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IRISH STANDARD

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ICS 17.200.20
67.260

**TEMPERATURE RECORDERS AND
THERMOMETERS FOR THE TRANSPORT,
STORAGE AND DISTRIBUTION OF CHILLED,
FROZEN, DEEP-FROZEN/QUICK-FROZEN
FOOD AND ICE CREAM - PERIOD
VERIFICATION**

National Standards
Authority of Ireland
Dublin 9
Ireland

Tel. (01) 807 3800
Tel (01) 807 3838

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English version

**Temperature recorders and thermometers for the transport,
storage and distribution of chilled, frozen, deep-frozen/quick-
frozen food and ice cream - Periodic verification**

Enregistreurs de température et thermomètres pour le transport, l'entreposage et la distribution des denrées alimentaires réfrigérées, congelées et surgelées et des crèmes glacées - Vérification périodique

Temperaturregistriergeräte und Thermometer für den Transport, die Lagerung und die Verteilung von gekühlten, gefrorenen, tiefgefrorenen Lebensmitteln und Eiskrem - Regelmäßige Prüfungen

This European Standard was approved by CEN on 28 September 2001.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

EN 13486:2001 (E)

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 141 "Pressure gauges - Thermometers - Means of measuring and/or recording temperature in the cold chain", 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 May 2002, and conflicting national standards shall be withdrawn at the latest by May 2002.

The annexes A and B are informative.

This standard contains a Bibliography.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

EN 13486:2001 (E)

1 Scope

The present document sets the verification procedure for temperature recorders and thermometers for measuring the air and the products intended to equip the means used for the transport, storage and distribution of chilled, frozen, deep-frozen/quick-frozen food and ice cream and which comply with standards EN 12830 and EN 13485 (measurement classes and ranges).

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 12830, *Temperature recorders for the transport, storage and distribution of chilled, frozen, deep-frozen/quick-frozen food and ice cream - Tests, performance, suitability.*

EN 13485, *Thermometers for measuring the air and product temperature for the transport, storage and distribution of chilled, frozen, deep-frozen/quick-frozen food and ice cream - Tests, performance, suitability.*

EN 30012-1, *Quality assurance requirements for measuring equipment – Part 1: Metrological confirmation system for measuring equipment (ISO 10012-1:1992).*

EN ISO 9000, *Quality management systems – Fundamentals and vocabulary (ISO 9000:2000).*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions of EN 12830, EN 13485, EN ISO 9000 and the following terms and definitions apply.

3.1

verification¹⁾

confirmation and provision of evidence that the specified requirements have been fulfilled

NOTE 1 In connection with the management of measuring equipment, verification provides a means for checking that the deviations between values indicated by a measuring instrument and corresponding known values of a measured quantity are consistently smaller than the maximum allowable error defined in a standard, regulation or specification peculiar to the management of the measuring equipment.

NOTE 2 The result of verification leads to a decision either to restore to service, or to perform adjustments, or to repair, or to downgrade, or to declare obsolete. A written trace of the verification performed is kept on the measuring instrument's individual record.

3.2

maximum permissible errors ; limits of permissible error (of a measuring instrument)²⁾

extreme values of an error permitted by specifications, regulations etc., for a given measuring instrument

3.3

working standard²⁾

standard that is used routinely to calibrate or check material measures, measuring instruments or reference materials

NOTE 1 A working standard is usually calibrated against a reference standard.

¹⁾ Definition of EN ISO 9000.

²⁾ Definition of VIM.

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