

Certificate of Technology Assessment

Technology Name

The Design and Construction Method for Rotary
Press-in Piling Method (Gyropress Method)

Applicants

Japan Press-in Association

Expiry Date

31 March 2025

Scope of Assessment

Technical Evaluation Committee carefully deliberated on the “Design and Construction Method for Rotary Press-in Piling (Gyropress Method).” Based on the loading tests of piles, the evaluation methods of vertical and horizontal bearing capacity and appropriateness of the design and construction guidelines were examined as follows.

1 Bearing capacity

i Vertical bearing capacity

It was confirmed that the proposed evaluation formula of the bearing capacity (the ultimate bearing capacity, the bearing capacity at yield point, the design bearing capacity, and the axial spring stiffness of the ground) was based on the vertical loading tests (5 tests, pile diameters 800 mm to 1,000 mm).

ii Horizontal bearing capacity

It was confirmed that the proposed evaluation formula of the horizontal coefficient of subgrade reaction of the pile was based on the horizontal loading tests (4 tests, pile diameters 600 mm to 1,000 mm).

2 Design and construction guideline for Rotary Press-in Piling Method (Gyropress Method)

It was confirmed that the Design and Construction Guideline for Rotary Press-in Piling Method is based on the results of loading tests, and applicable for design and construction of pile foundations.

3 Instructions for application of the guideline

The applicable range of bearing capacity estimation method

The applicable range of the evaluation formula for the vertical bearing capacity is shown in Table. The pile diameter range is 600 mm to 1000mm . If the piling method is applied beyond the applicable range, an additional investigation by load tests is required.

Table The applicable range of the evaluation formula for the vertical bearing capacity

Pile diameter	ϕ 600 mm to 1000 mm
Minimum embedded depth into bearing layer	Minimum embedded depth into bearing layer 1 pile diameter
Criteria for determining the foundational bearing layer	Bearing layer is sandy soil or gravel with an SPT N-value of 40.
Construction management	Construction management should follow the guideline.

4 Other instructions

The evaluation formula and its applicable range are determined based on the results of loading tests. They shall be reexamined when additional loading test data are accumulated in the future.

Issue Date 31 March 2020