Irish Standard
I.S. EN 438-8:2009

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

I.S. EN 438-8:2009

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces:	*This document is based on:* EN 438-8:2009	*Published:* 25 March, 2009

This document was published under the authority of the NSAI and comes into effect on: 26 May, 2009

ICS number: 83.140.20

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

I.S. EN 438-8:2009

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 438-8

March 2009

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 härtbarer 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

Ref. No. EN 438-8:2009: E

Contents

Page

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*[1]

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.

1 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 pyknometer 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 ≥ 120 °C) and high specific pressure (≥ 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