

**TANZANIA BUREAU OF STANDARDS  
DIRECTORATE OF STANDARDS DEVELOPMENT  
BUILDING AND CONSTRUCTION ENGINEERING STANDARDS SECTION**

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**DRAFT TANZANIA STANDARDS FOR STAKEHOLDERS' COMMENTS**

- 1. BCDC 13 (5368) P3 Geotechnical investigation and testing — Testing of geotechnical structures —Part 10: Testing of piles: rapid load testing**

**Scope**

This part of Draft Tanzania standards establishes the specifications for the execution of rapid load pile tests in which a single pile is subject to an axial load in compression to measure its load-displacement behaviour under rapid loading and to allow an assessment of its measured compressive resistance ( $R_{c,m}$ ) and corresponding load-displacement behavior, also provides specifications for the following.

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

- 2. BCDC 13 (5369) P3 Geotechnical investigation and testing — Laboratory testing of soil —Part 6: Fall cone test**

**Scope**

This Draft Tanzania standards specifies a method of undrained strength index testing of both undisturbed and remoulded specimens of fine grained soils by the fall cone method.

This standard is applicable to the laboratory estimation of undrained shear strength of a soil test specimen within the scope of geotechnical investigations.

- 3. BCDC 6 (5333) P3/ Rev. TZS 258: 2009 Wood — Sampling methods and general requirements for physical and mechanical testing of small clear wood specimens**

**Scope**

This Draft Tanzania Standard specifies methods for the extensive and limited sampling of wood, conditioning and preparation of test pieces. It also specifies the general requirements for physical and mechanical testing of small clear wood specimens. The sampling guidance provided in this International Standard can be applied for timber taken from trees, logs, or pieces of ungraded/graded/presorted sawn timber for non-structural applications, such as furniture, windows, doors, etc., only.

This second edition cancels and replaces the first edition (TZS 258: 2009 (First Edition)/ ISO 3129:1975), which has been technically revised.

4. **BCDC 6 (5334) P3/ Rev. TZS 335: 2009 Physical and mechanical properties of wood — Test methods for small clear wood specimens —Part 14: Determination of volumetric shrinkage.**

**Scope**

This Draft Tanzania Standard specifies methods for the determination of volumetric shrinkage of wood.

It further specifies two methods, stereometric method and immersion method, for determining the volumetric shrinkage by measuring volume of a test piece before and after drying to a constant mass. The volume is calculated as a product of the linear dimensions of the test piece in stereometric method and measured as the volume of water displaced, or the mass of the water displaced in immersion method. The volumetric shrinkage is calculated as the change of the volume expressed as a percentage of the original volume. The initial measurements shall be taken on test pieces in green or fully saturated condition. The final measurements shall be taken on test pieces in absolutely dry (oven-dry) condition.

This second edition of TZS 335: 2017/ISO 13061-14:2016 cancels and replaces TZS 335: 2009/ ISO 4858:1982, which has been technically revised with regards to the sizes, moisture content of test pieces and adjustment for moisture content.

5. **BCDC 6 (5335) P3/ Rev. TZS 336: 2009 Physical and mechanical properties of wood — Test methods for small clear wood specimens —Part 16: Determination of volumetric swelling**

**Scope**

This Draft Tanzania Standard specifies methods for the determination of volumetric swelling of wood by Stereometric and immersion method

Stereometric method and immersion method are specified for determining the volumetric swelling by measuring volume of a test piece after drying to a constant mass and after soaking in water to a constant volume. The volume of the test pieces is calculated as a product of the linear dimensions of the test piece in stereometric method and measured as the volume of water displaced or the mass of the water displaced in immersion method. The volumetric swelling is calculated as the change of the volume expressed as a percentage of the original volume. The initial measurements shall be taken on test

pieces at absolutely dry (oven-dry) condition. The final measurements shall be taken on the fully saturated test pieces.

This second edition of TZA 335: 2017/ISO 13061-16:2016 cancels and replaces TZA 335: 2009/ ISO 4860:1982, which has been technically revised. Changes have been made with regards to the sizes, moisture content of test pieces and adjustment for moisture content

**6. BCDC 6 (5336) P3/ Rev. TZA 337: 2009 Physical and mechanical properties of wood — Test methods for small clear wood specimens —Part 13: Determination of radial and tangential shrinkage.**

**Scope**

This Draft Tanzania Standard specifies a method for the determination of linear shrinkage in the radial and tangential directions of wood.

The linear shrinkage is determined by measuring dimensions of a test piece in radial and tangential directions of wood before and after drying to a constant mass. The linear shrinkage is calculated as the change of the dimension in given direction expressed as a percentage of the original dimension. The initial measurements shall be taken on test pieces in green or fully saturated condition. The final measurements shall be taken on test pieces in absolutely dry (oven-dry) condition.

This second edition of TZA 336: 2017/ISO 13061-13:2016 cancels and replaces TZA 336: 2009/ ISO 4469:1981, which has been technically revised with regards to the sizes, moisture content of test pieces and adjustment for moisture content.

**7. BCDC 6 (5337) P3/ Rev. TZA 338: 2009 Physical and mechanical properties of wood — Test methods for small clear wood specimens —Part 15: Determination of radial and tangential swelling.**

**Scope**

This Draft Tanzania Standard specifies a method for the determination of linear swelling in the radial and tangential directions of wood.

The swelling is determined by measuring dimensions of a test piece in radial and tangential directions of wood after drying to a constant mass and after soaking in water to constant dimensions. The linear swelling is calculated as the change of the dimension in given direction expressed as a percentage of the original dimension. The initial measurements shall be taken on test pieces at absolutely dry (oven-dry) condition. The final measurements shall be taken on the fully saturated test pieces

This second edition of TZA 338: 2017/ISO 13061-15:2016 cancels and replaces TZA 338: 2009/ ISO 4859:1982, which has been technically revised. Changes have been made with regards to the sizes, moisture content of test pieces and adjustment for moisture content.

**8. BCDC 6(5338) P3/Rev. 339:2009 Timber – Determination of ultimate stress in compression perpendicular to grain.**

**Scope**

This Draft Tanzania Standard specifies a method of testing wood in compression perpendicular to the grain to determine the proportional limit (conventional ultimate strength), the load being applied to the whole surface (radial or tangential) of the test piece

Determination, from a load-deformation diagram, of the ordinate of the point where the tangent of the angle formed by the tangent to the curve with the load axis is 50 % greater than its value in the linear portion of the diagram. Estimation of the stress at the load corresponding to the ordinate.

This standard is subjected under review as per standardization requirements. Since it has no any Technical change, is therefore proposed to remain current.

**9. BCDC9 (5342) P3 Ceramic tiles – Grouts and adhesives – Part 1: Terms, definitions and specifications for adhesives (Ed 1)**

**Scope**

This Draft Tanzania standards applies to ceramic tile adhesives for internal and external tile installations on walls and floors.

This part of Draft Tanzania standards gives the terminology, concerning the products, working methods, application properties, etc., for ceramic tile adhesives

This part of Draft Tanzania standards specifies the values of performance requirements for all ceramic tile adhesives [cementitious (C), dispersion (D) and reaction resin (R) adhesives].

**10. BCDC9 (5343) P3 Ceramic tiles – Grouts and adhesives – Part 2: Test methods for adhesives (Ed 1)**

**Scope**

This Draft Tanzania Standards describes the methods for determining the characteristics for adhesives used in the installation of ceramic tiles. The following test methods are described:

- determination of open time
- determination of slip
- determination of shear adhesion strength
- determination of tensile adhesion strength
- determination of transverse deformation

## **11. BCDC9 (5344) P3 Ceramic tiles – Grouts and adhesives – Part 3: Terms, definition and specifications for grouts (Ed 1)**

### **Scope**

This Draft Tanzania standards defines terms concerning the products, working methods and application properties for ceramic tile grouts. It specifies values of performance requirements for all ceramic tile grouts [cementitious (CG) and reaction resin (RG) grouts]. This part of ISO 13007 is applicable to ceramic tile grouts for internal and external tile installations on walls and floors.

## **12. BCDC9 (5345) P3 Ceramic tiles – Grouts and adhesives – Part 4: Test methods for grouts (Ed 1)**

### **Scope**

This Draft Tanzania standards describes methods for determining characteristics for grouts used in the installation of ceramic tiles. The following test methods are described:

- determination of flexural and compressive strength
- determination of water absorption
- determination of shrinkage
- determination of resistance to abrasion
- determination of transverse deformation
- determination of chemical resistance

## **13. BCDC9 (5346) P3 Ceramic tiles – Grouts and adhesives – Part 5: requirements, test methods, evaluation of conformity, classification and designation of liquid-applied water proofing membranes for use beneath ceramic tiling bonded with adhesives (Ed 1)**

### **Scope**

This Draft Tanzania standards gives terminology concerning the products, and specifies test methods and values of performance requirements, for liquid-applied waterproofing products associated with tile adhesives. It specifies the evaluation of conformity and the classification and designation of liquid-applied waterproofing products beneath ceramic tiling. It is applicable to all liquid-applied waterproofing membranes — including polymer modified cementitious coatings, dispersions and reaction resin coatings — used beneath ceramic tiling for internal and external tile installations on walls and floors.

## **14. BCDC9 (5347) P2 Glass in building-coated glass-part1: physical defects**

### **Scope**

This Draft Tanzania standards specifies optical quality requirements for coatings applied to glass using either pyrolytic, sol-gel or vacuum (sputtering) deposition methods for use in building glazing. More specifically, this part of ISO 11479 relates to low-e and solar-control coated glass. This part of ISO 11479 is not applicable to patterned or other optically distorting glass.

## **15. BCDC9 (5348) P2 Glass in building-coated glass-part2: colour of façade**

### **Scope**

This Draft Tanzania standards specifies a method for objective evaluation of the colour of coated glass when used in façades and viewed from the outside, as well as for measuring colour differences within the same glass pane and between two adjacent panes in the same façade. This part of ISO 11479 does not specify requirements for determining colour differences of transmitted colour as viewed from the inside or outside of a façade, nor for internal reflected colour. The comparison should only be undertaken for panes of the same glass type, composition and interior conditions and situated in the same plane of a façade. Specific requirements are given for coated glass, dependent upon its light transmittance and reflectance.

## **16. BCDC9 (5349) P2 Gypsum plasterboards-definitions, requirements and test methods**

### **Scope**

This Draft Tanzania standards specifies the characteristics and performance of gypsum plasterboards intended to be used in building construction works including those intended for secondary manufacturing operations. It includes boards designed to receive either direct surface decoration or gypsum plaster.

This document covers the following product performance characteristics: reaction to fire, water vapour permeability, flexural strength (breaking load), impact resistance and thermal resistance.

## **17. BCDC1 (5520) P3 Concrete — Specification, performance and conformity**

### **Scope**

This draft Tanzania Standard applies to concrete for structures cast in situ, precast structures, and structural precast products for buildings and civil engineering structures.

The concrete under this draft standard can be:

- Normal-weight, heavy-weight and light weight;
- Mixed on site, ready-mixed or produced in a plant for precast concrete products;
- Compacted or self-compacting to retain no appreciable amount of entrapped air other than entrained air.

This draft standard specifies requirements for:

- the constituents of concrete;
- the properties of fresh and hardened concrete and their verifications;
- the limitations for concrete composition;
- the specifications of concrete;
- the delivery of fresh concrete;
- the production control procedures;
- the conformity criteria and evaluation of conformity.

## **18. BCDC1 (5521) P3 Fly ash for concrete — Part 1: Definition, specifications and conformity criteria**

### **Scope**

This draft Tanzania standard specifies requirements for the chemical and physical properties as well as quality control procedures for siliceous fly ash, as defined in 3.2, for use as a type two addition for production of concrete conforming to BCDC1 5520. Fly ash according to this document may also be used in mortars and grouts.

Fly ash produced with other types or higher percentages of co-combustion materials than those provided for in Clause 4 is outside the scope of this draft Tanzania standard.

## **19. BCDC1 (5522) P3 Tests for geometrical properties of aggregates — Part 1: Determination of particle size distribution – Sieving method**

### **Scope**

This draft Tanzania Standard describes the reference washing and drying sieving method used for type testing and in case of dispute, for determination of the particle size distribution of aggregates. For other purposes, in particular factory production control, other methods may be used, provided that an appropriate working relationship with the reference method has been established. It applies to all aggregates, including lightweight aggregates, up to 90mm nominal size, but excluding filler.

NOTE: Dry sieving without washing may be used for aggregates free from particles which cause agglomeration.

## **20. BCDC1 (5523) P3 Tests for geometrical properties of aggregates — Part 2: Determination of particle size distribution – Test Sieves, nominal size of apertures**

### **Scope**

This draft Tanzania standard specifies nominal aperture sizes and shape for woven wire cloth and perforated plate in test sieves used for test methods for aggregates.

It applies to aggregates of natural or artificial origin including lightweight aggregates.

## **21. BCDC1 (5524) P3 Tests for geometrical properties of aggregates — Part 3: Determination of particle shape – Flakiness index**

### **Scope**

This draft Tanzania Standard describes the reference methods used for type testing and in case of dispute, for determination of the flakiness index of aggregates. For other purposes, in particular production control, other methods may be used, provided that an appropriate working relationship with the reference method has been established.

This standard applies to natural, manufactured or recycled aggregates.

The test procedure specified in this standard is not applicable to particle size less than 4 mm or greater than 100 mm.

## **22. BCDC1 (5525) P3 Admixtures for concrete, mortar and grout – Part 1: Common requirements**

### **Scope**

This draft Tanzania standard specifies the common requirements for all admixtures covered by BCDC1 (5526), EN 934-3, EN 934-4 and EN 934-5 which contain the specific requirements for each type of admixture.

The requirements for corrosion behavior are not applicable to chloride-based admixtures.

## **23. BCDC1 (5526) P3 Admixtures for concrete, mortar and grout – Part 1: Common requirements**

### **Scope**

This draft Tanzania standard specifies definition and requirements for admixture for use in concrete.

It covers admixtures for plain, reinforced and prestressed concrete which are used in site mixed, ready mixed concrete and precast concrete.

The performance requirements in this standard apply to admixtures used in concrete of normal consistence. They may not be applicable to admixtures intended for other types of concrete such as semi-dry and earth moist mixes.

Provisions governing the practical application of admixtures in the production of concrete, i.e requirements concerning composition, mixing, placing, curing etc. of concrete containing admixtures are not part of this standard.

## **24. BCDC1 (2257) P3 Test methods — Fly ash for concrete – Part 2: Conformity evaluation**

### **Scope**

This draft Tanzania standard specifies the scheme for the evaluation of conformity of fly ash according to BCDC1 (5521)

This draft Tanzania standard provides technical rules for the production control by the producer, including auto control testing of samples. It also provides rules for actions to be followed in the event of non-conformity, the procedure for the certification of conformity and requirements for dispatching centres.



## **25. BCDC1 (5528) P3 Precast concrete products – Hollow core slabs**

### **Scope**

This draft Tanzania Standard deals with the requirements and the basic performance criteria and specifies minimum values where appropriate for precast hollow core slabs made of prestressed or reinforced normal weight concrete according to EN 1992-1-1: 2004

This draft Tanzania Standard covers terminology, performance criteria, tolerances, relevant physical properties, special test methods, and special aspects of transport and erection.

## **26. BCDC1 (5529) P3 Mixing water for concrete – Specification for sampling, testing and assessing the suitability of water, including water recovered from processing in the concrete industry, as mixing water for concrete**

### **Scope**

This draft Tanzania standard specifies the requirements for water that is suitable for making concrete that conforms to EN 206-1 and describes methods for assessing its suitability.