BRITISH STANDARD

BS EN 316:2009

Wood fibre boards — Definition, classification and symbols

ICS 01.040.79; 79.060.20

National foreword

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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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Holzfaserplatten - Definition, Klassifizierung und Kurzzeichen

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Foreword

This document (EN 316:2009) 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by publication of an identical text or by endorsement, September 2009, and conflicting national standards shall be withdrawn at the latest by September 2009.

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This European standard supersedes EN 316:1999.

Compared to EN 316:1999, the following modification has been made:

a) 3.2.3 on dry process boards has been revised, deleting references to density ranges.

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1 Scope

This European Standard gives the definition, classification and symbols for wood fibreboards.

2 Terms and definitions

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

2.1
wood fibreboard
panel material with a nominal thickness of 1,5 mm or greater, manufactured from lignocellulosic fibres with application of heat and/or pressure

NOTE 1 Wood fibreboards are subsequently referred to as fibreboards.

NOTE 2 The bond is derived:

— either from the felting of the fibres and their inherent adhesive properties; or

— from a synthetic adhesive added to the fibres.

Other additives can be included.

2.2
wet process board
fibreboard having a fibre moisture content of more than 20 % at the stage of forming

2.3
dry process board
fibreboard having a fibre moisture content of less than 20 % at the stage of forming

NOTE Dry process boards are essentially produced under heat and pressure with the addition of a synthetic adhesive

3 Classification

3.1 General

Fibreboards can be classified according to different criteria, e.g. related to production process, thickness, density, specific properties, conditions of use or application purposes.

In this standard, a combined system of criteria is used for the classification of fibreboards, starting with the production process.

3.2 Classification according to production process

3.2.1 General

Fibreboards are classified by their production process as follows:

1) wet process fibreboards;

2) dry process fibreboards.

NOTE The word "fibre" is mostly omitted from the denominations defined above. Hence, reference is made to "wet process boards" (e.g. hardboard) or "dry process boards" (MDF).

3.2.2 Wet process boards

Wet process boards are classified according to their density, as follows:

1) **hardboards** (HB, density ≥ 900 kg/m^3): they can be given additional properties, e.g. fire retardancy, moisture resistance, resistance against biological attack, workability (e.g. mouldability), either by specific treatment (e.g. "tempering", "oil tempering") or by the addition of a synthetic adhesive or other additives;

2) **medium boards** (MB, density ≥ 400 kg/m^3 to < 900 kg/m^3): they can be given additional properties, e.g. fire retardancy, moisture resistance;

   NOTE Medium boards are divided into two sub-categories, according to their density:

   — low density medium boards (MBL, 400 kg/m^3 to < 560 kg/m^3);

   — high density medium boards (MBH, 560 kg/m^3 to < 900 kg/m^3).

3) **softboards** (SB, density ≥ 230 kg/m^3 to < 400 kg/m^3): these boards have basic properties of thermal and acoustic insulation. They can be given additional properties, e.g. fire retardancy. Improved moisture resistance as well as enhanced strength properties are usually achieved by the addition of a petrochemical substance (e.g. bitumen).

3.2.3 Dry process boards (MDF)

Dry process fibreboards can be given additional properties, e.g. fire retardancy, moisture resistance, resistance against biological attack, either by changing the composition of the synthetic adhesive or by the inclusion of other additives.

NOTE Within the class 'dry process boards', there are a number of board types on the market. EN 622-5 [5] defines such boards by technical class and a set of performance characteristics.

3.3 Classification according to additional properties and applications

3.3.1 General

Each of the fibreboard types defined in 3.2.2 and 3.2.3 is furthermore classified according to a set of criteria related to specific conditions of use and different application purposes.

NOTE Detailed information on the conditions of use, the applications and the corresponding requirements can be found in the specification standards for fibreboards listed in the Bibliography.

3.3.2 Classification according to conditions of use

Table 1 shows the classification criteria for fibreboards related to conditions of use.

Table 1 — Classification criteria for fibreboards related to conditions of use

Conditions of use
Dry conditions
Humid conditions
Exterior conditions

3.3.3 Classification according to application purposes

Table 2 shows the classification criteria for fibreboards related to application purposes.

Table 2 — Classification criteria for fibreboards related to application purposes

Application purposes
General purpose use **Load-bearing applications:** **1) for all load duration categories** **2) for instantaneous or short-term load durations only**

4 Symbols

4.1 Symbols for different fibreboards types

Table 3 specifies the symbols which shall be used for the fibreboard types defined by this standard.

Table 3 — Symbols for different fibreboards types

Fibreboard type	Symbol
Hardboard	**HB**
Low density medium board	**MBL**
High density medium board	**MBH**
Softboard	**SB**
Dry process board	**MDF**

4.2 Symbols related to conditions of use and application purpose

Table 4 specifies the symbols which shall be used to indicate the conditions of use and application purposes.

Table 4 — Symbols related to conditions of use and application purposes

Conditions of use and application purposes	Symbol
Conditions of use:	
Dry conditions	**no symbol**
Humid conditions	**H**
Exterior conditions	**E**
Application purposes:	
General purpose use	**no symbol**
Load-bearing applications:	**L**
a) for all load duration categories	**A**
b) for instantaneous or short-term durations only	**S**

Different load-bearing categories of boards are identified by adding the digits 1 or 2 after the symbol. The digit 1 is used for load-bearing boards and the digit 2 for heavy duty load-bearing boards.

4.3 Composition of symbols

The symbols indicating conditions of use and application purposes are added to the symbol of the fibreboard type after a full stop, in this sequence:

fibreboard type . condition of use + application purpose + load duration category[1)] + load-bearing category[1)]

EXAMPLE HB.HLA 2 heavy duty load bearing hardboard for use in humid conditions for all load duration categories;

MDF.HLS load-bearing MDF for use in humid conditions for instantaneous or short-term load duration only.

1) Where applicable.

Bibliography

[1] EN 622-1, *Fibreboards — Specifications — Part 1: General requirements*

[2] EN 622-2, *Fibreboards — Specifications — Part 2: Requirements for hardboards*

[3] EN 622-3, *Fibreboards — Specifications — Part 3: Requirements for medium boards*

[4] EN 622-4, *Fibreboards — Specifications — Part 4: Requirements for softboards*

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

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