



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 7973:2015

Cereals and milled cereal products -  
Determination of the viscosity of flour -  
Method using an amylograph (ISO 7973:1992)

## I.S. EN ISO 7973:2015

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

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*This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):*

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## National Foreword

I.S. EN ISO 7973:2015 is the adopted Irish version of the European Document EN ISO 7973:2015, Cereals and milled cereal products - Determination of the viscosity of flour - Method using an amylograph (ISO 7973:1992)

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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*In line with international standards practice the decimal point is shown as a comma (,) throughout this document.*

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EUROPEAN STANDARD

EN ISO 7973

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2015

ICS 67.060

English Version

## Cereals and milled cereal products - Determination of the viscosity of flour - Method using an amylograph (ISO 7973:1992)

Céréales et produits de mouture des céréales -  
Détermination de la viscosité de la farine - Méthode  
utilisant un amylographe (ISO 7973:1992)

Getreide und gemahlene Getreideerzeugnisse -  
Bestimmung der Viskosität von Mehl - Amylograph-  
Verfahren (ISO 7973:1992)

This European Standard was approved by CEN on 30 November 2015.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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**EN ISO 7973:2015 (E)**

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## **European foreword**

The text of ISO 7973:1992 has been prepared by Technical Committee ISO/TC 34 “Food products” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 7973:2015 by Technical Committee CEN/TC 338 “Cereal and cereal products” the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2016, and conflicting national standards shall be withdrawn at the latest by June 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## **Endorsement notice**

The text of ISO 7973:1992 has been approved by CEN as EN ISO 7973:2015 without any modification.

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# INTERNATIONAL STANDARD

**ISO  
7973**

First edition  
1992-12-01

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## **Cereals and milled cereal products — Determination of the viscosity of flour — Method using an amylograph**

*Céréales et produits de mouture des céréales — Détermination de la  
viscosité de la farine — Méthode utilisant un amylographe*



Reference number  
ISO 7973:1992(E)

**ISO 7973:1992(E)**

## **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.

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.

International Standard ISO 7973 was prepared by Technical Committee ISO/TC 34, *Agricultural food products*, Sub-Committee SC 4, *Cereals and pulses*.

This International Standard takes into account Standard No. 126 of the International Association for Cereal Science and Technology (ICC).

Annex A forms an integral part of this International Standard. Annexes B and C are for information only.

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# Cereals and milled cereal products — Determination of the viscosity of flour — Method using an amylograph

## 1 Scope

This International Standard specifies a method using an amylograph for determining the viscosity of a suspension of flour in water, in which the starch is gelatinized by heating, in order to assess the conditions of gelatinization of the flour and so judge whether there is any alpha-amylase activity.

This method is applicable to wheat and rye flour and also to wheat and rye grain.

### NOTES

1 This International Standard has been prepared on the basis of the Brabender-type amylograph.

2 This method applies strictly to an amylograph and not to a viscograph, since an amylograph possesses the following characteristics:

- it is possible to change the torque-measuring head;
- the heating coils are located around the bowl of the apparatus and at the bottom;
- there is no cooling rod for lowering the gel temperature.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 712:1985, *Cereals and cereal products — Determination of moisture content (Routine reference method)*.

ISO 3093:1982, *Cereals — Determination of falling number*.

## 3 Definition

For the purposes of this International Standard, the following definition applies.

**3.1 amylograph viscosity:** Maximum viscosity reached by a suspension of flour and water which is gelatinized by heating under the conditions set out in this International Standard.

It is expressed as an arbitrary unit: amylograph unit (AU).

## 4 Principle

Preparation of a suspension of flour in water, followed by recording of the viscosity of the suspension which is heated at a constant rate from 30 °C to the temperature corresponding to the moment at which viscosity starts to decrease, having reached its maximum (approximately 95 °C).

The increase in viscosity due to gelatinization of the starch is dependent upon the increase in temperature, the mechanical action of stirring and the activity of alpha-amylase already present or added to the flour.

## 5 Reagent

**5.1 Distilled water**, or water of equivalent purity.

## 6 Apparatus

Usual laboratory equipment and, in particular, the following.

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