

TECHNICAL SPECIFICATION

FITTINGS (AMENDMENTS/SUPPLEMENTS TO ASME B16.9)

MESC SPE 76/110

June 2013

MESC SPECIFICATION DOCUMENT



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The information set forth in these publications is provided to Shell companies for their consideration and decision to implement. This is of particular importance where MESC SPEs may not cover every requirement or diversity of condition at each locality. The system of MESC SPEs is expected to be sufficiently flexible to allow individual Operating Units to adapt the information set forth in MESC SPEs to their own environment and requirements.

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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 new MESC SPE specifies requirements for fittings.

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

This MESC SPE is written as amendments and supplements to ASME B16.9: **2012**, which are covered in Part II of this MESC SPE. The clause numbering of ASME B16.9: **2012** has been retained and any amendments are identified as 'Add', 'Modify to read' or 'Delete'. Any clauses of ASME B16.9: **2012** 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 **September 2012. The change is to update ASME B16.9 version and clause numbering in-line with latest ASME standard.**

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 ASME B16.9:2012

- 2.2 *Add:*
The design of fittings in sizes > DN 600 (NPS 24) shall be established by the mathematical analyses contained in ASME VIII, Division 1 or ASME B31.3. The design of fittings for which these standards do not provide mathematical analyses shall be established by proof testing in accordance with Section 9.
- 5 *Add:*
If welded manufacturing process is specified, the branch shall not be welded to the pipe.
- 6.2.5** *Add* **Caps**
The dimensions of caps in sizes > DN 600 (NPS 24) shall be in accordance with MSS SP-75, Table 8 with length E1.
- 6.2.6** *Add* **Tees**
For tees with a header size > DN 600 (NPS 24), the crotch thickness and external contour radius shall be $T_c \geq 1.5\bar{T}$ and $r_x \geq \frac{D_b}{8}$ respectively, in order to allow a flexibility characteristic of $h = 4.4 \cdot \frac{\bar{T}}{r_2}$ in accordance with ASME B31.3, Appendix D, note 11.
- 8 *Add:*
The welding end of fittings in sizes > DN 600 (NPS 24) shall be in accordance with MSS SP-75, Section 13.3.
- 11 *Add:*
The manufacturing tolerances of fittings in sizes > DN 600 (NPS 24) shall be in accordance with MSS SP-75, Section 13. Unless specified otherwise, these tolerances are applicable to the nominal dimensions given in Tables 3 through 12 (or Tables I2 through I11).
- 12 *Add* **Certification**
Unless specified otherwise, inspection and test certificates shall be supplied to the Principal.

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

Factory-Made Wrought Buttwelding Fittings

ASME B16.9:2007

Process Piping

ASME B31.3

Issued by:

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New York, NY 10016, USA*

Specification for High Test, Wrought, Butt Welding Fittings

MSS SP-75

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