



BSI Standards Publication

# Wood-based panels — Melamine faced board for interior uses — Definition, requirements and classification

**National foreword**

This British Standard is the UK implementation of EN 14322:2017. It supersedes BS EN 14322:2004 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/541, Wood based panels.

A list of organizations represented on this committee can be obtained on request to its secretary.

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## Wood-based panels - Melamine faced board for interior uses - Definition, requirements and classification

Panneaux à base de bois - Panneaux surfacés  
mélaminés pour usages intérieurs - Définition,  
exigences et classification

Holzwerkstoffe - Melaminbeschichtete Platten zur  
Verwendung im Innenbereich - Definition,  
Anforderungen und Klassifizierung

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## European foreword

This document (EN 14322:2017) has been prepared by Technical Committee CEN/TC 112 “Wood-based panels”, the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by September 2017, and conflicting national standards shall be withdrawn at the latest by September 2017.

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This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This document supersedes EN 14322:2004.

Compared to EN 14322:2004 the following modifications have been made:

- a) extension of the scope to extruded particleboards and sandwich boards for furniture;
- b) classification by resistance to abrasion only linked to initial wear point;
- c) deletion of resistance to cigarette burns in Table A.1; and addition of resistance to axial withdrawal of screws;
- d) modification in Annex B for formaldehyde release with replacement of EN 717-2 by EN ISO 12460-3.

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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## 1 Scope

This European Standard specifies the surface requirements and dimensional tolerances for decorative melamine faced boards for interior use which are common for particleboards, extruded particleboards fibreboards and sandwich boards for furniture.

This standard does not apply to boards laminated with so called priming foils or finish foils and laminates according to EN 438-1.

This standard does not apply to laminate floor coverings.

Melamine faced wood-based boards in accordance with this standard may be referred to as MFB.

## 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 311, *Wood-based panels — Surface soundness — Test method*

EN 320, *Particleboards and fibreboards — Determination of resistance to axial withdrawal of screws*

EN 717-1, *Wood-based panels — Determination of formaldehyde release — Part 1: Formaldehyde emission by the chamber method*

EN 14323, *Wood-based panels — Melamine faced boards for interior uses — Test methods*

EN ISO 12460-3, *Wood-based panels — Determination of formaldehyde release — Part 3: Gas analysis method (ISO 12460-3)*

## 3 Terms and definitions

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

### 3.1 melamine faced board MFB

board manufactured by directly applying uncured aminoplastic resin impregnated papers to one or both faces of board substrates and achieving bonding and curing in the same process using heat and pressure but without the use of an intermediate adhesive

Note 1 to entry: The resin of the surface layer is an aminoplastic resin (mainly melamine resin).

Note 2 to entry: The board surfaces can be smooth or structured on one or both faces and the outer surfaces having decorative colours or design.

## 4 Requirements

Melamine faced boards shall comply with the general requirements as listed in Table 1 when dispatched from the producing factory.

**Table 1 — General requirements at dispatch**

No	Property	Test method	Unit	Requirement		
				Thickness range (mm, nominal)		
				< 15	≥ 15 to 20	> 20
1)	Tolerances on nominal dimensions — thickness "t" relative to nominal value — thickness "t" within the board	EN 14323	mm	±0,3 for class 1 and class 2 according to Table 2. + 0,5/- 0,3 for class 3A, 3B and class 4 according to Table 2 and all gloss finishes		±0,5
	$t_{max} - t_{min} \leq 0,6$					
	Length and width — commercially available size — pre-cut panels	EN 14323	mm	± 5 ± 2,5		
2)	Flatness	EN 14323	mm/m	—	≤ 2 (only for balanced surfaces)	
3)	Edge damage — commercially available sizes — pre-cut panels	EN 14323	mm	≤ 10 ≤ 3		
4)	Surface defects	EN 14323	mm <sup>2</sup> /m <sup>2</sup> mm/m <sup>2</sup>	points ≤ 2 length ≤ 20		
5)	Resistance to scratching	EN 14323	N	≥ 1,5		
6)	Resistance to staining	EN 14323	Rating	≥ 3		
7)	Resistance to cracking	EN 14323	Rating	≥ 3		
8)	Formaldehyde release (see Annex B)			Class E1 or Class E2		

NOTE 1 For the physical and dimensional properties, refer to the relevant standards from the series EN 622, EN 312, EN 14755 or CEN/TS 16526.

NOTE 2 Normally, unless otherwise specified, the particleboard grade used will be as required in EN 312 (P2), the MDF grade will be as described in EN 622-5 (MDF) and the hardboard grade will be as described in EN 622-2 (HB) the extruded particleboards will be as described in EN 14755.

NOTE 3 On request of the customer other values can be specified.

NOTE 4 Numerous factors including changes in temperature and relative humidity in storage and fabrication areas at building sites may cause boards and panels to bow or twist irreversibly.

## 5 Appearance

### 5.1 Colour matching

Where colour matching is required by the purchaser there shall be only slight deviation (rating 4) between the reference sample and test piece under examination when inspected according to test method given in EN 14323. For mother of pearl and metallic finishes a rating 3 is permitted.

Since slight variations in colour will occur due to inherent variation in the surfacing papers and the core board, it is recommended that boards or panels to be used side by side should be selected from the same production batch where possible and matched to ensure colour compatibility before fabrication or installation.

## 5.2 Surface texture

Where matching of surface texture is required by purchaser there shall be only slight deviation (rating 4) between the reference sample and test piece under examination when inspected according to test method given in EN 14323.

## 6 Classification by resistance to abrasion

Five classes are defined in the classification system based on the initial wear point (IP) as shown in Table 2. The number of revolutions for each classification is determined according to EN 14323.

**Table 2 — Classification of MFB according to the initial wear point**

Class	IP Revolutions
1	< 50
2	≥ 50
3A	≥ 150
3B	≥ 250
4	≥ 350

## 7 Verification of compliance

### 7.1 General

Verification of compliance with this EN shall be carried out using the test methods specified in EN 14323.

### 7.2 Factory production control

The properties in Tables 1 and 2 shall be controlled by the producer. Sampling shall be carried out at random. Alternative test methods and/or unconditioned test pieces may be used for factory production control.

### 7.3 External control

If external control is deemed necessary, the test method listed in EN 14323 shall be used.

## 8 Marking

Each panel or package of panels shall be clearly marked by the manufacturer by indelible direct printing on the edge or by a label with at least the following information in this sequence:

- a) manufacturer's name, trade mark, or identification mark;
- b) number of the relevant specification EN of the substrate and the type;

Example: MFB EN 312 P2 ; MFB EN 622-5 MDF.



- c) nominal thickness;
- d) formaldehyde class;
- e) batch number.

Where the first purchaser is the user of the product and where he/she agrees that marking (other than on the package) is unnecessary, the marking of such individual panels in the package need not be undertaken.

**Annex A**  
(normative)

**Supplementary properties**

For certain applications, information on some of the properties listed in Table A.1 can be required. On request, this information shall be supplied by the MFB manufacturer, and in this case shall have been derived using the EN test methods listed in Table A1.

**Table A.1 — Supplementary properties and test methods**

Property	Test method
Resistance to axial withdrawal of screws	EN 320
Resistance to steam	EN 14323
Resistance to impact by large diameter steel ball	EN 14323
Resistance to colour change in xenon arc light	EN 14323
Gloss	EN 14323
Surface soundness	EN 311

## Annex B (normative)

### Formaldehyde release

Melamine faced boards shall be tested and classified into one of two classes: E1 or E2.

The test methods and limit values for both initial type testing and factory production control/continuous surveillance are laid down in Table B.1 for class E1 products and Table B.2 for class E2 products.

NOTE 1 Boards of Class E1 can be used without causing an indoor air concentration greater than 0,1 ppm HCHO in conditions according to EN 717-1.

The test requirement does not apply to melamine faced boards to which no formaldehyde containing materials were added during production and in post-production processing.

NOTE 2 If the core board has a classification E1 and as during the melamine faced production processing there is negligible amounts of formaldehyde added, the final product MFB is classified E1 and no Initial Type Testing is required provided the manufacturer has carried out Initial Type Testing on the core board.

The limit values for the Class E1 are given in Table B.1 and for Class E2 are given in Table B.2.

**Table B.1 — Release of formaldehyde class E1**

Initial type testing <sup>a</sup>	Test method	EN 717-1
	Requirement	Release ≤ 0,124 mg/m <sup>3</sup> air
Factory production control	Test method	EN ISO 12460-3
	Requirement	Release ≤ 3,5 mg/m <sup>2</sup> h

<sup>a</sup> For established products, initial testing may also be done on the basis of existing data with EN ISO 12460-3 testing, either from factory production control or from external inspection.

**Table B.2 — Release of formaldehyde class E2**

Initial testing	either	Test method	EN 717-1
		Requirement	Release > 0,124 mg/m <sup>3</sup> air
	or	Test method	EN ISO 12460-3
		Requirement	Release > 3,5 mg/m <sup>2</sup> h to ≤ 8 mg/m <sup>2</sup> h
Factory production control	Test method	EN ISO 12460-3	
	Requirement	Release > 3,5 mg/m <sup>2</sup> h to ≤ 8 mg/m <sup>2</sup> h	

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- [5] EN 622-2, *Fibreboards — Specifications — Part 2: Requirements for hardboards*
- [6] EN 622-5, *Fibreboards — Specifications — Part 5: Requirements for dry process boards (MDF)*
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