

EMDC 8 (5538) P3



**DRAFT TANZANIA STANDARD**

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**TITLE: SOLID WASTE MANAGEMENT - WASTE TYRES**

FOR STAKEHOLDER'S COMMENTS ONLY

## **0 Foreword**

Waste or Scrap tyres, also known as End-of-Life Tyres (ELT), are used rubber tyres that because of their abrasion state ("tyre wear") are not safe for public traffic. Waste tyres are generally discarded after only a small amount of rubber is worn away. Even so, these tyres are unfit for further use in the vehicles they were made for, it is not permitted for landfill disposal since have been proven to be an environmental threat.

The disposal of tyres in landfills have proven to have negative effects on the environment. Not only do they take up a great deal of space within a landfill, but their process of decomposing has created a wide variety of issues that have made their disposal in landfills unfeasible and in many regions, banned. The disposal of tyres by landfilling has been linked to increased mosquito and other insect breeding (increase risk of disease spreading), contamination of both underground and above ground water systems, as well as chemically destroying many beneficial bacteria that grow in the soil within and surrounding a landfill.

In particular, the most obvious hazard associated with the uncontrolled disposal and accumulation of large amounts of tyres outdoors is the potential for large fires which are extremely detrimental to the environment. Its ability to absorb heat makes it very difficult to extinguish tyre fires and they can burn for months, generating smoke, oil and leaching toxic contaminants that affect the soil, waterways and air.

With increasingly growing of waste tyres accumulation, it is therefore imperative to have a stringent programme to control the disposal of waste tyres to ensure ambient environment remains healthy.

In preparation of this Tanzania standard, considerable assistance was derived from the following sources:

California Waste tyre Laws & Regulations: *Tyre Storage & Disposal Standards*

## **1 Scope**

This Tanzania standard prescribes stage methods of generation, collection, transportation, storage, utilization and disposal of waste tyres. It covers the generation of waste tyres from individual level to institutional level which is aimed at giving detailed information and guidance on how to manage tyres which are no longer safe for public traffic.

## **2 Normative References**

No normative references

## **3 Terminology**

For the purpose of this Tanzania Standard, unless the context specifically indicates otherwise, the following terms and phrases shall have the meanings respectively ascribed to them by this section.

### **3.1 pollution**

any direct or indirect alteration of physical, thermal, chemical, biological or radioactive properties of any part of the environment by discharging, emitting, or depositing of waste so as to adversely affect any beneficial use, to cause a condition which is hazardous to public health, safety or welfare, or to animals, birds, wildlife, fish or aquatic life, or to plants or to cause contravention of any condition, limitation, or restriction.

### **3.2 hazardous waste**

any solid, liquid, gaseous or sludge waste which by reason of chemical reactivity, environmental or human hazardness, its infectiousness, toxicity, explosiveness and corrosiveness is harmful to human health, life or environment.

### **3.3 waste tyres disposal**

the final stage in waste tyres management system.

### **3.4 waste tyres transportation**

conveyance of waste tyres, either treated, partly treated or untreated from a location to another location in an environmentally sound manner through specially designed and covered transport system so as to prevent the foul odour, littering and unsightly conditions.

### **3.5 waste tyres storage**

means to store segregated waste tyres at household /community level separately

## **4 Requirements**

### **4.1 Waste tyres generation**

The quantity of waste tyres generated vary from one place to another depending on population growth and rapid industrialization that is taking place in that area. The point of waste tyre generation varies from individuals, garesges/service stations, warehouses, factories and institutions. Waste generator shall ensure the waste tyres are segregated at source from other waste .

### **4.2 Waste tyres collection and transportation**

Waste tyres shall be collected from collection points by the registered individual/ companies and transported to the waste tyre facilities.

### **4.3 Storage of segregated waste tyres**

#### **4.3.1 General**

Storing waste tyres at the source of its generation until it is collected is the first essential step of waste tyres management. Used tyres shall be stored in a manner that minimises risks to the environment and human health.

#### **4.3.2 Waste tyres storage**

Waste tyres shall be stored in a secure environment such as ware house, distribution centers, or retail facility that is not easily accessible by general public. It should be stored in a way that minimizes the risk of harm occurring by reducing amenity effects and risks of fire or contaminant leaching.

Waste tyres shall be stored in one of the following methods:

- a) bundled waste tyres-a number of waste tyres shall be strapped together in bundles and stacked either within a system or on their sides.
- b) pallet systems-a system shall contain a number of waste tyres which includes stringers for material handling equipment.
- c) horizontal systems-a system (e.g. pallets, shelving, and racks) where waste tyres are stacked upright along a horizontal length exceeding 1.5 m.

- d) laced Storage (Outdoor storage only)-waste tyres shall be stacked in overlapping system to create a woven or laced arrangement.

### **4.3.3 Internal waste tyre storage**

Waste tyres stored indoors shall be stored in the manner prescribed in the subsections below:

- a) waste tyre facilities with an indoor storage less than 46 m<sup>2</sup> shall maintain dimension of waste tyre piles not exceed 15m width in any direction and 7m height.
- b) waste tyre facilities with an indoor storage greater than 46 m<sup>2</sup>, it shall be stored in accordance with the following:
1. shall maintain aisles with access to exits and fire access doors in accordance with the following requirements:
    - The aisles shall be a minimum of 2.4m wide.
    - The required aisle width shall extend from floor to ceiling.
  2. shall maintain dimensions of the waste tyre piles not exceed 15m width in any direction and 9m in height.
  3. shall be equipped with fire extinguishing system, smoke and heat vents.
- c) Waste tyres stored adjacent to or along one wall shall not extend more than 7.5m from such wall.
- d) Waste tyres shall not be stored in exits or enclosures for stairways or ramps, or in boiler rooms, mechanical rooms, or electrical equipment rooms.
- e) Waste tyre piles shall not be stored within 0.6m from the ceiling of a building.

Note: Illustrative diagram is provided as Annex A

### **4.3.4 External waste tyre storage**

The external waste tyre storage site (i.e. open yard) shall be level, clear of rubbish and combustible materials, and enclosed by fences or walls constructed of non-combustible materials. The fence or wall shall be of sufficient height (not less than 2m) to keep unauthorized persons from entering.

Individual waste tyre stacks shall not exceed 3.7m in height, 60m<sup>2</sup> in areas. A maximum of four individual waste tyre stacks can be grouped together to form a stack pile. A minimum clear separation of 2.5m at

the base shall be maintained between each stack. Waste tyre stacks shall be at least 2.5m from all non-combustible boundaries and buildings and 5m from combustible boundaries.

Note: Illustrative diagram is provided as Annex B

#### **4.4 Utilization and disposal of waste tyres**

Waste tyres can be reconditioned as per **TZS 427** (Tyre recondition: Specification) and continue to be utilized. Tyre wastes shall be disposed off landfill once all the recycle resources have been eliminated.

To dispose tyres the following steps may be used:

- a) Conversion of the waste tyre into a valuable products in an environmentally sound manner that reduces its size and recover the recyclable materials.
- b) The recycling materials such as large chunks of rubber or polymer shall be sent to recycling facilities.
- c) Waste tyres can be used as a source of energy.

#### **5. Record keeping**

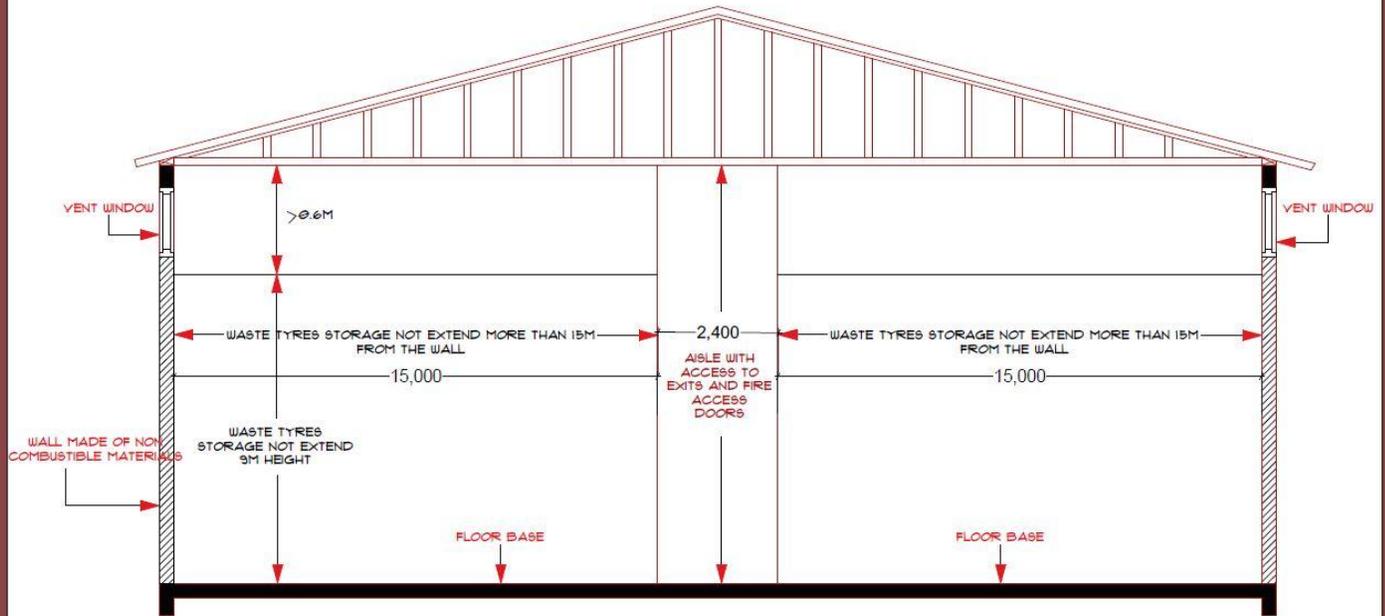
A waste tyre facility shall create and maintain records documenting the quantity of waste tyres received, stored and transferred from the site on a quarterly basis. The records may include log entries describing the methods of receipt and removal of the waste tyres, the number of waste tyres received and removed, the name of the person employed to deliver or remove the waste tyres, and Manifest Forms.

A waste tyre facility shall retain waste tyre records for three (3) years at the facility location. A facility may retain waste tyre records offsite if it notifies the local government authority of the location where all the records are maintained. On request, a waste tyre facility shall provide the records to an authorized representative.

ANNEX A

INDOOR WASTE TYRES STORAGE

INDOOR WASTE TYRES STORAGE DIAGRAM:

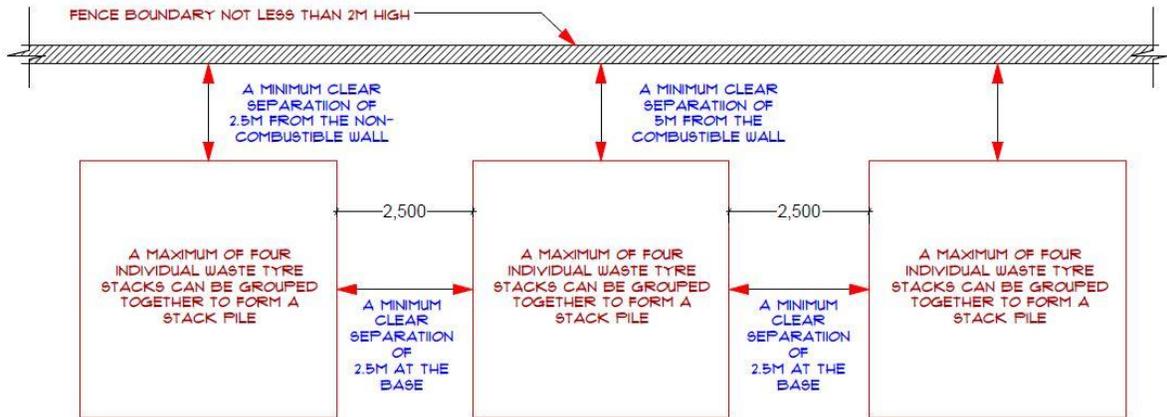


INTERNAL WASTE TYRE STORAGE REQUIREMENTS

ANNEX B

OUTDOOR WASTE TYRES STORAGE

OUTDOOR WASTE TYRES STORAGE DIAGRAM:



EXTERNAL WASTE TYRE STORAGE SITE  
LEVELED, CLEARED REMOVAL OF ALL  
COMBUSTIBLE MATERIALS AVAILABLE

FOR STAKEHOLDERS