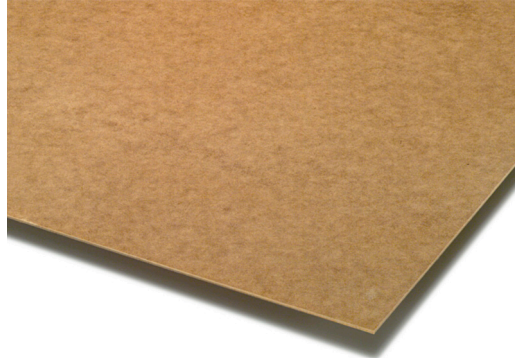


Medium Board



General Description

Medium board is manufactured from lignocellulosic fibre (e.g. wood, straw, bagasse) in a density range of 400 kg/m³ to 900 kg/m³. Only panels with a density ≥ 560 kg/m³ are suitable for structural applications. Most medium boards are produced in a "wet process". In these medium boards, one face is rough due to the use of a mesh screen for dewatering. Boards manufactured by the "dry process" exhibit smooth surfaces on both sides. The panels are bonded primarily by felting of the fibres and their inherent adhesive properties. Usually, only small amounts of a synthetic binder are added to the fibres. By incorporating additives (e.g. hydrophobic agents, fungicides, fire retardants) or post-treat

ments certain properties of the board can be altered.

Range of applications

- _ as stated in the manufacturer's approval or
- _ according to EN 622-3

Technical class	Requirement	Service classes acc. to EN 1995-1-1
MBH.LA1	Load-bearing boards for use in dry conditions.	1
MBH.LA2	Heavy duty load-bearing boards for use in dry conditions.	1
MBH.HLS1	Load-bearing boards for use in humid conditions.	1 and 2
MBH.HLS2	Heavy duty load-bearing boards for use in humid conditions	1 and 2

Typical board sizes [mm]

Length	2440
Width	1220
Thickness	5 – 16

Technical References

- _ Approval provided by the manufacturer or

EN 622-3	Fibreboards – Specifications Part 3: Requirements for medium boards
EN 316	Wood fibre boards – Definition, classification and symbols
EN 13986	Wood-based panels for use in construction – Characteristics, evaluation of conformity and marking
EN 1058	Wood-based panels – Determination of characteristic 5-percentile values and characteristic mean values
EN 1995-1-1/2	Eurocode 5 – Design of timber structures Part 1-1: General – Common rules and rules for buildings Part 1-2: General – Structural fire design
ÖNORM B 1995-1-1/2	Eurocode 5: Nationale Festlegungen, nationale Erläuterungen und nationale Ergänzungen zu ÖNORM EN 1995-1-1/2 (Eurocode 5: National specifications for the implementation of EN 1995-1-1/2, national comments and national supplements)
EN 12369-1	Wood-based panels Characteristic values for structural design Part 1: OSB, particleboards and fibreboards
EN 13501-1	Fire classification of construction products and building elements Part 1: Classification using data from reaction to fire tests

Medium Board

Mechanical properties

_ as stated in the manufacturer's approval or
 _ according to EN 12369-1

The mechanical properties and densities (characteristic values) are provided in Table 1. These values apply if MBH.LA2 is used as load-bearing board in service class 1 conditions. Please note that all the characteristic values regarding mechanical properties and densities provided in Table 1 have to be modified according to EN 1995-1-1 based on the service class and the duration of load (k_{mod} and k_{def}). To obtain the 5%-characteristic value of the stiffness, the average value listed in Table 1 should be multiplied by 0,85.

	MBH.LA2	
	≤10	>10
Thickness [mm]	≤10	>10
ρ_k [kg/m ³]	650	600
$f_{m,k}$ [N/mm ²]	17	15
$f_{t,k}$ [N/mm ²]	9	8
$f_{c,k}$ [N/mm ²]	9	8
$f_{v,k}$ [N/mm ²]	5,5	4,5
$f_{r,k}$ [N/mm ²]	0,3	0,25
E_m [N/mm ²]	3100	2900
$E_{t,c}$ [N/mm ²]	3100	2900
G_v [N/mm ²]	1300	1200

Table 1: Characteristic values of boards manufactured acc. to EN 622-3; MBH.LA2 (excerpt from EN 12369-1)

Remark: No characteristic values are provided in European standards for panels of the types MBH.LA1, MBH.HLS1 and MBH.HLS2. If required, the mechanical properties have to be determined in accordance with EN 1058 or the values provided in suitable test certificates have to be used.

Physical properties

_ as stated in the manufacturer's approval or
 _ according to EN ISO 10456 (Building materials and products – Hygrothermal properties Tabulated design values and procedures for determining declared and design thermal values).

	Fibreboards		
	400	600	800
ρ [kg/m ³]	400	600	800
λ [W/mK]	0,10	0,14	0,18
μ	5/10	12/20	20/30
c [kJ/kgK]	1,7	1,7	1,7

Please note: the μ -value of a material can be subject to substantial deviations. When uncertain use values provided in testing reports if such documents are available.

Fire performance

_ as stated in the manufacturer's approval or
 _ according to EN 13986
 _ according to Commission Decision 2007/348/EC

	≥400 bis < 600 kg/m ³ , ≥9 mm	≥600 kg/m ³ , ≥9 mm*
Euroclass	E	D
Smoke production		s2
Flaming droplets		d0

_except floor assemblies (s. EN 13986)
 *end-use conditions according to EN 13986 are to be considered

_ according to EN 1995-1-2

	$\rho_k=450$ kg/m ³ , 20 mm
charring rate β_0	0,9 mm/min

Please note: for other densities and thicknesses < 20 mm the charring rate is to be calculated according to the following equation:

$$\beta_{0,p,t} = \beta_0 k_p k_h \text{ where}$$

$$k_p = \sqrt{450/\rho_k}$$

$$k_h = \sqrt{20/h_p}$$

ρ_k ... characteristic density in kg/m³
 h_p ... board thickness in mm