

Engineering Standard

SAES-O-105

12 October, 2005

Gates in Perimeter Fences

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Saudi Aramco DeskTop Standards

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1 General

This Standard refers to security gates for Saudi Aramco's vital industrial facilities per [SAES-O-100](#), paragraph 1.3. This Standard shall be used in conjunction with Safety and Security Directive No. 5 (SSD/5) of the Saudi Arabian Government Supreme Commission for Industrial Security.

2 Amendments

Safety and Security Directive No. 5 has not been amended by the Supreme Commission for Industrial Security.

3 Commentary

Certain clarifications have resulted from applying this Standard to Saudi Aramco projects. The following items reflect a general understanding reached with representatives of the Supreme Commission for Industrial Security and should be verified through liaison by the Proponent with the General Manager of Industrial Security Operations and the Manager of the Consulting Services Department in case there are conflicts with other company engineering standards and materials specifications, standard drawings or Industry Codes.

- 3.1 A maximum of 3 gates are allowed in the standard security perimeter fence (SSD/1 and SSD/2). Those vital facilities requiring more than 3 gates will be handled on a case-by-case basis per [SAES-O-100](#) paragraph 4.4.2.
 - 3.2 The gates shall, structurally, be as strong as the standard security perimeter fence.
 - 3.3 One-way gates are not allowed.
 - 3.4 Gate Posts shall be of galvanized steel pipe. They shall be 3.71 m in length with an outside diameter of 101.6 mm and wall thickness of 5.74 mm.
 - 3.5 Gate Posts shall have a vertical extension arm.
 - 3.6 If gates are to open 180 degrees the post adjacent to the gate post shall have a vertical extension arm.
 - 3.7 Where gates are installed over other than hard, properly constructed and surfaced roadways, a reinforced concrete sill shall be formed and carried up to within 50 mm of the bottom of the gate. The top of the sill shall be at ground level. The minimum dimensions of the sill shall be 125 mm wide by 225 mm high. (Refer to sketch attached to SSD/5.)
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- 3.8 Type V cement shall be used for Gate Post foundations and Gate Sills. The minimum 28 day concrete cube strength shall be not less than 18 N/mm². All concrete work shall be in accordance with [SAES-Q-001](#), Criteria for the Design and Construction of Concrete Structures.
- 3.9 All Gates not under the supervision of a full time Security Guard shall be kept locked (refer to SSD/8).
- 3.10 Gate and straining posts may be combined in one post.
- 3.11 Foundations for gate posts shall be not less than 0.45 m by 0.45 m on plan and 0.80 m deep. Posts shall be set to a depth of 0.76 m.
- 3.12 Wire Fabric for gates should preferably be identical to fabric used for fencing, i.e., Vinyl-clad, outside dia. 4.75 mm, core dia. 3.50 mm and mesh size of 50 mm.
- 3.13 Requests for gates wider than 8 m will be reviewed on a case-by-case basis per [SAES-O-100](#) paragraph 4.4.3.
- 3.14 Reference Standards (Latest edition)

Saudi Aramco References

SAES-O-100	<i>Safety & Security, General Requirements</i>
SAES-O-101	<i>Standard Security Fence</i>
SAES-O-102	<i>Security Fence Category II</i>
SAES-O-108	<i>Locks Used on Security Doors, Perimeter Fences and Emergency Exits</i>
SAES-Q-001	<i>Criteria for Design and Construction of Concrete Structures</i>

Safety and Security Directives

<i>SSD/1</i>	<i>Standard Security Fence</i>
<i>SSD/2</i>	<i>Category II Fencing</i>
<i>SSD/5</i>	<i>Gates in Perimeter Fences</i>
<i>SSD/8</i>	<i>Minimum Standards for Locks Used on Security Doors, Perimeter Fences and Emergency Exits</i>

British Standards Institution

<i>BS 1881</i>	<i>Methods of Testing Concrete</i>
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Revision Summary

12 October, 2005

Revised the "Next Planned Update". Reaffirmed the contents of the document, and reissued with no other changes.