



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 75-3:2004

Plastics - Determination of temperature of deflection under load – Part 3: High-strength thermosetting laminates and long-fibre-reinforced plastics (ISO 75-3:2004)

## I.S. EN ISO 75-3:2004

*Incorporating amendments/corrigenda issued since publication:*

EN ISO 75-3:2004/AC:2006

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English version  
Version Française  
Deutsche Fassung

Plastics - Determination of temperature of deflection under load - Part 3:  
High-strength thermosetting laminates and long-fibre-reinforced plastics  
(ISO 75-3:2004)

Plastiques - Détermination de la  
température de fléchissement sous charge  
- Partie 3: Stratifiés thermodurcissables à  
haute résistance et plastiques renforcés de  
fibres longues (ISO 75-3:2004)

Kunststoffe - Bestimmung der  
Wärmeformbeständigkeitstemperatur - Teil  
3: Hochfeste duroplastische Lamine und  
langfaserverstärkte Kunststoffe (ISO 75-  
3:2004)

This corrigendum becomes effective on 12 April 2006 for incorporation in the three official language versions of the EN.

Ce corrigendum prendra effet le 12 avril 2006 pour incorporation dans les trois versions linguistiques officielles de la EN.

Die Berichtigung tritt am 12. April 2006 zur Einarbeitung in die drei offiziellen Sprachfassungen der EN in Kraft.



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

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Ref. No.: EN ISO 75-3:2004/AC:2006 D/E/F

**I.S. EN ISO 75-3:2004**  
**EN ISO 75-3:2004/AC:2006 (E/F/D)**

## **English version**

The English title shall be modified as follows:

Plastics - Determination of temperature of deflection under load – Part 3: High-strength thermosetting laminates and long-fibre-reinforced plastics (ISO 75-3:2004)

## **Version française**

Le titre français doit être modifié comme suit:

Plastiques – Détermination de la température de fléchissement sous charge – Partie 3: Stratifiés thermodurcissables à haute résistance et plastiques renforcés de fibres longues (ISO 75-3:2004)

## **Deutsche Fassung**

Der deutsche Titel ist wie folgt zu modifizieren:

Kunststoffe – Bestimmung der Wärmeformbeständigkeitstemperatur - Teil 3: Hochfeste duroplastische Laminare und langfaserverstärkte Kunststoffe (ISO 75-3:2004)

English version

## Plastics - Determination of temperature of deflection under load - Part 3: High-strength thermosetting laminates (ISO 75-3:2004)

Plastiques - Détermination de la température de fléchissement sous charge - Partie 3: Stratifiés thermodurcissables à haute résistance (ISO 75-3:2004)

Kunststoffe - Bestimmung der Wärmeformbeständigkeitstemperatur - Teil 3: Hochbeständige härtbare Schichtstoffe (ISO 75-3:2004)

This European Standard was approved by CEN on 20 June 2003.

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COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

## I.S. EN ISO 75-3:2004

### EN ISO 75-3:2004 (E)

#### Foreword

This document (EN ISO 75-3:2004) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with Technical Committee CEN/TC 249 "Plastics", the secretariat of which is held by IBN.

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 November 2004, and conflicting national standards shall be withdrawn at the latest by November 2004.

This document supersedes EN ISO 75-3:1996.

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

#### Endorsement notice

The text of ISO 75-3:2004 has been approved by CEN as EN ISO 75-3:2004 without any modifications.

# INTERNATIONAL STANDARD

**ISO**  
**75-3**

Second edition  
2004-05-15

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## **Plastics — Determination of temperature of deflection under load —**

### **Part 3: High-strength thermosetting laminates and long-fibre-reinforced plastics**

*Plastiques — Détermination de la température de fléchissement sous charge —*

*Partie 3: Stratifiés thermodurcissables à haute résistance et plastiques renforcés de fibres longues*



Reference number  
ISO 75-3:2004(E)

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## 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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 75-3 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 2, *Mechanical properties*.

This second edition cancels and replaces the first edition (ISO 75-3:1993), which has been technically revised.

ISO 75 consists of the following parts, under the general title *Plastics — Determination of temperature of deflection under load*:

- *Part 1: General test method*
- *Part 2: Plastics and ebonite*
- *Part 3: High-strength thermosetting laminates and long-fibre-reinforced plastics*

## Introduction

In this edition of ISO 75-3, the test load is determined as a fraction of the flexural modulus of the material under test. This has the advantage that the test load is a fraction of the flexural strength of the material. The test determines the temperature-dependent decrease in the flexural modulus. Because tensile modulus and tensile strength are not necessarily related, using the flexural modulus to determine the test load leads to more readily comparable descriptions of material behaviour.

The strain increase at which the temperature of deflection under load is read has been increased from 0,1 % to 0,2 % to obtain greater commonality with ISO 75-2.

Unlike ISO 75-2, this part of ISO 75 only allows flatwise loading, as was already the case in the previous edition (ISO 75-3:1993).

In order to maintain consistency with ISO 10350-1:1998,  $T_f$  has been used as the symbol for temperature of deflection under load.

**I.S. EN ISO 75-3:2004**

# Plastics — Determination of temperature of deflection under load —

## Part 3: High-strength thermosetting laminates and long-fibre-reinforced plastics

### 1 Scope

This part of ISO 75 specifies a method for the determination of the temperature of deflection under load of high-strength thermosetting laminates and compression-moulded long-fibre-reinforced plastics in which the fibre length is greater than 7,5 mm. The flexural stress used is not fixed, as in ISO 75-2, but is a fraction (1/1 000) of the initial (room-temperature) flexural modulus of the material under test. This allows the method to be applied to materials with a wide range of flexural moduli.

For additional information, see ISO 75-1:2004, clause 1.

### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 75-1:2004, *Plastics — Determination of temperature of deflection under load — Part 1: General test method*

ISO 178, *Plastics — Determination of flexural properties*

ISO 295, *Plastics — Compression moulding of test specimens of thermosetting materials*

ISO 1268 (all parts), *Fibre-reinforced plastics — Methods of producing test plates*

ISO 2818, *Plastics — Preparation of test specimens by machining*

ISO 10724-1, *Plastics — Injection moulding of test specimens of thermosetting powder moulding compounds (PMCs) — Part 1: General principles and moulding of multipurpose test specimens*

ISO 14125, *Fibre-reinforced plastic composites — Determination of flexural properties*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 75-1 apply.

### 4 Principle

See ISO 75-1:2004, clause 4.

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