



DRAFT TANZANIA STANDARD

**Methods of test for soils for civil engineering purposes- Part 2:
Classification tests and determination of geotechnical properties**

Draft for Public Comments

TANZANIA BUREAU OF STANDARDS

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BCDC 13 (2046) DTZS

0 National Foreword

The Tanzania Bureau of Standards is the statutory national standards body for Tanzania, established under standards Act No. 3 of 1975, amended by Act No. 2 of 2009.

This draft Tanzania Standard was prepared by BCDC 13 Foundation and Soils for civil engineering purposes technical committee under the supervision of the Building and Construction Divisional Committee (BCDC).

In preparation for this draft Tanzania Standard reference was made to BS 1377-2:2022.

It has been assumed in the drafting of this standard that the execution of its provisions is entrusted to appropriately qualified and experienced personnel, for whose guidance it has been prepared.

A Tanzania Standard does not purport to include all the necessary provisions of a contract. Users of Standards are responsible for their correct application.

Compliance with this Standard does not of itself confer immunity from legal obligations.

1 Scope

This draft Tanzania Standard specifies methods of test for the classification of soil and for the determination of geotechnical properties of soils in the laboratory.

Most of these tests are required for the determination of geotechnical behaviour of soils in accordance with BS EN 1997 (all parts) and BS 5930.

This draft Tanzania Standard includes:

- a) common laboratory tests required for the classification of soils;
- b) determination of compaction characteristics of soils for earthworks, permeability, compressibility and erodibility; and
- c) determination of shear strength of soils in terms of both total and effective stresses.

NOTE

Where EN ISO test methods are available, these are normatively referenced and commentary provided to assist in their application.

BCDC 13 (2045) specifies requirements that include details of sample preparation and equipment calibration that are relevant to tests described in this part of BCDC 13 (2046) DTZS, unless otherwise detailed in the referenced TZS 3308 /BS EN ISO 17892 standard.

2 Normative references

BCDC 13 (2045), *Methods of test for soils for civil engineering purposes - Part 1: General requirements and sample preparation*

BS 812-124:2009, *Testing aggregates - Part 124: Method for determination of frost heave*

BCDC 13 (1864)/BS EN ISO 17892-1:2014, *Geotechnical investigation and testing - Laboratory testing of soil - Part 1: Determination of water content*

TZS 3308-2/BS EN ISO 17892-2:2014, *Geotechnical investigation and testing - Laboratory testing of soil - Part 2: Determination of bulk density*

TZS 3308-3/BS EN ISO 17892-3, *Geotechnical investigation and testing - Laboratory testing of soil - Part 3: Determination of particle density*

TZS 3308-4/BS EN ISO 17892-4:2016, *Geotechnical investigation and testing - Laboratory testing of soil - Part 4: Determination of particle size distribution*

BCDC 13 (1890) /BS EN ISO 17892-5:2017, *Geotechnical investigation and testing – Laboratory testing of soil – Part 5: Incremental loading oedometer test*

TZS 3308-7/BS EN ISO 17892-7:2018, *Geotechnical investigation and testing - Laboratory testing of soil- Part 7: Unconfined compression test*

TZS 3308-8/BS EN ISO 17892-8:2018, *Geotechnical investigation and testing - Laboratory testing of soil - Part 8: Unconsolidated undrained triaxial test*

TZS 3308-9/BS EN ISO 17892-9:2018, *Geotechnical investigation and testing - Laboratory testing of soil - Part 9: Consolidated triaxial compression tests on water saturated soils*

TZS 3308-10/BS EN ISO 17892-10:2018, *Geotechnical investigation and testing - Laboratory testing of soil - Part 10: Direct shear tests*

TZS 3308-11/BS EN ISO 17892-11 *Geotechnical investigation and testing - Laboratory testing of soil - Part 11: Permeability tests*

BCDC 13 (1863)/BS EN ISO 17892-12:2018+A1:2021, *Geotechnical investigation and testing - Laboratory testing of soil - Part 12: Determination of liquid and plastic limits*

3 Terms and definitions

For the purposes of this standard, the definitions given in BCDC 13 (2045) apply.

4 Determination of water content

COMMENTARY ON CLAUSE 4

Water is present in most naturally occurring soils. The amount of water, expressed as a proportion by mass of the dry solid particles, previously known as the water content, has a profound effect on soil behaviour. In this context, a soil is "dry" when no further water can be removed at a temperature not exceeding 110 °C.

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