

**Glass in building - Adhesive backed polymeric film - Part
1: Definitions and requirements**

This document is a preview generated by EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

| | |
|---|--|
| See Eesti standard EVS-EN 15752-1:2014 sisaldab Euroopa standardi EN 15752-1:2014 inglisekeelset teksti. | This Estonian standard EVS-EN 15752-1:2014 consists of the English text of the European standard EN 15752-1:2014. |
| Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas. | This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation. |
| Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 06.08.2014. | Date of Availability of the European standard is 06.08.2014. |
| Standard on kättesaadav Eesti Standardikeskusest. | The standard is available from the Estonian Centre for Standardisation. |

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 81.040.20, 83.140.10

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Aru 10, 10317 Tallinn, Eesti; www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:
Aru 10, 10317 Tallinn, Estonia; www.evs.ee; phone 605 5050; e-mail info@evs.ee

ICS 81.040.20; 83.140.10

English Version

Glass in building - Adhesive backed polymeric film - Part 1: Definitions and requirements

Verre dans la construction - Film polymère adhésif - Partie
1: Définitions et exigences

Glas im Bauwesen - Selbstklebende Polymerfolie - Teil 1:
Begriffe und Anforderungen

This European Standard was approved by CEN on 15 May 2014.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

| Contents | Page |
|--|-------------|
| Foreword..... | 5 |
| Introduction | 6 |
| 1 Scope | 7 |
| 2 Normative references | 7 |
| 3 Terms and definitions | 8 |
| 4 Types of adhesive backed polymeric films..... | 10 |
| 5 Properties of adhesive backed polymeric films | 11 |
| 5.1 General..... | 11 |
| 5.1.1 Performance characteristics | 11 |
| 5.1.2 Test specimens | 13 |
| 5.2 Solar-optical properties | 13 |
| 5.2.1 General..... | 13 |
| 5.2.2 Glare reduction | 15 |
| 5.2.3 Total Solar Energy Rejected | 15 |
| 5.2.4 UV Rejection..... | 15 |
| 5.3 Solar control film | 15 |
| 5.3.1 General..... | 15 |
| 5.3.2 Measurement..... | 15 |
| 5.4 Clear film..... | 16 |
| 5.5 Safety film..... | 16 |
| 5.5.1 General..... | 16 |
| 5.5.2 Measurement..... | 16 |
| 5.6 Security film | 17 |
| 5.6.1 General..... | 17 |
| 5.6.2 Measurement..... | 17 |
| 5.7 Decorative film | 17 |
| 5.7.1 General..... | 17 |
| 5.7.2 Measurement..... | 17 |
| 5.8 Anti-graffiti film | 18 |
| 5.9 Ultra Violet reducing film | 18 |
| 5.9.1 General..... | 18 |
| 5.9.2 Measurement..... | 18 |
| 5.10 Lower emissivity film | 18 |
| 5.10.1 General..... | 18 |
| 5.10.2 Measurement..... | 18 |
| 5.11 Privacy film..... | 19 |
| 5.12 Radio Frequency / Electro-Magnetic Frequency shield attenuating film..... | 19 |
| 5.12.1 General..... | 19 |
| 5.12.2 Measurement..... | 19 |
| 6 Dimensions and tolerances | 19 |
| 6.1 Nominal thickness and thickness tolerances..... | 19 |
| 6.1.1 General..... | 19 |
| 6.1.2 Measurement..... | 19 |
| 6.2 Width and length (sizes) | 20 |
| 6.2.1 General..... | 20 |
| 6.2.2 Splices | 20 |
| 7 Test methods for durability | 20 |

| | | |
|---|--|-----------|
| 7.1 | General | 20 |
| 7.2 | Accelerated weathering – test method..... | 21 |
| 7.2.1 | General | 21 |
| 7.2.2 | Preparation of test and reference specimens | 21 |
| 7.2.3 | Size and number of test specimens | 21 |
| 7.2.4 | Cleaning of filmed glass specimens | 21 |
| 7.2.5 | Conditioning of test and reference specimens | 21 |
| 7.2.6 | Test methodology..... | 21 |
| 7.2.7 | Accelerated weathering - procedure | 22 |
| 7.2.8 | Sampling points..... | 22 |
| 7.3 | Accelerated weathering – changes in physical and solar-optical properties | 23 |
| 7.3.1 | General | 23 |
| 7.3.2 | Solar optical properties | 23 |
| 7.3.3 | Emissivity..... | 24 |
| 7.3.4 | Additional tests on adhesive backed polymeric safety / security films – Adhesive Strength..... | 24 |
| 7.4 | Scratch / abrasion resistance | 25 |
| 7.4.1 | General | 25 |
| 7.4.2 | Number of test specimens..... | 25 |
| 7.4.3 | Preparation of test specimens | 25 |
| 7.4.4 | Conditioning of test specimens | 26 |
| 7.4.5 | Cleaning of test specimens | 26 |
| 7.4.6 | Pre-abrasion haze measurement | 26 |
| 7.4.7 | Abrasion test method..... | 28 |
| 7.4.8 | Post-abrasion haze measurement | 28 |
| 7.4.9 | Calculation of Δ Haze..... | 29 |
| 7.4.10 | Test report..... | 29 |
| 7.5 | Acceptance criteria – changes in performance after accelerated weathering..... | 29 |
| 7.5.1 | Solar optical properties | 29 |
| 7.5.2 | Emissivity..... | 30 |
| 7.5.3 | Adhesive strength for adhesive backed polymeric safety / security film | 30 |
| 7.5.4 | Change in Δ Haze after abrasion | 30 |
| Annex A (normative) Abrasion testing of adhesive backed polymeric film with measurement of haze..... | | 31 |
| A.1 | Introduction..... | 31 |
| A.2 | Definitions and Descriptions..... | 31 |
| A.2.1 | Haze | 31 |
| A.2.2 | Δ Haze..... | 31 |
| A.3 | Test Equipment..... | 31 |
| A.3.1 | Abrader..... | 31 |
| A.3.2 | Refacing Stone | 31 |
| A.3.3 | Abrasive Wheels | 31 |
| A.3.4 | Specimen Holder | 32 |
| A.3.5 | Hazemetre | 32 |
| A.3.5.1 | Instrument | 32 |
| A.3.5.2 | Interior surfaces | 32 |
| A.3.5.3 | Light trap | 32 |
| A.3.5.4 | Entrance and exit ports..... | 32 |
| A.3.5.5 | Photocells position | 32 |

| | |
|--|-----------|
| A.3.5.6 Light source and photodetector..... | 32 |
| A.3.5.7 Incident light beam | 32 |
| A.3.5.8 Specimen position | 33 |
| A.3.5.9 Validity | 33 |
| A.3.6 Preparation of abrading wheels | 33 |
| A.4 Haze Measurement | 34 |
| A.5 Calibration | 34 |
| Bibliography | 36 |

This document is a preview generated by EVS

Foreword

This document (EN 15752-1:2014) has been prepared by Technical Committee CEN/TC 129 "Glass in building", the secretariat of which is held by NBN.

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 2015, and conflicting national standards shall be withdrawn at the latest by February 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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

Introduction

Adhesive backed polymeric film is designed to be applied to glass to modify the properties and performance of the glass.

Different types of adhesive backed polymeric films are manufactured to modify specific properties of glass including solar energy transmittance, visible light transmittance, emissivity, Ultra Violet transmittance, privacy, appearance, impact behaviour, security, electromagnetic frequency (EMF) attenuation, and surface protection.

This document is a preview generated by EVS

1 Scope

This European Standard defines adhesive backed polymeric film based on biaxially oriented polyester film, and the performance characteristics of adhesive backed polymeric film for use on glass in buildings.

This European Standard does not apply to adhesive backed polymeric films manufactured using polyvinylchloride (PVC).

Other requirements, not specified in this standard, may apply to other glass or glazing products, e.g. laminated glass or insulating glass units, when adhesive backed polymeric film is included as part of the original assembly or manufacture of the glazing product. These additional requirements are specified in the appropriate product standard. Adhesive backed polymeric film, in this case, does not lose its mechanical or thermal characteristics.

2 Normative references

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

EN 356, *Glass in building - Security glazing - Testing and classification of resistance against manual attack*

EN 410:2011, *Glass in building - Determination of luminous and solar characteristics of glazing*

EN 572-1, *Glass in building - Basic soda lime silicate glass products - Part 1: Definitions and general physical and mechanical properties*

EN 572-2, *Glass in building - Basic soda lime silicate glass products - Part 2: Float glass*

EN 673, *Glass in building - Determination of thermal transmittance (U value) - Calculation method*

EN 12600, *Glass in building - Pendulum test - Impact test method and classification for flat glass*

EN 12898, *Glass in building - Determination of the emissivity*

EN 50147-1, *Anechoic chambers - Part 1: Shield attenuation measurement*

EN ISO 4892-1, *Plastics - Methods of exposure to laboratory light sources - Part 1: General guidance (ISO 4892-1)*

EN ISO 4892-2, *Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps (ISO 4892-2)*

EN ISO 8510-2, *Adhesives - Peel test for a flexible-bonded-to-rigid test specimen assembly - Part 2: 180 degree peel (ISO 8510-2)*

ISO 16933, *Glass in building — Explosion-resistant security glazing — Test and classification for arena air-blast loading*