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NATIONAL PETROCHEMICAL COMPANY
STANDARDS

CONSTRUCTION STANDARD
FOR
PILING

NPCS-CS-GC-02

REVISION : 0

FEBRUARY 1993

Full document details: NPCS CS-DC-02 1993

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1 GENERAL

1.1 SCOPE

This standard covers the requirements for the pile driving to *be* used in a petrochemical plant.

1.2 REGULATIONS

The work shall be done in accordance with the national and local laws and regulations. For subject not covered by regulations or specifications, the material and execution shall be based on good engineering and working practice and shall be subject to approval by client.

1.3 STANDARDS AND CODES

Following standards and codes form part of this standard.

- ACI	American Concrete Institute.
ACI 117	Standard Tolerances for Concrete Construction and Material.
AC1 336.1	Standard Specification for Construction of End Bearing Drilled Piers.
ACI 336.3	Suggested Design and Construction for Piers Foundation.
- AWS	American Welding Society.
- AISC	American Institute of Steel Construction.
- NPCS	National Petrochemical Company Standards.
NPCS-CS-ST-01	Construction Standard for concrete .
NPCS-CS-ST-02	Construction Standard for Steel Structures.
NPCS-SD-ST-33	Pile Details (Steel & Concrete)

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1.4 REPORTING

Full driving report shall be made for all piles. This report shall consist of number of blows for each 300 mm of pile for the first part of pile and number of blows for each 25 mm of pile to the end of piling which is assumed to be finished when number of blows required for driving 25 mm is more than 12 mm. Provided the length of pile in no case to be not less than specified depth on project drawing. Length of first part also shall be given on project drawing.

1.5 MATERIAL

Material used shall be in accordance with relevant standard specifications i.e. concrete shall be in accordance to NPCS-CS-ST-Ol., and steel shall be in accordance to NPCS-CS-ST-02.

1.6 SAFETY REQUIREMENTS

Safety cautions shall be in accordance with project safety procedure.

2 EXECUTION

2.1 PILE DRIVING

2.1.1 General

From different equipment used in pile driving (drop hammer, single acting steam, double acting steam, differential-acting steam, diesel, vibratory pile drivers, etc.) diesel is most available in Iran and is prefered.

2.1.2 Piles should be driven by means of a double action diesel hammer with suitable-pile frame to drive 12 m piles.

2.1.3 Piles shall be driven into full required depth.

2.1.4 Pile hammer package shall consist of suitable pile hammer, pile frame with a leader for the full height of the frame for guide the hammer and the pile as it is driven into the ground, piling winch for lifting the hammer and pile, hanging leaders for suspension with a sufficient stiffness to protect hands of piles during driving, a double anvil block should be provided with the hammer. Furthermore, it is preferred piling caps.

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