



**HELLENIC GAS
TRANSMISSION
SYSTEM OPERATOR**

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**TECHNICAL JOB
SPECIFICATION**

456/1

REVISION 0

DATE 05/04/2011

HIGH PRESSURE (HP) TRANSMISSION SYSTEMS

CONCRETE CASING PIPES

HELLENIC GAS TRANSMISSION SYSTEM OPERATOR



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QUALITY ASSURANCE PAGE

CHANGES LOG

REVISIONS LOG

0	05-04-2011	FIRST ISSUE	PQ DPT	V.G.
Rev. No	Rev. Date	REASON FOR CHANGE	Made By	Approved By

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REFERENCE DOCUMENTS

EΚΤΣ - ΦΕΚ 315Β 1997
«Ελληνικός Κανονισμός Τεχνολογίας Σκυροδέματος»
[Hellenic Concrete Technology Regulation]

EΚΤΧ - ΦΕΚ 381Β 2000
«Ελληνικός Κανονισμός Τεχνολογίας Χαλύβων Οπλισμού Σκυροδέματος»
[Hellenic Reinforcement Technology Regulation]

EΚΩΣ – 2000 ΦΕΚ 1329Β
«Ελληνικός Κανονισμός Οπλισμένου Σκυροδέματος»
[Hellenic Reinforced Concrete Code]

Π.Δ. 244/29.2.80 (ΦΕΚ 69/Α/28.3.1980)
«Κανονισμός Τσιμέντων για έργα από Σκυρόδεμα»
[Hellenic Cement Regulation]

Hellenic Standard Technical Specification T 110 (ΦΕΚ 203/1967)

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1.0 **SCOPE**

1.1 **ITEM**

Concrete pipes.

1.2 **APPLICATION**

Casing pipes under earth cover of 1.0-2.5 m.

2.0 **GENERAL REQUIREMENTS**

STANDARDS

- Hellenic Concrete Technology Regulation (**EKTΣ -1997**)
- Hellenic Reinforcing Steel Technology Regulation (**EKTX - 2000**)
- Hellenic Reinforced Concrete Code (**EΚΩΣ - 2000**)
- Hellenic Cement Regulation (Π.Δ. 244/29.2.80 - ΦΕΚ 69/Α/28.3.1980)
- Hellenic Standard Technical Specification T 110 (ΦΕΚ/203/1967)

2.2 **UNITS**

Metric

2.3 **MATERIALS**

- Cement: Portland cement in accordance with the Hellenic Cement Regulation (Π.Δ. 244/29.2.80 - ΦΕΚ 69/Α/28.3.1980)
- Steel: Reinforcing steel shall be grade S 500s according to the Hellenic Reinforcing Steel Technology Regulation (**EKTX - 2000**).
- Water: Only potable water shall be used for mixing and curing of concrete. Any chemical compound used shall be approved by the Owner Representative.

2.4 **SIZES AND TOLERANCES**

Internal diameter	Wall thickness	Length
1000 mm ± 10mm	125 mm ± 10 mm	2500 mm ± 50 mm
1260 mm ± 10mm	170 mm ± 10 mm	2500 mm ± 50 mm

2.5 **CONSTRUCTION**

Pipes shall fulfill the following requirements:

- Concrete grade shall be C25/30.
- Innermost in the pipe wall there shall be longitudinal reinforcing bars of Ø8 at 200 mm. The outer side of the pipe wall shall be reinforced with a spiral reinforcement of Ø 10 at 100 mm and a reinforcement mesh. Welding of the reinforcement is not permitted. The concrete cover shall be 25 mm.

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- Pipes shall be watertight as per **Hellenic Standard Technical Specification T110** requirements.
- Externally at the pipe ends, a recess for a guide-ring or cutting-head shall be provided.
- The pipes shall be suitable for thrust-boring.

2.6 TEST AND CONTROL

Concrete strength tests and routine control testing shall be executed according to the Hellenic Concrete Technology Regulation.

Five strength tests shall be carried out for each 25 m³ concrete quantity produced.

3.0 SUPPLEMENTARY REQUIREMENTS

Further requirements, if specifically mentioned in the Bill of Quantities or in the Purchase Order, shall be valid. In case of conflict between such requirements and the requirements contained herein, the former shall prevail.

4.0 TECHNICAL DOCUMENTATION

4.1 QUANTITY

Four copies of each inclusive of the original for all documents.

Also electronic files of all Documents and Certificates must be submitted by Contractor to the Owner.

4.2 DOCUMENT REQUIREMENTS

On delivery: Manufacturer's report containing (as a minimum):

- Results of strength tests of the concrete
- Control data together with important data referring to mixing and curing of the concrete.