

Engineering Standard

SAES-T-920

31 December, 2003

Telecommunications Cable Information

Communications Standards Committee Members

Al-Dabal, J.K., Chairman

Al-Ghamdi, K.S., Vice Chairman

Al-Hashel, M.H.

AliKhan, M.S.

Almadi, S.M.

Al-Nufaii, A.S.

Al-Shammary, D.M.

Dabliz, Z.E.

Daraiseh, A.A.

Elsayed, M.

Gotsis, S.D.

Ismail, A.I.

Jabr, A.A.

Kahtani, W.H.

Karr, S.K.

Mckew, M.P.

Qatari, S.A.

Tageldin, T.G.

Saudi Aramco DeskTop Standards

Table of Contents

I	Scope.....	2
II	Conflicts and Deviations.....	2
III	References.....	2
IV	Important Design Requirements.....	3
V	Modifications to GTE 920 Series.....	3
VI	Installation.....	4
VII	Testing and Inspection.....	5

I Scope

This standard prescribes mandatory requirements governing copper conductor telecommunication cable to be used for voice and carrier frequency facilities in outside plant construction.

II Conflicts and Deviations

Any deviations, providing less than the mandatory requirements of this standard require written approval as per Saudi Aramco Engineering Procedure [SAEP-302](#).

III References

The selection of material and equipment, and the design, construction, maintenance, and repair of equipment and facilities covered by this standard shall comply with the latest edition of the references listed below, unless otherwise noted.

A. Saudi Aramco References

Saudi Aramco Engineering Procedure

[SAEP-302](#)

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

Saudi Aramco Engineering Standards

SAES-B-050/099

Safety in Design

SAES-O-Series

Safety and Security Design

SAES-T-011

Symbols - Communications

[SAES-T-631](#)

Cable Terminals

[SAES-T-632](#)

Cable Splicing

[SAES-T-633](#)

Splice Closures

[SAES-T-634](#)

Cable Testing and Identification

[SAES-T-938](#)

Outside Plant Systems Design

B. Industry Codes and Standards

General Telephone and Electronics

GTE 920 Series

Cable Information

IV Important Design Requirements

- A. Cables with polyethylene sheath and conductor insulation shall not be used within buildings or as terminating cable on distributing frames. (GTE 920-000-070, Paragraph 3.08, National Electric Code and Paragraph 5.1.3 below).
- B. Filled cables shall be specified for all outside plant buried and underground cable uses. (GTE 920-000-070, Paragraph 6.04; Figures 7a, 7b, 7c and 7d; and Figures 8a, 8b and 8c.)
- C. Table 1 (as amended) shall be used in selecting cables for inclusion in design documentation. (GTE 920-000-070, Paragraph 7.01) and Paragraph 5.1.7

V Modifications to GTE 920 Series

5 DESIGN

The following paragraph numbers refer to GTE 920 Series on "Cable Information", which is part of this standard. The text in each paragraph below is an addition, exception, modification, or deletion to GTE 920 as noted. Paragraph numbers not appearing in GTE 920 are new paragraphs to be inserted in numerical order.

- 5.1 GTE Section 920-000-070: Outside Plant Cable, Field Of Use; Issue 1/December, 1974
 - 5.1.1 Paragraph 1.03 Delete the second phrase relating to paper-insulated cable which is not used in Saudi Aramco.
 - 5.1.2 Paragraph 2.08 and 2.09. Delete entirely, paper-insulated conductors are not applicable within Saudi Aramco.
 - 5.1.3 Paragraph 3.08. Replace the word "must" with the word "shall".

Add: "Telecommunication cables containing polyethylene (jacket, sheath or conductor insulation) shall not be utilized as inside building cables or wires unless the entire length of cable, including splices and terminations, is enclosed in noncombustible material, or is completely wrapped in fireproof tape. Refer to SAES-T-916, (Paragraph 3.7) Important Design Requirements."
 - 5.1.4 Paragraph 4.06 and 4.07. Delete both paragraphs because cable pressurization is not mandatory within Saudi Aramco and is not used.
 - 5.1.5 Paragraph 5.01. Delete as not applicable within Saudi Aramco.
-

- 5.1.6 Paragraph 5.06. Delete the last sentence, it is incorrect.
- 5.1.7 Paragraph 7.01. Table 1 and notes are ammended as follows: Delete all references to Stalpeth and Stalpeth-DS, cables. In the notes, delete notes 1, 2, 4 and 5. Add the following note to Table 1. "Air core cable from existing excess/surplus stock can be used in conduit for underground applications provided re-enterable encapsulated splice closures are utilized."
- 5.1.8 Paragraph 7.08 Delete entirely.
- 5.1.9 Paragraph 7.09 (e) (1) Delete this sentence because joint use of trenches is not permitted within Saudi Aramco.
- 5.1.10 Paragraph 8.01, 8.02, 8.03 and 8.04. Delete all four paragraphs because Stalpeth Cables with paper insulated conductors are not used within Saudi Aramco.
- 5.2 GTE Section 920-100-100: Paper Insulated Conductor Cable-Description; Issue 2/January, 1969

Delete this entire section.
- 5.3 GTE Section 920-200-100: Plastic Insulated Conductor Cable, Description; Issue 3/April, 1975
 - 5.3.1 Paragraph 2.08. Delete entirely.
 - 5.3.2 Paragraph 3.08. Delete second sentence.
- 5.4 GTE Section 920-500-101: Corrosion Resistant Coverings For Cables And Splices; Issue 1/November, 1961
 - 5.4.1 Paragraph 2.02(a) Delete reference to Stalpeth cable.
 - 5.4.2 Paragraph 3.01 Delete all references to lead Sheathed Cable.
 - 5.4.3 Paragraph 4.02 In the last sentence replace the word "should" with "shall".
- 5.5 GTE Section 920-800-100: Direct Buried Wire, Description; Issue 3/October, 1974

Delete all references to the description of GTE material.

VI Installation

The installation of telecommunications cables shall be done in a manner that avoids the cable damage considerations that are detailed in GTE 920-000-070, Paragraph 4.01

through 4.08. The installation shall conform to applicable factors that are listed in GTE 920-000-070, Paragraph 1.02.

VII Testing and Inspection

Testing and inspection shall be done in accordance with procurement specifications.

Revision Summary

31 December, 2003

Revised the "Next Planned Update". Reaffirmed the contents of the document, and reissued with minor changes to Section 2.