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SANS 10400-D:2020

Edition 4

SOUTH AFRICAN NATIONAL STANDARD

The application of the National Building Regulations

Part D: Public safety

WARNING
This document references other documents normatively.

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Table of changes

Change No.	Date	Scope

Foreword

This South African standard was prepared by National Committee SABS/TC 060, *Standards which address the National Building Regulations (NBRS)*, in accordance with procedures of the South African Bureau of Standards, in compliance with annex 3 of the WTO/TBT agreement.

This document was approved for publication in May 2020.

This document supersedes SANS 10400-D: 2016 (edition 3.1).

Compliance with this document cannot confer immunity from legal obligations.

Compliance with the requirements of this document will be deemed to be compliance with the requirements of part D of the National Building Regulations, issued in terms of the National Building Regulations and Building Standards Act, 1977 (Act No. 103 of 1977).

SANS 10400 consists of the following parts, under the general title *The application of the National Building Regulations*:

Part A: General principles and requirements.

Part B: Structural design.

Part C: Dimensions.

Part D: Public safety.

Part F: Site operations.

Part G: Excavations.

Part H: Foundations.

Part J: Floors.

Part K: Walls.

Part L: Roofs.

Part M: Stairways. Part N: Glazing.

Part O: Lighting and ventilation.

Part P: Drainage.

Part Q: Non-water-borne means of sanitary disposal.

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Foreword *(concluded)*

Part R: Stormwater disposal.

Part S: Facilities for persons with disabilities.

Part T: Fire protection.

Part V: Space heating.

Part W: Fire installation.

Part XA: Energy usage in buildings.

Introduction

The functional regulations contained in part D of the National Building Regulations are as follows:

NATIONAL BUILDING REGULATIONS

PART D – PUBLIC SAFETY

D1 CHANGE IN LEVEL

The protection of the edge of any balcony, bridge, flat roof of similar place shall be designed to prevent any person from falling from such balcony, bridge, flat roof or similar place.

D2 PEDESTRIAN ENTRANCES TO PARKING AREAS IN BUILDINGS

Where any pedestrian entrance is provided to a vehicle parking area in any building, such entrance shall be so positioned, marked or protected that no pedestrian can unintentionally walk into the path of any moving vehicle: Provided that this requirement shall not apply in respect of any building classified as H4 in terms of regulation A20.

D3 RAMPS

Any ramp or driveway shall be so designed that it is safe when used and is fit for the purpose for which it is intended.

D4 SWIMMING POOLS AND SWIMMING BATHS

(1) The owner of any site which contains a swimming pool shall ensure that access to such swimming pool is controlled.

(2) Any owner who fails to comply with the requirement of sub-regulation 1 shall be guilty of an offence.

D5 DEEMED-TO-SATISFY REQUIREMENTS

The requirements of regulations D1, D3 and D4 shall be deemed to be satisfied where change in level, the design of ramps and driveways, or access to swimming pools, as the case may be, complies with SANS 10400-D.

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The application of the National Building Regulations

Part D: Public safety

1 Scope

1.1 This part of SANS 10400 provides deemed-to-satisfy requirements for compliance with part D (Public Safety) of the National Building Regulations.

2 Normative references

The following referenced documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 the South African Bureau of Standards.

SANS 10400-A, *The application of the National Building Regulations – Part A: General principles and requirements.*

SANS 10400-B, *The application of the National Building Regulations – Part B: Structural design.*

SANS 10400-S, *The application of the National Building Regulations – Part S: Facilities for persons with disabilities.*

3 Definitions

For the purposes of this document, the definitions given in SANS 10400-A (some of which are repeated for convenience) and the following apply.

3.1

arresting device

permanent device forming part of the pool design to prevent injury to a person falling from falling an outside edge of a rimless pool

3.2

barrier

all walls, curtain walls, partitions, balustrades and all glazed areas, whether permanent or temporary, intended to act as a barrier to prevent people from falling

3.3

deemed-to-satisfy requirement

non-mandatory requirement, the compliance with which ensures compliance with a functional regulation

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3.4

functional regulation

regulation that sets out in qualitative terms what is required of a building or building element or building component in respect of a particular characteristic, without specifying the method of construction, dimensions or materials to be used

3.5

handrail

rail used in circulation areas, such as corridors, passageways, ramps or stairways, to provide support and assist continuous and safe movement of occupants of a building

3.6

rimless pool

reflecting or swimming pool where the water flows over one or more edges, producing a visual effect of water with no boundary

NOTE Such pools are often designed such that the edge appears to merge with larger body of water or with the sky.

3.8

site

erf, lot, plot, stand or other piece of land on which a building has been, is being or is to be erected

3.9

street boundary

boundary of a site which abuts any street

4 Requirements

4.1 General

4.1.1 The functional regulations contained in part D of the National Building Regulations (depicted in the foreword) shall be deemed to be satisfied where a change in level, the design of ramps and driveways, or access to swimming pools and swimming baths comply with the requirements of 4.2, 4.3 and 4.4, respectively.

4.1.2 Barriers shall be designed to resist the corrosivity of the environment in which they are erected.

4.1.3 Barriers shall be inspected at regular intervals. Any element, connection or anchorage showing any possible loss of effectiveness or structural integrity shall be restored or replaced.

4.1.4 Barriers shall not include components with sharp projections or edges that may cause injury or tear clothing.

4.1.5 Barriers in public arrears and open spaces shall be clearly visible from a distance of 7,5 m so as to avoid injury to persons running into them. The minimum dimension clearly visible from 7,5 m is 20 mm element thinner than 20 mm to have signs attached, at regular intervals so as to be visible from 7,5 m.

4.1.6 Flexible elements e.g. cables and ropes, shall be maintained under tension so as not to impinge on the spacing requirements of elements.

4.2 Change in level

4.2.1 Any barrier provided to protect a change in level shall comply with the requirements of SANS 10400-B.

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4.2.2 The edge of any balcony, bridge, flat roof, floor, walkway or similar accessible thoroughfare more than 1 m above the adjacent level shall be provided with a barrier not less than 1 m in height, unless unauthorized access of persons thereto has been excluded by a permanent physical barrier properly erected and maintained.

NOTE This requirement does not apply to any change in level that is contained within an area protected as depicted in figure 2 on a site which contains a building occupancy classified H4 or a similarly enclosed singular H3 dwelling unit.

4.2.3 The edge of any balcony, bridge, flat roof, floor, walkway or similar accessible thoroughfare more than 600 mm above the adjacent ground or floor level shall be provided with a handrail not less than 900 mm in height unless unauthorized access of persons thereto has been excluded by a permanent physical barrier properly erected and maintained.

NOTE This requirement does not apply to any change in level that is contained within an area protected as depicted in figure 2 on a site which contains a building occupancy classified H4 or similarly enclosed singular H3 dwelling unit.

4.2.4 In the case of an interior balcony or a mezzanine floor, such balcony or floor shall be provided with a barrier not less than 1 m in height, provided that where such balcony or floor is used for public seating in rows such height may be reduced to not less than 800 mm immediately opposite the seating in the front row.

4.2.5 A barrier provided as protection at a change in level in any occupancy excluding those classified as A1, A2, A3, A4, C1, C2, E2, E3, E4, F1, F2, F3, G1, H1, H2 and H5 (as defined in SANS 10400-A) shall not have any opening that permits the passage of a 100 mm diameter ball.

4.2.6 A barrier provided in any occupancy classified as A5, B1, B2, B3, D1, D2, D3, D4, E1 and uncontrolled areas within H3, and H4 shall consist of at least a handrail and one other rail midway between such handrail and the floor.

NOTE Complying with 4.2 might not prevent children from climbing onto or over such barrier and the designer should take cognizance of this.

4.3 Ramps and driveways

In any building that is not a building classified as H4, or on any site on which such building is situated, any

- a) ramp or driveway used by motor vehicles shall have a gradient of not more than 1 in 25 within a distance of 5 m from any street boundary crossed by such ramp or driveway (see figure 1);
- b) ramp or driveway used by pedestrians shall be in accordance with the requirements of SANS 10400-S; and
- c) ramp designed for use by both vehicles and pedestrians shall have a walkway not less than 1,2 m wide which shall be provided with a kerb not less than 150 mm high between the walkway and the vehicle ramp.

NOTE Access provided to properties classified as H4 from the street cannot in all aspects satisfy the requirements for ramps and should be considered to be access to the property only.

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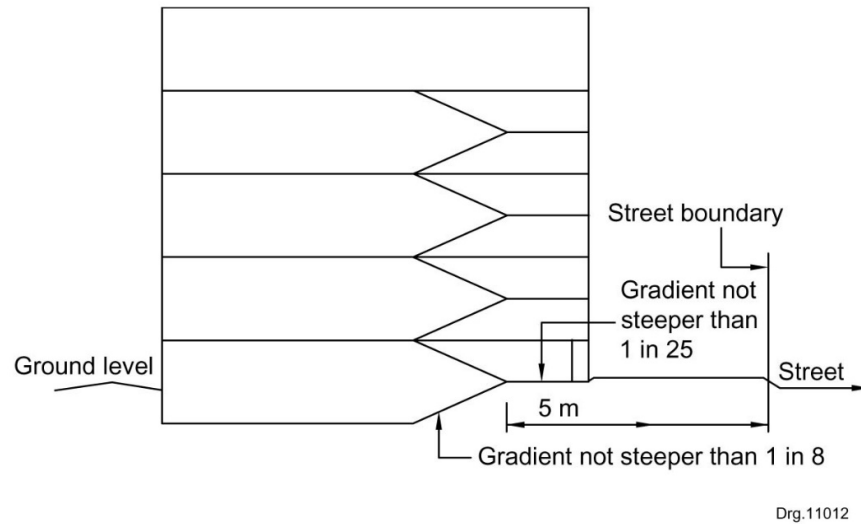


Figure 1 — Motor vehicle ramp or driveway

4.4 Swimming pools and swimming baths

4.4.1 A wall, fence or barrier shall be provided by the owner of a H4 site which contains a swimming pool or a swimming bath to ensure that no person can have access to such pool or bath from any street or public place or any adjoining site other than through (see figure 2),

- a) a self-closing and self-latching gate with provision for locking in such wall or fence, or
- b) a building where such building forms part of such wall or fence.

4.4.2 A wall, fence or barrier shall be provided in any complex or building that is not classified as H4 which contains a swimming pool or swimming bath to ensure that no person can have access to such pool or bath from any street or public place or anywhere within the complex other than through a self-closing and self-latching gate with provision for locking in such wall or fence.

4.4.3 Such wall, fence or barrier and any such gate therein shall be not less than 1,2 m high measured from the adjacent level and shall not contain any opening that will permit the passage of a 100 mm diameter ball and shall not provide any form of foothold.

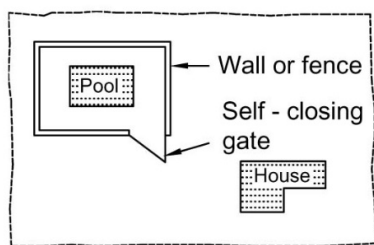
4.4.4 The design of a gate shall be such, that after its installation, it shall not be possible to open the gate towards the swimming pool.

4.4.5 Each gate shall be fitted with a rising hinge, a spring or other acceptable self-closing device, self-latching device and locking device.

4.4.6 The hinges of a gate shall be positioned at least 900 mm apart and the latching and locking device shall be fitted to the pool side of the gate in the highest position possible.

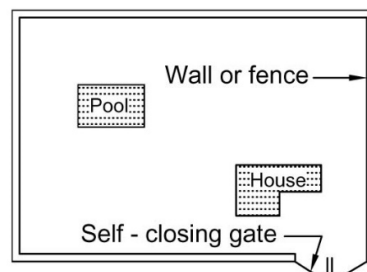
4.4.7 Rimless pools, where the change in level between the edge of the pool rim and the adjacent natural ground level exceeds 1 m, shall have a permanent arresting device incorporated as part of the pool design.

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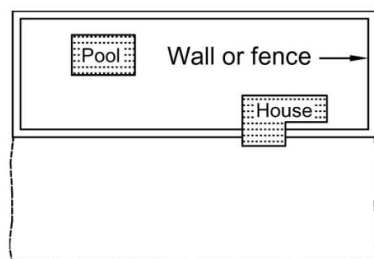
Drg.11013

a) **Enclosure around pool**



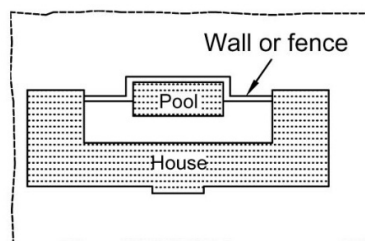
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b) **Enclosure around boundary of property**



Drg.11013b

c) **Enclosure formed on part of property**



Drg.11013c

d) **Enclosure linked to house**

Figure 2 — Examples of safe swimming pool enclosure