
**Large cardamom (*Amomum subulatum*
Roxb.), as capsules and seeds —
Specification**

*Grande cardamome (Amomum subulatum Roxb.), en capsules et en
graines — Spécifications*



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1 Scope

This International Standard specifies requirements for large cardamom as capsules and seeds (*Amomum subulatum* Roxb.).

Recommendations relating to storage and transport are given in annex A.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of the publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 927:1982, *Spices and condiments - Determination of extraneous matter content*.

ISO 928:—¹⁾, *Spices and condiments - Determination of total ash*.

ISO 939:1980, *Spices and condiments - Determination of moisture content - Entrainment method*.

ISO 930:—²⁾, *Spices and condiments - Determination of acid-insoluble ash*.

ISO 948:1980, *Spices and condiments - Sampling*.

ISO 2825:1981, *Spices and condiments - Preparation of a ground sample for analysis*.

ISO 6571:1984, *Spices, condiments and herbs - Determination of volatile oil content*.

3 Description

3.1 Large cardamom capsules

Large cardamom capsules are the dried, nearly ripe to ripe fruits of *Amomum subulatum* Roxb. The capsules have a colour ranging from brown to pink and are ovoid and more or less triangular shaped with a ribbed appearance. The capsules may be clipped and their pedicles removed. The capsules shall be well formed with sound seeds inside.

3.2 Large cardamom seeds

These are seeds obtained by decortication of capsules of large cardamoms.

1) To be published. (Revision of ISO 928:1980)

2) To be published. (Revision of ISO 930:1980)

4 Requirements

4.1 Odour and taste

The odour of large cardamom capsules and seeds shall be characteristic and fresh. They shall be free from foreign odour and taste, including rancidity and mustiness.

4.2 Freedom from insects and moulds, etc.

Large cardamom capsules and seeds shall be free from live insects and moulds, and shall be practically free from dead insects, insect fragments and rodent contamination visible to the naked eye (corrected, if necessary, for abnormal vision), or with such magnification as may be necessary. If the magnification exceeds $\times 10$, this fact shall be stated in the test report.

4.3 Extraneous matter

Large cardamom capsules and seeds shall be free from visible dirt or dust. The proportion of pieces of calyx and stalk and other extraneous matter in capsules and seeds shall not be more than 5 % (*m/m*) and 2 % (*m/m*), respectively, when determined by the method specified in ISO 927.

4.4 Empty and malformed capsules

The proportion of empty (i.e. without any seeds) or malformed capsules, or those which are scantily filled with seeds, shall not be more than 5 % by counting. For this purpose, 100 capsules from a sample taken at random shall be opened and the number of empty and malformed capsules counted.

4.5 Immature and shrivelled capsules

The proportion of immature and shrivelled capsules (capsules which are not fully developed) shall not be more than 7 % (*m/m*) and shall be determined after separating them in accordance with the method given in ISO 927.

4.6 Light seeds

Light seeds include those seeds that are brown or red in colour, and broken, immature and shrivelled seeds. The proportion of light seeds in large cardamom seeds shall not be more than 5 % (*m/m*) when determined in accordance with the method given in ISO 927.

4.7 Chemical requirements

Large cardamoms as capsules or seeds, shall comply with the requirements given in table 1, when tested by the method specified.

5 Sampling

Sampling shall be carried out as specified in ISO 948.

Table 1 - Chemical requirements

Characteristic	Requirements		Test method
	Capsules	Seeds	
Moisture, % (m/m) max.	12	12	ISO 939
Volatile oil, % (ml/100 g), on dry basis, min.	1	1	ISO 6571
Total ash, % (m/m) on dry basis, max.	8	8	ISO 928
Acid insoluble ash, % (m/m), on dry basis, max.	2	2	ISO 930
NOTE : For capsules, the determination of moisture content, total ash and acid-insoluble ash shall be made on the whole capsules. The determination of volatile oil shall be made on the seeds obtained by separating the skin.			

6 Test methods

The samples of large cardamoms, as capsules or seeds, shall be tested to ensure conformity with the requirements of this International Standard by following the methods of physical and chemical analysis specified in clauses 4.2 to 4.7 and table 1. Prepare a ground sample for analysis in accordance with ISO 2825.

7 Packing and marking

7.1 Packing

Large cardamom capsules and seeds shall be packed in clean and sound containers made of a material which does not affect the product but which protects it from the ingress of moisture and loss of volatile matter.

The packaging shall also comply with any national legislation relating to environmental protection.

7.2 Marking

The following particulars shall be marked on each container/package or shall be marked on a label attached to the container/package:

- name of the product and tradename, if any;
- name and address of the producer or the packer and trademark, if any;
- batch or code number;
- net mass
- producing country; and
- any other information requested by the purchaser such as year of harvest, date of packing, etc. ;
- reference to this International Standard.

Annex A

(informative)

Recommendations relating to storage and transport conditions

A.1 The packages of large cardamom, as capsules or seeds, should be stored in covered premises, well protected from the sun, rain and excessive heat.

A.2 The store should be dry, free from objectionable odours and proofed against the entry of insects and vermin. The ventilation should be controlled as so to ensure good ventilation during dry weather and to be fully closed during wet weather. Suitable arrangements should be made to allow fumigation of the store.

A.3 The packages should be handled and transported in such a way that they are protected from rain, from the sun or other sources of excessive heat, from objectionable odours and from any other contamination, especially in the holds of ships.

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