



DRAFT TANZANIA STANDARD

General principles on reliability for structures

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TANZANIA BUREAU OF STANDARDS

This Finalized Tanzania Standard was published under the authority of the Board of Directors of Tanzania Bureau of Standards on yyy-mm-dd. Tanzania Bureau of Standards (TBS) is the statutory national standards body for Tanzania established under the Standards Act No. 3 of 1975, repealed and replaced by the Standards Act No. 2 of 2009. The Building and Construction Divisional Standards Committee (BCDC), under whose supervision this Tanzania Standard was prepared, consists of representatives from the following organizations:

- *College of Engineering and Technology, University of Dar es Salaam
- Tanzania Commission for Science and Technology (COSTECH)
- Ministry of Works and Transportation (MoWT)
- National Housing Corporation (NHC)
- Contractors Registration Board (CRB)
- Ardhi University (ARU)
- Jeshi la Kujenga Taifa (JKT)
- *National Estates and Designing Consultancy Company Ltd (NEDCO)
- Architects and Quantity Surveyors Registration Board (AQRB)
- Institution of Engineers Tanzania (IET)
- *National Construction Council (NCC)
- Engineers Registration Board (ERB)
- Tanzania Building Agency (TBA)

The organizations marked with an asterisk (*) in the above list, together with the following were directly represented on the Technical Committee entrusted with the preparation of this draft Tanzania Standard:

- Dar es salaam Institute of Technology (DIT)
- Tanzania National Roads Agency (TANROADS)
- Small Industries Development Organization (SIDO)

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0.National foreword

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

This Finalized Tanzania standard is being prepared by the Masonry Technical Committee, under the supervision of the Building and Construction Divisional Standards Committee (BCDC)

This finalized Tanzania Standard is identical adoption of **ISO 2394:2015 General principles on reliability for structures** published by the International Organization for Standardization (ISO), This publication was last reviewed and confirmed in 2020. Therefore, this version remains current.

Terminologies and conventions

The text of the International standard is hereby being recommended for adoption without deviation for publication as draft Tanzania standard.

Some terminologies and certain conventions are not identical with those used as Tanzania standards; attention is drawn to the following:

The comma has been used as a decimal marker for metric dimensions. In Tanzania, it is current practice to use a full point on the baseline as the decimal marker.

Wherever the words “International Standard” appear, referring to this standard, they should read as “Tanzania Standard”.

Scope

This International Standard constitutes a risk- and reliability-informed foundation for decision making concerning design and assessment of structures both for the purpose of code making and in the context of specific projects.

The principles presented in this International Standard cover the majority of buildings, infrastructure, and civil engineering works, whatever the nature of their application and use or combination of the materials used¹. The application of this International Standard will require specific adaptation and detailing in special cases where there are potentially extreme consequences of failure².

This International Standard is intended to serve as a basis for those committees responsible for the task of preparing international standards, national standards, or codes of practice in accordance with given objectives and context in a particular country.

The present International Standard describes how the principles of risk and reliability can be utilized to support decisions related to the design and assessment of structures and systems involving structures over their service life. Three different but related levels of approach are facilitated, namely, a risk-informed, a reliability-based, and a semi-probabilistic approach.

The general principles are applicable to the design of complete structures (buildings, bridges, industrial structures, etc.), the structural elements and joints making up the structures and the foundations. The principles of this International Standard are also applicable to the successive stages in construction, the handling of structural elements, their erection, and all work on-site, as well as the use of structures during their design working life, including maintenance and rehabilitation, and decommissioning.

Risk and reliability are concepts accounting for and describing actions, structural response, durability, life-cycle performance, consequences, design rules, workmanship, quality control procedures, and national requirements, all of which are mutually dependent.

The application of this International Standard necessitates knowledge beyond what is contained in the Clauses and the Annexes. It is the responsibility of the user to ensure that this knowledge is available and applied.

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