TECHNICAL DESCRIPTION

CEMENT BOUNDED CHIPBOARD

015.02.2010

1.brand name
BETONYP

2.description of the product
a board-formed product, it is pressed from wood-particles, Portland cement and other possible additive agents are added to them
The product meets the requirements of the standards MSZ EN 633, MSZ EN 634-1 and MSZ EN 634-2.

2.1.structure
-flat pressed
-raw (unsanded), sanded
-three-layer board

2.2.the structure of the surface layer
the covering layer consist of fibre-fractions 1,5-2,0 mm less than those of the core and its colour is cement-grey

3.technical data

3.1.wooden material
100 % Scotch fir (Pinus silvestris), its rind has been removed

3.2.bounding agent and additive agents
standard Portland cement, hydraulic bounding agent, which has consolidated and hardened as a result of hydratation reactions

	Név		
Made:	Bodó Ildikó	minő	
Controlled:	Ferenczy Zsolt	főmé	
Confirmed:	Varga István	keres	

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3.3.quality requirements

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3.3.1.general requirements at the delivery (table 1)

characteristic	Method of control	requirements
Size of the board (mm x mm)		3200 x 1250 2800 x 1250
Thickness (mm)		8-40
volume density (kg/m³) (in the case of the required moisture contents)		1350 +/- 75
Tolerance -thickness, on the sanded boards across one board and between the boards -thickness, on the unsanded boards across one board and between the boards < 12 mm 12 mm ≤ t < 15 mm 15 mm ≤ t < 18 mm ≥ 19 mm -length and width	MSZ EN 324-1	 +/- 0,3 mm +/- 0,7 mm +/- 1,0 mm +/- 1,2 mm +/- 1,5 mm +/-5, 0 mm
Tolerance for the straigthness of the edges	MSZ EN 324-2	1,5 mm/m
Tolerance for the rectangularity	MSZ EN 324-2	2,0 mm/m
Moisture contents	MSZ EN 322	6% - 12%

3.3.2.phisical and mechanical requirements (table 2)

characteristic	Test Method	requirements
Thickness of the board (mm)		8-40
bending strength	MSZ EN 310	> 9 N/mm²
E- modulus	MSZ EN 310	Grade 1 > 4500 N/mm² Grade 2 > 4000 N/mm²
Internal bond	MSZ EN 319	>0,5 N/mm²
Internal bond after a cyclic stress	MSZ EN 319 MSZ EN 321	> 0,3 N/mm²
Swelling in thickness in 24 hours	MSZ EN 317	<1,5 %
Swelling in thickness after a cyclic stress	MSZ EN 317 MSZ EN 321	<1,5 %
Dimensional change because of moisture lengthwise or broadwise the board (*)	MSZ EN 318	At a temperature of 20 C°, as a result of the rise of the relative moisture contents of the air from 25 % to 85 %, maximum 0,3 %

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characteristic	Test Method	requirements
Coefficient of the thermal expansion (*)		1 x 10 / K
Thermal conductivity (*)	MSZ 4880-1: 1987	0,26 w / mK
Coefficient of the endurance against the air-moisture diffusion (*)	MSZ 13 336-12: 1997	22,6
Air permeability (*)	MSZ 10337 : 1989	0,133 l / minimum m² Mpa
Frost-resistence (*)	EN 1328	No visible deformation
Airborne sound proofing (*)	MSZ EN 20354: 1994	30 dB in the case of the 12 mm thick board
Surface pH value (*)		11
Heat resistance	MSZ EN 13501-1:2002	B-s1-d0

The required values refer to boards, the moisture contents of which is adequate to an air of 20 Cº temperature and of 65% relative moisture contents.
The values marked with (*) serve as information, there are no standard requirements in these cases.

3.3.3.open defects and grading (table 3)
Table 3 contains the allowed defects visible by the eye or to be found out by the means of simple measuring.

Open defect	**Tolerance Quality grade**	
	Grade 1	**Grade 2 (**)**
Impression, bulge	Not allowed	Maximum to a diameter of 50 mm. It is allowed to a depth of 1 mm and to a total area of 10% of the board surface.
Scaled layer (loose fitting, scaling layer)	Not allowed	Allowed to a depth of 1 mm
Stain on the surface of the board (grease, oil etc.)	Not allowed	Allowed maximum to an area of 20% of the board surface
Alien inclusion (metal, stone etc.)	Not allowed	
Defected edge (chipped edge, trimming defect)	Not allowed	Allowed on the opposite edges to a maximum 50 mm total length and 5 mm depth
The defects bigger than as it is defined in table 3 belong to grade Sz.A.		

(**) – The standard does not specify any quality requirements about the second graded products. The given data serve as information.

4.usage
see BETONYP-guidebook about the usage of the boards, 2001

5.sizes
5.1.size of the boards 3200 x 1250 mm; 2800 x 1250 mm
5.2.thickness of the boards 8, 10, 12, 14, 16, 18, 20, 24, 28, 40 mm

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6.delivery

- In loading units being hold together with plastic bands, in board-sizes (production size)
- The loading units of grade 1 must be protected against damage.
- The amount of the boards in one loading unit depending on its total surface and its volume depending on the thickness:

Thickness mm	Boards pieces	3200 x 1250 mm		2800 x 1250 mm	
		m^2	m^3	m^2	m^3
8	60	240	1,92	210	1,680
10	50	200	2,00	175	1,750
12	40	160	1,92	140	1,680
14	35	140	1,96	122	1,715
16	30	120	1,92	105	1,680
18	30	120	2,16	105	1,890
20	25	100	2,00	88	1,750
24	20	80	1,92	70	1,680

7.transport and conveyance

- The loading units can be transported by rail or road.
- If using loading facilities (a trolley), the boards must be protected.
- During manual conveyance, the boards must be moved only one by one standing edgewise.

8.storage

- The boards must be laid on each other on dry four-edge bearers, placed at a horizontal position and they must be stored in the same way.
- To prevent sagging, the maximum distance between the bearers can be 800 mm.
- After you have unpacked a loading unit, you must protect the upper board..
- The cement bounded boards must not be kept standing edgewise!
- The loading units must be stored in a place protected against the sun, they must be protected against moisture with canvas and they must be protected against soil dampness!

9.certificate

9.1.general requirement

You must check the quality of the product with the aid of the methods detailed in table 1, 2 and 3.

9.2.control

The CE-marking applies to the 8-40 mm thick boards. Type test certificate No.:M-3036/2007

The producer is controlled by ÉMI KHT./ Budapest

10.marking

Each loading unit is provided with a label.

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11. environmental protection

The user must observe the laws and regulations in force with respect to disposal of refuse, air-pollution, aboveground and subsurface water protection and labour safety.