



# SLOVENSKI STANDARD SIST EN ISO 6383-1:2004

01-oktober-2004

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Plastics - Film and sheeting - Determination of tear resistance - Part 1: Trouser tear method (ISO 6383-1:1983)

Kunststoffe - Folien und Bahnen - Bestimmung der Reißfestigkeit - Teil 1: Hosenreiß-Verfahren (ISO 6383-1:1983)

Plastiques - Film et feuille - Détermination de la résistance au déchirement - Partie 1: Méthode de déchirement pantalon (ISO 6383-1:1983)

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Ta slovenski standard je istoveten z: EN ISO 6383-1:2004

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**ICS:**

83.140.10      Filmi in folije

Films and sheets

**SIST EN ISO 6383-1:2004**

**en,fr,de**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN ISO 6383-1**

July 2004

ICS 83.140.10

English version

**Plastics - Film and sheeting - Determination of tear resistance -  
Part 1: Trouser tear method (ISO 6383-1:1983)**

Plastiques - Film et feuille - Détermination de la résistance  
au déchirement - Partie 1: Méthode de déchirement  
pantalon (ISO 6383-1:1983)

Kunststoffe - Folien und Bahnen - Bestimmung der  
Reißfestigkeit - Teil 1: Hosenreiß-Verfahren (ISO 6383-  
1:1983)

This European Standard was approved by CEN on 21 June 2004.

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, 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.

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

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

**EN ISO 6383-1:2004 (E)****Foreword**

The text of ISO 6383-1:1983 has been prepared by Technical Committee ISO/TC 61 "Plastics" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 6383-1:2004 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 January 2005, and conflicting national standards shall be withdrawn at the latest by January 2005.

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 6383-1:1983 has been approved by CEN as EN ISO 6383-1:2004 without any modifications.

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

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## 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 (including amendments).

NOTE Where an International Publication has been modified by common modifications, indicated by (mod.), the relevant EN/HD 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

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# International Standard



# 6383 / 1

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## Plastics — Film and sheeting — Determination of tear resistance — Part 1 : Trouser tear method

*Plastiques — Film et feuille — Détermination de la résistance au déchirement — Partie 1 : Méthode de déchirement pantalon*

First edition — 1983-06-15

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UDC 678.5/.8 — 416 : 620.176.245

Ref. No. ISO 6383/1-1983 (E)

Descriptors : plastics, tests, tear strength, tear tests, test specimens.

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6383/1 was developed by Technical Committee ISO/TC 61, *Plastics*, and was circulated to the member bodies in February 1979.

It has been approved by the member bodies of the following countries :

Australia	Germany, F.R.	Poland
Austria	Greece	Romania
Belgium	Hungary	South Africa, Rep. of
Brazil	India	Spain
Canada	Israel	Sweden
China	Italy	Switzerland
Czechoslovakia	Japan	Turkey
Egypt, Arab Rep. of	Korea, Rep. of	United Kingdom
Finland	Netherlands	USA
France	New Zealand	USSR

No member body expressed disapproval of the document.



# Plastics — Film and sheeting — Determination of tear resistance —

## Part 1 : Trouser tear method

### 0 Introduction

ISO 6383 consists of the following parts :

Part 1 : Trouser tear method.

Part 2 : Elmendorf method.

### 1 Scope and field of application

This part of ISO 6383 specifies a method of determining the tear resistance of plastic film or sheet less than 1 mm thick, in the form of standard trouser-shaped test specimens, tested under defined conditions of pretreatment, temperature, humidity and speed of testing.

The method is applicable to film and sheeting of both flexible and rigid materials, provided that the material is not so rigid that brittle fracture occurs during the test, or so deformable, in an irreversible way, that the energy used in the deformation of the specimen legs is significant (i.e. is not negligible) with respect to the energy used in tearing.

The method may not be suitable for determining the tear properties of cellular sheet and film.

### 2 References

ISO 291, *Plastics — Standard atmospheres for conditioning and testing.*

ISO/R 1184, *Plastics — Determination of tensile properties of films.*

ISO 4591, *Plastics — Film and sheeting — Determination of average thickness of a sample and average thickness and yield of a roll by gravimetric techniques (gravimetric thickness).*

ISO 4593, *Plastics — Film and sheeting — Determination of thickness by mechanical scanning.*

### 3 Definitions

For the purpose of this part of ISO 6383, the following definitions apply.

**3.1 tearing force** : The average force required to propagate a tear at a constant tearing speed across a test specimen conforming to figure 1.

**3.2 tear resistance** : The tearing force divided by the specimen thickness.

### 4 Significance

**4.1** This method may provide data for quality control, acceptance or rejection in accordance with the terms of specifications and for research and development.

**4.2** Tear properties may vary with specimen preparation, speed of testing and environment of testing. Consequently, when precise comparative results are required, these factors shall be carefully controlled.

It is possible, in principle, to compare the tear resistance (see 3.2) of specimens of different materials, provided that their thicknesses do not differ by more than  $\pm 10\%$ . However, caution is necessary in interpreting such results, since the tearing energy may vary considerably with speed of testing for different materials.

### 5 Principle

A rectangular test specimen having a longitudinal slit extending over half its length, is subjected to a tensile test on the "trouser legs" formed by the slit. The average force required to tear the specimen completely along its length is used to calculate the tear resistance of the material under test (see figure 1).

### 6 Apparatus

**6.1 Tensile testing machine** (not pendulum type), similar to that specified in ISO/R 1184, having the following characteristics.

**6.1.1** It shall be power driven and capable of maintaining the appropriate rate of grip separation specified in clause 9. It is essential that the load measuring device is equipped with an autographic recording device to record the load applied to the specimen as a function of elapsed time from the start of the test.

**6.1.2** The grips shall be equipped with chucks designed to securely hold the legs of the test specimen without slip. The chucks shall be wider than the width of the test specimen and, in order that they remain parallel to each other during a test, they shall not be mounted on swivel joints.