SLOVENSKI STANDARD
SIST EN 15534-5:2014

01-maj-2014

Nadomešča:
SIST-TS CEN/TS 15534-3:2007

Kompoziti iz materialov na celulozni podlagi in plastomerov (navadno imenovani lesno-polimerni kompoziti (WPC) ali kompoziti iz naravnih vlaken (NFC)) - 5. del: Specifikacije za profile in ploščice stenskih oblog

Composites made from cellulose-based materials and thermoplastics (usually called wood-polymer composites (WPC) or natural fibre composites (NFC)) - Part 5: Specifications for cladding profiles and tiles

Verbundwerkstoffe aus Cellulose haltigen Materialien und Thermoplasten (üblicherweise Holz-Polymer-Werkstoffe (WPC) oder natürliche Faserverbundwerkstoffe (NFC) genannt) - Teil 5: Anforderungen an Profile und Platten für Wandbekleidungen

Composites à base de matières cellulosiques et de thermoplastiques (communément appelés composites bois-polymères (WPC) ou composites fibres d'origine naturelle (NFC)) - Partie 5: Spécifications relatives aux profilés et carreaux pour bardage

Ta slovenski standard je istoveten z: **EN 15534-5:2014**

ICS:

79.080	Polizdelki iz lesa	Semi-manufactures of timber
83.140.99	Drugi izdelki iz gume in polimernih materialov	Other rubber and plastics products

SIST EN 15534-5:2014 **en,fr,de**

EUROPEAN STANDARD

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EUROPÄISCHE NORM

EN 15534-5

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ICS 79.080; 83.140.99

Supersedes CEN/TS 15534-3:2007

English Version

Composites made from cellulose-based materials and thermoplastics (usually called wood-polymer composites (WPC) or natural fibre composites (NFC)) - Part 5: Specifications for cladding profiles and tiles

Composites à base de matières cellulosiques et de thermoplastiques (communément appelés composites bois-polymères (WPC) ou composites fibres d'origine naturelle (NFC)) - Partie 5: Spécifications relatives aux lames et plaques pour bardage et lambris

Verbundwerkstoffe aus cellulosehaltigen Materialien und Thermoplasten (üblicherweise Holz-Polymer-Werkstoffe (WPC) oder Naturfaserverbundwerkstoffe (NFC) genannt) - Teil 5: Anforderungen an Profile und Formteile für Wandbekleidungen

This European Standard was approved by CEN on 9 November 2013.

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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

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

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Contents

Page

Foreword

This document (EN 15534-5:2014) has been prepared by Technical Committee CEN/TC 249 “Plastics”, 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 July 2014, and conflicting national standards shall be withdrawn at the latest by July 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.

This document together with EN 15534-4:2014 supersedes CEN/TS 15534-3:2007.

The significant changes that have been made since the previous edition are the following:

— splitting into Parts 4 and 5 of CEN/TS 15534-3:2007;

— change of the status from Technical Specification to European Standard;

— complete technical review of the document;

— change of the scope from characterization to specification of the products.

EN 15534 consists of the following parts:

— EN 15534-1, *Composites made from cellulose-based materials and thermoplastics (usually called wood-polymer composites (WPC) or natural fibre composites (NFC)) — Part 1: Test methods for characterization of compounds and products*

— prEN 15534-2, *Composites made from cellulose-based materials and thermoplastics (usually called wood-polymer composites (WPC) or natural fibre composites (NFC)) — Part 2: Characterization of compounds*[1)]

— EN 15534-4, *Composites made from cellulose-based materials and thermoplastics (usually called wood-polymer composites (WPC) or natural fibre composites (NFC)) — Part 4: Specifications for decking profiles and tiles*

— EN 15534-5, *Composites made from cellulose-based materials and thermoplastics (usually called wood-polymer composites (WPC) or natural fibre composites (NFC)) — Part 5: Specifications for cladding profiles and tiles*

— prEN 15534-6, *Composites made from cellulose-based materials and thermoplastics (usually called wood-polymer composites (WPC) or natural fibre composites (NFC)) — Part 6: Specifications for fencing profiles and systems*[1)]

— prEN 15534-7, *Composites made from cellulose-based materials and thermoplastics (usually called wood-polymer composites (WPC) or natural fibre composites (NFC)) — Part 7: Specifications for general purpose profiles in external applications*[1)]

[1)] In preparation.

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.

1 Scope

This European Standard specifies the characteristics of cladding profiles and tiles made from cellulose-based materials and thermoplastics, usually called wood-polymer composites (WPC) or natural fibre composites (NFC), for external or internal use.

This part of EN 15534 is applicable to extruded profiles but also to tiles manufactured by other plastics processing techniques, e.g. injection moulding.

It is not applicable to support rail profiles, cover strip profiles and fastener devices which are out of the scope of this part of EN 15534.

EN 15534-1 specifies the test methods relevant to this part of EN 15534.

NOTE For editorial reasons, in EN 15534 the abbreviation “WPC” is used for “composites made from cellulose-based materials and thermoplastics”.

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 927-6, *Paints and varnishes — Coating materials and coating systems for exterior wood — Part 6: Exposure of wood coatings to artificial weathering using fluorescent UV lamps and water*

EN 15534-1:2014, *Composites made from cellulose-based materials and thermoplastics (usually called wood-polymer composites (WPC) or natural fibre composites (NFC)) — Part 1: Test methods for characterization of compounds and products*

EN 16472, *Plastics — Method for artificial accelerated photoageing using medium pressure mercury vapour lamps*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15534-1:2014 apply.

4 Requirements

4.1 General

Initial type testing shall be performed to demonstrate compliance with the requirements specified in Clause 4 of this part of EN 15534. The tests according to 4.5.6 shall be carried out if the performance is declared by the manufacturer. Initial type testing shall be repeated, whenever a change occurs in the composition of the product, its geometry or in the production process. In case of a minor change, only the properties which could be influenced by this change shall be tested.

NOTE Minimum frequencies of testing for factory production control purposes are given in Annex A.

4.2 Material

The base polymer, from which the material is produced, and the type and content of cellulose-based material shall be declared by the manufacturer.

Reprocessable and/or recyclable materials may be used for manufacturing the components provided that they satisfy to the provisions of this part of EN 15534.

WPC materials are recyclable materials which can be treated in a material recovery process intended to save resources while minimizing harmful emissions into air, water and soil as well as their impacts on human health.

NOTE A scheme for the characterization of plastics waste is given in EN 15347 [2] and guidelines for the recovery and recycling are given in ISO 15270 [3].

4.3 Appearance

For production control purposes, the manufacturer shall compare three samples drawn at random from the same profile/tile production batch with a control sample, under the illumination conditions defined in EN 15534-1:2014, 6.1.

The control samples shall be stored in a dark room and renewed every six months.

If a control sample is put in contact with water, it shall be renewed immediately.

4.4 Physical characteristics

When tested in accordance with the test methods as specified in Table 1, using the parameters indicated, the profiles/tiles, as delivered to the customer, shall have characteristics conforming to the requirements given in Table 1.

Table 1 — Physical characteristics

Characteristic	Requirements	Test method	Number of test specimens
Linear mass (applicable to profiles)	Individual values ≥ 95 % declared value by the manufacturer. The linear mass and tolerances shall be declared by the manufacturer.	EN 15534–1:2014, 6.5	3 specimens
Thickness, width and length (applicable to profiles)	The relevant dimensional values and their tolerances shall be declared by the manufacturer.	EN 15534–1:2014, 6.6.2	3 specimens
Deviation from straightness (applicable to profiles)	The deviation of straightness and its tolerance shall be declared by the manufacturer.	EN 15534–1:2014, 6.6.3	3 specimens
Cupping	The cupping value and its tolerance shall be declared by the manufacturer.	EN 15534–1:2014, 6.6.4	3 specimens

4.5 Mechanical characteristics

4.5.1 Falling mass impact resistance

When tested in accordance with the test methods as specified in Table 2, using the parameters indicated, the profiles/tiles, as delivered to the customer, shall have characteristics conforming to the requirements given in Table 2.

Table 2 — Falling mass impact resistance

Requirements	Test parameters	Test method	Number of test specimens
Non-cellular material profiles			
No more than 1 test specimen out of 10 test specimens shall show a failure.	H: (1 000 ± 5) mm M_s: (500 ± 2) g	EN 15534–1:2014, 7.1.2.2.1	10 specimens/face
Cellular material profiles			
No more than 1 test specimen out of 10 test specimens shall show a failure.	H: (1 000 ± 5) mm M_s: (500 ± 2) g	EN 15534–1:2014, 7.1.2.2.2	10 specimens/face

4.5.2 Flexural properties

When tested in accordance with the test method as specified in Table 3, using the parameters indicated, the profiles/tiles, as delivered to the customer, shall have characteristics conforming to the requirements given in Table 3.

Table 3 — Flexural properties

Requirement	Test parameters	Test method	Number of test specimens
- Deflection under a load of 250 N ≤ 5,0 mm (arithmetic mean value) - Bending strength	Span in use declared by the manufacturer	EN 15534–1:2014, Annex A	4 specimens/side

4.5.3 Durability of products against biological agents

For the purpose of this part of EN 15534, use classes according to the environmental conditions are defined in Table 4.

Table 4 — Use class and occurrence of biological agents

Use class	Service situation	Biological agents
2	Internal use or covered location	None
3	External use, above ground	Basidiomycetes
NOTE Use classes 2 and 3 are derived from EN 335:2013, Table 1.		

If products of different geometries are made from the same material, only one product shall be tested.

When tested in accordance with the test methods as specified in Table 5, using the parameters indicated, the products shall have characteristics conforming to the requirements given in Table 5.