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**SANS 953-2:2003**

Edition 1.1

Any reference to SABS 953-2 is deemed  
to be a reference to this standard  
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# **SOUTH AFRICAN NATIONAL STANDARD**

## **Storage of firearms and ammunition**

### **Part 2: Strongrooms**

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### **Table of changes**

<b>Change No.</b>	<b>Date</b>	<b>Scope</b>
Amdt 1	2003-03-28	Amended to update a referenced standard to align it with the international standard.

### **Foreword**

This South African standard was approved by National Committee STANSA TC 5120.14, *Security*, in accordance with procedures of Standards South Africa, in compliance with annex 3 of the WTO/TBT agreement.

This edition cancels and replaces edition 1 (SABS 953-2:2000).

A vertical line in the margin shows where the text has been modified by amendment No. 1.

SANS 953 consists of the following parts under the general title *Storage of firearms and ammunition*:

*Part 1: Safes.*

*Part 2: Strongrooms.*

*Part 3: Safekeeping devices.* (In course of preparation.)

Annex A forms an integral part of this part of SANS 953.

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## **Storage of firearms and ammunition**

### **Part 2:** **Strongrooms**

#### **1 Scope**

This standard specifies the requirements for two categories of strongrooms intended for the storage of firearms and their ammunition.

#### **2 Normative references**

The following standards contain provisions which, through reference in this text, constitute provisions of this part of SANS 953. All standards are subject to revision and, since any reference to a standard is deemed to be a reference to the latest edition of that standard, parties to agreements based on this part of SANS 953 are encouraged to take steps to ensure the use of the most recent editions of the standards indicated below. Information on currently valid national and international standards can be obtained from Standards South Africa.

SANS 227 (SABS 227), *Burnt clay masonry units.*

SANS 920 (SABS 920), *Steel bars for concrete reinforcement.*

SANS 949 (SABS 949), *Strongroom and vault doors.*

SANS 1024 (SABS 1024), *Welded steel fabric for reinforcement of concrete.*

SANS 1083 (SABS 1083), *Aggregates from natural sources – Aggregates for concrete.*

SANS 1090 (SABS 1090), *Aggregates from natural sources – Fine aggregates for plaster and mortar.*

SANS 1215 (SABS 1215), *Concrete masonry units.*

SANS 10400 (SABS 0400), *The application of the National Building Regulations.*

SANS 50197-1/EN 197-1 (SABS EN 197-1), *Cement – Part 1: Composition, specifications and conformity criteria for common cements.*

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### **3 Definitions**

For the purposes of this part of SANS 953, the definitions given in SANS 953-1 (SABS 953-1) and the following definitions apply:

#### **3.1**

**competent person**

a registered architect or professional engineer

#### **3.2**

**strongroom**

a room that is designed to protect firearms and ammunition against theft and fire

#### **3.3**

**strongroom door**

the complete lockable door and door frame assembly comprising:

- a) **the door:** the moveable part, as distinct from the door frame; and
- b) **the door frame:** the fixed part (built into the vault wall) on which the door hangs and against which it closes

### **4 Requirements**

#### **4.1 General**

Strongrooms shall be so designed and constructed that the various components offer a similar degree of resistance to fire and burglary.

#### **4.2 Classification**

For the purposes of this standard, strongrooms intended for the storage of firearms and ammunition are divided into the following two categories (see annex A.1):

a) **Category BC (brick and concrete construction) strongroom**

A strongroom in which the walls are constructed of brick outer and inner skins reinforced with a concrete core.

b) **Category RC (reinforced concrete) strongroom**

A strongroom in which the walls are constructed entirely of reinforced concrete.

## **4.3 Design**

### **4.3.1 Category BC strongroom**

#### **4.3.1.1 Floors at ground floor level**

The floor at ground floor level of a category BC strongroom shall consist of a 100 mm thick 15 MPa strength reinforced concrete surface bed.

#### **4.3.1.2 Floors above ground floor level**

The floor above ground floor level of a category BC strongroom shall consist of 150 mm thick 25 MPa strength reinforced concrete.

#### **4.3.1.3 Walls**

A category BC strongroom shall have walls 320 mm thick consisting of 110 mm thick 7 MPa strength masonry outer and inner skins with a 100 mm thick 25 MPa strength steel mesh reinforced concrete core.

#### **4.3.1.4 Roof**

The roof of a category BC strongroom shall consist of 150 mm thick 25 MPa strength reinforced concrete.

### **4.3.2 Category RC strongroom**

#### **4.3.2.1 Floors at ground floor level**

The floor at ground floor level of a category RC strongroom shall consist of a 100 mm thick 15 MPa strength reinforced concrete surface bed.

#### **4.3.2.2 Floors above ground floor level**

The floor above ground floor level of a category RC strongroom shall consist of 150 mm thick 25 MPa strength reinforced concrete.

#### **4.3.2.3 Walls**

Walls for a category RC strongroom shall consist of 150 mm thick 25 MPa strength reinforced concrete.

#### **4.3.2.4 Roof**

The roof of a category RC strongroom shall consist of 150 mm thick 25 MPa strength reinforced concrete.

## **4.4 Dimensions**

The dimensions of a strongroom shall be as required (see annex A.2).

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### **4.5 Construction**

#### **4.5.1 General**

All construction shall be carried out under the supervision of a competent person and a certificate of compliance with this standard shall be issued.

All concrete construction shall also be carried out in accordance with the requirements of the National Building Regulations.

#### **4.5.2 Materials**

All materials used in the construction of a strongroom shall comply with the requirements of the applicable South African standards.

##### **4.5.2.1 Masonry**

All masonry shall be constructed with class II mortar of SANS 10400 (SABS 0400).

##### **4.5.2.2 Cement**

Cement shall comply with the requirements of SANS 50197-1/EN 197-1 (SABS EN 197-1). **Amdt 1**

##### **4.5.2.3 Aggregate**

Aggregate for concrete shall comply with the requirements of SANS 1083 (SABS 1083).

Aggregate for plaster and mortar shall comply with the requirements of SANS 1090 (SABS 1090).

##### **4.5.2.4 Reinforcement**

###### **4.5.2.4.1 Category BC strongroom**

Reinforcing for category BC strongrooms shall be as follows:

- a) for the floor at ground level and the walls, the reinforcing shall be 100 mm x 100 mm x 5 mm high-tensile steel mesh that complies with the requirements of SANS 1024 (SABS 1024), spaced at 100 mm between centres in both directions; and
- b) for the floor above ground level and the roof, the reinforcing shall be 10 mm thick (minimum) high-tensile steel bars that comply with the requirements of SANS 920 (SABS 920), spaced at a maximum of 100 mm between centres in both directions.

###### **4.5.2.4.2 Category RC strongroom**

For a category RC strongroom the reinforcing throughout shall be 10 mm thick (minimum) high-tensile steel bars that comply with the requirements of SANS 920 (SABS 920), spaced at a maximum of 100 mm between centres in both directions.

##### **4.5.2.5 Bricks**

Bricks shall comply with the requirements of SANS 227 (SABS 227) or SANS 1215 (SABS 1215).



## **4.6 Access**

### **4.6.1 Doors**

Strongroom doors and any emergency access doors shall at least comply with the requirements for a category 2 strongroom door of SANS 949 (SABS 949), as required (see annex A.1).

### **4.6.2 Other openings**

Strongrooms used for the storage of firearms and ammunition shall not be provided with windows. Ventilation openings shall not have an area greater than 225 cm<sup>2</sup>. Ventilation should preferably be provided by means of ducts that are so cranked as to eliminate direct through passages.

## **4.7 Safety devices**

Safety devices such as a flicker device or a buzzer shall be provided. Such a device shall be operated by a switch situated inside the room. The light switch shall be situated outside the room.

**Annex A**  
(normative)

**Notes to purchasers**

**A.1** The following requirements shall be specified in tender invitations and in each order or contract:

- a) the category of strongroom (see 4.2); and
- b) the category of the strongroom door (see 4.6.1).

**A.2** The following requirement shall be agreed upon between the supplier and the purchaser: the dimensions of the strongroom (see 4.4).