



National Standards Authority of Ireland

STANDARD

**I.S. EN 14477:2004**

ICS 55.040

National Standards  
Authority of Ireland  
Dublin 9  
Ireland

Tel: (01) 807 3800  
Fax: (01) 807 3838

**PACKAGING - FLEXIBLE PACKAGING**

**MATERIAL - DETERMINATION OF PUNCTURE**

**RESISTANCE - TEST METHODS**

*This Irish Standard was  
published under the  
authority of the National  
Standards Authority of  
Ireland  
and comes into effect on:  
May 19, 2004*

**NO COPYING WITHOUT NSAI  
PERMISSION EXCEPT AS  
PERMITTED BY COPYRIGHT  
LAW**

© NSAI 2004

**Price Code E**

Údarás um Chaighdeán Náisiúnta na hÉireann



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 14477**

April 2004

ICS 55.040

English version

**Packaging - Flexible packaging material - Determination of  
puncture resistance - Test methods**

Emballage - Matériaux d'emballage souples -  
Détermination de la résistance à la perforation - Méthodes  
d'essai

Verpackung, Flexible Packstoffe - Bestimmung der  
Durchstoßfestigkeit - Prüfverfahren

This European Standard was approved by CEN on 16 January 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.



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

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

| <b>Contents</b>                               | <b>Page</b> |
|---|-------------|
| Foreword.....                                 | 3           |
| 1 Scope .....                                 | 4           |
| 2 Principle.....                              | 4           |
| 3 Apparatus .....                             | 4           |
| 4 Calibration .....                           | 7           |
| 5 Test specimens .....                        | 7           |
| 6 Probe speed .....                           | 7           |
| 7 Expression and calculation of results ..... | 7           |
| 8 Precision data .....                        | 8           |
| 9 Test report .....                           | 8           |
| Bibliography .....                            | 9           |

## **Foreword**

This document (EN 14477:2004) has been prepared by Technical Committee CEN/TC 261 “Packaging”, 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 October 2004 and conflicting national standards shall be withdrawn at the latest by October 2004.

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.

## EN 14477:2004 (E)

### 1 Scope

This standard describes a test method of determining the puncture resistance of a flexible packaging material. The method is applicable to multilayer flexible packaging materials.

### 2 Principle

A specimen of the flexible packaging material is fastened in a sample holder. A probe penetrates the specimen with a constant speed. The force and the elongation needed to penetrate the specimen are recorded.

### 3 Apparatus

**3.1 Universal testing apparatus**, with means of measuring elongation.

**3.2 Compression load cell**

**3.3 Penetration probe** made of hardened steel as shown in Figure 1

A 0,8 mm diameter probe with a rounded tip is used. The rounded tip of the probe shall have a radius of 0,4 mm.

**3.4 Fixture** for securing the probe to the load cell or to a solid base.

**3.5 Sample Holder** as shown in Figure 2 or equivalent.

**3.6 Blanking punch** with an outer diameter matching the diameter of the sample holder shall be used.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- Looking for additional Standards? Visit Intertek Inform Infostore
  - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-