



SLOVENSKI STANDARD SIST EN 438-1:2005

01-maj-2005

BUXca Yý U
SIST EN 438-1:2000
SIST EN 438-2:1999

8 Y_cfUHj b]j]gc_chU b]`Ua]bUH]fk D@!`D`cý Y`bUcgbcj]`Xi fca Yfb] `ga c`!`%
XY.`I j cX`]b`gd`cýbY]bZ`fa UW`Y

High-pressure decorative laminates (HPL) - Sheets based on thermosetting resins
(Usually called Laminates) - Part 1: Introduction and general information

iTeh STANDARD PREVIEW

Dekorative Hochdruck-Schichtpressstoffplatten (HPL) - Platten auf Basis härtbarer Harze
(Schichtpressstoffe) - Teil 1: Einleitung und allgemeine Informationen

[SIST EN 438-1:2005](https://standards.itih.at/cn/obj/standards/sist/en/438-1/2005)

Stratifiés décoratifs haute pression (HPL) - Plaques a base de résines
thermodurcissables (communément appelées stratifiés) - Partie 1 : Introduction et
informations générales

Ta slovenski standard je istoveten z: EN 438-1:2005

ICS:

83.140.20 Šæ ã æ) ^Á || z ^ Laminated sheets

SIST EN 438-1:2005 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 438-1:2005](#)

<https://standards.iteh.ai/catalog/standards/sist/e1ce428-0c90-43f7-bf9d-88b138c00c32/sist-en-438-1-2005>

EUROPEAN STANDARD

EN 438-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2005

ICS 83.140.20

Supersedes EN 438-1:1991, EN 438-2:1991

English version

High-pressure decorative laminates (HPL) - Sheets based on thermosetting resins (Usually called Laminates) - Part 1: Introduction and general information

Stratifiés décoratifs haute pression (HPL) - Plaques à base de résines thermodurcissables (communément appelées stratifiés) - Partie 1 : Introduction et informations générales

Dekorative Hochdruck-Schichtpressstoffplatten (HPL) - Platten auf Basis härtpbarer Harze (Schichtpressstoffe) - Teil 1: Einleitung und allgemeine Informationen

This European Standard was approved by CEN on 16 August 2004.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

<https://standards.iteh.ai/catalog/standards/sist/ea1ce428-0c90-43f7-bf9d-88b138c00c32/sist-en-438-1-2005>



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	page
Foreword	3
1 Scope.....	4
2 Normative references	4
3 Term and definition.....	4
4 Guidance in the use of the standard.....	5
4.1 Description of parts	5
4.2 Applications.....	5
5 Product classification systems	5
Annex A (informative) Addendum relating to hygienic, health and safety information for laminates intended for interior use	7

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 438-1:2005](https://standards.iteh.ai/catalog/standards/sist/ea1ce428-0c90-43f7-bf9d-88b138c00c32/sist-en-438-1-2005)

<https://standards.iteh.ai/catalog/standards/sist/ea1ce428-0c90-43f7-bf9d-88b138c00c32/sist-en-438-1-2005>

Foreword

This document (EN 438-1:2005) has been prepared by Technical Committee CEN /TC 249, "Plastics", the Secretariat of which is held by IBN.

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 2005, and conflicting national standards shall be withdrawn at the latest by July 2005.

This document supersedes EN 438-1:1991 and EN 438-2:1991.

This document consists of seven 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*

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

EN 438-1:2005 (E)**1 Scope**

This Part of EN 438 gives an overview of the standard, and provides guidance in the selection and application of test methods and specifications contained in Parts 2 to 7 of EN 438.

2 Normative references

The following referenced documents are indispensable for the application of this document. 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, *High-pressure decorative laminates (HPL) — Sheets based on thermosetting resins (Usually called Laminates) - Part 2: Determination of properties*

EN 438-3, *High-pressure decorative laminates (HPL) — Sheets based on thermosetting resins (Usually called Laminates) - Part 3: Classification and specifications for laminates less than 2 mm thick intended for bonding to supporting substrates*

EN 438-4, *High-pressure decorative laminates (HPL) — Sheets based on thermosetting resins (Usually called Laminates) - Part 4: Classification and specifications for Compact laminates of thickness 2 mm and greater*

EN 438-5, *High-pressure decorative laminates (HPL) — Sheets based on thermosetting resins (Usually called Laminates) - Part 5: Classification and specifications for flooring grade laminates less than 2 mm thick intended for bonding to supporting substrates*

EN 438-6, *High-pressure decorative laminates (HPL) — Sheets based on thermosetting resins (Usually called Laminates) - Part 6: Classification and specifications for Exterior-grade Compact laminates of thickness 2 mm and greater*

EN 438-7, *High-pressure decorative laminates (HPL) — Sheets based on thermosetting resins (Usually called Laminates) - Part 7 Compact laminate and HPL composite panels for internal and external wall and ceiling finishes*

EN 13329, *Laminate floor coverings — Specifications, requirements and test methods*

3 Term and definition

For the purposes of this document, the following term and definition applies.

3.1**high-pressure decorative laminate(s) (HPL)**

sheet(s) consisting of layers of cellulosic fibrous material (normally paper) impregnated with thermosetting resins and bonded together by the high pressure process described below

The high pressure process is defined as the simultaneous application of heat (temperature ≥ 120 °C) and high specific pressure (≥ 5 MPa), to provide flowing and subsequent curing of the thermosetting resins to obtain a homogeneous non-porous material with increased density ($\geq 1,35$ g/cm³), and with the required surface finish.

NOTE 1 This is a general definition of high-pressure decorative laminate(s). More specific product definitions can be found in parts 3 to 6 of the standard.

NOTE 2 In addition to the more common surface layers based on thermosetting resin impregnated décor papers, other decorative design surfaces are available such as metal foils, wood-veneers, textiles, etc. These products are not covered by a specific part of EN 438.

4 Guidance in the use of the standard

4.1 Description of parts

EN 438-2 describes the methods of test that shall be used to determine the performance of HPL products in their various internal and external application fields, e.g. construction, transport, furniture, flooring, etc. The test methods have been specifically developed for testing HPL.

It should be noted that not all test methods apply to all types of HPL. For example Test 11, Resistance to Abrasion, applies only to flooring grade laminates; while Test 10, Resistance to Surface Wear, applies to all types of HPL except flooring grade laminates. It is therefore important to read the scope of the test method to determine whether it is applicable to a particular HPL product.

EN 438-3 to 6 specify the performance requirements for different types of high-pressure decorative laminates. Each of these parts is independent of the others, and only requires reference to EN 438-2 for details of the appropriate test methods.

EN 438-3 applies to laminates less than 2 mm thick intended for bonding to supporting substrates to produce HPL composite panels. Classification systems and performance requirements are specified for heavy duty, horizontal and vertical grades of laminate, in standard, postforming and flame-retardant qualities.

EN 438-4 applies to Compact laminates of thickness 2 mm and greater, in standard and flame-retardant qualities, intended for interior applications.

EN 438-5 applies to flooring grade laminates less than 2 mm thick intended for bonding to supporting substrates, to produce HPL flooring elements. As 'laminate floor coverings' they meet the requirements of EN 13329.

EN 438-6 applies to Exterior-grade Compact laminates of thickness 2 mm and greater, and specifies requirements for standard and flame-retardant laminates for use in moderate and severe outdoor conditions.

EN 438-7 is the harmonised standard covering the essential requirements specified in Construction Products Directive Mandates M/121 Internal and External Wall and Ceiling Finishes, and M/113 Wood-based Panels.

4.2 Applications

Table 1 below shows how the different parts of the standard relate to various fields of application.

Table 1 Application fields

Application	Part 3	Part 4	Part 5	Part 6
Construction (internal)	•	•		
Construction (external)				•
Transport	•	•		
Furniture	•	•		
Flooring			•	

5 Product classification systems

EN 438-3 to 6 include product classification systems. While each of these systems is different, they contain some common elements as follows:

EN 438-1:2005 (E)

Main classifications:

- H** denotes **Horizontal grade**
- V** denotes **Vertical grade**
- C** denotes **Compact laminate**
- E** denotes **Exterior grade**
- AC** denotes **Abrasion Class for flooring grade**

Sub-classifications:

- D** denotes **Heavy duty or severe use**
- G** denotes **General purpose or moderate use**
- S** denotes **Standard grade**
- F** denotes **Flame-retardant grade**
- P** denotes **Postforming grade**

In Part 5, the classification system AC1 to AC5 has been adopted as these classes relate directly to the corresponding product classes in EN 13329 Laminate Floor Coverings.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 438-1:2005](https://standards.iteh.ai/catalog/standards/sist/ea1ce428-0c90-43f7-bf9d-88b138c00c32/sist-en-438-1-2005)

<https://standards.iteh.ai/catalog/standards/sist/ea1ce428-0c90-43f7-bf9d-88b138c00c32/sist-en-438-1-2005>