



THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF INDUSTRY AND TRADE
TANZANIA BUREAU OF STANDARDS (TBS)



ISO 9001:2015 Certified

Member of the International Standardization (ISO), Codex Alimentarius Commission (WHO/FAO), Agent for ISO and other National Standards Bodies

In reply please quote:

Ref. No.: TBS/BCDC/A-3/61

Date: 2021 - 03 - 31

To All Stakeholders in the Construction Industry,

Dear Sir/Madam,

RE: DRAFT TANZANIA STANDARDS FOR STAKEHOLDERS' COMMENTS

Please refer to the heading above.

2. Tanzania Bureau of Standards (TBS) is in the process of developing Standards on; kindly see the attached overleaf.
3. According to procedures for preparation of Tanzania Standards, the draft standard is hereby being circulated for stakeholders' comments. Due to copy right issues, for international standards only scope is provided, for full standard visit TBS Library.
4. Being one of the key stakeholders in standards development, we kindly request you to go through the draft standards (complete document for adopted ISO/IEC standards can be obtained from TBS library) and send your comments regarding its technical contents. Suggestion which entails revision of text should indicate the preferred wording and the relevant clause should be quoted against each comment. In case you find it suitable and no comments, please notify accordingly.
5. Your comments can be submitted in electronic form or hard copy as per attached form.
6. We will appreciate receive your comments before 2021-12-14.
7. We thank you for your kindly and continued cooperation.
8. Sincerely Yours

K. M. Chiganga
For: DIRECTOR GENERAL

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All Correspondence should be addressed to the **DIRECTOR GENERAL**

1 BCDC 2 (966) CD 2/ISO 16282 Methods of test for dense shaped refractory products — Determination of resistance to abrasion at ambient temperature.

Scope

This International Standard specifies a method intended primarily for the determination of the abrasion resistance of shaped refractory materials at ambient temperature. It can also be used for unshaped refractory materials. It provides an indication of the suitability of the material for service in abrasive or erosive conditions.

NOTE This International Standard is based on and technically identical to EN 993-20, published by the European Committee for Standardization.

2 BCDC 2(967) CD 2/ISO 16349 Refractory materials — Determination of abrasion resistance at elevated temperature.

Scope

This International Standard specifies a method for determination of abrasion resistance of shaped and unshaped refractory materials at elevated temperature. The test temperature is not intended to exceed 1 300 °C

3 BCDC 2 (968) CD 2/ISO 16835 Refractory products — Determination of thermal expansion.

Scope

This International Standard specifies test methods for the thermal expansion of refractory products. It describes a method for determining the linear thermal expansion percentage, the linear thermal expansion curve, and the linear thermal expansion coefficient.

This International Standard includes the following three test methods for the thermal expansion of refractory products:

- a) a contact method with a cylindrical test piece;
- b) a contact method with a rod test piece;
- c) a non-contact method.

4 BCDC 2 (969) CD 2/ISO 21736 Refractories — Test methods for thermal shock resistance.

Scope

This document specifies the principle, equipment, test pieces, procedures, result expression and test report of test methods for thermal shock resistance of refractories.

Three test methods are included in this document. Each one is applicable to a different product type and their test results are not comparable.

The test method, the test temperature and the test condition are intended to be negotiated by corresponding parties.

This document does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

5 BCDC 13 (775) CD2: 2021/ISO 17892-7:2017 Geotechnical investigation and testing — Laboratory testing of soil — Part 7: Unconfined compression test
Scope

This document specifies a method for the unconfined compression test.

This document is applicable to the determination of the unconfined compressive strength for a homogeneous specimen of undisturbed, re-compacted, remoulded or reconstituted soil under compression loading within the scope of geotechnical investigations.

This test method is useful to estimate the undrained shear strength of soil. It is noted that drainage is not prevented during this test. The estimated value for undrained shear strength is, therefore, only valid for soils of low permeability, which behave sufficiently undrained during the test.

NOTE This document fulfils the requirements of unconfined compression tests for geotechnical investigation and testing of soil.

6 BCDC 13 (776) CD2: 2021/ISO 17892-8:2018 Geotechnical investigation and testing — Laboratory testing of soil — Part 8: Unconsolidated undrained triaxial test
Scope

This document specifies a method for unconsolidated undrained triaxial compression tests.

This document is applicable to the laboratory determination of undrained triaxial shear strength under compression loading within the scope of geotechnical investigations.

The cylindrical specimen, which can comprise undisturbed, re-compacted, remoulded or reconstituted soil, is subjected to an isotropic stress under undrained conditions and thereafter is sheared under undrained conditions. The test allows the determination of shear strength and stress-strain relationships in terms of total stresses.

Non-standard procedures such as tests with the measurement of pore pressure or tests with filter drains are not covered in this document.

NOTE This document fulfils the requirements of unconsolidated undrained triaxial compression tests for geotechnical investigation and testing in accordance with EN 1997-1 and EN 1997-2.

7 BCDC 13 (777) CD2: 2021/ISO 17892-9:2018 Geotechnical investigation and testing — Laboratory testing of soil — Part 9: Consolidated triaxial compression tests on water saturated soils
Scope

This document specifies a method for consolidated triaxial compression tests on water-saturated soils.

This document is applicable to the laboratory determination of triaxial shear strength under compression loading within the scope of geotechnical investigations.

The cylindrical specimen, which can comprise undisturbed, re-compacted, remoulded or reconstituted soil, is subjected to an isotropic or an anisotropic stress under drained conditions and thereafter is sheared under undrained or drained conditions. The test allows the determination of shear strength, stress-strain relationships and effective stress paths. All stresses and strains are denoted as positive numerical values in compression.

NOTE 1 This document provides a test for a single specimen. A set of at least three reliable tests are required to determine the shear strength parameters from these tests. Procedures for evaluating the results are included in Annex B and, where required, the shear strength parameters are to be included in the report.

Special procedures such as:

- a) tests with lubricated ends;
 - b) multi-stage tests; c) tests with zero lateral strain (K_0) consolidation;
 - c) tests with local measurement of strain or local measurement of pore pressure; e) tests without rubber membranes;
 - d) extension tests; g) shearing where cell pressure varies,
- are not fully covered in this procedure. However, these specific tests can refer to general procedures described in this document.

NOTE 2 This document fulfils the requirements of consolidated triaxial compression tests for geotechnical investigation and testing of soil.

8 BCDC 13 (779) CD2: 2021/ISO 14688-2:2017 Geotechnical investigation and testing — Identification and classification of soil — Part 2: Principles for a classification

Scope

This document specifies the basic principles for classification of those material characteristics most commonly used for soils for engineering purposes. It is intended to be read in conjunction with ISO 14688-1, which gives rules for the identification and description of soils. The relevant characteristics could vary and therefore, for particular projects or materials, more detailed subdivisions of the descriptive and classification terms could be appropriate. Due to differences in local geological conditions, practices to enhance relevant classification criteria are used.

The classification principles established in this document allow soils to be classified into groups of similar composition and geotechnical properties, based on the results of field and laboratory tests with respect to their suitability for geotechnical engineering purposes.

This document is applicable to natural soil in situ, natural soil reworked artificially and synthetic materials. A more detailed classification specific to use in earthworks is given in EN 16907-2.

NOTE 1 Identification and description of rocks are covered by ISO 14689. Identification and description of materials intermediate between soil and rock are carried out using the procedures in ISO 14688-1, this document and ISO 14689, as appropriate.

NOTE 2 The identification and classification of soil for pedological purposes, as well as in the framework of measurements for soil protection and for remediation of contaminated areas, is covered by ISO 25177.

9 BCDC 13 (782) CD2: 2021/ISO 22477-4:2018 Geotechnical investigation and testing — Testing of geotechnical structures — Part 4: Testing of piles: dynamic load testing

Scope

This document establishes the specifications for the execution of dynamic load tests in which a single pile is subject to an axial dynamic load in compression.

This document outlines the methods of testing required to allow assessment of pile resistance to be determined from the following methods and procedures described in EN1997 -1: 2004+A1: 2013:

- a) dynamic impact testing – determination of pile compressive resistance by evaluation of measurements of strain and acceleration and or displacement at the pile head with respect to time;
- b) pile driving formulae – evaluation of pile compressive resistance from blow counts and hammer energy during pile driving;
- c) wave equation analysis – evaluation of pile compressive resistance from blow counts by modelling of the pile, soil and driving equipment;
- d) multi-blow dynamic testing – evaluation of pile compressive resistance from a series of blows designed to generate different levels of pile head displacement and velocity.

This document is applicable to piles loaded axially in compression.

This document is applicable to all pile types mentioned in EN 1536, EN 12699 and EN 14199. The tests considered in this document are limited to dynamic load tests on piles only.

NOTE 1 ISO 22477-4 can be used in conjunction with EN1997 -1: 2004+A1: 2013. Numerical values of partial factors for limit states from pile load tests to be taken into account in design are provided in EN 1997-1. For design to EN 1997-1 the results from dynamic load tests will be considered equivalent to the measured compressive resistance $R_{c,m}$ after being subject to appropriate analysis.

NOTE 2 Guidance on analysis procedures for dynamic load testing results is given in Annexes A, B, D, E and F.

This document provides specifications for:

- i) investigation tests, whereby a sacrificial pile is loaded up to ultimate limit state;
- ii) control tests, whereby the pile is loaded up to a specified load in excess of the serviceability limit state.

NOTE 3 Generally, an investigation test focuses on general knowledge of a pile type; a control test focuses on one specific application of a pile.

10 BCDC 13 (783) CD2: 2021/ISO 22477-1:2019 Geotechnical investigation and testing — Testing of geotechnical structures — Part 1: Testing of piles: static compression load testing

Scope

This document establishes the specifications for the execution of static pile load tests in which a single pile is subjected to an axial static load in compression in order to define its load-displacement behaviour.

This document is applicable to vertical piles as well as raking piles.

All types of piles are covered by this document. The tests considered in this document are limited to maintained load tests. Pile load tests with constant penetration rate and cyclic load tests are not covered by this document.

NOTE This document is intended to be used in conjunction with EN 1997-1. EN 1997-1 provides numerical values of partial factors for limit states and of correlation factors to derive characteristic values from static pile load tests to be taken into account in design.

This document provides specifications for the execution of static axial pile load tests:

- a) checking that a pile will behave as designed;
- b) measuring the resistance of a pile.