

TECHNICAL SPECIFICATION

CARBON STEEL PIPE (AMENDMENTS/SUPPLEMENTS TO ASTM A 106)

MESC SPE 74/002

November 2012

MESC SPECIFICATION DOCUMENT



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All administrative queries should be directed to the MESC SPE Administrator in Shell GSI.

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PART I INTRODUCTION

1.1 SCOPE

This MESC SPE specifies requirements for carbon steel pipe.

This MESC SPE shall apply in addition to the applicable MESC Buying Description, purchase order or requisition sheet.

This MESC SPE only applies to carbon steel pipe to ASTM A 106, Grade B.

This MESC SPE is written as amendments and supplements to ASTM A 106:2011, which are covered in Part II of this MESC SPE. The clause numbering of ASTM A 106:2011 has been retained and any amendments are identified as 'Add', 'Modify to read' or 'Delete'. Any clauses of ASTM A 106:2011 that are not amended or supplemented by this MESC SPE shall apply as written.

1.2 DISTRIBUTION, INTENDED USE AND REGULATORY CONSIDERATIONS

Unless otherwise authorised by Shell GSI, the distribution of this MESC SPE is confined to Shell companies and, where necessary, to Contractors and Manufacturers/Suppliers nominated by them.

This MESC SPE is intended for use in oil refineries, chemical plants, gas plants, exploration and production facilities and, where applicable, supply/distribution installations.

If national and/or local regulations exist in which some of the requirements may be more stringent than in this MESC SPE the Contractor shall determine by careful scrutiny which of the requirements are the more stringent and which combination of requirements will be acceptable with regards to safety, environmental, economic and legal aspects. In all cases the Contractor shall inform the Principal of any deviation from the requirements of this MESC SPE which is considered to be necessary in order to comply with national and/or local regulations. The Principal may then negotiate with the Authorities concerned, the objective being to obtain agreement to follow this MESC SPE as closely as possible.

1.3 DEFINITIONS

The **Contractor** is the party that carries out all or part of the design, engineering, procurement, construction, commissioning or management of a project, or operation or maintenance of a facility. The Principal may undertake all or part of the duties of the Contractor.

The **Manufacturer/Supplier** is the party that manufactures or supplies equipment and services to perform the duties specified by the Contractor.

The **Principal** is the party that initiates the project and ultimately pays for its design and construction. The Principal will generally specify the technical requirements. The Principal may also include an agent or consultant authorised to act for, and on behalf of, the Principal.

The word **shall** indicates a requirement.

The word **should** indicates a recommendation.

1.4 CHANGES SINCE PREVIOUS EDITION

The previous edition of this MESC SPE was dated **May 2011. The only change is to update the ASTM A106 version, updated section on "Length" for pipes and email address of MESC SPE administrator.**

1.5 COMMENTS ON THIS MESC SPE

Comments on this MESC SPE may be sent to the MESC SPE Administrator at MESC@shell.com. Shell staff may also post comments on this MESC SPE on the Surface Global Network (SGN) under the Standards folder.

PART II AMENDMENTS/SUPPLEMENTS TO ASTM A 106:2011

- 5.3** *Add* If sour service is specified, the following requirements for heat treatment shall apply:
- Normalising shall consist of heating to a uniform temperature not less than 815 °C (1500 °F), followed by cooling in still air or in the cooling chamber of an atmosphere-controlled furnace.
 - In case the pipe is hot finished, certification shall be provided that hot finishing was carried out in the temperature range of 845 °C (1550 °F) to 945 °C (1730 °F), followed by cooling in an atmosphere-controlled furnace or cooling in still air.
- 7.1 *Add:*
- The following amendments to the chemical composition shall apply:
- The carbon content shall not exceed 0.23 %.
 - Supplementary requirement S6.1 (carbon equivalent) shall apply, although CE shall not exceed 0.43.
- 7.2 *Add* If sour service is specified, the sulphur content shall not exceed 0.010 %.
- 17.1.3** **Modify to read:**
- Unless specified otherwise in the purchase order, the Unit of Length (Uol) for pipe is in meter or feet. The form of delivery shall be in single random length (SRL or double random length (DRL). The specified quantities of random lengths on the purchase order shall be converted to aggregate length on the basis of 6.1 m (20 ft) for single random length and 10.7 m (35 ft) for double random length. Individual pieces of single random lengths may range from 4.8 m to 6.7 m (16 to 22 ft) with less than 5% of the pieces between 3.7 m and 4.8m (12 to 16 ft). Individual pieces of double random lengths may range from 6.7 m (22 ft) to 12.2 m (40 ft) with less than 5 % of the pieces between 4.8 m to 6.7 m (16 to 22 ft).**
- To satisfy the purchase order required pipe length, the delivered quantities of random lengths shall amount to at least the calculated aggregate length.**
- 24.2 *Add* Unless specified otherwise, inspection and test certificates shall be supplied to the Principal.
- 25.1 *Add:*
- Marking shall also include the charge number (heat number) and, where applicable, the heat treatment batch number.
- 25.4 *Add* If sour service is specified, marking shall also include the identification "SOUR" behind the ASTM designation.
- 25.5 *Add* If die stamping is used, the stamps shall be low-stress stamps.

PART III REFERENCES

In this MESC SPE, reference is made to the following publications:

NOTES:

1. Unless specifically designated by date, the latest edition of each publication shall be used, together with any amendments/supplements/revisions thereto.
2. Most of the referenced external standards are available to Shell staff on the SWW (Shell Wide Web) at <http://sww.shell.com/standards>.

AMERICAN STANDARDS

Standard Specification for Seamless Carbon Steel Pipe
for High-Temperature Service

ASTM A 106:**2011**

Issued by:
American Society for Testing and Materials
1916 Race Street, Philadelphia
19103, USA