

Overview of Double Packer Method

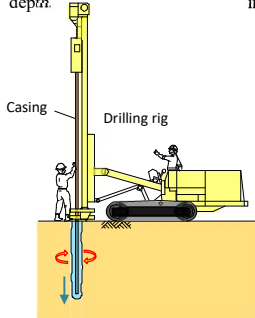
The *Double Packer method* is generally known as TAM (Tube a Manchette) grouting method. This method can be applied widely to various types of ground and can provide high-quality improvement.

By using grout pipes installed into underground, an appropriate grout can be injected into the just required area.

Procedure of the Double Packer Method

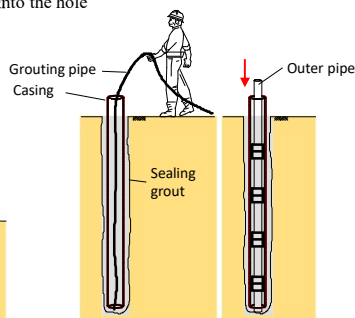
① Drilling

Drill a hole to the predetermined depth.



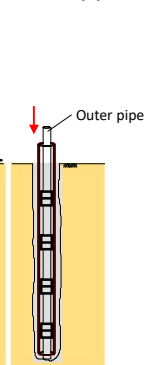
② Injecting a sealing grout

Inject a sealing grout into the hole.



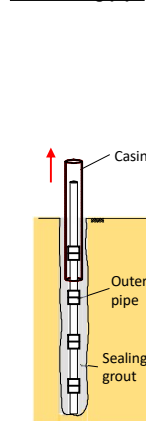
③ Installing an outer pipe

Install an outer pipe.



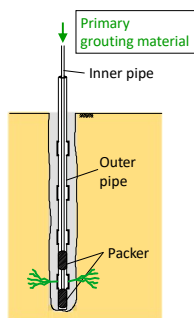
④ Pulling out a casing pipe

Remove the casing pipe.



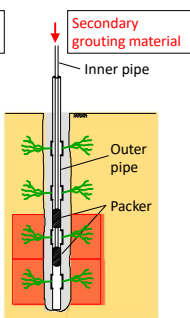
⑤ Primary grouting

Insert an inner pipe with packer into the outer pipe and carry out primary grouting (CB liquid) to homogenize the ground.



⑥ Secondary grouting

After primary grouting, inject a solution-type grouting material to improve permeation.



Applicability

In advantageous state of the double packer method

- ① When a drilling depth is 25m or more.
- ② When rotary percussion style drilling is required.
- ③ When grouting is close to an important structure (under a railroad track, under a road, in close vicinity of a building, etc.)
- ④ When high water shielding performance is required.
- ⑤ Batholiths improvement in large-scale excavation.
- ⑥ When particularly high grouting effects are expected.

Main equipments and materials

① Drilling work



Drilling rig



Plant facilities for drilling



Injection pipe (outer pipe)

② Primary grouting work



Plant facilities for primary injection



Injection pipe with double packer (inner pipe)

③ Secondary grouting work



Automatic chemical mixer



Grout pump



Flow meter



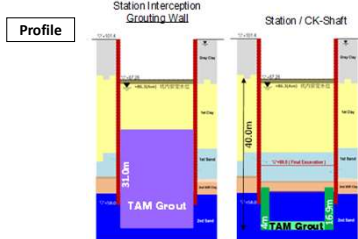
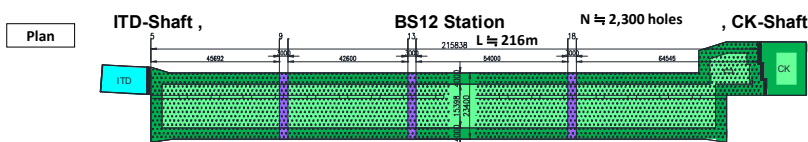
Tank for water glass (sodium silicate)



Tank for hardening agents

Job site reference

Blue line Extension Project Contract 2 (BS12 Sanam Chai Station)

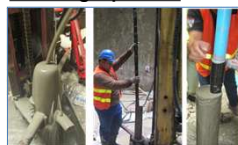


Drilling work



Rotary Percussion Drilling Rig

Installing Pipe work



Injecting a sealing grout, inserting a outer pipe

Grouting work



- ① Grouting condition
- ② Chemical plant
- ③ monitoring by flow meter
- ④ Grouting condition
- ⑤ Grouting controller



SANSHIN CORPORATION

三信建設工業株式会社

<https://www.sanshin-corp.co.jp>

Head Office (Tokyo, Japan)

Tel +81-3-5825-3704 / sales@sanshin-corp.co.jp

Taipei Branch (Taiwan)

Tel +886-2-2388-8039 / sanshin.tpe@msa.hinet.net

Hong Kong Branch

Tel +852-2666-0088 / hongkong@sanshin-corp.co.jp

SANSHIN CONSTRUCTION (THAILAND) CO., LTD.

Tel +66-2-010-9668 / sanshin-thai@sanshin-corp.co.jp