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DRAFT EAST AFRICAN STANDARD

Activated carbon for precious metal recovery — Specification

EAST AFRICAN COMMUNITY

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Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the principles and procedures for development of East African Standards.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

The committee responsible for this document is Technical Committee EASC/TC 029, *Mining*, quarrying and mineral beneficiation.

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.

Activated carbon for precious metal recovery — Specification

1 Scope

This Draft East African Standard specifies requirements, sampling and test methods for virgin activated carbon to be used in precious metal recovery.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ASTM D2652, Standard Terminology Relating to Activated Carbon

ASTM D2867, Standard Test Methods for Moisture in Activated Carbon

ASTM D3467, Standard Test Method for Carbon Tetrachloride Activity of Activated Carbon

ASTM D2866, Standard Test Method for Total Ash Content of Activated Carbon

ASTM D3838, Standard Test Method for pH of Activated Carbon

ASTM D2854, Standard Test Method for Apparent Density of Activated Carbon

ASTM D2862, Standard Test Method for Particle Size Distribution of Granular Activated Carbon

ASTM D3802, Standard Test Method for Ball-Pan Hardness of Activated Carbon

ISO 8213, Chemical products for industrial use – Sampling techniques – Solid chemical products in the form of particles varying from powders to coarse lumps

ASTM D5742 Standard Test Method for Determination of Butane Activity of Activated Carbon.

ASTM D3466, Standard Test Method for Ignition Temperature of Granular Activated Carbon

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ASTM D2652 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
lot
a quantity of virgin activated carbon of the same grade or type, consisting of one or more batches, that has been produced under the same manufacturer's production order using the same manufacturing procedure and equipment.

3.2
batch
a quantity of virgin activated carbon of the same grade or type that has been produced using the same manufacturing procedures and equipment, and that has been homogenized so as to exhibit the same physical properties and performance characteristics throughout its mass.

3.3
qualification test
a one-time test performed on each of three grab samples taken randomly from a single homogenized batch of a vendor's grade or type of virgin activated carbon to determine its suitability for the purpose stated herein. The size of each grab sample should be at least 500 cm.

3.4
batch test
a test performed on a representative sample of each batch of the same grade or type of virgin activated carbon to determine whether that batch meets the specification prescribed herein.

3.5
grade or type
the manufacturer's designation for a virgin activated carbon having a given set of performance capabilities and physical properties.

4 Materials and manufacture

The activated carbon furnished under this specification shall be virgin material. Reactivated carbon shall not be used.

5 Requirements

Each batch of virgin activated carbon shall comply with the specific requirements given in Table 1 when tested in accordance with the test methods specified therein.

Table 1: Physical and performance properties

S/N	Characteristic	Requirements	Methods of test
i.	Total moisture content (percentage by mass), *max*	5	ASTM D2867
ii.	Activity (butane activity), percentage, min	80	ASTM D 5742
iii.	Ash Content, percentage by mass, *max*	5	ASTM D2866
iv.	Hardness, percentage, *min*	95	ASTM D3802
v.	Apparent density, kg/m^3	480 - 550	ASTM D2854
vi.	pH	8 - 11	ASTM D3838
vii.	Ignition temperature, ^0C, min	330	ASTM D3466
viii.	Mean particle diameter(d_{50}), *mm*	2.5	ASTM D2862

6 Sampling

A representative sample shall be obtained from each batch using the methods prescribed in ISO 8213, quantity sufficient to perform all of the tests prescribed herein in triplicate.

7 Packaging

7.1 The virgin activated carbon shall be packaged in suitable containers to minimize degradation of the particles during handling, transportation and storage.

7.2 The containers shall be provided with a vapor barrier to minimize the adsorption of water and organic vapor after packaging.

8 Labelling

Each package shall be clearly and indelibly marked with to show the following information:

i) manufacturers' or supplier's name or trademark and physical address;

ii) product description as '' virgin activated carbon'';

iii) batch/lot number;

iv) quantity;

v) date of manufacture;

vi) instructions for use;

vii) country of origin.

Bibliography

[1] ASTM D4069 Standard Specification for Virgin Activated Carbon Used to Remove Gaseous Radio-Iodines from Gas Streams

[2] TZS 3446:2022, Activated carbon for precious metal recovery — Specification