INTERNATIONAL STANDARD

ISO 6670

Second edition
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Instant coffee — Sampling method for bulk units with liners

Café soluble — Méthode d'échantillonnage pour emballages en vrac avec doublure

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 6670 was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 15, *Coffee*.

This second edition cancels and replaces the first edition (ISO 6670:1983), which has been technically revised.

Annex A forms a normative part of this International Standard.

Instant coffee — Sampling method for bulk units with liners

1 Scope

1.1 This International Standard specifies a method of sampling a consignment of instant coffee, shipped in ten units or more, for the purpose of examination to determine whether the consignment complies with a contract specification.

The cases used have inner linings of moisture-resistant material hermetically sealed because of the hygroscopic nature of instant coffee, and are in units greater than 10 kg net mass, typically up to 50 kg. This method is also applicable to units of more than 50 kg, usually named as big bags or supersacks. The cases are generally made of cardboard of appropriate strength and the big bags are made of suitable plastic material.

1.2 The method may also be used for the selection and preparation of a sufficiently representative sample of the consignment, intended

a) to serve as a basis for an offer for sale,

b) for examination to verify that the instant coffee to be offered for sale satisfies the producer's sales specification,

c) for examination to determine one or more of the characteristics of the instant coffee for technical, commercial, administrative and arbitration purposes, and

d) for retention as a reference sample for use, if required, in litigation.

In practice, consignments of instant coffee are often blended in use and before packing.

1.3 This International Standard is applicable to all types of instant coffee, as defined in ISO 3509, contained in all types of units with liners, with the exception stated in 1.4.

1.4 For bulk density and particle size, this International Standard applies to spray-dried powder and freeze-dried instant coffees only, as defined in ISO 3509, due to the intrinsic fragility of particles of agglomerated instant coffee, which leads to greater breakdown and headspace in the final packed units for the consumer.

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, this publication do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 3509, *Coffee and its products — Vocabulary*

3 Terms and definitions

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

3.1
consignment
quantity of instant coffee in every unit, dispatched or received at one time and covered by a particular contract or shipping document

NOTE A consignment may be composed of one or more lots.

3.2
lot
part of a consignment or a consignment, from one source, presumed to have uniform characteristics and with similar identifying codes

NOTE A lot consists of not more than 1 500 of every unit of the same type and mass, containing instant coffee assumed to have common properties of reasonably uniform character and to which a given scheme of examination can be applied.

3.3
damaged case
damaged big bag
unit having a liner which is torn, indicating possible damage to, or contamination of, the instant coffee therein, or unit which is soiled or otherwise contaminated, in such a way as is likely to cause contamination of the instant coffee itself

3.4
sample
part of a lot, from which the properties of the lot are to be estimated by examination, i.e. every unit that has been selected

3.5
increment
quantity of 100 g $\pm$ 20 g of instant coffee taken from a single unit of a specific lot

3.6
bulk sample
quantity of not less than 1 000 g of instant coffee obtained by combining all the increments (3.5) taken from units of a specific lot

3.7
blended bulk sample
quantity of instant coffee obtained by combining and blending all the increments (3.5) taken from units of a specific lot

3.8
laboratory sample
quantity of not less than 300 g of instant coffee taken from the blended bulk sample (3.7) of a specific lot, without altering its composition

4 Requirements

4.1 Sampling personnel

Sampling shall be carried out by experienced samplers, or samplers qualified by training and experience, or shall be carried out by specialized sampling organizations.

4.2 Sampling conditions

Sampling shall be carried out on apparently sound units and liners in a sheltered place in such a manner as to protect the samples, the sampling apparatus, and the containers and packages intended to receive the samples, against contamination.

Sampling should be carried out in such a way that there is minimal moisture change in the sample, for example by sampling in an air-conditioned room, preferably at 20 °C and maximum 45 % relative humidity.

The sampler shall report any damage to units and liners and shall not include increments taken from such units in the bulk sample.

If damaged units or liners are present, the sampler shall check all the lot for damage.

4.3 Identification and general inspection of the lot prior to sampling

Before any samples are taken, the lot shall be positively identified.

5 Sampling equipment

5.1 Scoop

See annex A.

5.2 Sample containers and packages

The containers and packages mentioned in 4.2, together with their closure systems, shall be clean and dry and shall be made from materials that do not affect the odour, taste or composition of the samples.

They shall be sufficiently robust to withstand hazards during transport, and shall preserve the samples unchanged for the appropriate period, with particular reference to the hazards of moisture absorption.

6 Procedure

6.1 Taking increments

6.1.1 The exact number of units to be selected shall be the subject of prior agreement between the interested parties.

6.1.2 Take the units to be sampled according to a system of random numbers. Then open the units, break the seal of the inner liner, and take the increment using the scoop according to the instructions for its use (see annex A).

In order to obtain a bulk sample of 1 000 g (see 3.6), it may be necessary to take more than one increment from each unit.

6.1.3 After taking the increments, reseal the inner liners and close the units.

6.2 Preparation of samples

6.2.1 General

Samples obtained from the increments described under 6.1 may be prepared for detailed laboratory examination by either one or other of two procedures:

a) according to 6.2.2 to 6.2.4, where a single blended sample is to be obtained;

b) according to 6.2.5, where all increments are separately obtained and packed into separate containers.

6.2.2 Bulk sample

Examine the increments as they are taken. If they are evidently homogeneous, combine them in a container. Label the bulk sample obtained (see clause 7).

If there is a noticeable lack of homogeneity amongst the increments, keep them separate and report this condition in the sampling report (see clause 8).

Samples taken from damaged units or liners shall not be included in the bulk sample.

6.2.3 Blended bulk sample

Remove the bulk sample (6.2.2) from its original container and thoroughly mix it, but avoid unnecessarily rough handling that may result in excessive breakage of the particles.

6.2.4 Laboratory sample

Prepare each laboratory sample by removing a quantity of not less than 300 g from the blended bulk sample (6.2.3). Thoroughly mix the laboratory sample, but avoid unnecessarily rough handling. More than one laboratory sample may be required.

6.2.5 Separate increments

Place the increments as taken from every unit into separate containers and label each (clause 7), which will be the laboratory samples. It may be necessary to take more than one increment per unit, according to laboratory test requirements. By this procedure, the laboratory will be able to report on any differences of analytically determined characteristics between units of a lot.

7 Packing and marking of samples

7.1 Precautions to be taken when packing samples

The containers shall be moisture-proof and oxygen-proof, and fitted with an airtight closure. They shall be completely filled with instant coffee. The closure system shall be selected to prevent subsequent loss or tampering.

7.2 Marking

The samples shall be identified by recording the following information on the container, or on a label affixed to the container, unless there is a stipulation to the contrary in the contract:

a) date of sampling;

b) name and signature of sampler;

c) shipping documents or contract number;

d) ship (or other transport vehicle);

e) location;

f) identifying number(s);

g) quantity;

h) mass of the sample.

8 Sampling report

The sampling report shall give all information relevant to the method of sampling and shall refer to the presence of damaged units, the type(s) of damage and the number of damaged units in the lot.

Any other pertinent observation concerning the condition of the lot shall also be included.

The sampler shall report the conditions in the vicinity of the lot, especially with respect to any potentially contaminating material in the vicinity, and conditions (relative humidity) relative to moisture absorption (if accurate assessment of the dry matter content in the units is required).

9 Precautions during storage and transport of samples

9.1 Laboratory samples shall be dispatched to the place of examination as soon as possible after preparation.

A copy of the sampling report (see clause 8) shall be sent with them.

9.2 After taking the laboratory samples, the blended bulk sample or individual increments from every unit from each lot shall be retained for further use if required, until final acceptance of the consignment by the purchaser.

Annex A
(normative)

Scoop sampling method

A.1 Apparatus

A.1.1 **Stainless steel scoop**, of capacity corresponding to approximately 100 g of instant coffee.

A.2 Procedure

Take each of the units selected, break the seal and remove approximately 2 cm of coffee from the middle of the unit towards its edge.

After this procedure, collect ten coffee portions from the middle of the units, using a stainless steel scoop (A.1.1), to provide a representative increment of approximately 1 000 g.

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