CD/K/069-6:2009
ICS 13.060.20; 93.025

EAST AFRICAN STANDARD

Development, maintenance and management of groundwater resources — Part 6: The installation and commissioning of pumping equipment for production boreholes

EAST AFRICAN COMMUNITY

First Edition 2010

Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in East Africa. It is envisaged that through harmonized standardization, trade barriers which are encountered when goods and services are exchanged within the Community will be removed.

In order to meet the above objectives, the EAC Partner States have enacted an East African Standardization, Quality Assurance, Metrology and Test Act, 2006 (EAC SQMT Act, 2006) to make provisions for ensuring standardization, quality assurance, metrology and testing of products produced or originating in a third country and traded in the Community in order to facilitate industrial development and trade as well as helping to protect the health and safety of society and the environment in the Community.

East African Standards are formulated in accordance with the procedures established by the East African Standards Committee. The East African Standards Committee is established under the provisions of Article 4 of the EAC SQMT Act, 2006. The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the procedures of the Community.

Article 15(1) of the EAC SQMT Act, 2006 provides that "Within six months of the declaration of an East African Standard, the Partner States shall adopt, without deviation from the approved text of the standard, the East African Standard as a national standard and withdraw any existing national standard with similar scope and purpose".

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

East African Community

P O Box 1096

Arusha

Tanzania

Tel: 255 27 2504253/8

Fax: 255-27-2504481/2504255

E-Mail: eac@eachq.org

Web: www.each.int

Introduction

In the preparation of this East African Standard, the following source was consulted extensively:

SANS 10299-6:2009, *Development, maintenance and management of groundwater resources — Part 6: The installation and commissioning of pumping equipment for production boreholes*

Assistance derived from this source and others inadvertently not mentioned is hereby acknowledged.

ISBN 978-0-626-22190-4

SANS 10299-6:2009

Edition 1.2

Any reference to SABS 0299-6 is deemed
to be a reference to this standard
(Government Notice No. 1373 of 8 November 2002)

SOUTH AFRICAN NATIONAL STANDARD

Development, maintenance and management of groundwater resources

Part 6: The installation and commissioning of pumping equipment for production boreholes

Published by SABS Standards Division
1 Dr Lategan Road Groenkloof ✉ Private Bag X191 Pretoria 0001
Tel: +27 12 428 7911 Fax: +27 12 344 1568
www.sabs.co.za

SANS 10299-6:2009
Edition 1.2

Table of changes

Change No.	Date	Scope
Amdt 1	2003	Amended to update referenced standards and to delete the definitions, since reference has now been made to SANS 10299-0.
Amdt 2	2009	Amended to change the designation of SABS standards to SANS standards, to update the introductory paragraph to the normative references clause, to update referenced standards, and to move reference to national legislation to the foreword.

Foreword

This South African standard was approved by National Committee SABS SC 138B, *Water supply and sanitation – Equipment and systems – Ground water extraction*, in accordance with procedures of the SABS Standards Division, in compliance with annex 3 of the WTO/TBT agreement.

This document was published in January 2009. This document supersedes SANS 10299-6:2003 (edition 1.1).

Reference is made in the note to 5.1.5 to "relevant national legislation". In South Africa this means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993). **Amdt 2**

A vertical line in the margin shows where the text has been technically modified by amendment No. 2.

SANS 10299 consists of the following parts, under the general title *Development, maintenance and management of groundwater resources:*

Part 0: Glossary of terms.

Part 1: The location and siting of water boreholes.

Part 2: The design, construction and drilling of boreholes.

Part 4: Test-pumping of water boreholes.

Part 5: The design, selection and performance of pumping equipment for production boreholes.

Part 6: The installation and commissioning of pumping equipment for production boreholes.

Part 7: The rehabilitation of water boreholes.

Part 8: The management of water boreholes.

Part 9: The decommissioning of water boreholes.

Annex A forms an integral part of this part of SANS 10299. Annex B is for information only.

Contents

This page is intentionally left blank

SANS 10299-6:2009
Edition 1.2

Development, maintenance and management of groundwater resources

Part 6:
The installation and commissioning of pumping equipment for production boreholes

1 Scope

1.1 This part of SANS 10299 covers the installation and commissioning of pumping equipment intended for production boreholes.

1.2 It does not cover equipment for boreholes intended for exploration, dewatering or monitoring purposes.

1.3 It also does not cover the installation or commissioning of any surface delivery piping, distribution systems or storage facilities.

NOTE For the installation and commissioning of major distribution systems, it is recommended that designers consult the appropriate part of SANS 1200.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies. Information on currently valid national and international standards can be obtained from SABS Standards Division. **Amdt 2**

~~DIN VDE 0278-623, *Power cable accessories with rated voltages U up to 30 kV (U_m up to 36 kV) – Part 623: Specification for joints, stop ends and outdoor terminations for distribution cables of rated voltage 0,6/1 kV; German version HD 623 S1:1996.*~~ **Amdt 1; amdt 2**

~~EN 50393, *Test methods and requirements for accessories for use on distribution cables of rated voltage 0,6/1,0 (1,2)kV.*~~ **Amdt 2**

SANS 1507-1, *Electric cables with extruded solid dielectric insulation for fixed installations (300/500 V to 1 900/3 300 V) – Part 1: General.* **Amdt 1**

SANS 10142-1, *The wiring of premises – Part 1: Low-voltage installations.* **Amdt 1**

SANS 10299-0, *Development, maintenance and management of groundwater resources – Part 0: Glossary of terms.* **Amdt 1**

SANS 10299-4, *Development, maintenance and management of groundwater resources – Part 4: Test-pumping of water boreholes.*

SANS 10299-5, *Development, maintenance and management of groundwater resources – Part 5: The design, selection and performance of pumping equipment for production boreholes.*

SANS 60934/IEC 60934, *Circuit-breakers for equipment (CBE).*

SANS 60947-2/IEC 60947-2, *Low-voltage switchgear and controlgear – Part 2: Circuit-breakers.*

SANS 62305-3/IEC 62305-3, *Protection against lightning – Part 3: Physical damage to structures and life hazard.*

SANS 767-1 (SABS 767-1), *Earth leakage protection units – Part 1: Fixed earth leakage protection circuit-breakers.*

~~SANS 61024-1/IEC 61024-1 (SABS IEC 61024-1), *Protection of structures against lightning – Part 1: General principles.*~~ **Amdt 2**

3 Definitions

For the purposes of this part of SANS 10299, the definitions given in SANS 10299-0 apply. **Amdt 1**

4 General requirements

4.1 Design, selection and performance

The design, selection and performance of the equipment shall be in accordance with the requirements given in SANS 10299-5.

4.2 General installation requirements

4.2.1 General

To ensure effective installation and commissioning of the pumping equipment, the specific details of the borehole parameters (see SANS 10299-4) and of the pumping equipment (see SANS 10299-5), together with the design certificate (see annex A), shall be evaluated by the installer during installation.

4.2.2 Details of borehole

The test-pumping details of the borehole, determined in accordance with SANS 10299-4, shall be given on the appropriate test certificate described in SANS 10299-4 and shall be made available to the installer by the owner before installation commences.

4.2.3 Details of pumping plant design

The information given on the design certificate (see annex A) shall be made available by the owner to the installer in order for the installation to be carried out efficiently.

4.2.4 Inspection and confirmation

Before the installer starts on any installation, he shall

a) verify the water level and the depth of the borehole,

b) ensure that the borehole is free of any restrictions to its full depth,

c) inspect all equipment on site, to ensure that it complies with the details on the design certificate and with the information given on the various delivery notes,

d) ensure that equipment is stored or protected against damage in an acceptable manner,

e) ensure that he is in possession of all the relevant and applicable details and information regarding the borehole pumping equipment and systems design (see SANS 10299-5), and

f) in the case of an electric power supply, verify that the supply complies with requested and design criteria in respect of voltage and power.

4.2.5 Water quality and protection

The installer shall determine (from the owner)

a) whether the water quality is to be confirmed before installation commences and, if so required, appropriate water samples shall be collected and tested by an approved test station, and

b) whether the surface around the borehole is to be protected against, or developed for, pollution control in any specific manner. If so required, the appropriate and agreed method of protection shall be applied.

NOTE The cost for such evaluation is for the account of the owner.

5 Specific installation requirements

The installer shall carry out the installation in an acceptable manner, as follows:

5.1 Installation of mechanical components

5.1.1 Ensure that the materials delivery note, the systems design certificate (see annex A) and the borehole test report (see SANS 10299-4) are available.

5.1.2 From the information on the materials delivery note, the systems design certificate and the borehole test report, verify

a) that all the required equipment has been delivered and is on site,

b) that the equipment complies with the details indicated,

c) that, in the case of plastics rising mains, the type and class of the pipes are correct. Also verify that the surface of the pipework is free of cut marks that might have been caused by the pipes' having been dragged along the ground,

d) that the equipment is in an acceptable condition and is undamaged, and

e) the condition of the borehole. This might be necessary if a long time has elapsed since the borehole was drilled or if the borehole is found in an unsealed condition. In such cases it might be necessary to rehabilitate the borehole before any installation commences (see SANS 10299-7).

5.1.3 Make a note of all failures and non-compliances and report these to the owner, in writing.

5.1.4 Ensure that all the failures and non-compliances noted in 5.1.3 have been rectified and that damaged and incorrect material has been replaced before installation commences.

5.1.5 Ensure that the correct installation equipment and tools are available and that they are in an acceptable condition and state of repair. Take particular care to ensure that the quality and rating of lifting equipment are suitable for the purpose.

NOTE Poor and faulty lifting equipment could endanger the lives of installers or cause the loss of equipment – refer to the relevant national legislation (see foreword). **Amdt 2**

5.1.6 Take particular care with the making of joints in any type of rising main. Ensure that the joint is watertight and suitably torqued to guarantee a rigid, durable and permanent connection. Ensure that any sealing compounds, when used, are effectively applied and are non-toxic.

5.1.7 Where so specified by the pump supplier or systems designer, as relevant, furnish the rising main with column stabilizers of acceptable quantity and design and installed at the levels indicated by the pump manufacturer.

5.1.8 Ensure that the rising main is rigidly, safely and efficiently secured at the top of the borehole by means of a pump head, base plate or other delivery connection, which shall be part of the original design.

NOTE Rising mains shall be capable of supporting their total filled mass together with the mass of all components of the pumping equipment without additional means of support such as cables.

5.1.9 Place the inlet of the pump at a depth of at least 3 m above the bottom of the borehole or the higher of the following:

a) any slotted casings or screens; and

b) the point of inflow.

If, in the case of submersible pumps, the depth setting does not allow upflow of water past the motor, install a flow inducer tube or other acceptable flow inducer around the pump.

5.1.10 If, owing to circumstances, the pump has to be placed at a depth of less than 3 m from the bottom of the borehole, this fact, the actual depth of installation and the reason for the difference shall be given on the design certificate (see annex A).

5.1.11 When the pump is accompanied by a specific test report (see 7.2 of SANS 10299-5), check the test report and verify the particulars of the pump (and motor) in terms of the report before installation commences.

5.1.12 In the case of a submersible pump without a non-return valve as an integral part of the pump, furnish the rising main with a non-return valve installed just above the pump in order to prevent any reverse rotation of the pump and motor when the power is switched off.

5.1.13 During the installation of submersible pumps, take care not to damage the drop cable. The cable shall always be free and shall be tied to the rising main at regular intervals (not exceeding 6 m) with acceptable cable ties or bonding material, which will ensure that, if the pump is removed for inspection or repair, the cable does not become jammed or damaged.

The pump shall be lowered and removed by means of the rising main. No load shall be placed on the drop cable and when the pump has reached its design depth and has been fixed in position, the drop cable shall be allowed an extra free length of at least 1 m. This will ensure that any lowering of the pump owing to the settling of the rising main does not cause stressing of the drop cable.

5.2 Installation of electrical components

5.2.1 Delivery note

Ensure that the materials delivery note and the systems design certificate (with all electrical details specified) have been made available.

5.2.2 Information

From the information on the materials delivery note and the systems design certificate, verify that

a) all the required equipment has been delivered,

b) the rating and quality comply with the details indicated on the design certificate, and

c) the equipment has not been damaged.

5.2.3 Cable joints

Use submerged cable joints of the encapsulated epoxy type that comply with EN 50393. |

Amdt 1; amdt 2

5.2.4 Electric motors

5.2.4.1 Motor isolation

All surface-mounted electric motors shall be capable of being isolated from a point within sight of and within 3 m of the motor and the equipment driven by the motor.

5.2.4.2 Protection of electric motors

Each electric motor shall be protected by a circuit-breaker that is rated for the full load current of the motor and that is fitted with a magnetic and thermal overload protection unit that, after tripping, requires only manual resetting. Circuit-breakers shall comply with SANS 60934 and SANS 60947-2.

5.2.4.3 Overload protection devices

Ensure that all overload protection devices are adjusted to trip within 10 s of the development of an electric fault.

5.2.4.4 Three-phase starters

Ensure that each three-phase starter is furnished with a nameplate identical with that of the motor.

5.2.4.5 Surge arrestors

Ensure that each 220/240 V single-phase system is protected by two surge arrestors, one on the live and one on the neutral. Furnish 380 V three-phase systems with four arrestors – one per phase and one on the neutral. If the run of the cable from the control box to the wellhead exceeds 1 m, install a surge arrestor at both ends of the cable.

Surge arrestors used for the protection of 220/380 V systems shall have a rated voltage of 440 V and a nominal surge discharge current of 5 kA.

5.2.4.6 Earthing of components

Ensure that all exposed metal parts, including cable armour, metal casings and motor jackets are maintained at earth potential by means of an earthing method in accordance with SANS 62305-3 and SANS 62305-1. This method shall include a connection back to the earth point of the supply authority, the bonding of both ends of the cable armour, and preferably an additional external earthing conductor outside the surface cable from the control box bonded direct to the metal borehole casing. **Amdt 2**

5.2.4.7 Cables

5.2.4.7.1 Cables shall comply with the requirements of SANS 1507-1. **Amdt 1**

5.2.4.7.2 The size and length of cables for motors of diameter 100 mm and 150 mm shall be as given in table 1 for 220 V motors and in table 2 for 380 V motors. In the case of larger motors, the size and length shall be as given by the pump supplier.

5.2.4.7.3 Surface cables shall be armoured.

5.2.4.7.4 In the case of submersible pumps only, four-core cables shall be used, with the fourth core acting as the earth core.

Table 1 — Single-phase motor — Maximum length of copper cable

1	2	3	4	5	6	7	8	9	10	11	12
Motor rating at 220 V and 50 Hz kW	**Cable size** mm^2										
	1,5	**2,5**	**4**	**6**	**10**	**16**	**25**	**35**	**50**	**70**	**95**
	Maximum length of cable m										
0,25	170	280	450	670	1 130	1 750	2 640	3 590	4 940	6 560	8 110
0,37	120	200	320	480	810	1 260	1 900	2 590	3 580	4 770	5 920
0,55	80	130	220	320	550	850	1 290	1 760	2 430	3 230	4 000
0,75	60	100	170	250	430	670	1 010	1 380	1 910	2 550	3 160
1,1	40	70	120	180	300	470	710	980	1 360	1 850	2 320
1,5	30	60	90	130	230	360	550	760	1 060	1 440	1 820
2,2	20	40	60	90	150	230	350	490	680	920	1 160
NOTE These are maximum lengths of cable, in metres, from power source to motor.											

Table 2 — Three-phase motor — Maximum length of three-wire copper cable

1	2	3	4	5	6	7	8	9	10	11	12
Motor rating at 380 V and 50 Hz kW	**Cable size** mm^2										
	1,5	**2,5**	**4**	**6**	**10**	**16**	**25**	**35**	**50**	**70**	**95**
	Maximum length of cable m										
0,37	810	1 350	2 160	3 240	5 500	8 530					
0,55	550	920	1 480	2 230	3 780	5 860	8 890				
0,75	410	680	1 090	1 640	2 780	4 330	6 570	9 010			
1,1	300	500	810	1 210	2 060	3 200	4 850	6 640	9 220		
1,5	220	370	590	880	1 500	2 340	3 560	4 890	6 830	9 230	
2,2	150	250	400	600	1 030	1 600	2 440	3 350	4 680	6 340	7 990
3	110	190	310	460	790	1 230	1 880	2 590	3 630	4 930	6 230
3,7	90	150	240	370	630	980	1 490	2 050	2 870	3 900	4 920
4	80	140	230	340	590	920	1 390	1 910	2 670	3 600	4 520
5,5	60	110	170	260	440	690	1 060	1 450	2 030	2 750	3 460
7,5	50	80	130	200	340	530	810	1 110	1 560	2 120	2 680
11		50	90	130	230	360	550	750	1 060	1 440	1 820
15			70	100	170	270	410	570	800	1 080	1 370
18,5				80	140	210	330	450	630	860	1 090
22				70	120	180	280	380	540	740	930
30					90	130	210	280	400	540	680
37						110	170	230	320	440	550
NOTE These are maximum lengths of cable, in metres, from power source to motor.											

5.2.4.8 Control of cable damage

To ensure that the pump cable of a submersible pump is not damaged during installation, check the resistance of the pump and cable at regular intervals during installation.

5.2.4.9 Low-water-level protection

Install acceptable low-water-level protection devices on all pumps to protect the pumps against damage due to reduced water levels.

5.2.4.10 Earth leakage protection

Ensure that plant is protected against leakage currents by the installation of an earth leakage protection circuit-breaker that complies with SANS 767-1.

5.2.4.11 Requirements for wiring

Ensure that all electric wiring is carried out in accordance with SANS 10142-1. **Amdt 1**

5.2.4.12 Requirements for connection to mains supply

Final connection to the mains supply shall be carried out under the direct control of a licensed electrical contractor and in accordance with local regulations and specifications.

5.3 Foundations

5.3.1 Foundations for pumps, motors and engines, when applicable, shall be constructed in accordance with the instructions of the manufacturer concerned.

5.3.2 The top of the borehole shall be so finished that the entry of foreign matter is prevented.

5.4 Commissioning

5.4.1 Before initial start-up verify that

a) all moving components are free to operate,

b) all components that are mounted on the foundation are bolted down rigidly and in an acceptable manner,

c) the direction of rotation is correct, and

d) in the case of electrical systems, all safety control units are in place and, when necessary, correctly adjusted.

5.4.2 In major pumping plants, or in plants under the jurisdiction of a contract consultant, do not carry out initial start-up before

a) the entire electrical installation has been inspected, tested and passed (in writing) by the electrical authority that has jurisdiction, and

b) the mechanical plant has been inspected, and passed (in writing) by the contract consultant.

5.4.3 After start-up, verify the operating characteristics of the pumping plant and compare with the original design details given on the design certificate, as follows:

a) install an approved flowmeter or flow measuring device at the outlet of the pumping plant, open the outlet control valve fully, measure the rate of delivery of the pumping plant and check for compliance with the design details;

b) allow the system to operate for 30 min and during this period check for any overheating or malfunctioning of any component; and

c) in the case of electrically driven pumping plants, measure the voltage across the motor and check the full-load current. Compare with the design details or with the information given on the motor data plate.

5.4.4 After all inspections have been carried out, verify that the plant operates in an acceptable manner in all respects and sign the design certificate (see annex A).

5.4.5 In major pumping plants, certain information shall be indicated permanently in a position near the borehole. The details, the method of application, and position of application shall be as specified by the owner.

Annex A
(normative)

Design information and design certificate

The information on the following design certificate is an exact copy of the information that appears on the design certificate given in annex A of SANS 10299-5 and that shall be in the possession of the owner.

Before any attempt is made to install the pumping equipment, the installer shall obtain a copy of the certificate from the owner. The installation shall be carried out strictly in accordance with the appropriate information given on the certificate.

After satisfactory commissioning of the pumping plant, the installer shall sign the copy of the certificate and hand it over to the owner.

The signed certificate will be considered to be the official agreement between the installer and the owner that the plant is operating in an acceptable manner.

Design certificate for pumping equipment

A. General 1) The borehole number 2) The address at which the borehole is situated 3) The name of the owner 4) Have the details of the borehole characteristics been made available for design purposes? 5) Is a copy of the document on borehole characteristics attached? 6) Total depth of borehole 7) Pump/cylinder depth 8) Discharge capacity 9) Pressure head at ground level (when relevant)	
B. Hand pumps 1) Rotary or reciprocating 2) Type 3) Make	
C. Windmill 1) Type and make 2) Size of wheel 3) Height of windmill stand 4) Size of pump cylinder 5) Size of pump rods	
D. Power-driven pump 1) Type 2) Make 3) Size 4) Description 5) Pump drive speed	
E. Drive Make, type, size and model of electric motor or engine	
F. Rising main 1) Total length of rising main 2) Exact or random lengths 3) Nominal diameter (size) of rising main 4) Type and grade of material of rising main 5) Pressure rating of rising main	
G. Plastics rising main 1) What type of hose is used? 2) What type of joint is used – plastics to plastics or plastics to steel?	
H. Non-return valve (for submersible pumps) Where is the non-return valve positioned?	
I. Details of electric equipment 1) Voltage rating 2) Current rating 3) Type of cable 4) Rating of cable 5) Length of cable from power supply point 6) Type, make and rating of switchgear 7) Type, make and rating of starters 8) Are lightning protectors supplied? 9) Describe any other safety equipment supplied a) b) c)	
J. Information regarding particular details of installation	

Annex B
(informative)

Bibliography

ISO 9906, *Rotodynamic pumps – Hydraulic performance acceptance tests – Grades 1 and 2.*
Amdt 1

~~SABS 152, *Low-voltage air-break switches, air-break disconnectors, air-break switch-disconnectors, and fuse-combination units.*~~
Amdt 1

~~SABS 533-2, *Black polyethylene pipes for the conveyance of liquids – Part 2: High density black polyethylene pressure pipes*.~~
Amdt 1

SANS 62-1, *Steel pipes – Part 1: Pipes suitable for threading and of nominal size not exceeding 150 mm.*
Amdt 1

SANS 62-2 (SABS 62-2), *Steel pipes – Part 2: Screwed pieces and pipe fittings of nominal size not exceeding 150 mm.*
Amdt 1

SANS 664 (SABS 664), *Cast iron gate valves for waterworks.*

SANS 665 (SABS 665), *Cast iron gate valves for general purposes.*

SANS 776, *Copper alloy gate valves – Heavy duty.*

SANS 1056-2, *Ball valves – Part 2: Heavy duty valves (not fire-safe).*

SANS 1056-3, *Ball valves – Part 3: Light duty valves (not fire-safe).*

SANS 1062 (SABS 1062), *Pressure and vacuum gauges.*

SANS 1200 (SABS 1200) (all parts), *Standardized specification for civil engineering construction.*

SANS 4427/ISO 4427 (SABS ISO 4427), *Polyethylene (PE) pipes for water supply – Specifications.*
Amdt 1

SANS 10299-7, *Development, maintenance and management of groundwater resources – Part 7: The rehabilitation of water boreholes.*

SANS 60947-3/IEC 60947-3, *Low-voltage switchgear and controlgear – Part 3: Switches, disconnectors, switch-connectors, and fuse-combination units.*
Amdt 1

This page has been left blank intentionally

SABS – Standards Division

The objective of the SABS Standards Division is to develop, promote and maintain South African National Standards. This objective is incorporated in the Standards Act, 2008 (Act No. 8 of 2008).

Amendments and Revisions

South African National Standards are updated by amendment or revision. Users of South African National Standards should ensure that they possess the latest amendments or editions.

The SABS continuously strives to improve the quality of its products and services and would therefore be grateful if anyone finding an inaccuracy or ambiguity while using this standard would inform the secretary of the technical committee responsible, the identity of which can be found in the foreword.
Tel: +27 (0) 12 428 6666 Fax: +27 (0) 12 428 6928

The SABS offers an individual notification service, which ensures that subscribers automatically receive notification regarding amendments and revisions to South African National Standards.
Tel: +27 (0) 12 428 6883 Fax: +27 (0) 12 428 6928 E-mail: sales@sabs.co.za

Buying Standards

Contact the Sales Office for South African and international standards, which are available in both electronic and hardcopy format.
Tel: +27 (0) 12 428 6883 Fax: +27 (0) 12 428 6928 E-mail: sales@sabs.co.za
South African National Standards are also available online from the SABS website http://www.sabs.co.za

Information on Standards

The Standards Information Centre provides a wide range of standards-related information on both national and international standards, and is the official WTO/TBT enquiry point for South Africa. The Centre also offers an individual updating service called INFOPLUS, which ensures that subscribers automatically receive notification regarding amendments to, and revisions of, international standards.
Tel: +27 (0) 12 428 6666 Fax: +27 (0) 12 428 6928 E-mail: info@sabs.co.za

Copyright

Details and advice can be obtained from the Senior Manager.
Tel: +27 (0) 12 428 6666 Fax: +27 (0) 12 428 6928 E-mail: info@sabs.co.za