SOUTH AFRICAN NATIONAL STANDARD

The petroleum industry

Part 1: Storage and distribution of petroleum products in above-ground bulk installations
SANS 10089-1:2008
Edition 4.3

Table of changes

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<th>Change No.</th>
<th>Date</th>
<th>Scope</th>
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<tr>
<td>Amdt 1</td>
<td>2003</td>
<td>Amended to update and add to normative references and the bibliography to align with national and international standards, to add two new definitions and to correct the values given in annex B.</td>
</tr>
<tr>
<td>Amdt 2</td>
<td>2007</td>
<td>Amended to include a statement in the foreword on application of this standard in other jurisdictions, to update and add referenced standards, to update the definition of “acceptable” and references to legislation, to add fixed tanks to table 1, to replace “one fifth” with “one and a half” for minimum distance in table 3, and to include information on UL standard publishers in footnote 2.</td>
</tr>
<tr>
<td>Amdt 3</td>
<td>2008</td>
<td>Amended to correct the formula for vertical rate of rise in annex B and to delete withdrawn standards.</td>
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Acknowledgement

Standards South Africa wishes to acknowledge the valuable assistance derived from publications of the following organizations:

- Advisory Fire Management Council
- American Petroleum Institute
- American Society for Testing and Materials
- BP Southern Africa (Pty) Ltd
- British Standards Institution
- Caltex Oil (SA) (Pty) Ltd
- Engen Petroleum Limited
- European Petroleum Organizations (European Technical Cooperation)
- Institute of Petroleum (UK)
- International Oil Tanker Terminal Safety Group
- National Fire Protection Association International (USA)
- The Associated Octel Company Limited (London)

Foreword

This South African standard was approved by National Committee StanSA TC 5120.18, The Petroleum industry – Equipment and systems, in accordance with procedures of Standards South Africa, in compliance with annex 3 of the WTO/TBT agreement

This document was published in June 2008. This document supersedes SANS 10089-1:2007 (edition 4.2).

A vertical line in the margin shows where the text has been technically modified by amendment No. 3.

This document was written in order to support a specific item of South African regulation and, of necessity, includes references to South African legislation. It therefore might not be suitable for direct application in other jurisdictions where conflicting legislation exists.
Foreword (concluded)

SANS 10089 consists of the following parts, under the general title, The petroleum industry:

- Part 1: Storage and distribution of petroleum products in above-ground bulk installations.
- Part 2: Electrical and other installations in the distribution and marketing sector.
- Part 3: The installation of underground storage tanks, pumps/dispensers and pipework at service stations and consumer installations.

Annexes A, B, C, D and E are for information only.

Introduction

Concurrent with the rewriting of this part of SANS 10089, there were far-reaching developments in the marketing of petroleum products. Bulk storage and handling were traditionally handled by the large petroleum companies whose proven integrity in matters of safety and fire engineering have been synonymous with the industry.

Recently, however, there has been a rapid change to the enfranchising of bulk storage, handling and distribution to sales agents who have minimal (if any) experience in or previous exposure to petroleum operations.

During the lifetime of this fourth edition, it can be expected that many more (less qualified) new oil companies will wish to operate, modify, expand or construct distribution facilities. They will have to comply with this part of SANS 10089 and will look to it for guidance.

Nothing prevents any user from opting for a rational design, but any user should be able to use this part of SANS 10089 as a stand-alone code. It draws on the best of previous versions in the South African context and gives guidance with regard to other code systems that could be meaningful in local conditions.

It should be noted that compliance with this part of SANS 10089 does not grant immunity from the relevant legal requirements, including municipal and other by-laws.

Although it is believed that the adoption of this part of SANS 10089 will help reduce the risk of accidents, the South African Bureau of Standards cannot accept any responsibility for any kind of damage or alleged damage in or about premises, areas or vehicles to which this part of SANS 10089 has been applied.
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The petroleum industry

Part 1:
Storage and distribution of petroleum products in above-ground bulk installations

1 Scope

1.1 This part of SANS 10089 covers the layout and design of petroleum bulk depots, and the installation of equipment of the types normally used for the handling, storage and distribution of petroleum products and their derivatives, other than equipment that is used for storage and dispensing on consumer premises (including service stations) and for which relevant standards exist.

1.2 A design will meet the requirements of this part of SANS 10089 if it complies with any one of the approved standards listed (see 2.1). However, such a standard shall be applied in its entirety (where applicable). For example, the product classification of one standard cannot be used in combination with the design of another standard.

NOTES

1 Examples of permits to be issued in relation to construction or repair work are given in annex C.

2 Recommendations specific to the handling and storage of liquefied petroleum gas (LPG) are given in SANS 10087-3. The recommended safety distances for the installation of LPG facilities are given in annex D.

3 The design of an interceptor (gravity separator) that has at least three chambers is described in annex B.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of SANS 10089. All documents are subject to revision and, since any reference to a normative document is deemed to be a reference to the latest edition of that document, parties to agreements based on this part of SANS 10089 are encouraged to take steps to ensure the use of the most recent editions of the documents indicated below. Information on currently valid national and international standards can be obtained from Standards South Africa.

2.1 Standards

API RP 2003, Protection against ignitions arising out of static, lightning, and stray currents.

API Spec 5L, Specification for line pipe.