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SANS 10142-1:2012

Edition 1.8

SOUTH AFRICAN NATIONAL STANDARD

The wiring of premises

Part 1: Low-voltage installations

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SANS 10142-1:2009

Edition 1.7

Table of changes

Change No.	Date	Scope
Amdt 1	Jan. 2003	Amended to change the number of the standard and the numbers of referenced standards, include a Regulator's Compliance Certificate (RCC) and specially tested assemblies (STA) as proof of compliance, clarify the requirements for distribution boards by adding definitions and a new annex (annex S), amend the requirements for surge protection, and change them to recommendations (included in annex L), amend the requirements for the bonding of antennas, delete the requirements for electric fences, change the requirements for extra low voltage lighting and delete the determination of earth resistance.
Tech corr. 1	March 2003	Changed to correct errors in the introduction, in 5.5.2 and in 6.6.1.21(a).
Amdt 2	Aug. 2003	Amended to remove the implementation date for proof of compliance of distribution boards.
Amdt 3	Dec. 2003	Amended to delete implementation requirements and references to specific national legislation from the normative part of the standard, rearrange the requirements for distribution boards, clarify the rating requirements for earth leakage units, add requirements for the connection of flexible cords and the indication of the position of the main switch, and to update normative references.

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(As amended 2008 and 2009)

Table of changes (*continued*)

Change No.	Date	Scope
Amdt 4	April 2005	Amended to update and add normative references, to change table 4.2 in respect of circuit-breakers, conduit, switch-disconnectors, transformers and watt-hour meters, to clarify requirements for disconnection, bonding, earthing, and underfloor heating, and to change the requirements for installations in agricultural locations and at swimming pools.
Amdt 5	May 2006	Amended to exclude caravans from the scope of the standard, and to delete annex A, to update referenced standards for socket-outlets and stove couplers, to clarify the accessibility of live parts and distribution boards, and the requirements for open wiring, busbars, prospective short-circuit current, and voltage drop calculations, to add information on the applicability of the values in the current rating and voltage drop tables for cables, and conditions for conductors under screed, buried cables, and inaccessible joints, and to amend the requirements for underfloor heating, telecommunication d.c. power systems, and marking and labelling.
Amdt 6	2008	Amended to update referenced standards, to change requirements for busbar systems, surge protective devices (SPDs) and circuit-breakers, to modify requirements for medical locations, and to add requirements for the connection of generating sets and other alternative sources of supply to an electrical installation.

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Table of changes (*concluded*)

Change No.	Date	Scope
Amdt 7	2009	Amended to change the current Certificate of Compliance (CoC) to a test report and to align references to the CoC in the text to refer to the test report.
Amdt 8	2012	Amended to update referenced standards, to add requirements for the installation of CFL lighting, to introduce a label to be fitted to distribution boards to indicate the position of the earthing terminal for bonding of other services, to add a warning related to the type and rating of replacement components of distribution boards, to require that new, added or altered installations comply with this part of SANS 10142, to change the requirements for voltage at available load, and to apply changes to the test report.

Foreword

This South African standard was approved by National Committee SABS SC 67F, *Electricity distribution systems and components – Installations*, in accordance with procedures of the SABS Standards Division, in compliance with annex 3 of the WTO/TBT agreement.

This document was approved in March 2012.

For new installations, this document supersedes SANS 10142-1:2009 (edition 1.7).

This edition is identified as edition 1.8 because it incorporates eight amendments. The number 1.8 appears only on the pages affected by amendment No. 8.

A vertical line in the margin shows where the text has been modified by the most recent change.

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(As amended 2009 and 2012)

The test report in edition 1.7 will be valid in parallel with the test report in edition 1.8 for a period of 12 months from the date of publication of edition 1.7.

With the first edition of this part of SANS 10142, the standard was subdivided and now consists of the following parts, under the general title *The wiring of premises*:

Part 1: Low-voltage installations.

Part 2: Medium-voltage installations above 1 kV a.c. not exceeding 22 kV a.c. and up to and including 3 000 kW installed capacity.

Table 4.2 contains a list of the applicable standards for the components that may be installed in an electrical installation.

In the fourth edition of SANS 10142 (SANS 10142:1993), the design and installation requirements appeared in two separate clauses. However, because of the close link between these clauses, in edition 1 of SANS 10142-1 (SANS 10142-1:2001), the design and installation requirements were combined and are now given in clause 6 as installation requirements. The tables on cables and correction factors have been expanded extensively to align with the current cable specifications and relevant IEC standards. All the fundamental requirements have been grouped together with the safety requirements and are given in clause 5 as fundamental requirements. Special installations or locations are given in clause 7.

The clause on medical locations (see 7.7) has been extended and replaces SABS 051-2.

Information on national legislation that applies only in South Africa is given in text boxes in the Introduction (see pages 3(a) and 3(b)), in 8.1, 8.2.4 and in the test report (see page 281).

The updating of this part of SANS 10142 is the responsibility of a working group under the supervision of Committee SABS SC 67F, *Electricity distribution systems and components – Installations*.

To ensure that this part of SANS 10142 is always up to date, amendments will be introduced regularly. Each change made to the text as a result of an amendment is/will be indicated in the margin by the number of the amendment.

Annex L is normative where surge protection is required or installed. Annexes B, C, D, E, F, G, J, K, L, M, N, O, P, Q and R are for information only.