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Mazdoor Kisan Shakti Sangathan
"The Right to Information, The Right to Live"

"पुराने को छोड़ नये के तरफ"
Jawaharlal Nehru
"Step Out From the Old to the New"

IS 15470 (2004): Wheat Flour - Determination of Dry Gluten
[FAD 16: Foodgrains, Starches and Ready to Eat Foods]
Indian Standard
WHEAT FLOUR — DETERMINATION OF DRY GLUTEN

ICS 67.060
NATIONAL FOREWORD

This Indian Standard which is identical with ISO 6645 : 1981 'Wheat flour — Determination of dry gluten' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendations of the Foodgrains, Starches and Ready-to-Eat Foods Sectional Committee and approval of the Food and Agriculture Division Council.

In the adopted standard certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.

b) Comma (,) has been used as a decimal marker, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

CROSS REFERENCE

In this adopted standard reference appears to the following International Standard for which Indian Standard also exists. The corresponding Indian Standard which is to be substituted in its place is listed below along with its degree of equivalence for the edition indicated:

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<th>Corresponding Indian Standard</th>
<th>Degree of Equivalence</th>
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In reporting the results of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 1960 'Rules for rounding off numerical values (revised)'.
Indian Standard

WHEAT FLOUR — DETERMINATION OF DRY GLUTEN

1 Scope and field of application

1.1 This International Standard specifies a method for the determination of dry gluten in wheat flour.

The method may also be used to determine the water content of the wet gluten.

1.2 The method is applicable to the various common wheat (Triticum aestivum) flours (commercial flours and test millings).

2 Reference

ISO 5531, Wheat flour — Determination of wet gluten.

3 Principle

Desiccation and weighing of a ball of wet gluten obtained under the conditions specified in ISO 5531.

4 Apparatus

4.1 Scalpel or knife.

4.2 Metal or glass plate, 5 cm x 5 cm.

4.3 Oven, capable of being controlled at 130 ± 2 °C.

4.4 Desiccator, provided with an efficient desiccant.

4.5 Balance, accurate to 0,01 g.

5 Procedure

5.1 Test portion

Onto the plate (4.2), previously weighed to the nearest 0,01 g, place the wet gluten, from which most of the washing solution has been eliminated, obtained by the method specified in ISO 5531, shaped into the form of a ball, and weigh the plate and wet gluten to the nearest 0,01 g.

5.2 Determination

Place the plate and test portion in the oven (4.3), controlled at 130 °C, and leave for about 2 h.

Remove the plate from the oven and make three or four parallel incisions on the partially dry gluten using the scalpel or knife (4.1), then replace in the oven for about 3 h, so that the total drying time is 5 h.

Remove the plate and dry gluten obtained and cool them in the desiccator (4.4) to laboratory temperature (approximately 30 min); then weigh to the nearest 0,01 g.

6 Expression of results

6.1 Method of calculation and formula

6.1.1 The dry gluten, expressed as a percentage by mass of the product as received, is equal to

\[ \frac{m_1 - m_0}{m} \times 100 \]

where

- \( m \) is the mass, in grams, of the test portion taken for the determination of wet gluten (i.e. 10,00 g, see ISO 5531);
- \( m_0 \) is the mass, in grams, of the plate;
- \( m_1 \) is the mass, in grams, of the plate and dry gluten.

NOTE — It is possible to express the dry gluten as a percentage of the dry matter content of the flour.

6.1.2 The water content of the wet gluten, expressed as a percentage by mass, is equal to

\[ \frac{(m_2 - m_1) \times 100}{m_2 - m_0} \]
where

\[ m_0 \] is the mass, in grams, of the plate;
\[ m_1 \] is the mass, in grams, of the plate and dry gluten;
\[ m_2 \] is the mass, in grams, of the plate and wet gluten.

6.2 Repeatability

The difference between the results of two determinations of dry gluten, carried out simultaneously or in rapid succession by the same analyst, using the same apparatus, shall not exceed 0.5 % of the dry gluten.

7 Test report

The test report shall show the method used and the result obtained. It shall also mention all operating details not specified in this International Standard, or in the International Standard to which reference is made, or regarded as optional, as well as any circumstances which may have influenced the result.

The report shall include all details necessary for the complete identification of the sample.
Bureau of Indian Standards

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This Indian Standard has been developed from Doc: No. FAD 16 (1277).

Amendments Issued Since Publication

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Printed at Simco Printing Press, Delhi