

Approval & Reception Procedure

DG – Geotechnical Department		
Interface Coring Test-Pile Foundation	文件編號:	ARP/DG/20
	日期:	2019/01/01
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1. Scope

This procedure is applicable on the approval and reception of interface coring test for the interface between pile toe and founding rock layer for the bored-pile which penetrated into bedrock.

2. Reference standard

《Regulamento de Fundações》、《General Specification for Civil Engineering Works, 2006 Edition (CEDD, HK)》、《Code of Practice for Foundations – Buildings Dept. of the Government of the Hong Kong SAR》、《Guide to Rock and Soil Description (GEOGUIDE 3)》、《Standard for acceptance of construction quality of building foundation GB 50202-2018》

3. Approval procedure

3.1. Information to be submitted

Before interface coring test starts, contractor should submit the following information for approval:

- A Resume documents of entities performing interface coring test/work (included but not limited: registration document, job reference in geotechnical engineering prospecting and relevant professional document of the entities, name list and resume of key person, name list and resume of operators, personnel training document and relevant professional qualification document)
- B Equipment documents for performing interface coring test/work (included but not limited : list for quantity of equipment, catalogue and specification of equipment, relevant calibration document)
- C Method statement for performing interface coring test/work (included but not limited: construction plan, logistic plan, statement for interface coring process, quantity of personnel and equipment)
- D Project information, included but not limited: project name, the name and the contact person and the contact of main contractor

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E Information about interface coring test, included but not limited: I.D. and coordinates of coring hole, start and completion date of coring work, name of the interface coring company, name of chief operator of coring equipment, I.D. of the coring equipment

F Construction reception information verified by consultant, included but not limited: I.D. and coordination of the pile, rock head level and founding level, properties of founding layer

3.2. Technical specification of project or designer

A Technical specification and design document of project

B Construction proposal of pile foundation

Beside of the information above, all the document required in clause 42, 43, 48 of 《Regulamento de Fundações》 may be requested to submit.

4. Reception procedure

4.1. Principles of arrangement of interface coring test

A In accordance with the specification and requirement on the quantity and on the arrangement of interface coring test from the designer and from the technical specification of the project

B Without any specified requirement, the principles of arrangement of interface coring test below should be followed:

- i. For the bored-pile and barrettes with diameter>2.0m, 2 mild steel tubes with diameter of 100~150mm should be installed into the pile and 1 core-drilling should be performed in each tube totally 2 tests should be performed in each pile. The diameter of core samples should not be less than 61mm (N size). The bottom of tube should be placed 1m above the pile base and core-drilling

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should be carried down to a distance of at least half a diameter of pile base. The recovery through the whole length of core-drilling should be 100%.

- ii. For the bored-pile and barrettes with diameter $\leq 2.0\text{m}$, 1 mild steel tubes with diameter of 100~150mm should be installed into the pile and 1 core-drilling should be performed in each tube. The diameter of core samples should not be less than 61mm (N size). The bottom of tube should be placed 1m above the pile base and core-drilling should be carried down to a distance of 1 m below pile base, which 1m concrete core samples and 1m rock core samples should be taken. The recovery through the whole length of core-drilling should be 100%.

5. Principles of reception for interface coring test

- A Supervision and record by suitable method (included by not limited: text and image record, signature and symbol by inspector on the core samples) for the core-drilling process shall be carried out by the inspection entities which comply with the requirement of article 6 of this ARP document.
- B Criteria of reception for interface coring test:
- i. The interface between pile base concrete and the founding rock surface should be coupled or be conformity
- ii. Thickness of debris between pile base concrete and the founding rock surface should comply with the technical requirement of project or from designer
- C Without specified technical requirement from the project or designer, the criteria of reception for interface coring test below should be followed:
- i. The interface between pile base concrete and the founding rock surface should be coupled or be conformity

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ii. Thickness of debris between pile base concrete and the founding rock surface, should less than 20mm for End Bearing Pile founding on bedrock and 50mm End Bearing Pile not founding on bedrock and 150mm for Friction Pile respectively

D For reception principle of the article ii in item B and the article ii in item C in this clause 5, whichever is the stricter criterion should be complied.

6. Reception and reporting of interface coring test

- A The reception and reporting work for interface coring test shall be performed by independent 3rd party which is qualified in the field of geotechnical prospecting, and is approved by the client/representative of client, the designer, the consultant and the quality control entity
- A The following information(included but not limited) of the independent 3rd party to perform the reception and reporting work of interface coring test shall be submitted and be approved by the client/representative of client, the designer, the consultant and the quality control entity :
- (a). The entities shall be well experienced and recognized in the field of geotechnical prospecting in Macau
 - (b). Document of the independent 3rd entities
 - ◆ Registration document in Macau
 - ◆ Name list and resume of key personnel of entities
 - ◆ Job reference and resume in the field of geotechnical prospecting of the entities
 - (c). Reception record and report shall be signed by the qualified civil engineer/geotechnical engineer from the entities