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SWEDISH STANDARDS INSTITUTE

Platta, genomlysliga polykarbonatskivor (PC) för invändiga och utvändiga tak, väggar och undertak – Krav och provningsmetoder

Light transmitting flat solid polycarbonate (PC) sheets for internal and external use in roofs, walls and ceilings – Requirements and test methods

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The European Standard EN 16240:2013 has the status of a Swedish Standard. This document contains the official version of EN 16240:2013.

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Denna standard är framtagen av kommittén för Takprodukter och taksäkerhet, SIS/TK 193.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 16240

December 2013

ICS 83.140.10; 91.060.10

English Version

Light transmitting flat solid polycarbonate (PC) sheets for internal and external use in roofs, walls and ceilings - Requirements and test methods

Plaques d'éclairement pleines planes en polycarbonate (PC) pour usage intérieur ou extérieur dans les toitures, bardages et plafonds - Exigences et méthodes d'essai

Lichtdurchlässige, flache Massivplatten aus Polycarbonat (PC) für Innen- und Außenanwendungen an Dächern, Wänden und Decken - Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 5 October 2013.

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.

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

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Foreword

This document (EN 16240:2013) has been prepared by Technical Committee CEN/TC 128 “Roof covering products for discontinuous laying and products for wall cladding”, 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 June 2014, and conflicting national standards shall be withdrawn at the latest by June 2014.

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.

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For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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Introduction

This document describes the requirements for light transmitting flat solid PC sheets for internal and external use in walls, roofs and ceilings.

It is applicable to the sheets for the delivery only. Reference should be made to national regulations and manufacturer literature for requirements concerning the design, storage and fundamental guidance for installation of sheets, including all safety aspects.

The standards and guideline addressing light transmitting flat solid PC sheets for building applications are the following:

— EN 1873, *Prefabricated accessories for roofing — Individual roof lights of plastics — Product specification and test methods* (harmonized standard)

— EN 14963, *Roof coverings — Continuous rooflights of plastics with or without upstands — Classification, requirements and test methods* (harmonized standard)

— EOTA ETA-Guideline 010, *Self supporting translucent roof kits*

The flat solid PC sheets that satisfy the requirements of this document are suitable for use as components in accordance with EN 1873, EN 14963 or ETAG 010.

1 Scope

This European Standard specifies the requirements for light transmitting flat solid polycarbonate (PC) sheets for internal and external use in walls, roofs and ceilings.

This European Standard applies to light transmitting flat extruded solid PC sheets of minimum thickness 2 mm, without or with uniform functional layers (e.g. coating, co-extruded layer) made from PC-based or other materials.

It also specifies the test methods needed for the evaluation of conformity and marking of the sheets.

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 1990:2002, *Eurocode - Basis of structural design*

EN 1873:2005, *Prefabricated accessories for roofing - Individual roof lights of plastics - Product specification and test methods*

EN 13501-1, *Fire classification of construction products and building elements - Part 1: Classification using test data from reaction to fire tests*

EN 13501-2, *Fire classification of construction products and building elements - Part 2: Classification using data from fire resistance tests, excluding ventilation services*

EN 13501-5, *Fire classification of construction products and building elements - Part 5: Classification using data from external fire exposure to roofs tests*

EN 13823, *Reaction to fire tests for building products - Building products excluding floorings exposed to the thermal attack by a single burning item*

EN 14500:2008, *Blinds and shutters - Thermal and visual comfort - Test and calculation methods*

EN 14963:2006, *Roof coverings - Continuous rooflights of plastics with or without upstands - Classification, requirements and test methods*

EN ISO 178:2010, *Plastics - Determination of flexural properties (ISO 178:2010)*

EN ISO 472:2013, *Plastics - Vocabulary (ISO 472:2013)*

EN ISO 527-1:2012, *Plastics - Determination of tensile properties - Part 1: General principles (ISO 527-1:2012)*

EN ISO 527-2, *Plastics - Determination of tensile properties - Part 2: Test conditions for moulding and extrusion plastics (ISO 527-2)*

EN ISO 717-1, *Acoustics - Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation (ISO 717-1)*

EN ISO 1043-1:2011, *Plastics - Symbols and abbreviated terms - Part 1: Basic polymers and their special characteristics (ISO 1043-1:2011)*

EN ISO 1716, *Reaction to fire tests for products - Determination of the gross heat of combustion (calorific value) (ISO 1716)*

EN ISO 4892-2:2013, *Plastics - Methods of exposure to laboratory light sources - Part 2: Xenon-arc lamps (ISO 4892-2:2013)*

EN ISO 6603-1, *Plastics - Determination of puncture impact behaviour of rigid plastics - Part 1: Non-instrumented impact testing (ISO 6603-1)*

EN ISO 6946, *Building components and building elements - Thermal resistance and thermal transmittance - Calculation method (ISO 6946)*

EN ISO 10140-1:2010, *Acoustics - Laboratory measurement of sound insulation of building elements - Part 1: Application rules for specific products (ISO 10140-1:2010)*

EN ISO 10140-2, *Acoustics - Laboratory measurement of sound insulation of building elements - Part 2: Measurement of airborne sound insulation (ISO 10140-2)*

EN ISO 10140-4, *Acoustics - Laboratory measurement of sound insulation of building elements - Part 4: Measurement procedures and requirements (ISO 10140)*

EN ISO 10140-5, *Acoustics - Laboratory measurement of sound insulation of building elements - Part 5: Requirements for test facilities and equipment (ISO 10140-5)*

EN ISO 11664-1, *Colorimetry - Part 1: CIE standard colorimetric observers (ISO 11664-1)*

EN ISO 11664-2, *Colorimetry - Part 2: CIE standard illuminants (ISO 11664-2)*

EN ISO 11925-2, *Reaction to fire tests - Ignitability of products subjected to direct impingement of flame - Part 2: Single-flame source test (ISO 11925-2)*

EN ISO 12572, *Hygrothermal performance of building materials and products - Determination of water vapour transmission properties (ISO 12572)*

ISO 11359-2, *Plastics - Thermomechanical analysis (TMA) - Part 2: Determination of coefficient of linear thermal expansion and glass transition temperature*

ETAG 010, *Self supporting translucent roof kits*

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 472:2013, EN ISO 1043-1:2011 and the following apply.

3.1.1
PC sheet
flat extruded sheet substantially made of polycarbonate polymer to which are added those additives to facilitate the manufacture of sheet conforming to the requirements of this standard and customer requirements

Note 1 to entry: Additives can be e.g. lubricants, processing aids, UV absorbers, colorants, functional layers and/or flame retardants.

Note 2 to entry: There is a distinction between a coloured sheet containing colorants and an uncoloured sheet having a coloured functional layer or paint on the external surfaces.