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SANS 10160-5:2011

Edition 1.1

SOUTH AFRICAN NATIONAL STANDARD

Basis of structural design and actions for buildings and industrial structures

Part 5: Basis for geotechnical design and actions

**WARNING — Can only be used in
conjunction with SANS 10160-1.**

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Table of changes

Change No.	Date	Scope
Amdt 1	2011	Amended to clarify the requirements for characteristic resistance of a pile.

Acknowledgement

The SABS Standards Division wishes to acknowledge the valuable assistance derived from the South African Institution of Civil Engineering (SAICE).

Foreword

This South African standard was approved by National Committee SABS SC 59I, *Construction standards – Basis for the design of structures*, in accordance with procedures of the SABS Standards Division, in compliance with annex 3 of the WTO/TBT agreement.

This document was published in October 2011.

This document supersedes SANS 10160-5:2010 (edition 1).

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

The SANS 10160 series consists of the following eight parts, under the general title *Basis of structural design and actions for buildings and industrial structures*:

Part 1: Basis of structural design.

Part 2: Self-weight and imposed loads.

Part 3: Wind actions.

Part 4: Seismic actions and general requirements for buildings.

Part 5: Basis for geotechnical design and actions.

Part 6: Actions induced by cranes and machinery.

Part 7: Thermal actions.

Part 8: Actions during execution.

Annexes A, B and C are for information only.

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Basis of structural design and actions for buildings and industrial structures

Part 5: Basis for geotechnical design and actions

1 Scope

1.1 Scope of application

The scope of application of this part of SANS 10160 falls within the general scope of application as given in SANS 10160-1.

1.2 Scope of SANS 10160-5

1.2.1 This part of SANS 10160 sets out the basis for geotechnical design and gives guidance on the determination of geotechnical actions on buildings and industrial structures including

- a) vertical earth loading,
- b) earth pressure,
- c) ground water and free water pressure, and
- d) actions caused by ground movement.

1.2.2 Procedures are given for determining representative values for geotechnical actions.

1.2.3 This part of SANS 10160 does not cover the design of geotechnical structures such as slopes, embankments or free-standing retaining structures.

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 10100-1 (SABS 0100-1), *The structural use of concrete – Part 1: Design.*