



NSAI
Standards

Irish Standard
I.S. EN 438-9:2017

High-pressure decorative laminates (HPL) -
Sheets based on thermosetting resins
(usually called laminates) - Part 9:
Classification and specifications for
alternative core laminates

I.S. EN 438-9:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 438-9:2017 is the adopted Irish version of the European Document EN 438-9:2017, High-pressure decorative laminates (HPL) - Sheets based on thermosetting resins (usually called laminates) - Part 9: Classification and specifications for alternative core laminates

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EUROPEAN STANDARD

EN 438-9

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2017

ICS 83.140.20

Supersedes EN 438-9:2010+A1:2013

English Version

**High-pressure decorative laminates (HPL) - Sheets based
on thermosetting resins (usually called laminates) - Part 9:
Classification and specifications for alternative core
laminates**

Stratifiés décoratifs haute pression (HPL) - Plaques à
base de résines thermodurcissables (communément
appelées stratifiés) - Partie 9 : Classification et
spécifications relatives aux stratifiés avec autres types
d'âmes

Dekorative Hochdruck-Schichtpressstoffplatten (HPL)
- Platten auf Basis härthbarer Harze (Schichtpressstoffe)
- Teil 9: Klassifizierung und Spezifikationen für
Schichtpressstoffe mit alternativem Kernaufbau

This European Standard was approved by CEN on 29 October 2017.

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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EN 438-9:2017 (E)

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European foreword

This document (EN 438-9:2017) 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 June 2018, and conflicting national standards shall be withdrawn at the latest by June 2018.

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

This document supersedes EN 438-9:2010+A1:2013.

The following technical changes have been made in comparison to EN 438-9:2010+A1:2013, in Table 6 and in Table 7:

- test methods, have been updated;
- the Resistance to surface wear, has been modified and the Laminate grades corrected;
- for the Resistance to immersion in boiling water, the Appearance has been improved for the Laminate grades;
- the Tensile strength, has been deleted to be in line with EN 438-4:2016;
- in Table 6, for the Resistance to crazing, the Appearance of the Laminate grade has been corrected.

EN 438, *High-pressure decorative laminates (HPL) — Sheets based on thermosetting resins (usually called laminates)*, consists of the following parts:

- *Part 1: Introduction and general information*
- *Part 2: Determination of properties*
- *Part 3: Classification and specifications for laminates less than 2 mm thick intended for bonding to supporting substrates*
- *Part 4: Classification and specifications for compact laminates of thickness 2 mm and greater*
- *Part 5: Classification and specifications for flooring grade laminates less than 2 mm thick intended for bonding to supporting substrates*
- *Part 6: Classification and specifications for exterior-grade Compact laminates of thickness 2 mm and greater*
- *Part 7: Compact laminate and HPL composite panels for internal and external wall and ceiling finishes*
- *Part 8: Classification and specifications for design laminates*
- *Part 9: Classification and specifications for alternative core laminates*

EN 438-9:2017 (E)

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This European Standard specifies performance requirements for alternative core laminates intended for interior use, the core layer compositions of which are not covered by EN 438-3 [1], EN 438-4 [2], EN 438-5 [3], EN 438-6 [4] and EN 438-8 [5]. The core layer types (coloured core layer and metal reinforced core layer) are defined in this part of EN 438.

EN 438-2 specifies the test methods relevant to this European Standard.

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 438-2:2016, *High-pressure decorative laminates (HPL) - Sheets based on thermosetting resins (usually called laminates) - Part 2: Determination of properties*

EN 12721, *Furniture — Assessment of surface resistance to wet heat*

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

EN ISO 1183-1, *Plastics - Methods for determining the density of non-cellular plastics - Part 1: Immersion method, liquid pycnometer method and titration method (ISO 1183-1)*

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

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

3 Terms, definitions, symbols and abbreviations

3.1 Terms and definitions

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

3.1.1

high-pressure decorative alternative core laminate(s)

alternative core laminate(s)

HPL

sheet(s) consisting of decorative surface layer(s) and alternative core layers bonded together by an high pressure process

Note 1 to entry: Typical values for the high pressure process are a temperature of ≥ 120 °C and a pressure of ≥ 5 MPa.

3.1.2

surface layer

upper decorative layer consisting in one or more sheets of fibrous material (usually paper) impregnated with aminoplastic thermosetting resins (usually melamine based resins)

Note 1 to entry: The surface layers appear on one or both side(s) of the laminate(s). In case of one-sided laminates, the back of the sheet(s) can be made suitable for adhesive bonding to a substrate.

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