>◇ Sludge solidification such as reservoirs</p>  <p style="text-align: center;">Support Layer</p>
<p>◇ Utilization of constructed outbreak soil</p>  <p style="text-align: center;">Improvement Soil Support Layer</p>			

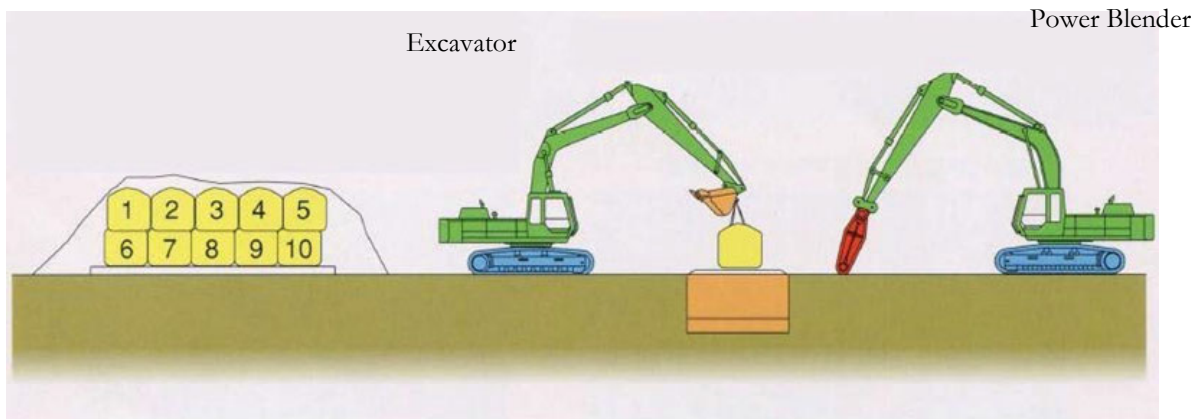


▶ Surface Spread with cement bag (NETIS Registration No. CB980022)

Dry cement agent is spread on the surface with an excavator and then the Power Blender mixing process is started. In this manner, heavy equipment is no longer needed and results in a more cost effective production.

Characteristics

1. Improvement depth of 3 meters (10 ft)
2. The Rig can operate in narrow places and provides for cost effectiveness
3. High efficiency of ground improvement with good quality

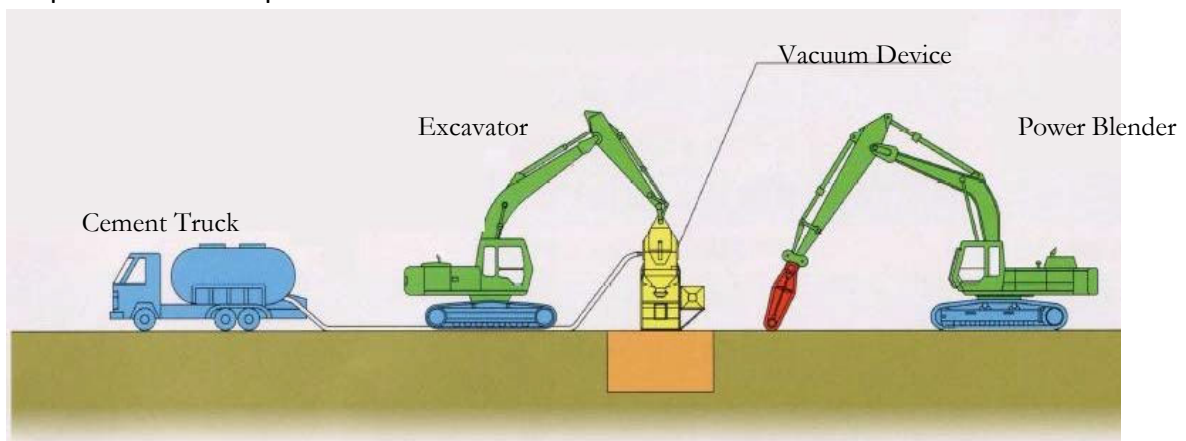


▶ Surface Spread with Vacuum Device Method

Similar to the above method, the Surface Spread with Vacuum Device Method offers some more distinct advantages that include the capability to measure the exact amount of cement used and cleaner production.

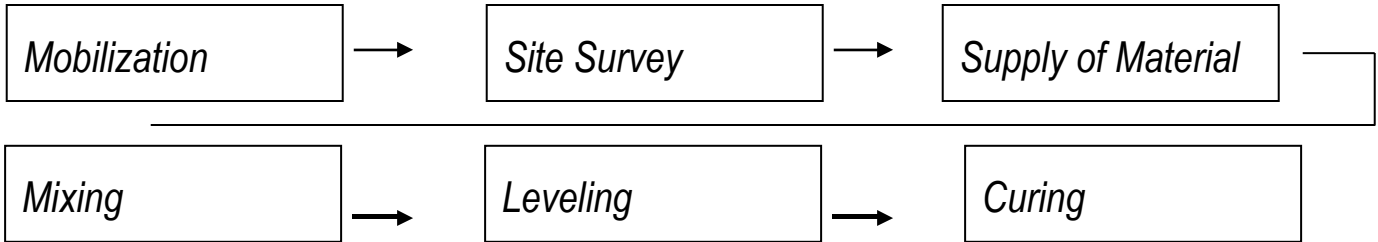
Characteristics

1. Improvement depth of 3 meters (10ft)
2. Provides for high efficiency mixing and quality production
3. Resolves the problem of dust pollution





Process



Production Cases



Liquefaction mitigation for River Dike



Stability increase for Road embankment



Stability Increase for high embankment



Overhead clearance Restricted area



Recent Power Blender Projects