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## DRAFT EAST AFRICAN STANDARD

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### Agricultural liming materials — 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.

In order to achieve this objective, the Community established an East African Standards Committee mandated to develop and issue East African Standards.

The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. 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 procedures of the Community.

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 020, *Agriculture and agrochemicals*.



## Agricultural liming materials — Specification

### 1 Scope

This draft East African Standard specifies the requirements, methods of sampling and tests for agricultural liming materials.

This standard applies to agricultural liming materials, including limestone, (calcitic and dolomitic), quicklime (burnt lime), hydrated lime, slag and shells

### 2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 8157, *Fertilizers soil conditioners and beneficial substances— Vocabulary*

ISO 8397, *Solid fertilizers and soil conditioners — Test sieving*

ISO 14820-1, *Fertilizers and liming materials — Sampling and sample preparation — Part 1: Sampling*

ISO 148-2, *Fertilizers and liming materials - Sampling and sample preparation - Part 2: Sample preparation*

AOAC 2006.03, *Arsenic, cadmium, cobalt, chromium, lead, molybdenum, nickel, and selenium in fertilizers — Microwave digestion and inductively coupled plasma-optical emission spectrometry*

ISO 20978, *Liming Materials — Determination of neutralizing value — Titrimetric method*

ISO 7409, *Fertilizers -Marking - Presentation and declarations*

### 3 Terms and Definitions

For the purpose of this standard, the terms and definitions in ISO 8157 and the following apply.

#### 3.1

##### **limestone**

a material consisting essentially of calcium carbonate or a combination of calcium carbonate with magnesium carbonate capable of neutralizing soil acidity

#### 3.2

##### **Burnt/Quicklime**

a material, made from limestone which consists essentially of calcium oxide or combination of calcium oxide with magnesium oxide

#### 3.3

##### **calcium carbonate equivalent (C.C.E.)**

the acid neutralizing capacity (of an agricultural liming material) of the material expressed as weight percent of calcium carbonate

- 3.4 fineness**  
the percentage by weight of the material which will pass sieves of specified sizes
- 3.5 hydrated lime**  
a material, made from lime, which consists essentially of calcium hydroxide or a combination of calcium hydroxide with magnesium oxide and/or magnesium hydroxide
- 3.6 slag**  
the non-metallic product, consisting essentially of silicates and aluminosilicates of calcium and other bases, that is developed in a molten condition simultaneously with iron in a blast furnace
- 3.7 shells**  
any calcium-rich materials derived from the hard protective outer case of animal origin that can produce Calcium Oxide (CaO) or lime.

## 4 Requirements

### 4.1 General requirements

Agricultural liming materials shall be in form of powder, dust, granules, pellets or liquid formulation. Except Liquid agricultural lime all other forms are subject to sieve analysis classification

### 4.2 Specific requirements

Agricultural liming materials requirements in terms of calcium carbonate equivalent (C.C.E) are shown in Table 1.

**Table 1 — Agricultural liming materials requirements**

No.	Material	Calcium carbonate equivalent (CCE), % min	Test Method
i)	Quicklime	140	ISO 20978
ii)	Hydrated lime	110	
iii)	Limestone	80	
iv)	Slag	80	
v)	Shells	80	

### 4.2 Physical Requirements for agricultural liming materials

The sieve analysis shall be done in accordance with ISO 8397. Agricultural liming materials shall be classified according to the minimum percentage passing the no. 8(2.36-mm) and no. 60(250µm/0.25mm) as shown in Table 2.

**Table 2 — Sieve analysis classification for agricultural liming materials**

<b>Class designation</b>	<b>Passing no. 8(2.36mm) sieve, min per cent</b>	<b>Passing no. 60(250µm sieve, min, per cent</b>
S	100	100
T	99	75
O	95	55
N	90	40
E	80	25

## **5 Contaminants**

Heavy metal contamination in Agricultural liming materials shall not exceed the limits given in table 3 when determined by the methods prescribed in AOAC 2006.03.

**Table 3 — Heavy metal contaminants limits**

<b>SL No.</b>	<b>Parameter</b>	<b>Limits in ppm</b>	<b>Test methods</b>
i)	Arsenic, As, max.	20.0	AOAC 2006.03
ii)	Cadmium, Cd, max.	15.0	
iii)	Mercury, Hg, max.	0.1	
iv)	Selenium, Se, max.	1.0	
v)	Lead, Pb, max.	30.0	

## **6 Sampling**

Sampling and sample preparation shall be carried out in accordance with ISO 14820-1 and ISO 14820-2 respectively.

## **7 Packaging, Marking and labelling**

### **7.1 Packaging**

Agricultural lime can be supplied in bulk or packaged as agreed between buyer and seller. If supplied in package, the package shall be in clean and non-defective material that protects the product from physical and chemical contamination and withstand multiple stages of handling (transportation and storage).



## 7.2 Marking and Labelling

7.2.1 The fertilizer package shall be legibly and indelibly marked in accordance with ISO 7409 in either English or any other official language with the following information;

- a) name and the address of the producer/manufacturer/packer;
- b) type of the agricultural liming material;
- c) the brand or trade name of the material;
- d) the identification of the product as to the type of the agricultural liming material;
- e) the net weight of the agricultural liming material;
- f) the percentage of calcium carbonate equivalent (CCE)
- g) the percentage of calcium oxide and magnesium oxide neutralizing value
- h) Country of origin
- i) Handling instructions
- j) Production date and expiry date
- k) Batch number
- l) Storage conditions

**NB:** Liming materials supplied in bulk shall bear the above information's

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## Bibliography

- KS 2526:2016 Agricultural liming Materials-Specification

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