



TECHNICAL DATA SHEETS
(TDS 29.09.2022)
Basic Fiber – fiber cement board

Basic Fiber – autoclaved fiber cement board is a structural and cladding board made of Portland cement reinforced with cellulose fibers. Non-flammable, moisture resistant, naturally biostable, easy to process; with versatile applications in outdoor and indoor conditions. It does not contain asbestos or other substances harmful to human health or the environment.

Intended uses:

- interior and exterior facade cladding of any kind of buildings
- frame or modular constructions (wooden or cold-formed steel)
- stiffening or load-bearing cladding
- underlying material for ceramic tiles in wet areas
- suspended ceiling element (6 mm)
- soffit and fascia elements on roof projections
- backerboard under roof tiles (instead of OSB)
- flooring material on elevated flooring systems
- supporting elements on curtain wall systems
- underlying elements in thermal sheathing applications
- concrete moulds, lost formworks
- supporting material in composite elements
- sandwich panel wall element (or SIP)
- ventilated facades
- trims, door and window framings
- wall elements in prefabricated pools
- backerboard on the billboards, decorative shopwindow applications.

General information:

Basic Fiber – fiber cement boards are manufactured with production lines that take into account all effective trends in building technology that are environmentally friendly. Ecological Basic Fiber boards comply with the standards on the emission of substances affecting the ozone layer, they don't contain CFC-HCFC and they are not present in global warming.

Conformity:

Basic Fiber boards (fibre cement boards) are manufactured in accordance with the standard EN 12467:2013-04 (assessment system 3) and tests have proved that the parameters match the reference. The CE marking of conformity is applied by the manufacturer on the label of the collective packaging of cement fiber boards and on the accompanying documents.

Process:

The first stage of fiber cement board production is the preparation of a proper slurry made of the raw materials used in fixed proportions. Portland cement, micronized silica and cellulose pulp are mixed with water and build up the process slurry. The uncured boards are trimmed to demanded dimensions, kept in curing tunnels as stacked between the steel templates for pre-curing of the cement. The last stage of the production is to autoclave the boards which have completed the pre curing phase in autoclaves under high pressure and temperature to make them gain the final properties to resist hard climatic conditions from coldest to hottest. After a reasonable storing time in the stockhalls (necessary to eliminate the extra moisture due to steam curing) the products become ready for shipment.

Product advantages:

- **ECO-FRIENDLY.** Fiber cement boards are environmentally friendly. The material do not emit phenol and formaldehyde and other toxic compounds such as asbestos. Each panel is a solid, monolithic material which – due to the rapid mineralization of the components - no dust, gases or vapors emit during the production process or later.
- **FIREPROOF.** Incombustible (A1 class incombustible material according to EN 13501-1). Contributes to extinguish the existing fire, no hazardous gas emission even when exposed to extreme temperatures.
- **RELIABILITY.** Resistant against ultraviolet rays, very good heat and sound insulation, Imperishable, long life (theoretically endless), easy maintenance. Economical because they do not need plaster. Durable against strokes and beats.
- **BIOSTABILITY.** Not affected by insects harmful to woods, not inhabitable for insects. Resistant to rodents, fungi and mould. The biostability is achieved not by the use of special chemical antiseptics – neither in the composition of the board itself, nor by surface treatment with them. In the process of converting cement into concrete, a natural antiseptic, calcium hydroxide creates a highly alkaline environment, unfavorable to organisms responsible for rotting, mechanical damage and, as a result, degradation of the wooden load-bearing structure.
- **WATER IMPERMEABILITY.** Water absorption ratio is lower than 30%. Very low hygrical movement ratio (max. 0,5 mm/m). Resistant against sea water moisture, so it can be used safely as external walls of seaside buildings. Basic Fiber works equally well in humid rooms, as a dry screed, as roof cladding and in lost formwork structures.
- **FROST RESISTANCE.** Basic fiber can be safely used in hard climatic conditions due to the raw material content and autoclaving process. Resistant against frost – can be used in the coldest zones safely. Breathing material, enables also the building to breathe.
- **UNIWERSAL APPLICATIONS.** Can be used much more safely in any application, where similar covering materials used. Perfect binding to several insulation materials, so can be used as sandwich panel for multiple purposes.

Specifications:

Essentials characteristics	Performance - declared level
Dimensions	1250 x 2500 mm or 1250 x 3000 mm
Thickness	6, 8, 10, 12, 14, 16, 18, 20 mm
Dimensional tolerances	
Tolerance on length	± 5 mm
Tolerance on width	± 3,75 mm
Tolerance on thickness	± 10%

Squareness of edges	± 2 mm/m
Straightness of edges	± 0,1% (of sheet length or width)
Surface appearances	smooth
Apparent density	1350 ± 50 kg/m ³
Frost resistance	frost resistant according to EN 12467
Water impermeability	impermeable according to EN 12467
Diffusion resistance number	μ ≤ 30
Porosity	30%
Modulus of rupture	~ 14 N/mm ² (machine direction: longitudinal) ~ 9 N/mm ² (transverse to machine direction)
Pressure strength	30 N/mm ² (perpendicular to sheet surface)
Tensile strength	2 N/mm ² (perpendicular to sheet surface)
Frost resistance	Frost resistance according to EN 12467
Reaction to fire	A1 class
Release of asbestos	non-asbestos
Release of other dangerous substances	non
Thermal expansion coefficient	α _t = 0,005 mm/mK
Thermal conductivity coefficient	λ = 0,18 W/mK
Modulus of elasticity	8000 N/mm ² (machine direction: longitudinal) 6000 N/mm ² (transverse to machine direction)
Water absorption ratio	< 25% (full saturation, including ambient moisture)
Moisture in storage	< 10% (subject to ambient moisture)
Hygrical movement	< 0,5 mm/m (full saturation)
Bending radius	~ 12 m

Thermotechnical and thermal insulation properties:

Basic Fiber, due to the organic bonding, is a homogeneous, monolithic material, which ensures optimal thermal conductivity. Therefore, ecological cement fiber boards are often used in constructions where a combination of high mechanical strength of the material and its resistance to low temperatures and freeze-thaw cycles are required.

*Thermal resistance R_D for individual panel thicknesses
with the declared thermal conductivity coefficient $\lambda_D = 0.18 \text{ W/(m K)}$*

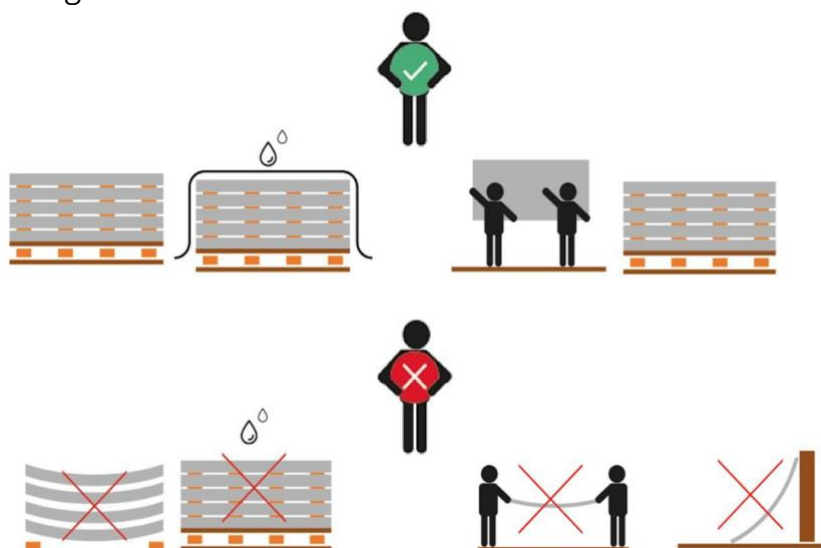
Thickness dN [mm]	Thermal resistance (R_D) [m ² *K/W]
6	0,033
8	0,044
10	0,055
12	0,066
14	0,077
16	0,088
18	0,100
20	0,110

Transport and storage informations:

- The boards should be transported on perfect wooden pallets with at least 5 blocks.
- The drivers should be warned not to commit sudden brake or maneuver during the travel to the destination to avoid impact forces to affect the pallets.
- The pallets should be unloaded from the trucks under strict attention by means of

proper devices and equipment and stacked on a smooth basement as one on the other in a position that all the blocks of the pallets shall remain in alignment.

- Total height of the pallets stacked one on the other should not exceed 3 m.
 - Fibercement boards should be stored in the covered storage areas and protected against moisture and water.
 - The protective coatings should not be removed when the boards are in storage. The unfolded pallets should be re-packed.
 - The boards should be taken from the pallets without causing any scratch on the surface of next board.
 - Protect the boards against water.
 - Do not scrape the boards.
- The boards should be carried by two persons in vertical position in order to prevent cracking caused by flexing. The board edges and corners should be avoided to hit hard objects during handling and should not be laid down violently.
 - Take care of the appropriate number of base strips (blocks) so that the boards do not bend.
 - Carry the boards vertically!
 - Do not stock the boards leaned.
 - The boards should be stored in the stock areas on pallets or wooden blocks. The basement of the stock area should be firm and smooth.
 - The pallets should not be stored on the traffic route and the stock hall should be moisture free and good ventilated.



Produced for:

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