

Construction machinery

The SAVE CP construction method is suited for construction in urban built-up areas, since the method does not generate vibration or noise. The compact construction machinery developed is capable of performing construction work in narrow and tight locations and is easily brought in and removed.



Model	Ultra-compact construction machinery	Compact construction machinery	Standard machinery
Max. pile length	3.5m	12m	25m
Pile diameter	φ 400~φ 500	φ 700	φ 700
Suitable soil (for sandy foundations)	N-value 0 to 10	N-value 0 to 15	N-value 0 to 15

- * Extended casing pipe can be attached for construction using ultra-compact construction machinery.
- * Pilot drilling can be conducted on soil with N-values that exceed the range of suitable soil.
- * The N-values may vary, depending on the soil and construction conditions.
- * Extended casing pipe can be attached to standard machinery for construction requiring a pile length exceeding 25 m.
- * Construction with a reduced displacement can also be performed.

Silent Sand Compaction Pile Method

SAVE COMPOZER

gently densifies subsurface soils

SAVE (Silent, Advanced Vibration-Erasing) Compozer, a Non-Vibratory Replacement (soil densification) method, has been born by the development of a rotary penetrating system for wave-type implementation that uses a new type of forced driving / lifting device. This allows densification of subsurface soils adjacent to the existing buildings, and significantly widens the applicable area for the densification. Various materials such as stone, sand, crushed concrete, or slag can be used as filling materials for this method.

- 1998: Technical Development Award of the Japanese Geotechnical Society.
- May 31, 2002: Certificate 4 as 'Tested general civil engineering technology', of Japan Institute of Construction Engineering (JICE).
- September 1999: Ministry of Transport Approval Certificate 99107, as engineering method to counter liquefaction.
- July 21, 1999: Appraisal by Japan Architectural Center (private foundation), Concrete Structure Evaluation Committee Evaluation No: BCJ-C2273
- April 17, 2000: Science and Technology Agency 59th Selected New Developments by with notice.



ISO 9001
ISO14001

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SAVE CP silently compacts loose sandy foundations.



SAVE COMPOZER

Silent Sand Compaction Pile Method

Advantages of SAVE CP

1. No Negative Impact to Surrounding Environment

No vibration and low noise accompanied by the installation makes SAVE Compozer conformable to the construction at urban and residential area.

2. Wider Application Range

SAVE Compozer can densify not only sandy soils but silts and other finer soils.

3. Same Densification as Vibro-Replacement is Obtainable

SAVE Compozer can be applied to the same purpose as conventional Vibro-Replacement (Stone Columns) and achieves the same degree of densification as Vibro-Replacement.

4. Interactive Operation Management Device

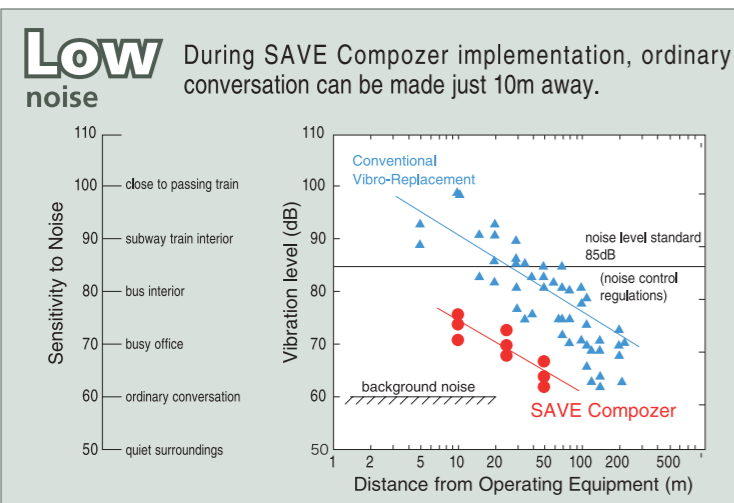
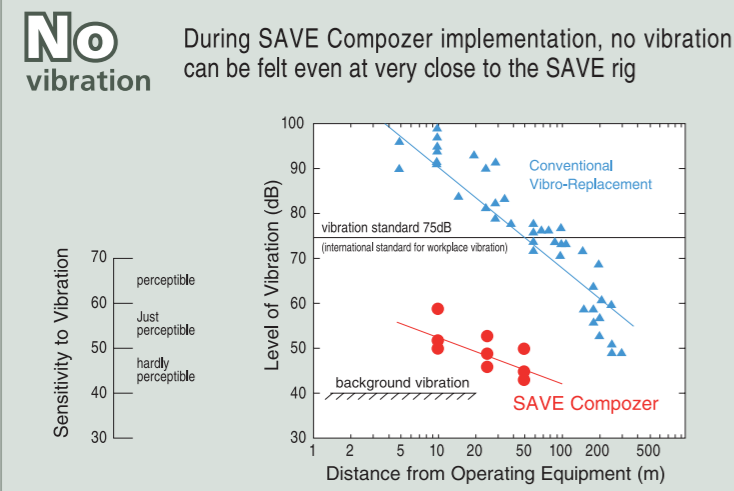
The interactive operation management device (CONOS) gives accurate indication to the operator together with the real-time operation monitoring and recording.

5. Finer Filling Materials are Usable

We can use finer filling materials such as sand or slag as well as crushed stone or gravel.

6. Cost Effective

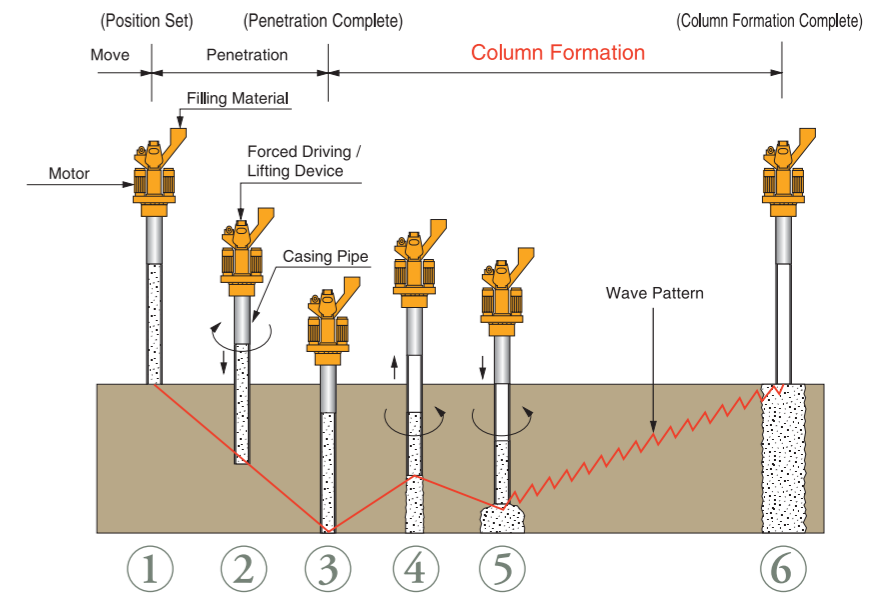
Operation cost for SAVE Compozer is cheaper than the other soil improvement methods with low impact to the surrounding environment.



Proximity of construction in built-up areas

Construction method of SAVE CP

- 1 Casing pipe is positioned and predetermined quantity of filling material is charged into the casing.
- 2 Casing is rotated and driven smoothly into the ground.
- 3 Casing is fully penetrated to the designated depth.
- 4 While casing is lifted by predetermined height, filling material is discharged from the casing.
- 5 Casing is re-driven to compact discharged filling material and surrounding ground.
- 6 Steps 4 and 5 are repeated by using a wave pattern and casing is gradually lifted, consequently formation of an enlarged column is achieved.

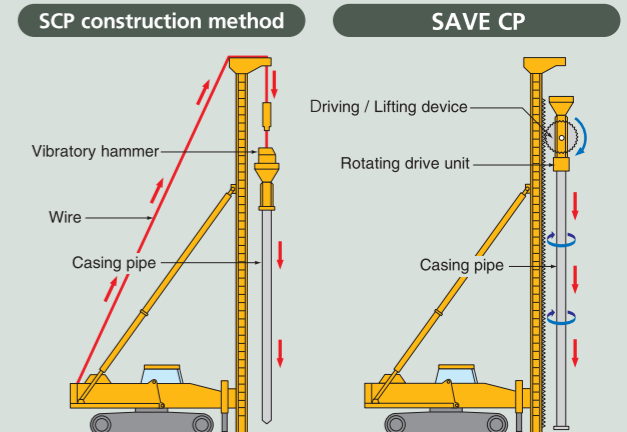


Wave construction (rotating pressure inserted construction)

The diameter of the pile is increased and at the same time the N-value between the piles is increased through the construction method that involves rapidly repeated waving, which is performed once the casing pipe has been inserted to the prescribed depth.

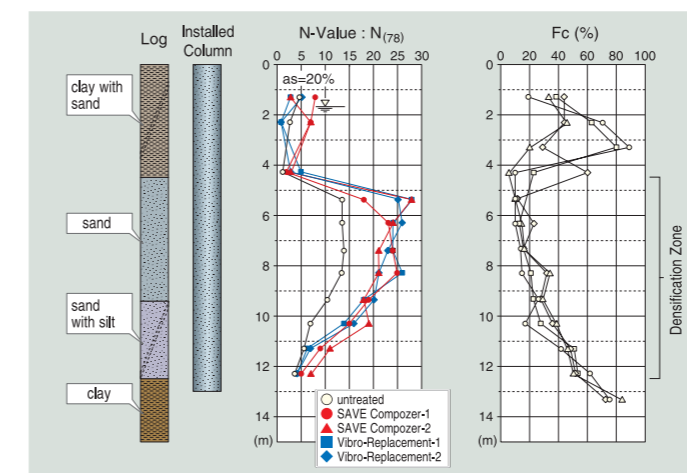
Comparison with sand compaction pile method

With the SAVE CP, method compacting is performed through the rotation of the casing pipe to which pressure is applied, while it is inserted into the soil using a forced lifting device. For this reason, hardly any vibration or noise is generated. The sand compaction pile method requires the use of a vibration unit to provide the driving force to compact the soil.



Densification Effect

Comparison of densification effect between SAVE Compozer and conventional Vibro-Replacement (replacement ratio: 20%)



SAVE Compozer achieves the same degree of densification as Vibro-Replacement