

Engineering Procedure

SAEP-361

31 May 2005

Storage, Handling and Installation of Weight-Coated Pipe

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Saudi Aramco DeskTop Standards

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1 Scope

This Procedure covers the minimum requirements governing the storage, handling and installation of pipe which has been externally coated for corrosion protection in accordance with [SAES-H-002](#) and subsequently coated with a reinforced concrete outer layer in accordance with Saudi Aramco Purchase Specification [01-SAMSS-012](#) for negative buoyancy.

2 Conflicts and Deviations

- 2.1 Any conflicts between this procedure and other applicable Saudi Aramco Engineering Standards (SAESs), Materials System Specifications (SAMSSs), Standard Drawings (SASDs), or industry standards, codes, and forms shall be resolved in writing by the Company or Buyer Representative through the Manager, Consulting Services Department of Saudi Aramco - Dhahran.
- 2.2 Direct all requests to deviate from this procedure in writing to the Company or Buyer Representative, who shall follow internal company procedure [SAEP-302](#) and forward such requests to the Manager, Consulting Services Department of Saudi Aramco, Dhahran.

3 References

All referenced Specifications, Standards, Codes, Forms, Drawings, and similar material shall be of the latest issue (including all revisions, addenda and supplements) unless stated otherwise.

Saudi Aramco References

Saudi Aramco Engineering Procedure

[SAEP-302](#)

*Instructions for Obtaining a Waiver of a
Mandatory Saudi Aramco Engineering
Requirement*

Saudi Aramco Engineering Standard

[SAES-H-002](#)

*Internal and External Coatings for Steel Pipelines
and Piping*

Saudi Aramco Materials System Specification

[01-SAMSS-012](#)

Submarine Pipe Weight Coating

4 Storage, Handling and Transportation

- 4.1 The coated pipe shall be handled at all times with properly rated web slings (or similar) in a manner that prevents damage to the pipe walls, beveled ends, and to the coating.
- 4.2 Stacking shall conform to the requirements of [01-SAMSS-012](#).
- 4.3 The transporting vehicle, including barges, and the pipe support and restraint systems are subject to approval by the Saudi Aramco Inspector. Loading, unloading and/or transporting shall not be permitted if, in the Inspector's opinion, conditions exist that will result in excessive damage to the pipe coating.

5 Installation

- 5.1 On pipes coated with coal tar enamel, the felt outer wrap on the coal tar enamel cutback area shall either be removed or saturated with hot enamel dope for a minimum distance of 50 mm back from the bare steel area prior to welding.
- 5.2 The completed girth weld area shall be externally coated using APCS-107 tape-wrap. Heat shrink sleeves shall not be used.
 - 5.2.1 Primer is not required.
 - 5.2.2 Tape application shall be as follows:
 - 5.2.2.1 A single circumferential tape-wrap at least 100 mm wide shall be applied around the weld bead.
 - 5.2.2.2 On pipe coated with coal tar enamel, a single circumferential tape-wrap at least 100 mm wide shall also be applied to the bare steel abutting the coal tar enamel coating at either side of the field joint in order to minimize the upset at the edge of the coating.
 - 5.2.2.3 The whole field joint (including the banded areas in paragraphs 5.2.2.1 and 5.2.2.2) shall be spiral-wrapped with tape using at least a 55% overlap and extending a minimum of 50 mm onto the pipe's corrosion protection coating. "Cigarette wrap" application shall not be used.

Commentary Note:

"Cigarette wrap" involves wrapping the tape once around the circumference of the pipe with a single, longitudinal overlap.

- 5.2.3 The maximum allowable tape width shall be 150 mm.
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- 5.3 The completed joint shall be protected by an outer wrap of a heavy plastic mesh approved by the Consulting Services Department. As a minimum, the mesh shall be attached by 3 circumferential bands of APCS-107 tape at least 100 mm wide. Plastic clips or ties are not acceptable.
- 5.4 Hot marine mastic and foam infill are permitted but not normally required. If used, they shall be applied over the tape-wrap described in paragraph 5.2 and the plastic mesh (paragraph 5.3) shall be omitted.
- 5.5 Repairs
 - 5.5.1 Voids and cracks in the concrete wider than 6 mm shall be repaired as follows: All loose material shall be removed back to sound concrete and repair made by guniting or other method approved by Consulting Services Department.
 - 5.5.2 If the corrosion protection coating is damaged, it shall be repaired in accordance with the requirements of the applicable APCS in [SAES-H-002](#).

6 Inspection and Quality Assurance

- 6.1 The coated pipe shall be 100% visually inspected immediately prior to immersion and all necessary repairs made. This final inspection procedure shall be monitored by a Saudi Aramco Inspector.
- 6.2 Holidays shall be repaired by full circumferential tape wrap.

31 May 2005	Revision Summary SAES-H-202 has been converted into SAEP-361.
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