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**SANS 10400-C:2016**

Edition 3.1

# **SOUTH AFRICAN NATIONAL STANDARD**

## **The application of the National Building Regulations**

### **Part C: Dimensions**

**WARNING**

**This document references other documents normatively.**

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### Table of changes

| Change No. | Date | Scope                                                                                                                                                                                                                       |
|------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Amdt. 1    | 2015 | Amended to delete the annex on the dimensions (annex A) and the annex on the differences in performance between category 1 buildings and non-category 1 buildings (annex C), and to delete all references to these annexes. |

## Acknowledgement

The SABS Standards Division wishes to acknowledge the work of the South African Institution of Civil Engineering in updating this document.

## Foreword

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

This document was approved for publication in May 2016.

This document supersedes SANS 10400-C:2010 (edition 3).

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

Compliance with the requirements of this document will be deemed to be compliance with the requirements of part C 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: Stairway.*

*Part N: Glazing.*

*Part O: Lighting and ventilation.*

*Part P: Drainage.*

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

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*Part R: Stormwater disposal.*

*Part S: Facilities for persons with disabilities.*

*Part T: Fire protection.*

*Part V: Space heating.*

*Part W: Fire installation.*

*Part X: Environmental sustainability – Part XA: Energy usage in buildings.*

Annex B is for information only.

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## **The application of the National Building Regulations**

### **Part C: Dimensions**

## **1 Scope**

This part of SANS 10400 provides deemed-to-satisfy requirements for compliance with part C (Dimensions) of the National Building Regulations.

NOTE Annex B contains a commentary on this part of SANS 10400.

**Amdt 1** |

## **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 the SABS Standards Division.

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

## **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**

**category 1 building**  
building which

- a) is designated as being of class A3, A4, F2, G1, H2, H3, or H4 occupancy (see Regulation A20 in SANS 10400-A),
- b) has no basements,
- c) has a maximum length of 6,0 m between intersecting walls or members providing lateral support, and
- d) has a floor area that does not exceed 80 m<sup>2</sup>

NOTE 1 Deleted by amendment No. 1.

|

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NOTE 2 A building may be classified as a category 1 building for the purposes of one or more parts of SANS 10400. Additional limitations may accordingly be imposed on category 1 buildings. For example, a category 1 building in terms of SANS 10400-T (Fire protection) will be restricted to a single storey.

NOTE 3 Fire requirements for category 1 buildings are based on occupants escaping quickly from buildings. The design population for occupancies as set out in table 2 of part A of the Regulations (see SANS 10400-A) should therefore not be exceeded.

#### **3.2**

##### **deemed-to-satisfy requirement**

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

#### **3.3**

##### **dwelling house**

single dwelling unit and any garage and other domestic outbuildings thereto, situated on its own site

#### **3.4**

##### **dwelling unit**

unit containing one or more habitable rooms and provided with adequate sanitary and cooking facilities

#### **3.5**

##### **floor area**

total area of a building, or a storey thereof, enclosed within its external walls, exclusive of the area occupied by any lift shaft

#### **3.6**

##### **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

#### **3.7**

##### **habitable room**

room used or designed, erected, adapted or intended to be used by persons for sleeping in, living in, the preparation or consumption of food or drink, the transaction of business, the rendering of professional services, the manufacture, processing or sale of goods, the performance of work, the gathering together of persons, or for recreational purposes

#### **3.8**

##### **partition**

interior construction less than one storey in height, and which is generally of a light construction and demountable

#### **3.9**

##### **temporary building**

building (excluding a builder's shed) that is so declared by the owner and that is being used, or is to be used, for a specified purpose for a specified limited period of time

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## 4 Requirements

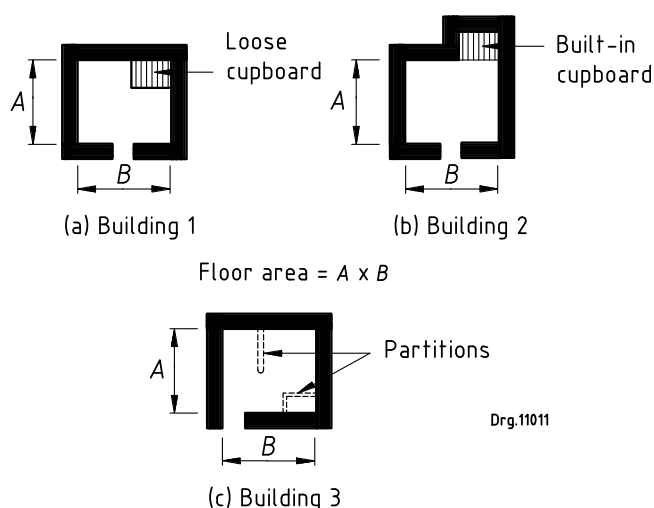
### 4.1 General

The functional regulation contained in part C of the National Building Regulations shall be deemed to be satisfied where the dimensions of any room or space comply with the requirements of 4.2, 4.3 and 4.4.

### 4.2 Plan dimensions

**4.2.1** The plan dimensions of a room or space shall be the horizontal dimensions between unplastered wall surfaces.

**4.2.2** A floor area shall be based upon the plan dimensions but shall not include any area occupied by a built-in cabinet or cupboard or any dividing wall or partition erected in terms of 4.2.4 (see figure 1).



**Figure 1 — Measurement of floor plan area**

**4.2.3** The floor area of a room contemplated in column 2 of table 1 shall be not less than that prescribed for such room in column 3 of table 1.

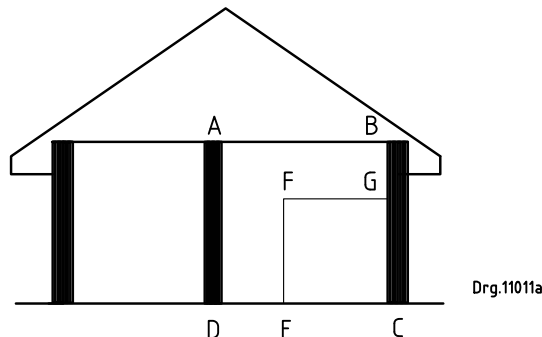
**Table 1 — Room area**

| 1                 | 2                                                            | 3                                                                                                                                                                                                                                                                   |
|-------------------|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type of occupancy | Room                                                         | Minimum plan area                                                                                                                                                                                                                                                   |
| All occupancies   | Any habitable room other than a kitchen, scullery or laundry | 6 m <sup>2</sup> with no linear dimension less than 2 m                                                                                                                                                                                                             |
| B, D or J         | Change rooms and dining rooms                                | Population 1-15: 0,8 m <sup>2</sup> per person but not less than 6 m <sup>2</sup><br>Population 16-100: 0,6 m <sup>2</sup> per person but not less than 12 m <sup>2</sup><br>Population over 100: 0,5 m <sup>2</sup> per person but not less than 60 m <sup>2</sup> |

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**4.2.4** Two or more spaces shall be deemed to be one room if any dividing wall or partition, including any door, erected between such spaces occupies less than 60 % of the area of the separating plane (see figure 2).



The area of wall E, F, G, C shall be less than 60 % of the area of the plane A, B, C, D.

**Figure 2 — Dividing walls in single rooms**

### 4.3 Room height

**4.3.1** The height of any room or space contemplated in column 1 of table 2 shall be not less than that prescribed for such room or space in column 2 of table 2 and shall be the vertical dimension from the top of the finished floor to

- the underside of the ceiling,
- the underside of the roof covering where there is no ceiling, or
- the underside of any structural members where such structural members project below such a ceiling or roof covering and the plan area of such projections exceeds 30 % of the plan area of the room.

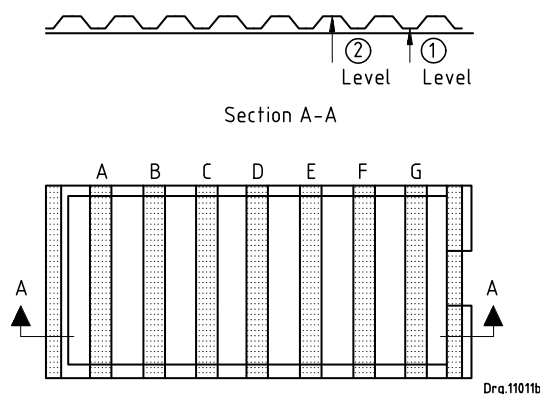
**4.3.2** Notwithstanding the requirements contained in table 2, where any structural member projects below the level of the ceiling or, where there is no ceiling, below the level of the roof covering, the height of such projection shall be not less than 2,1 m (see figure 3).

**Table 2 — Rooms and their dimensions**

| 1                                                                                                       | 2                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Room or space                                                                                           | Minimum height                                                                                                                                             |
| Bedroom                                                                                                 | 2,4 m above a floor area of at least 6 m <sup>2</sup> with a clear height of at least 1,8 m at any point more than 0,75 m from the edge of the floor space |
| Any other habitable room in a dwelling house or a dwelling unit                                         | 2,4 m above a minimum of 70 % of the floor area, and not less than 2,1 m above the remaining floor area                                                    |
| All habitable rooms other than those listed                                                             | 2,4 m                                                                                                                                                      |
| Passage or entrance hall                                                                                | 2,1 m                                                                                                                                                      |
| Bathroom, shower-room, laundry or room containing a toilet pan                                          | 2,1 m above any area where a person would normally be in a standing position                                                                               |
| Open mezzanine floor which has an area not exceeding 25 % of the area of the floor immediately below it | 2,1 m above and below the mezzanine floor                                                                                                                  |



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NOTE This height would normally be taken at level 2, but if the sum of the plan areas of ribs A, B, C, D, E, F and G is greater than 30 % of the total area of the room, the ceiling height should be measured to level 1.

**Figure 3 — Interpretation of minimum floor to ceiling height (see 4.3.2)**

#### 4.4 Floor area

The overall plan area of any dwelling house shall be not less than

- a) 15 m<sup>2</sup> in the case of a temporary building,
- b) 27 m<sup>2</sup> in the case of permanent category 1 buildings, or
- c) 30 m<sup>2</sup> in the case of any other permanent building.

NOTE With the present tendency towards smaller sites it is likely that many more houses of a size much smaller than has been common in the past will be built. In considering the very small permanent building it should be remembered that size cannot be equated to quality and a small house will not therefore automatically detract from the value of surrounding larger houses.

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### **Annex A**

Deleted by amendment No. 1.

### **Annex B**

(informative)

## **Commentary on this part of SANS 10400**

The plan areas given are very small but this is necessary in the interests of providing affordable housing. In the case of certain types of self-help housing, such as the “core house”, the first stage will, by definition, be small and will seldom consist of more than a single room plus toilet facilities. The fact that such a building would be regarded as a temporary building should ensure that it will eventually progress to something more reasonable in size.

Since a minimum size for habitable rooms is specified in 4.2.3, the number of rooms in a dwelling house will, to some extent, influence the overall area of the building. In this context, the deemed-to-satisfy requirements do not indicate whether a habitable room should be of greater size than the minimum given if such a room is to be used for multiple purposes. For practical, if not legal, reasons this would obviously be desirable. In the case of a temporary house that consists of one habitable room it is assumed that this will be used for eating, sleeping and cooking, as well as being a general living room.

### **Annex C**

Deleted by amendment No. 1.

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## **Bibliography**

SANS 10400-T, *The application of the National Building Regulations – Part T: Fire protection.*

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