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**Cinnamon (*Cinnamomum zeylanicum*  
Blume) — Specification**

*Cannelle (Cinnamomum zeylanicum Blume) — Spécifications*



Reference number  
ISO 6539:2014(E)

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 34, *Food products*, Subcommittee SC 7, *Spices, culinary herbs and condiments*.

This third edition cancels and replaces the second edition (ISO 6539:1997), of which it constitutes a minor revision.

# Cinnamon (*Cinnamomum zeylanicum* Blume) — Specification

## 1 Scope

This International Standard specifies requirements for whole or ground (powdered) cinnamon, of the Sri Lankan, Madagascan and Seychelles types; this cinnamon is the bark of the tree or shrub *Cinnamomum zeylanicum* Blume.<sup>1)</sup>

Recommendations relating to storage and transport conditions are given in [Annex A](#).

NOTE Requirements for cassia (Chinese type, Indonesian type and Vietnamese type) are given in ISO 6538.[\[4\]](#)

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 927, *Spices and condiments — Determination of extraneous matter and foreign matter content*

ISO 928, *Spices and condiments — Determination of total ash*

ISO 930, *Spices and condiments — Determination of acid-insoluble ash*

ISO 939, *Spices and condiments — Determination of moisture content — Entrainment method*

ISO 948, *Spices and condiments — Sampling*

ISO 1208, *Spices and condiments — Determination of filth*

ISO 2825, *Spices and condiments — Preparation of a ground sample for analysis*

ISO 6571, *Spices, condiments and herbs — Determination of volatile oil content (hydrodistillation method)*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **cinnamon quill**

full tube

scraped peel of the inner bark of mature plantation cinnamon shoots joined together by overlaps, the hollow of which has been filled with small pieces of the same peel and thereafter dried in the sun after air curing

### 3.2

#### **cinnamon quilling**

broken tube

broken piece and split of varying sizes of all grades of cinnamon quills

1) Other Latin names are *Cinnamomum verum* J. Presl; *Cinnamomum zeylnacum* Nees and *Laurus cinnamomum* L.

**3.3**

**cinnamon feathering**

piece of inner bark, obtained by peeling and/or scraping the bark of small twigs and stalks of plantation cinnamon shoots, which may include a quantity of chips as specified

**3.4**

**cinnamon chip**

dried unpeelable bark of plantation cinnamon, inclusive of the outer bark, which has been obtained by beating or scraping the shoots

**3.5**

**ground cinnamon**

powder obtained by grinding cinnamon of the types considered in this International Standard, excluding all additives

**3.6**

**whole cinnamon**

all commercial forms of cinnamon except cinnamon powder

**3.7**

**foxing**

occurrence of reddish-brown patches on the surface of the quills, which may become dark brown with time

**3.8**

**bale**

package of any one particular grade of quills wrapped in a suitable material for export purposes

## **4 Types and classification**

### **4.1 Types**

#### **4.1.1 Sri Lankan type cinnamon**

This is the dried bark of cultivated varieties of the species *Cinnamomum zeylanicum* Blume of the Lauraceae family.

Sri Lankan type cinnamon is produced in four forms:

- a) quills (see [3.1](#));
- b) quillings (see [3.2](#));
- c) featherings (see [3.3](#));
- d) chips (see [3.4](#)).

#### **4.1.2 Seychelles type cinnamon**

This is the bark of trunks or branches of *Cinnamomum zeylanicum* Blume, cultivated on the Seychelles.

Seychelles type cinnamon is produced in three forms:

- a) rough cinnamon bark, which consists of slightly curved, elongated, irregular, medium or small pieces of the whole unscraped bark;
- b) scraped cinnamon bark, which is obtained from younger shoots from bushes of the same species; the shoots are scraped with a curved knife before the bark is detached from the wood;

- c) quills and quillings, which are prepared from the young shoots, of bushes in a way similar to that used for Sri Lankan type cinnamon.

#### 4.1.3 Madagascan type cinnamon

This is the bark of trunks or branches of *Cinnamomum zeylanicum* Blume, which grows wild on Madagascar. It is produced either

- a) in the form of simple, hollow tubes of unscraped or scraped bark, of rather coarse appearance, about 30 cm long, cut from smaller branches with a knife, or more usually
- b) in the form of unscraped or scraped pieces of bark from the larger branches and trunks, broken off with the flat side of a hatchet.

### 4.2 Commercial grades

#### 4.2.1 Sri Lankan type cinnamon

##### 4.2.1.1 Quills

For classification, see [Table 1](#).

##### 4.2.1.2 Quillings

Quillings may contain up to 3 % (mass fraction) of featherings and chips.

##### 4.2.1.3 Featherings

Featherings may contain up to 5 % (mass fraction) of chips.

##### 4.2.1.4 Chips

Chips shall consist of well dried and unpeelable cinnamon bark.

#### 4.2.2 Seychelles type and Madagascan type cinnamon

For classification, see [Table 2](#).

### 5 Ground cinnamon

Ground cinnamon shall consist solely of the types of cinnamon listed in [Clause 4](#).

If there is a designation of origin, the ground cinnamon should be prepared exclusively from the barks concerned.

**Table 1 — Classification for quills for Sri Lankan type cinnamon**

Commercial designation of grades and qualities	Diameter of quills	Number of whole quills (1 050 mm) per kg	Extent of foxing <sup>a</sup>	Minimum length of quills in a bale	Pieces of tube and broken pieces of the same quality per bale
	max.	min.	max. <sup>b</sup>		max.
	mm		%	mm	% (mass fraction)
<b>Alba</b>	6	45	Nil	200	1
<b>Continental</b>					
C 00000 special	6	35	10	200	1
C 00000	10	31	10		
C 0000	13	24	10		
C 000	16	22	15		
C 00	17	20	20		
C 0	19	18	25		
<b>Mexican</b>					
M 00000 special	16	22	50	200	2
M 00000	16	22	60		
M 0000	19	18	60		
<b>Hamburg</b>					
H 1	23	11	25	150	3
H 2	25	9	40		
H 3	38	7	65		
<sup>a</sup> Foxing can be: a) superficial ("malkorahedi"), or b) heavy ("korahedi"). This subdivision is based on the depth of the patches. <sup>b</sup> The extent is determined by visual examination.					

**Table 2 — Classification of Seychelles type and Madagascan type cinnamon**

Commercial designation of the grade	Physical characteristics of the bark
<b>1</b> Whole tubes (full tubes)	Tubes of length about 15 cm and bark thickness up to 1 mm
<b>2</b> Pieces of scraped bark	Broken pieces, rough and grooved scraped bark of thickness up to 2 mm
<b>3</b> Pieces of unscraped bark	Broken pieces, rough and grooved, of width up to about 3 cm and length up to 20 cm. The bark can be up to 5 mm thick
<b>4</b> Chips, flakes of unscraped bark	Small pieces of unscraped bark of cinnamon stems



## 6 Requirements

### 6.1 Odour and flavour

The odour and flavour shall be fresh and characteristic of cinnamon of the origin concerned. It shall be free from foreign flavours, including mustiness.

### 6.2 Colour

Ground cinnamon shall be yellowish to reddish-brown in colour.

### 6.3 Freedom from moulds, insects, etc.

Whole cinnamon shall be free from live insects, mould growth, mites and insect remains, for example cocoons, and shall be practically free from dead insects, insect fragments and rodent contamination visible to the naked eye (corrected, if necessary, for abnormal vision), with such magnification as may be necessary in any particular case. If the magnification exceeds  $\times 10$ , this fact shall be stated in the test report.

In case of dispute, contamination in ground cinnamon shall be determined by the method described in ISO 1208.

### 6.4 Extraneous matter

Extraneous matter includes leaves, stems, chaff and other vegetable matter together with sand, earth and dust.

The proportion of extraneous matter in whole cinnamon shall not exceed 1 % (mass fraction) when determined by the method described in ISO 927.

In the case of cinnamon quills, Sri Lankan type, take about 110 g of quills per bale of Continental grade and 230 g of quills per bale of Mexican or Hamburg grades, break them up and inspect the filling. Unscraped inner bark, scrapings, foreign matter, bark of wild cinnamon and other genera shall not be present.

### 6.5 Chemical requirements

Whole cinnamon and ground cinnamon shall comply with the requirements given in [Table 3](#).

## 7 Sampling

Sampling shall be carried out as specified in ISO 948.

## 8 Test methods

**8.1** The samples shall be analysed to ensure conformity with the requirements of this International Standard by the methods of physical and chemical analysis as specified in [6.3](#), [6.4](#) and in [Table 3](#).

Table 3 — Chemical requirements

Characteristic	Requirements by cinnamon type		Test method
	Sri Lankan type	Seychelles and Madagas- can type	
Moisture content, % (mass fraction), max.			ISO 939
— whole cinnamon	14	15	
— ground cinnamon	12	14	
Total ash, % (mass frac- tion), on dry basis, max.	5	7	ISO 928
Acid-insoluble ash, % (mass fraction), on dry basis, max.	1	2	ISO 930
Volatile oils, ml/100 g, on dry basis, min.			ISO 6571
— whole cinnamon	1,0	0,7	
— ground cinnamon	0,7	0,3	

**8.2** For the preparation of a ground sample for analysis, coarsely crush the product until particles of 5 mm or less are obtained, before applying the general method described in ISO 2825.

## 9 Packaging and marking

### 9.1 Packaging

Whole cinnamon shall be packed in clean, sound and dry 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.

### 9.2 Marking

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

- a) reference to this International Standard;
- b) name of the product;
- c) trade name or brand name, if any;
- d) name and address of the manufacturer or packer;
- e) batch or code number;
- f) net mass;
- g) grade of the material;
- h) producing country;
- i) any other marking required by the purchaser, such as year of harvest and date of packing (if known).

## Annex A (informative)

### Recommendations relating to storage and transport conditions

- A.1** The containers of cinnamon should be stored in covered premises, well protected from the sun, rain and excessive heat.
- A.2** The store room should be dry, free from objectionable odours and proofed against entry of insects and vermin. The ventilation should be controlled so as to give good ventilation under dry conditions and to be fully closed under damp conditions. In a storage warehouse, suitable facilities should be available for fumigation.
- A.3** The containers should be so handled and transported that they are protected from the rain, from the sun or other source of excessive heat, from objectionable odours and from cross-infestation, especially in the holds of ships.

## Bibliography

- [1] ISO 6538, *Cassia, Chinese type, Indonesian type and Vietnamese type [Cinnamomum aromaticum (Nees) syn. Cinnamomum cassia (Nees) ex Blume, Cinnamomum burmanii (C.G. Nees) Blume and Cinnamomum loureirii Nees] — Specification*

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