

Approval & Reception Procedure

| DG – Geotechnical Department | |
|---------------------------------|-------------------------------|
| Welded Joint of PHC Pile | Document no. ARP/DG/15 |
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1. Reference standard

Regulamento de Fundações, Guia de Dimensionamento de Fundações, BS EN 287, AWS D1.1.

2. Approval procedure

2.1 Information to be submitted

- Welder certificates issued by a recognized body in which the scope of application should fulfil the requirement of actual production.
- Mill's certificates of electrode
- Welding procedure specification (WPS) or a formal instruction from the pile factory on the welding specification. All documents should be approved by a recognized body.
- Proposal of an independent recognized body for welds inspection and testing.

2.2 Designer's specification on the required acceptance quality level of welds.

3. Reception procedure

Inspection by independent recognized body after the completion of welds:

Visual inspection - 100% of overall welded joints

Ultrasonic test –

For piles designed to resist compressive load, the frequency is 1% of overall welded joints.

For piles designed to resist tensile load, the frequency is 6 % of overall welded joints.

4. Acceptance criteria

Before welding proceeds, the next pile section shall be accurately positioned and aligned.

After the completion of welds, in any case, the waiting time shall not be less than ten minutes before driving of the piles continues.

Welding of the splices shall be done by the approved welders.

4.1 Auto-control

Contractor shall completely record and submit the result of auto-control visual inspection and will submit the same to the owner of the work.

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4.2 Inspection of independent recognized body

When visual inspection or ultrasonic examination reveals unacceptable defects in a joint, according to the approved acceptance criterion, this joint should be repaired and retested by visual inspection or/and ultrasonic examination. If the defect was found in ultrasonic examination, each failure result requires two additional tests on similar joints

The certified inspector should issue a provisional report of each inspect/testing to the contractor. These reports should be submitted to the related parties, such as Supervision and LECM, for verification and follow-up of the corrective actions.

Note: The percentage for ultrasonic tests as referred in N° 3 can be revised according to some site experience.