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# International Standard



# 5562

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## Turmeric, whole or ground (powdered) — Specification

*Curcuma, entier ou en poudre — Spécifications*

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**Descriptors** : agricultural products, spices, turmeric, specifications, tests, packing, marking, storage, transportation.

## Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5562 was developed by Technical Committee ISO/TC 34, *Agricultural food products*, and was circulated to the member bodies in June 1981.

It has been approved by the member bodies of the following countries :

Austria	Iraq	Portugal
Brazil	Israel	Romania
Canada	Kenya	South Africa, Rep. of
Czechoslovakia	Korea, Rep. of	Spain
Egypt, Arab Rep. of	Malaysia	Sri Lanka
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India	Philippines	Yugoslavia
Iran	Poland	

The member body of the following country expressed disapproval of the document on technical grounds :

USA

# Turmeric, whole or ground (powdered) — Specification

## 1 Scope and field of application

This International Standard specifies requirements for turmeric (*Curcuma longa* Linnaeus), whole or ground (powdered).

Recommendations relating to storage and transport conditions are given in the annex.

## 2 References

ISO 927, *Spices and condiments — Determination of extraneous 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 3588, *Spices and condiments — Determination of degree of fineness of grinding — Hand sieving method*.

ISO 5566, *Turmeric — Determination of colouring power — Spectrophotometric method*.

## 3 Description

Whole turmeric is constituted by cured primary or secondary rhizomes, called commercially bulbs or fingers, of *Curcuma longa* Linnaeus.

The rhizomes shall be dry, well developed and shall have the shape and typical colour of the variety. The rhizomes are cured by soaking them in boiling water and then drying them to avoid regeneration. They may be in the natural state or machine polished.

Ground (powdered) turmeric is obtained by grinding whole turmeric.

## 4 Requirements

### 4.1 Odour and flavour

Turmeric, whole or ground (powdered), shall have the characteristic odour and flavour of the spice. It shall be free from mustiness or other foreign flavours.

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

Whole turmeric shall be free from living 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), with such magnification as may be necessary in any particular case. If the magnification exceeds X 10, this fact shall be stated in the test report.

In the case of ground turmeric, filth shall be determined by the method specified in ISO 1208.

### 4.3 Extraneous matter

#### 4.3.1 Whole turmeric

Extraneous matter in whole turmeric includes :

- a) chaff, dried leaves, stones, particles of soil, dust and mud, etc.;
- b) all vegetable matter other than the rhizomes.

The proportion of extraneous matter, when determined by the method specified in ISO 927, shall not exceed 2 % (*m/m*).

#### 4.3.2 Ground (powdered) turmeric

Ground (powdered) turmeric shall be examined by microscope. It shall not contain any morphologically extraneous matter.

### 4.4 Defective rhizomes

Shriveled fingers and/or bulbs, internally damaged, hollow or porous rhizomes, rhizomes scorched by boiling and other types of damaged rhizomes shall be considered as defective.

The proportion of defective rhizomes shall not exceed 5 % (*m/m*).

## 4.5 Grading

### 4.5.1 Whole turmeric

Whole turmeric is graded according to its presentation (rhizomes, fingers or bulbs), its origin and its extraneous matter content.

Fingers, when sold separately, shall not contain more than

- a) 7 % (*m/m*) of pieces (rhizomes of length less than 15 mm and screenings or fragments);
- b) 5 % (*m/m*) of bulbs.

### 4.5.2 Ground (powdered) turmeric

Ground (powdered) turmeric is graded according to its particle size into two types, as follows :

- a) coarse powder : 98 % of the product shall pass through a sieve of aperture size 500  $\mu\text{m}$ ;
- b) fine powder : 98 % of the product shall pass through a sieve of aperture size 300  $\mu\text{m}$ .

The degree of fineness of grinding shall be determined by the method specified in ISO 3588.

## 4.6 Chemical requirements<sup>1)</sup>

Turmeric, whole or ground (powdered), shall comply with the requirements given in the table.

Table — Chemical requirements

Characteristic	Requirement		Method of test
	Whole turmeric	Ground (powdered) turmeric	
Moisture content, % ( <i>m/m</i> ) max.	12	10	ISO 939
Total ash, % ( <i>m/m</i> ) on dry basis, max.	not specified	9	ISO 928
Acid-insoluble ash, % ( <i>m/m</i> ) on dry basis, max.	not specified	1,5	ISO 930
Colouring power, expressed as curcuminoids content, % ( <i>m/m</i> ) on dry basis, min.	not specified	2	ISO 5566

1) Limits for toxic substances will be included later, in accordance with the recommendations of the Joint FAO/WHO Codex Alimentarius Commission.

## 5 Sampling

Sample the turmeric by the method specified in ISO 948.

## 6 Methods of test

**6.1** In the case of whole turmeric, prepare a ground sample for analysis in accordance with ISO 2825.

In the case of ground (powdered) turmeric, use the sample as received after thorough mixing.

**6.2** The samples of turmeric shall be tested for conformity with the requirements of this International Standard by the methods of test referred to in 4.2, 4.3, 4.5.2 and the table.

## 7 Packing and marking

### 7.1 Packing

Turmeric, whole or ground (powdered), shall be packed in clean, sound and dry containers made of a material which does not affect the turmeric and protects it from moisture absorption and from the loss of volatile oil.

### 7.2 Marking

The following particulars shall be marked on each container, or attached by means of a label :

- a) name of the material, and the trade name or brand name, if any;
- b) name and address of the producer or packer;
- c) batch or code number;
- d) net mass;
- e) grade;
- f) producing country;
- g) any other marking required by the purchaser (such as the date of packing, year of harvest, date of grinding, etc.).

## Annex

### Recommendations relating to storage and transport conditions

(This annex does not form part of the standard.)

- A.1** Containers of turmeric 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 an outdoor storehouse, suitable facilities should be available for fumigation.
- A.3** The containers should be so handled and transported that they are protected from the rain, sun and excessive heat, from objectionable odours and from cross-infestation, especially in the holds of ships.

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