

Self adhesive tapes - Measurement of breaking strength and elongation at break

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 14410:2003 sisaldab Euroopa standardi EN 14410:2003 ingliskeelset teksti.	This Estonian standard EVS-EN 14410:2003 consists of the English text of the European standard EN 14410:2003.
Käesolev dokument on jõustatud 15.04.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.	This document is endorsed on 15.04.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.
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Käsitlusala: This European Standard specifies methods to measure the breaking strength and elongation at break of a self adhesive tape when it is subjected to a tensile force sufficient to cause it to break	Scope: This European Standard specifies methods to measure the breaking strength and elongation at break of a self adhesive tape when it is subjected to a tensile force sufficient to cause it to break
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Võtmesõnad: adhesive tapes, breaking load, breaking strength, definition, definitions, elongation at break, elongation at fracture, measurement, measuring techniques, packaging, packaging means, splicing tapes, tensile strength, test specimens, testing

ICS 83.180

English version

Self adhesive tapes - Measurement of breaking strength and elongation at break

Rubans auto-adhésifs - Mesurage de la résistance à la rupture et de l'allongement à la rupture

Klebebänder - Messung der Bruchkraft und der Reißdehnung

This European Standard was approved by CEN on 6 December 2002.

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Foreword

This document (EN 14410:2003) has been prepared by Technical Committee CEN/TC 253 "Self adhesive tapes", 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of an identical text or by endorsement, at the latest by September 2003, and conflicting national standards shall be withdrawn at the latest by September 2003.

This document supersedes EN 1940:1996 and EN 1941:1996.

This European standard has been revised in conjunction with AFERA (Association of European self Adhesive tapes Manufacturers) in Europe and PSTC (Pressure Sensitive Tape Council) in USA with the purpose to produce a standard which will be acceptable in due course by ISO.

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

The method specified in this European Standard combines the determination of breaking strength and elongation at break into one method in place of the two separate methods originally published, EN 1940 and EN 1941. The actual test method for both is identical, only the interpretation of the results was different.

Method A: Self adhesive tapes – Measurement of breaking strength and elongation at break of tapes other than filament tapes.

Method B: Self adhesive tapes – Measurement of breaking strength of filament reinforced tapes.

1 Scope

This European Standard specifies methods to measure the breaking strength and elongation at break of a self adhesive tape when it is subjected to a tensile force sufficient to cause it to break.

The breaking strength of adhesive tape is of value as an indication of its uniformity and quality, and its ability to withstand stresses during application and use.

The elongation at break of the adhesive tape is of value as an indication of its uniformity and quality as well as a rough indication of its ability to conform to curved and irregular surfaces. It is usually determined at the same time as the breaking strength.

This test method describes a procedure for testing 12 mm or 24 mm wide samples cut from supplied rolls of self adhesive tapes. Alternatively rolls of self adhesive tape up to 50 mm wide may be directly tested in their original width. In these circumstances the practical breaking strength and elongation will be typical of the manufacturer's cut edges. When newly cut sample pieces are tested, because of the better cutting of the edges, the results can be higher than would be found on commercial tape.

2 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

2.1

breaking strength

ability to resist breaking when subject to load under prescribed conditions

2.2

elongation at break

increase in length of the adhesive tape at the time of breaking as a percentage of the original length

3 Significance and use

These methods provide a means of assessing the uniformity of breaking strength and elongation at break of a given type of pressure sensitive tape and may be used to compare one product with another.

The test method may be used to determine particular backing materials or tape widths appropriate to a desired end use.

When relative strength is of interest, the testing should be on tape in the width received to avoid discrepancies as described above.

NOTE 1 Comparison of tapes by different procedures should be avoided because test parameters such as test piece dimension or jaw speed determine the result. Different levels will produce different results for the same test tape. It is usual to find breaking strength increasing significantly with increasing jaw speed.

NOTE 2 Elongation measurements become difficult to perform on stretchy materials (greater than 200 % elongation at break) when the ratio of test piece length to width is small (approaching 2). The results show high variability and do not allow for practical use of this information except when one wishes to demonstrate large differences between materials.

4 Principle

The method consists of holding the adhesive tape vertically by the two clamps of a tensile testing machine. A tensile test is carried out until the adhesive tape breaks.