SLOVENSKI STANDARD
SIST ISO 3588:1997

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Začimbe - Določanje stopnje finosti mletja - Ročna sejalna metoda (Referenčna metoda)) Ugotavljanje drobnosti mletja (ali zmletka)

Spices and condiments -- Determination of degree of fineness of grinding -- Hand sieving method (Reference method)

Épices -- Détermination du degré de finesse des moutures -- Méthode par tamisage manuel (Méthode de référence)

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Spices and condiments — Determination of degree of fineness of grinding — Hand sieving method (Reference method)

Épices — Détermination du degré de finesse des moutures — Méthode par tamisage manuel (Méthode de référence)

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

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 3588 was developed by Technical Committee ISO/TC 34, *Agricultural food products*, and was circulated to the member bodies in June 1974.

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

Austria	Hungary	Romania
Canada	India	South Africa, Rep. of
Chile	Iran	Spain
Czechoslovakia	Israel	Thailand
Egypt, Arab Rep. of	Poland	United Kingdom
Germany	Portugal	Yugoslavia

No member body expressed disapproval of the document.

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Spices and condiments — Determination of degree of fineness of grinding — Hand sieving method (Reference method)

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a reference method for the determination of the degree of fineness of grinding of spices and condiments, by hand sieving to obtain the distribution of particle sizes in the sample.

NOTES

1 An International Standard on determination of fineness of grinding by machine sieving is in preparation.

2 International Standard ISO 2591 sets out general principles regarding test sieving. However, because some spices have special properties, the specification of certain details has been considered necessary in this case. Moreover, further detailed instructions relating to the sieving of particular spices may be found in the relevant International Standards giving specifications for these products.

2 REFERENCE

ISO 2591-1973, *Test sieving.*

3 APPARATUS

3.1 Test sieves

The determination of the degree of fineness of grinding may be carried out with a single test sieve, with two test sieves, or with a series of test sieves with different nominal apertures, according to the information being sought about the particle size distribution.

Specific details of the number of sieves which should be used and their nominal apertures will be indicated in the specification for the particular product or shall be agreed between the interested parties.

3.1.1 *Test sieving medium*

The test sieving medium (wire cloth) shall comply with sub-clause 3.1.1.1 of ISO 2591.

3.1.2 *Size and shape of the test sieves*

The test sieves shall be round, with a nominal size of 200 mm. They shall comply with the requirements for 200 mm sieves given in sub-clause 3.1.2.1 of ISO 2591.

The requirements concerning marking, preparation and maintenance, and accessories given in sub-clauses 3.1.2.3, 3.1.3 and 3.2 of ISO 2591 are obligatory.

4 PROCEDURE

4.1 Test sample

In order to obtain reliable results, it is necessary to sieve at least 100 g of the ground spice.

4.2 Method of sieving

The test sieving shall be carried out in general in accordance with clause 4 (in most cases in accordance with sub-clause 4.6.3) of ISO 2591. (See also A.2.5 in the annex to the present document.)

4.3 End-point of sieving

For non-friable spices, the end-point of the sieving process may be taken when the quantity passing through the sieve in 1 min is less than 0,1 % of the charge (i.e. less than 0,1 g).

For friable spices, either the end-point of the sieving will be prescribed in the specification for the particular product, or it may be taken when the quantity passing through the sieve in 1 min approaches 0,1 %.

4.4 Evaluation of the results

4.4.1 *Weighing and calculation*

Carry out the weighing and calculation in accordance with sub-clause 4.9.1 of ISO 2591.

4.4.2 *Repeatability*

At least two analyses shall be carried out. The evaluation of the analysis shall be made in accordance with sub-clause 4.9.3 of ISO 2591.

5 PRESENTATION OF RESULTS

The results shall be presented in accordance with one of the methods, as appropriate, given in clause 5 of ISO 2591.

ANNEX

PROPERTIES OF GROUND SPICES RELEVANT TO SIEVING

A.1 ORIGIN AND SIZE

The ground spices to be tested are prepared from different parts of plants (fruits, seeds, leaves, bark, roots, etc.). The range of particle size extends from 2 mm to a few micrometres. The ground spices differ greatly in physical and chemical properties, according to their origin.

A.2 PHYSICAL AND CHEMICAL PROPERTIES

A.2.1 Friable nature

Some ground spices are liable to size reduction during sieving. The lower the moisture content, the more this property becomes apparent.

A.2.2 Moisture content

The highest allowable moisture content is prescribed in the respective International Standards on spices.

Most ground spices readily absorb or lose moisture according to the relative humidity of the atmosphere. Care must therefore be taken that during the sieving process there is no change in the moisture content of the ground spice.

Moisture may be either on the surface or internal. The influence of surface moisture on the cohesion between the ground particles is important because it may affect the duration of the sieving. If there is a change of internal moisture content during sieving, the masses of the fractions will be affected.

A.2.3 Cohesive properties

Because of their physical and chemical properties, ground spices have a tendency for cohesion; this tendency increases the particle size. The cohesion between the ground particles may be increased by fixed and/or volatile oil content (if high), sugar content or any other characteristic component of certain spices.

A.2.4 Particle shape

The duration and results of sieving can be considerably affected by the shape of the particles, which may be spherical, fibrous, acicular, flaky, cubical, angular, etc. The ratio of the dimensions of fibrous and acicular particles to their amount is important because some of these particles pass more easily through the sieve than others.

A.2.5 Size distribution

The particle size range of the ground spice is important in deciding the sieving procedure to be used.