# DRAFT TANZANIA STANDARD

## Actions from waves and currents on coastal structures

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## TANZANIA BUREAU OF STANDARDS

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1st Edition

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(TBS) is the statutory national standards body for Tanzania established under the Standards Act No. 3 of 1975, repealed and replaced by the Standards Act No. 2 of 2009.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 er 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 21650:2007 Actions from waves and currents on coastal structures** published by the International Organization for Standardization (ISO). This publication was last reviewed and confirmed in 2022. 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 describes the principles of determining the wave and current actions on structures of the following types in the coastal zone and estuaries:

- breakwaters:
    - rubble mound breakwaters;
    - vertical and composite breakwaters;
    - wave screens;
    - floating breakwaters;
    - coastal dykes;
    - seawalls;
    - cylindrical structures (jetties, dolphins, lighthouses, pipelines etc.).

For the rubble mound structures it is not possible to determine the forces on and the stability of each individual armour unit because of the complex flow around and between each armour unit. But there are formulae and principles to estimate the necessary armour unit mass given the design wave conditions. Coefficients in these formulae are based on hydraulic model tests. Since the rubble mound structures are heavily used, they are included in this International Standard, although they may not be treated exactly in accordance with ISO 2394.

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This International Standard does not include breakwater layout for harbours, layout of structures to manage sediment transport, scour and beach stability or the response of flexible dynamic structures, except vortex induced vibrations.

Design will be performed at different levels of detail:

- Concepts;
- Feasibility;
- Detailed design.

This International Standard is aimed at serving the detailed design.

It is pointed out that the annexes are only informative and are not guidelines/manuals. The annexes have no regulatory power.

Wave and current conditions vary for different construction sites. It is very important to assess the wave and current conditions at a given site. Assessment procedures for these conditions and for their uncertainties are included.

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