

**High-pressure decorative laminates (HPL) - Sheets  
based on thermosetting resins (Usually called  
Laminates) - Part 8: Classification and specifications for  
design laminates**

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 438-8:2009 sisaldab Euroopa standardi EN 438-8:2009 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 30.10.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 25.03.2009.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 438-8:2009 consists of the English text of the European standard EN 438-8:2009.

This standard is ratified with the order of Estonian Centre for Standardisation dated 30.10.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 25.03.2009.

The standard is available from Estonian standardisation organisation.

ICS 83.140.20

### Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

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

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:  
Aru 10 Tallinn 10317 Eesti; [www.evs.ee](http://www.evs.ee); Telefon: 605 5050; E-post: [info@evs.ee](mailto:info@evs.ee)

### Right to reproduce and distribute Estonian 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 permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:  
Aru str 10 Tallinn 10317 Estonia; [www.evs.ee](http://www.evs.ee); Phone: +372 605 5050; E-mail: [info@evs.ee](mailto:info@evs.ee)

ICS 83.140.20

English Version

**High-pressure decorative laminates (HPL) - Sheets based on  
thermosetting resins (Usually called Laminates) - Part 8:  
Classification and specifications for design laminates**

Stratifiés décoratifs haute pression (HPL) - Plaques à base  
de résines thermodurcissables (communément appelées  
stratifiés) - Partie 8 : Classification et spécifications  
relatives aux stratifiés à effets de surface spéciaux

Dekorative Hochdruck-Schichtpressstoffplatten (HPL) -  
Platten auf Basis härtpbarer Harze (Schichtpressstoffe) - Teil  
8: Klassifizierung und Spezifikationen für Design-  
Schichtpressstoffe

This European Standard was approved by CEN on 22 February 2009.

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 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 Management Centre has the same status as the official versions.

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



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

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Contents

Page

Foreword.....	3
1     Scope .....	4
2     Normative references .....	4
3     Terms and definitions .....	4
4     Material types and classification system .....	5
5     Requirements .....	6
5.1   Compliance.....	6
5.2   Inspection requirements .....	6
5.3   Dimensional tolerance requirements.....	7
5.4   Test requirements .....	11
Bibliography .....	17

## Foreword

This document (EN 438-8:2009) 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 September 2009, and conflicting national standards shall be withdrawn at the latest by September 2009.

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.

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

- *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 (this standard)*
- *Part 9: Classification and specifications for alternative core laminates<sup>1</sup>*

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

---

<sup>1</sup> In preparation.

## 1 Scope

This part of EN 438 specifies performance requirements for high-pressure decorative laminates (HPL) intended for interior use with a design effect surface having a phenolic based core and a decorative surface, not covered by EN 438-3 to EN 438-6. Three surface material types (metal, wood veneer and pearlescent decor) are defined in this part of EN 438.

EN 438-2 specifies the test methods relevant to this part 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 438-2:2005, *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 (ISO 4211-2:1993 modified)*

EN 12722, *Furniture — Assessment of surface resistance to dry heat (ISO 4211-3:1993 modified)*

EN ISO 178, *Plastics — Determination of flexural properties (ISO 178:2001)*

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 1183-1:2004)*

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

## 3 Terms and definitions

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

**3.1**  
**high pressure process**  
process for producing laminate(s) by simultaneous application of heat (temperature  $\geq 120$  °C) and high specific pressure ( $\geq 5$  MPa), to provide flowing and subsequent curing of the thermosetting resins

**3.2**  
**high-pressure decorative design laminate(s) (HPL)**  
sheet(s) consisting of decorative surface layers supported by layers of cellulosic fibrous material (normally paper) impregnated with thermosetting resins and bonded together by a high pressure process

NOTE 1 For surface layers, see 3.3.

NOTE 2 The core layers are impregnated with phenolic based resins. The surface layers can appear on one or both side(s) of the laminate(s). They are not necessarily treated with thermosetting resin. In case of one-sided design laminates the back of the sheet(s) is made suitable for adhesive bonding to a substrate.

### 3.3 Types of high-pressure decorative design laminates according to the surface layer materials

**3.3.1**  
**pearlescent laminate**  
high-pressure decorative design laminate, the surface material of which consists of a pearlescent effect decorative paper, which is impregnated with melamine resin