



DRAFT TANZANIA STANDARD

TBS/MMDC 3 (6026) P3 *Coal briquettes for domestic use - Specifications*

Draft Standard for public comments

TANZANIA BUREAU OF STANDARDS

0 Foreword

This draft Tanzania Standard is being prepared by the Solid Minerals and Related Products Technical Committee (MMDC 3), under the supervision of the Mining and Minerals Standards Divisional Committee (MMDC).

This draft standard aims at addressing the safety and requirement related to characteristics for coal briquettes used for domestic uses.

During the preparation of this draft standard, assistance was derived from the following publications;

- i) TZS 1312:2010 –Specifications for wood charcoal and charcoal briquettes for household use.
- ii) SANS 1399: 2008 – Wood charcoal and charcoal briquettes for household use, published by South African National Standards.

This draft standard intends to use coal and coal waste to produce coal briquette so as to contribute to national and international efforts in reduction of charcoal and firewood consumption and combat deforestation in Tanzania.

1 Scope

This draft standard specifies requirements for coal briquettes that are derived entirely from coal duff/fines form that is intended for domestic use.

2 Normative references

For the purposes of this standard, the following references apply:

- i) TZS 2173 - Solid mineral fuels - Determination of total sulfur - Eschka method.
- ii) TZS 1934 – 2 - Solid mineral fuels - Vocabulary - Part 2: Terms relating to sampling, testing and analysis.
- iii) TZS 2092 - Solid mineral fuels – Determination of ash
- iv) TZS 2088 - Hard coal and coke – Determination of volatile matter
- v) TZS 2089 - Hard coal – Determination of total moisture
- vi) TZS 1934 - 2- Solid mineral fuels - Vocabulary - Part 2: Terms relating to sampling, testing and analysis
- vii) TZS 2093 - Solid mineral fuels — Determination of gross calorific value by the bomb calorimetric method and calculation of net calorific value

3 Definitions

For the purposes of this standard, the following definitions apply:

3.1 Acceptable

Satisfactory to the authority administering this standard, or to the parties concluding the purchase contract, as relevant.

3.2 Ash content

Residue when coal briquettes are incinerated in air under standardized conditions.

3.3 Binder and additives

Products that, when added to coal granules, holds the granules together in a solid mass, e.g. dried nutrients, leached field residue, sunflower oil seed cake, clay soil, lime etc.

3.4 Coal

Combustible sedimentary rock formed from altered plant remains consolidated under superimposed strata.

3.5 Coal briquette

Product produced by compressing coal duff (fine coal) together with a suitable binder. The final products are in round shape, oval shape, square shape and pillow shape.

3.6 Surface moisture content

Water contained by coal briquettes and that will be removed by heating to a constant weight at 105 °C.

3.7 Volatile matter content

The loss of mass when coal briquettes are heated out of contact with air under standardized conditions.

3.8 Sulfur contents

The quantity of sulfur in coal expressed in percentage or parts per million, may be divided into the quantities occurring as inorganic (pyritic) sulfur, organic sulfur, and sulphate sulfur. It may be tested in gaseous emission and ashes.

3.9 Calorific value

Absolute value of the specific energy of combustion for unit mass of a solid fuel burned in oxygen in a calorimetric bomb under the conditions specified.

4. Requirements

4.1 General

The coal used to produce coal briquettes shall be in such a way that can be acceptable.

4.2 Type of product

The coal briquettes shall be in solid form

4.3 Additives and foreign matter

Coal shall be free from additives and foreign matter. In the case of coal briquettes, a binder may be used. The binder shall be acceptable (such as dried nutrients, leached field residue, sunflower oil seed cake, clay soil, lime etc.), these materials shall be carbonized prior to use to reduce smoke

4.4 Chemical requirements

4.4.1 Ash content

When determined in accordance with **TZS 2092** the ash content of coal briquette shall not exceed 40 % (by mass).

4.4.2 Surface moisture content

When determined in accordance with **TZS 2089**, the moisture content of coal briquettes shall not exceed 10%.

4.4.3 Volatile matter content

When determined in accordance with **TZS 2088**, the volatile matter content of coal briquette shall not exceed 30%.

4.4.4 Sulfur content

When determined in accordance with **TZS 2173** the sulfur content of coal briquettes shall not exceed 1% (by mass).

4.4.5 Calorific value

When determined in accordance with **TZS 2093** the calorific value of coal briquettes shall be in range of 4000(Kcal/kg) to 5500(Kcal/kg).

5. Test report

The test report shall contain the following particulars:

- i) The identification of the product or sample tested;
- ii) A reference to this standard;
- iii) The test results;
- iv) Any deviations from the test methods in this standard;
- v) Any unusual features noted during the determinations; and
- vi) The date(s) of the tests.

6 Packing and marking

6.1 Packing

Coal briquettes shall be packed and sealed in a multi-wall paper bags or in corrugated board containers.

6.2 Marking

Each container shall be legibly and indelibly marked with the following information:

- i) the manufacturer's name or trade name or trade mark.
- ii) the description of the contents of the container, i.e. "coal briquettes".
- iii) the batch identification or the date of packing.
- iv) the net mass of the contents.
- v) any additional information, as required.
- vi) calorific value as required.

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