



**SLOVENSKI STANDARD**  
**SIST EN ISO 2578:2000**

**01-maj-2000**

---

Dc`ja Yfb]a Uhf]U]!`I [ cHj`Ub`a Yb]` j fYXbcgh]` Ug!hYa dYfUi fUdc`XU`y]  
]ndcgHj`Ybcgh]`cd`ch]`fGC`&) +, .% - ' Ł

Plastics - Determination of time-temperature limits after prolonged exposure to heat (ISO 2578:1993)

Kunststoffe - Bestimmung der Temperatur-Zeit-Grenzen bei langanhaltender Wärmeeinwirkung (ISO 2578:1993)

Plastiques - Détermination des limites temps-températures apres exposition a l'action prolongée de la chaleur (ISO 2578:1993)

**STANDARD PREVIEW**  
**(standards.iteh.ai)**  
**SIST EN ISO 2578:2000**  
<https://standards.iteh.ai/catalog/standards/sist/a81598a2-bfcd-47ca-9294-857accde2261/sist-en-iso-2578-2000>

**Ta slovenski standard je istoveten z: EN ISO 2578:1998**

---

**ICS:**

83.080.01	Polimerni materiali na splošno	Plastics in general
-----------	--------------------------------	---------------------

<b>SIST EN ISO 2578:2000</b>	<b>en</b>
------------------------------	-----------

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN ISO 2578:2000

<https://standards.iteh.ai/catalog/standards/sist/a81598a2-bfcd-47ca-9294-857accde2261/sist-en-iso-2578-2000>

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN ISO 2578

August 1998

ICS 83.080.01

Descriptors: see ISO document

English version

Plastics - Determination of time-temperature limits after  
prolonged exposure to heat (ISO 2578:1993)

Plastiques - Détermination des limites temps-températures  
après exposition à l'action prolongée de la chaleur (ISO  
2578:1993)

Kunststoffe - Bestimmung der Temperatur-Zeit-Grenzen bei  
langanhaltender Wärmeeinwirkung (ISO 2578:1993)

This European Standard was approved by CEN on 12 June 1998.

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 Central Secretariat 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 Central Secretariat 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.

<https://standards.iteh.ai/catalog/standards/sist/a81598a2-bfd-47ca-9294-857acde2261/sist-en-iso-2578-2000>



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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Page 2  
EN ISO 2578:1998

## Foreword

The text of the International Standard from Technical Committee ISO/TC 61 "Plastics" of the International Organization for Standardization (ISO) has been taken over as an European Standard by 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 February 1999, and conflicting national standards shall be withdrawn at the latest by February 1999.

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.

## Endorsement notice

The text of the International Standard ISO 2578:1993 has been approved by CEN as a European Standard without any modification.

(standards.iteh.ai)

NOTE: Normative references to International Standards are listed in annex ZA (normative).

[SIST EN ISO 2578:2000](https://standards.iteh.ai/catalog/standards/sist/a81598a2-bfcd-47ca-9294-857accde2261/sist-en-iso-2578-2000)

<https://standards.iteh.ai/catalog/standards/sist/a81598a2-bfcd-47ca-9294-857accde2261/sist-en-iso-2578-2000>

STANDARDS AUTHORITY  
OF BRITAIN  
11, SOUTH MOLTON STREET, LONDON, W1P 8LP  
TELEPHONE: 020 7537 4000  
FACSIMILE: 020 7537 4001  
WWW.BSI.COM

**Annex ZA** (normative)**Normative references to international publications  
with their relevant European publications**

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 291	1997	Plastics - Standard atmospheres for conditioning and testing	EN ISO 291	1997

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**SIST EN ISO 2578:2000<https://standards.iteh.ai/catalog/standards/sist/a81598a2-bfcd-47ca-9294-857accde2261/sist-en-iso-2578-2000>

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN ISO 2578:2000

<https://standards.iteh.ai/catalog/standards/sist/a81598a2-bfcd-47ca-9294-857accde2261/sist-en-iso-2578-2000>

INTERNATIONAL  
STANDARD

**ISO**  
**2578**

Second edition  
1993-08-01

---

---

**Plastics — Determination of  
time-temperature limits after prolonged  
exposure to heat**

**iTeh STANDARD PREVIEW**

*Plastiques — Détermination des limites temps-températures après  
exposition à l'action prolongée de la chaleur*

SIST EN ISO 2578:2000

<https://standards.itih.ai/catalog/standards/sist/a81598a2-bfcd-47ca-9294-857accde2261/sist-en-iso-2578-2000>



Reference number  
ISO 2578:1993(E)

## ISO 2578:1993(E)

## Contents

	Page
1 Scope .....	1
2 Normative references .....	1
3 Definitions .....	2
4 Principle .....	2
5 Choice of test .....	3
6 Choice of end-point .....	3
7 Test specimens .....	3
8 Exposure temperatures .....	3
9 Ageing ovens .....	3
10 Procedure .....	3
11 Evaluation of results .....	4
12 Determination of the relative temperature index .....	7
13 Test report .....	8
<b>Annexes</b>	
A Calculation of the regression line .....	9
B Correlation coefficient .....	13
C Recommended test schedule for primary properties .....	14

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

SIST EN ISO 2578:2000

<https://standards.iteh.ai/catalog/standards/sist/a81598a2-bfcd-47ca-9294-857accde2261/sist-en-iso-2578-2000>

© ISO 1993

All rights reserved. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Organization for Standardization  
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland



## 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 2578 was prepared by Technical Committee ISO/TC 61, *Plastics*, Sub-Committee SC 6, *Ageing, chemical and environmental resistance*.

This second edition cancels and replaces the first edition (ISO 2578:1974) of which it constitutes a technical revision.

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

## Introduction

During the preparation of this International Standard, account was taken of the contents of IEC 216. Accordingly, the terms and definitions in this International Standard, as well as the procedures described, are in line or identical with those specified in IEC 216.

## iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 2578:2000](https://standards.iteh.ai/catalog/standards/sist/a81598a2-bfcd-47ca-9294-857accde2261/sist-en-iso-2578-2000)

<https://standards.iteh.ai/catalog/standards/sist/a81598a2-bfcd-47ca-9294-857accde2261/sist-en-iso-2578-2000>

# Plastics — Determination of time-temperature limits after prolonged exposure to heat

## 1 Scope

**1.1** This International Standard specifies the principles and procedures for evaluating the thermal endurance properties of plastics exposed to elevated temperature for long periods.

**1.2** The term thermal endurance is used here to refer to tests made in air, excluding any other influence or stress applied to the test specimens. Thermal endurance properties evaluated in different environments and/or with different stresses applied to the test specimens require different test procedures.

**1.3** In this International Standard, the study of the thermal ageing of plastics is based solely on the change in certain properties resulting from a period of exposure to elevated temperature. The properties studied are always measured after the temperature has returned to ambient.

The various properties of plastics change at various rates on thermal ageing. To enable comparisons to be made of the thermal ageing of different plastics, the criteria for judgement depend on the type of property to be studied and its acceptable limiting value.

**1.4** In the application of this standard it is assumed that a practically linear relationship exists between the logarithm of the time required to cause the predetermined property change and the reciprocal of the corresponding absolute temperature (Arrhenius Law).

For the plastics tested, no transition, in particular a first-order transition, should occur in the temperature range under study.

## 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publi-

cation, 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 291:1977, *Plastics — Standard atmospheres for conditioning and testing*.

IEC 216-1:1990, *Guide for the determination of thermal endurance properties of electrical insulating materials — Part 1: General guidelines for ageing procedures and evaluation of test results*.

IEC 216-2:1990, *Guide for the determination of thermal endurance properties of electrical insulating materials — Part 2: Choice of the test criteria*.

IEC 216-3-1:1990, *Guide for the determination of thermal endurance properties of electrical insulating materials — Part 3: Instructions for calculating thermal endurance characteristics — Section 1: Calculations using mean values of normally distributed complete data*.

IEC 216-3-3:—,<sup>1)</sup> *Guide for the determination of thermal endurance properties of electrical insulating materials — Part 3: Instructions for calculating thermal endurance characteristics — Section 3: Calculations for incomplete data*.

IEC 216-4-1:1990, *Guide for the determination of thermal endurance properties of electrical insulating materials — Part 4: Ageing ovens — Section 1: Single-chamber ovens*.

IEC 216-5:1990, *Guide for the determination of thermal endurance properties of electrical insulating materials — Part 5: Guidelines for the application of thermal endurance characteristics*.

1) To be published. [15B (B.C.) 82]