Product Identification Guide

interior and exterior shell of a Building using DP fiber cement board materials

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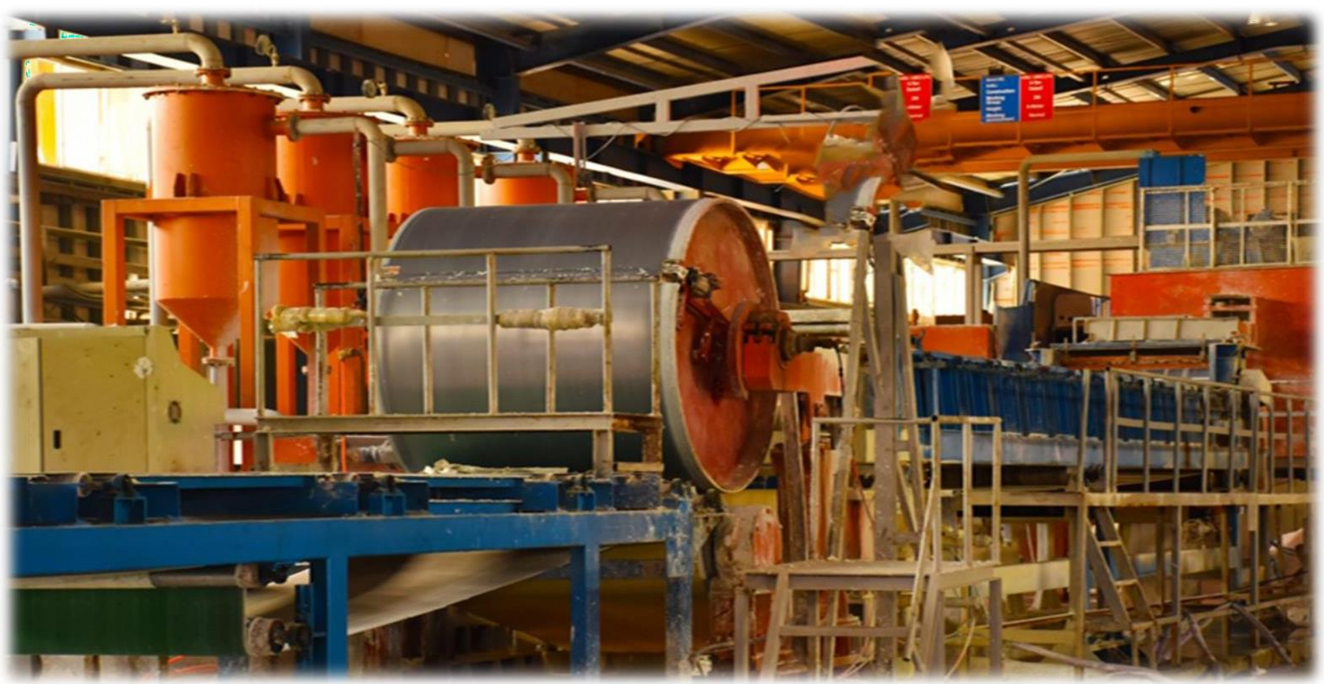
About us

New regulations like the RICS whole Life carbon assessment standard and future homes standard demand low-carbon materials and energy efficiency, you should factor this into your plans and clad your project with a material that is durable over time, guaranteeing the best possible thermal performance. Knowledge enterprise Divar Pooshesh Siman Part is an Iranian industrial group specialized that the first and only manufacture of autoclaved fiber cement. our group was developed more one decade ago using R&D and solving the application of the overall solution of prefabricated system and now day, DP group obtains a number of patented products and technologies, has become a comprehensive group in manufacturing a building material. It is developed and manufactured under the International Accreditation System ISO 9001 and ISO 14001, so it may be specified with total confidence. And quality of the board conforms to the requirements of BS EN 12467 Fiber cement flat sheets Product specification and test methods. DP fiber cement boards and planks are durable and highly resistant to most environmental conditions. They are the best alternative to wood, concrete and masonry constructions. the application of Dp prefabricated building system is changing the traditional way of construction, leading the green development and circular economy, which provides a comfortable, healthy, safe and We strive to improve our customers' quality of life with effective lightweight solutions.

Manufacturing process

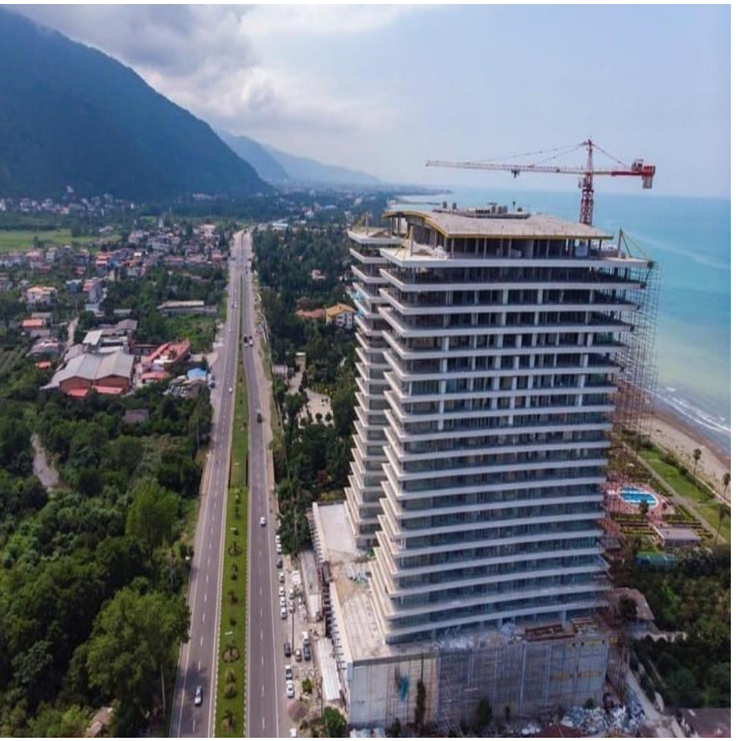
DP is the brand name of our fiber cement boards and planks. The main components of DP fiber cement board are Portland cement, cellulose fibers, silica as the main materials, our raw materials, obtained from renewable sources, ensure a low carbon footprint. Cellulose is obtained from sustainable forests, Cement and aggregates from local quarries. therefore, makes it a green label product. the boards do not contain asbestos, formaldehyde or other substances harmful to health or nature however, it has strong bending strength, moisture-proof, soundproof, insect-resistance and durable features like those with asbestos. Given its superior weathering resistant and bending strength performances, make it suitable for any purposes of applications. the DP fiber cement board are manufactured using the hatcheck process, which involves of slurred mix of core ingredient that after further dilution by Fully automated mixing the slurry is fed into the sheeting machine. The sieve cylinders transfer the thin material layers onto the felt. The layers are dewatered and then accumulated at the forming roller until the required sheet thickness is reached and the sheet is cut off and then stacked and left for a short period of pre-curing. the final curing is done through autoclaving that involves high temperatures and pressure steam curing hydration process- that ensures optimum dimensional stability and mechanical resistance. after autoclaving are allowed to go through a stabilization period to bring about equilibrium with the am content a controlled environment after autoclaving are allowed to go through a stabilization period to bring about equilibrium with the content a controlled environment



Sales coverage regions

By a good reputation the products of the DP have been exported to more than 7 contraband regions, and transported to customers from Asian countries like

- Kazakhstan
- Iraq
- Afghanistan,
- Syria
- Turkmenistan
- Pakistan
- Armenia



HQ Fiber Cement Board

DP fiber cement board (HQ board) is a cost-effective multi-purpose fiber cement board designed especially for all manner of versatile applications in both dry and wet areas.
It is a lightweight yet durable board that offers exceptional dimensional stability, superior fire performance and years of functional service. This combination of durability and design versatility are the best features for new or renovation projects which demand design flexibility and modern, contemporary solutions. DP fiber cement board comes with a smooth surface and square edges are easy to work on and offers an excellent base for a good paint finish surface

Physical and mechanical properties of HQ fiber cement board

METHOD	PROPERTY	RESULT	PASS
EN12467	Density	1350 + 50 kg/m3	PASS
EN12467	Moisture movement	0.08%	24hr PASS
EN12467	Water permeability	No water drops formed.	PASS
ASTM C518	Thermal conductivity	0.25 W/mK	PASS
ASTM C1186	Water absorption	≤30%	PASS
EN12467	Warm water performance (56 days at 60 °C)	≥0.75	PASS
EN12467	Soak-dry performance (category A) immersion samples in water at ambient temperature (more than 5 °C) for 1 8 h; drying in a ventilated oven of (60 ± 5) °C and relative humidity of less than 20 % for 6 h. The 20 % humidity s hall be achieved for at le as t 3 h prior to the conclusion of the 6 h drying (accordanceEN12467 after 50 soak- dry cycles for category A the ratio RL as defined shall be not les s than 0.75)	≥0.75	PASS
EN12467	Freeze-thaw performance coo l (freeze) in the freezer which shall re ach a temperature of (- 2 0 ± 4) °C within 1 h to 2 h and hold at this temperature for a further 1 h; heat (thaw) in the water bath which shall reach a temperature of (2 0 ± 4) °C within 1 h to 2 h and hold at this temperature for a further 1h.(accordance EN12467 after 100 freeze-thaw cycles for category A the ratio RL as defined shall be not les s than 0.75)	RL ≥85	PASS
EN12467	Heat-rain performance Water spray2 h 5 0 min ± 5 min. Pause 10 min ± 1 min. Radiant heat2 h 5 0 min ± 5 min. Pause 1 0 min ± 1 min. Total cycle Repeat all steps 6 h min.(accordanceEN12467 after 50 cycles for category A ±	After 50 cycles, no cracks or structural changes that would affect them performance in use have been observed	PASS
EN12467	Water contains	≤10%	PASS
EN12467	Flexural strength	After dry storage15MPa at right-angles to fiber direction 13MPa parallel to fiber After wet storage: 14MPa at right-angles to fiber direction 12MPa parallel to fiber	Categ ory A EN12467 Class 3
EN12467	Young's modulus	≥5000 N/mm²	PASS
ISO1182	Reaction to fire	Non-combustibility	Class
ISO 10534-2(GB/T18696.2002-2)	Sound Transmission Loss	37db (for 12mm panel)	PASS
EN13501-1: 2007	Fire classification using test data from reaction to fire test	Class A1	
EN12467	Length Width Straightness of edges Squareness of edges	Level I	(Pass

Benfits

Resistant to the attack of termites , insects and other vermin

Easy to work and install

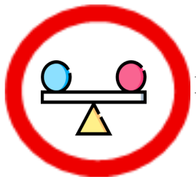
Resistant to weather and temperature fluctuations

Impact resistant

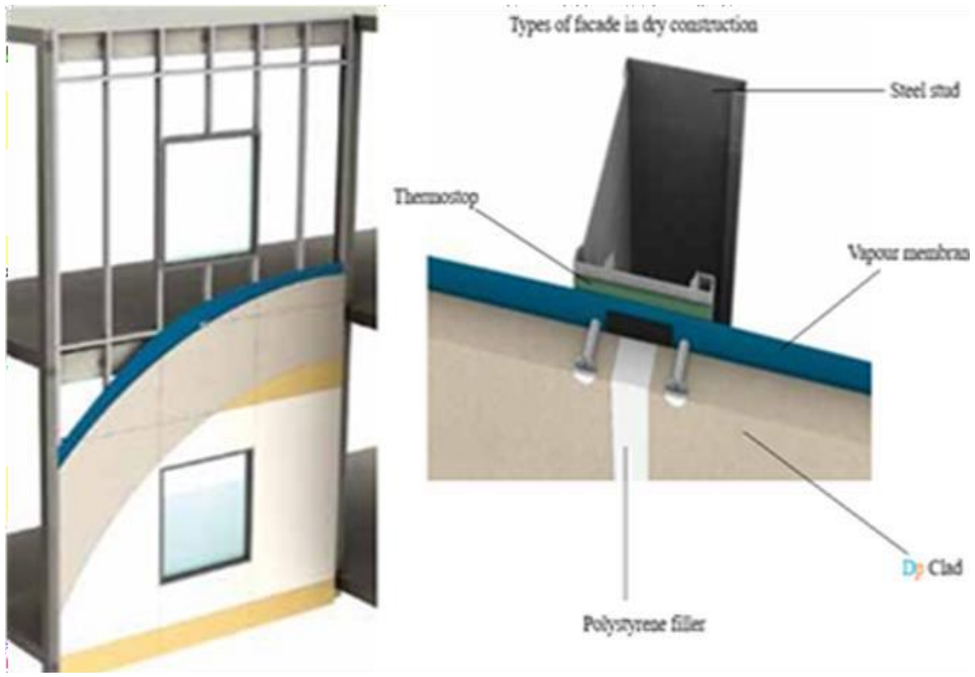
Non-flammable - fire

Environmentally friendly

Light weight



Dimensionally stable



DP Clad

Dp external walls and claddings is a board specifically designed for exterior wall cladding. Apart from being cost-effective and low- maintenance, they also give an effortless joint panel look with an ultra-modern feel Its resistance to the outdoor elements as (extreme wind pressure), other weather elements and the capacity to receive different coating finishes are the best features for new or renovation projects which demand design flexibility and modern, contemporary solutions. Dp external walls and claddings Made from low density fiber cement and manufactured out of compression technology helps them fall under the Category 3 Type A board category. They are in accordance to EN12467 and are ideal for hospitality, commercial, health care and residential properties

specification of HQ fiber cement board

Thickness (mm)	Width(mm)	Length(mm)	Weight per m^2 of sheet (kg/m^2)	Each pallet contains sheet	Application for Usage
8	1200	2400	12	70	Decorative Partition
	1200	2440			
	1220	2400			
	1220	2440			
10	1200	2400	15	60	Exterior wall Exterior cladding Wet area and Tile backing Interior wall
	1200	2440			
	1220	2400			
	1220	2440			
12	1200	2400	18	50	
	1200	2440			
	1220	2400			
	1220	2440			

BENEFITS

- Resistant to the attack of termites, insects and other vermin
- Moist, mould
- water resistant Impact resistant
- Dimensionally stable Easy to work and install Non-combustible
- Does not rot/decay Formaldehyde-free
- Durable & weather resistant

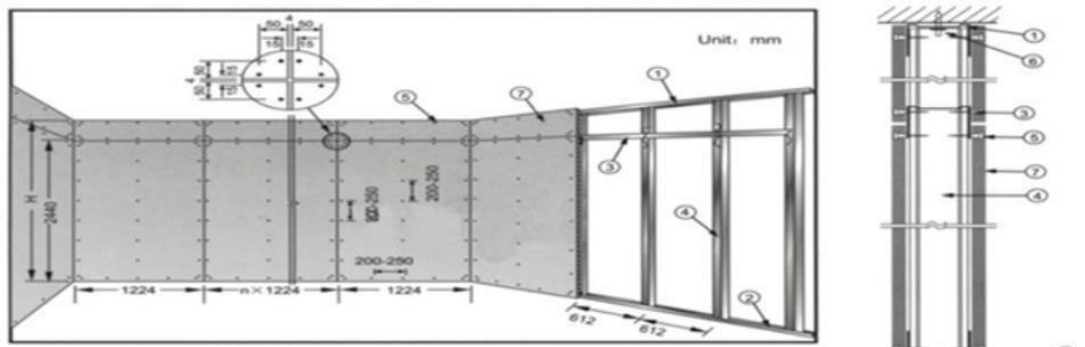
DP Partition

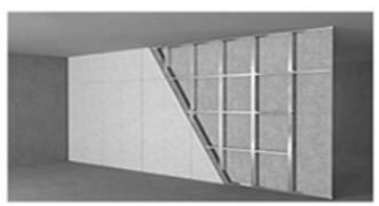
DP fiber cement board is a new type of green environmental protection board with excellent performance for the most demanding internal wall.

All kinds of conduit, wiring, pipe and other services are easily installed in the cavity of every DP Partition system. dp fiber cement board meets the national standard. There is middle density. Each process is strictly controlled to ensure that we can provide our customers with high-quality products. Comparing to the traditional brick wall, DP fiber cement board partitioning system is only 20% of total weight, therefore, it can save the cost for the building structure and create more interior space.

Dp partition Standard Dimensions

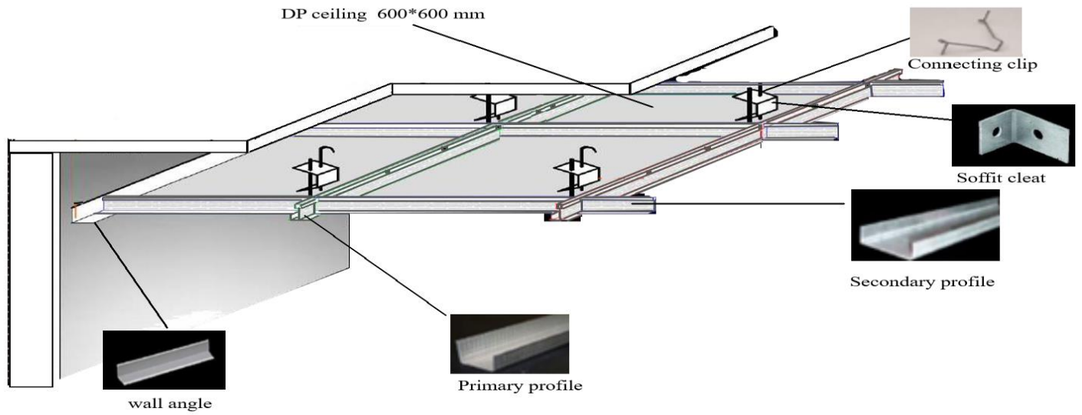
Thickness(mm)	Width(mm)	Length(mm)	Weight per m^2 of sheet (kg/m^2)
8	1200	2400	12.5
	1220	2440	12.1
9	1200	2400	13.5
	1220	2440	13.0

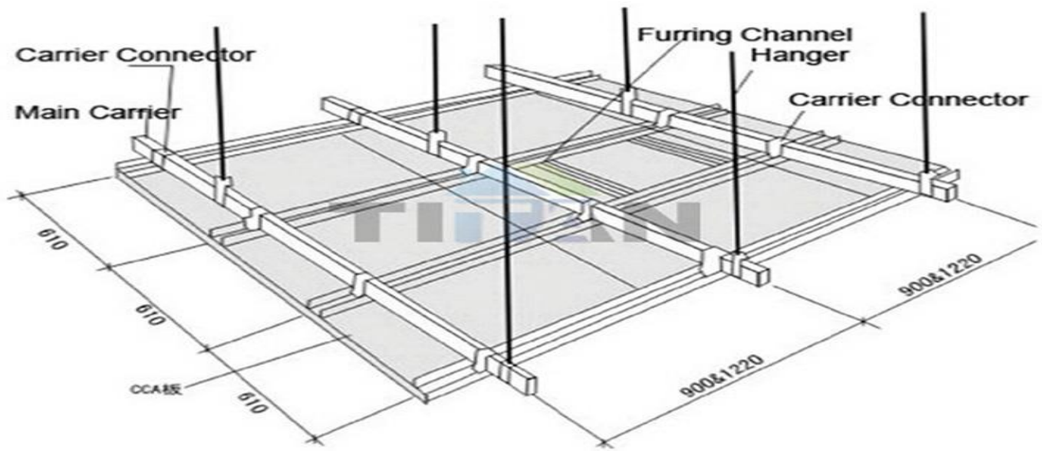




Benefits:

- excellent fireproof
- moisture proof
- soundproof
- Insect-resistant
- durable





DP Ceiling

False ceilings, also known as drop ceilings or suspended ceilings are indeed a significant element in modern interior design, offering both aesthetic and functional advantages. DP false ceiling represents the latest innovation in false ceiling technology, offering comprehensive solutions for modern construction needs

Applications

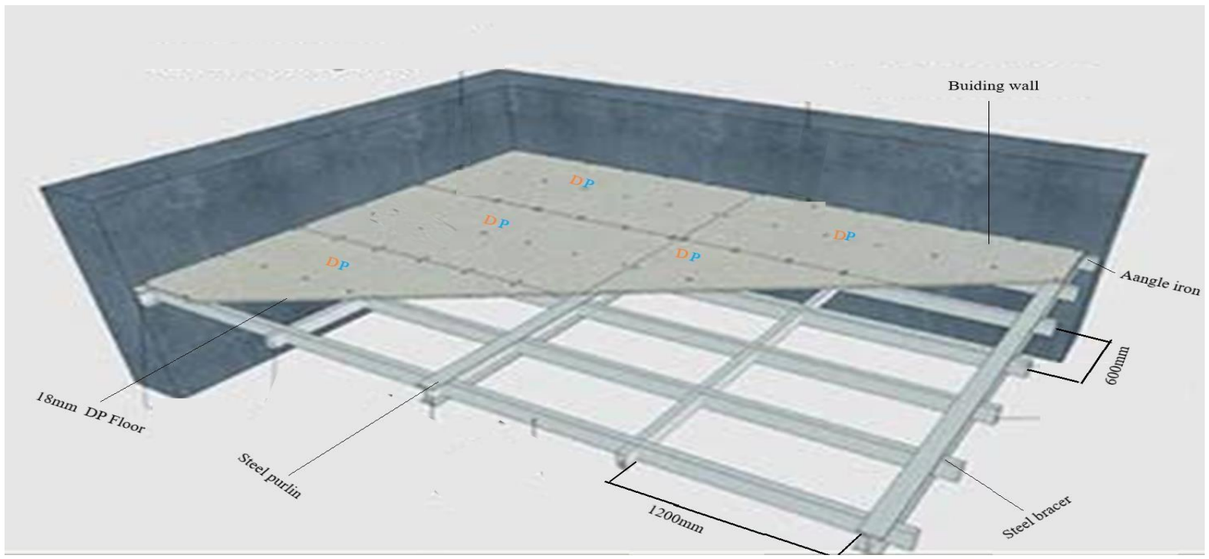
Features perfect for high-traffic areas and humid environments that makes the ideal choice for creating modern safe, and sustainable ceiling solutions

DP Ceiling standard dimensions

Thickness (mm)	Width (mm)	Length (mm)	Weight per sheet(kg/m^2)	Each pallet contains sheet	Application for Usage
4	1200	2400	6	100	Exterior wall
	600	600	2.88	600	
6	1200	2400	9	90	Exterior wall
	600	600	4.32	540	

Benefits:

- exceptional durability
- Resistant to the attack of termites, insects and other vermin, Moist, mould
- Waterresistant,
- Impact resistant
- Dimensionally stable
- Easy to work
- Install Flexible
- Fire resistant



DP Floor

DP Floor Board is a low density, fiber cement structural flooring substrate appropriate for any construction project with a limited construction time. It can be directly finished (with carpet or vinyl tiles) in residential projects or offices, or with reinforced mortar screed in industrial and heavy-duty applications. It also helps to lighten the main structure and eliminating many problems associated with heavy and dense traditional building materials such as concrete. DP Floor Board is an excellent alternative for false floors, internal wet areas and external building locations, because it is an incredible lightweight solution with excellent mechanical strength. With superior load bearing properties, the DP Floor Boards are widely used as a substrate for mezzanine floors and lofts as well.

Applications

- ideal for hospitality
- commercial
- health care
- residential properties

Dp floor Standard Dimensions

Thickness (mm)	Width (mm)	Length (mm)	Weight per m^2 of sheet (kg/m^2)
14	1200	2400	21
16	1220	2440	24
18	1220	2440	27

Benefits:

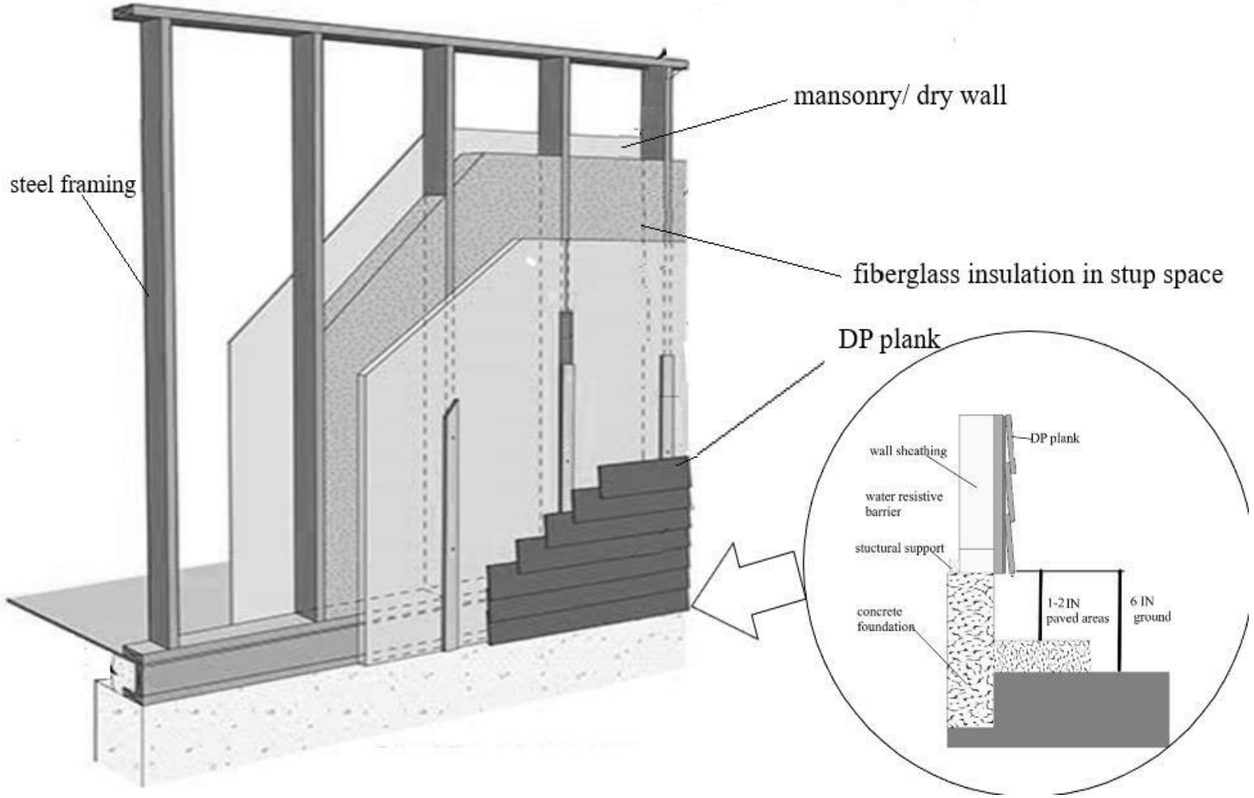
- Resistant to the attack of termites, insects and other vermin.
- Moist, mould and water resistant
- Wide variety of thickness and applications
- Impact resistant
- Dimensionally stable
- Easy to work and
- install Non-combustible

Dp plank

Dp plank is a fiber cement siding designed for residential cladding and external siding application. Dp is a simple, pragmatic solution to create protective barrier without the problems associated with humidity from using wooden materials. There are two options for installation, Overlapped Siding and Interlocking Siding. Both overlaps the planks differently to give a unique aesthetic view. DP wood design plank is resistant to the effects of moisture and will not physically deteriorate when used in damp or humid conditions. DP wood design plank is off-white in color and has with a wood pattern on the reserve face. The wooden pattern comes in attractive textures that can be enhanced by a wide range of modern architectural finishes.

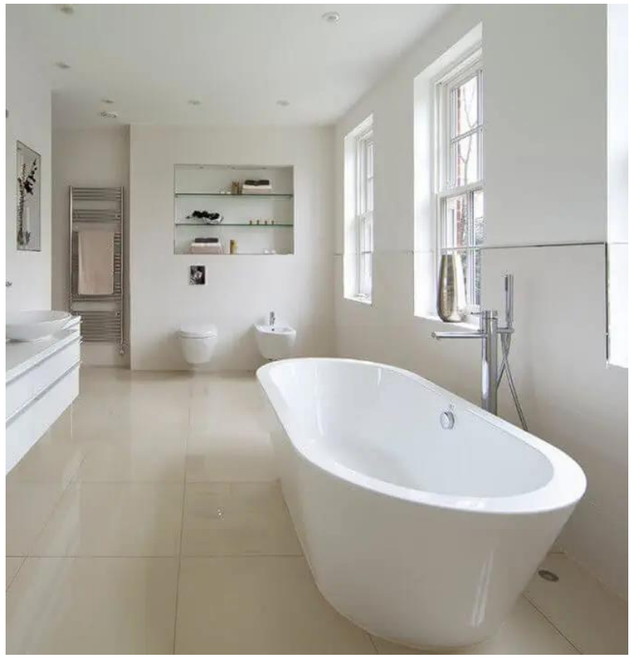
specification of Dp plank siding

Thickness (mm)	Width (mm)	Length (mm)	Weight of contains sheet (kg/m^2)	Each pallet contains sheet	Application for uses
8	1200	2400	12	70	Exterior wall
	200	2400	5.76	420	
	400	2400	11.54	210	
10	1200	2400	15	60	Exterior wall
	200	24000	7.2	360	
	400	2400	14.4	180	



BENEFITS

- Resistant to the attack of termites, insects and other vermin
- Moist, mould and water resistant
- Impact resistant
- Dimensionally stable
- Non-combustible
- Does not rot/decay
- Formaldehyde-free
- Durable & weather resistant
- Does not swell



DP backer board

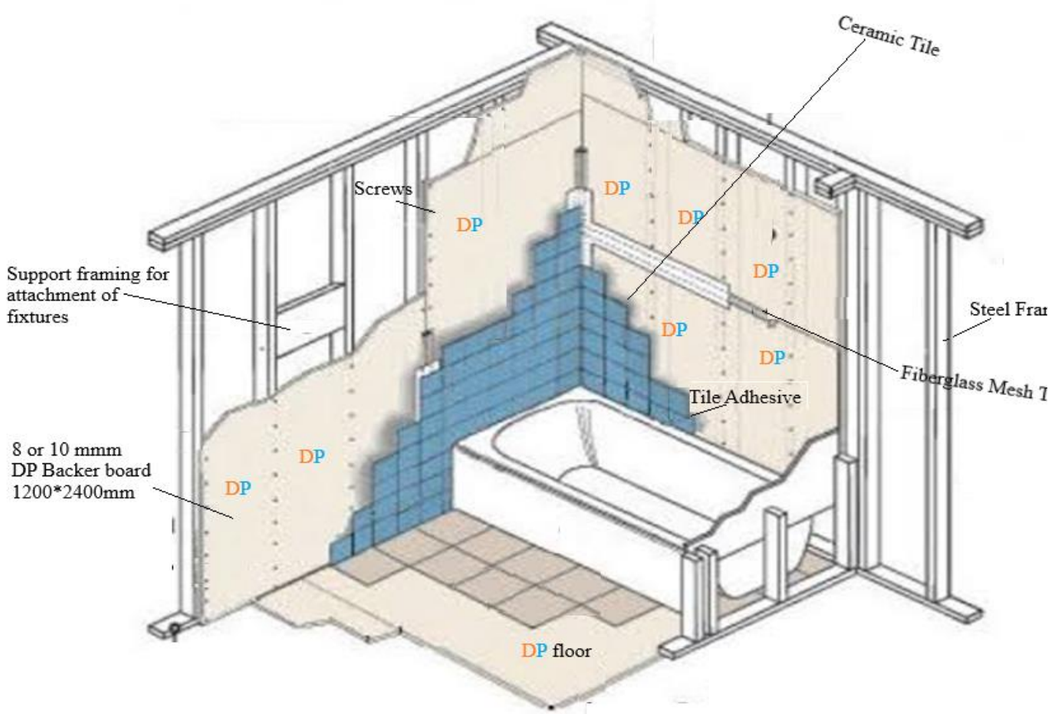
DP backer board is a great wet area and high traffic lining for dry construction applications. an inexpensive, convenient building material that makes tiling projects go faster and look better in the end. Most importantly fiber cement board do not feed or promote mould growth in humid areas. Its delamination strength, can be up to 70% higher than a water-resistant plaster board. DP backer board, offer a very low moisture movement, which makes it a very stable and robust substrate for ceramic and stone tiling. Because DP backer board is porous, thin set, grout, and mortar adhere well to it. DP backer board can be nailed

Application

- Partition in wet areas like Industrial kitchens labs, washrooms and bathing areas

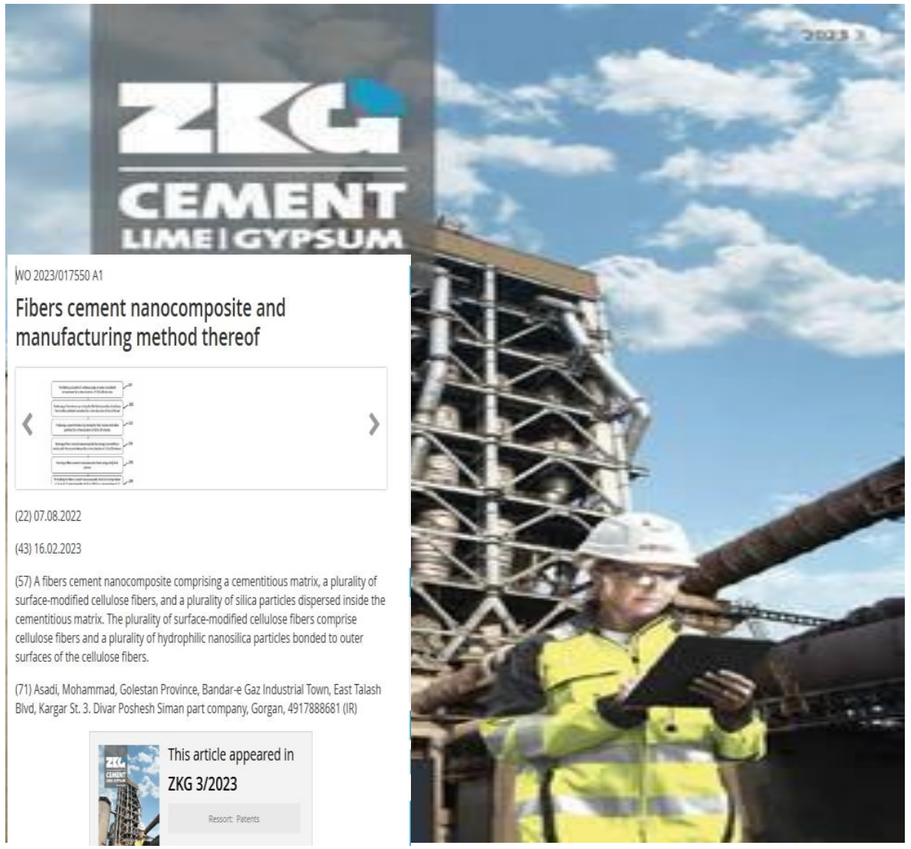
Physical and mechanical properties of DP backer board

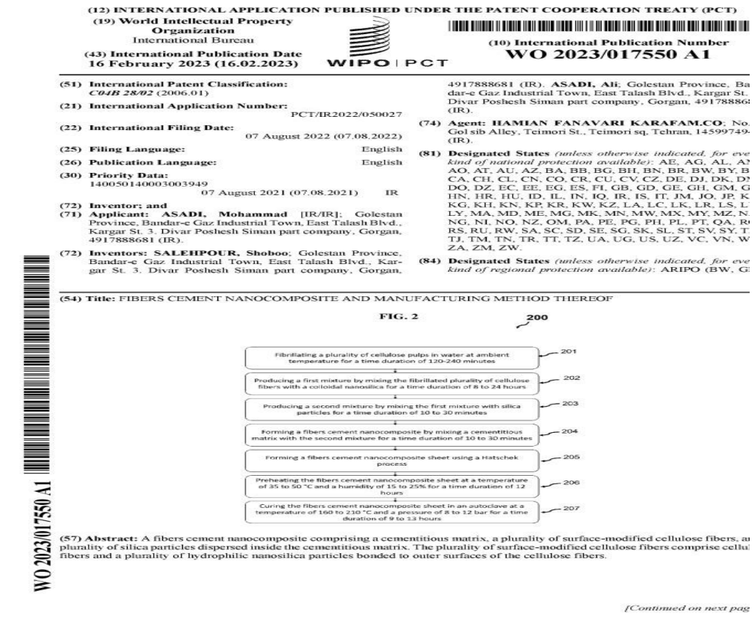
		Standard
Dimensional conformity • Thickness • Width • Length • Straightness of edges Squareness of edges	Level II (Pass)	EN12467
Density	≥1500 kg/m3	EN12467
Moisture content	15-20%	ASTM C1185
Water absorption	33±2%	ASTM C1186
Moisture movement	≥0.08%	EN12467
Water permeability	Pass	EN12467
Modulus of rupture Category C (ambient condition)	≥7MPa	EN12467
Durability		
Warm water performance	Pass	EN12467
Soak-dry performance (category A	Pass	EN12467
Freeze-thaw performance (category A)	Pass	EN12467
Heat-rain performance (category A)	Pass	EN12467



Benefits:

- Resistant to the attack of termites, insects and other vermin moist, mould
- water resistant
- Wide variety of thicknesses and applications
- Impact resistant
- Dimensionally stable
- Easy to work and install





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(54) Title: FIBERS CEMENT NANOCOMPOSITE AND MANUFACTURING METHOD THEREOF

FIG. 2

(57) **Abstract:** A fibers cement nanocomposite comprising a cementitious matrix, a plurality of surface-modified cellulose fibers, a plurality of silica particles dispersed inside the cementitious matrix. The plurality of surface-modified cellulose fibers comprise cellu fibers and a plurality of hydrophilic nanosilica particles bonded to outer surfaces of the cellulose fibers.

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Nanofiber cement

Another product of the wall covering company. Nano composite is fiber cement. A fibers cement nanocomposite comprising a cementitious matrix, a plurality of surface-modified cellulose fibers, and a plurality of nanosilica particles dispersed inside the cementitious matrix. The plurality of surface-modified cellulose fibers comprises cellulose fibers and a plurality of hydrophilic nano silica particles bonded to outer surfaces of the cellulose fibers. This application relates to a method for improving the Water absorption of fiber cement boards by the addition of nano silica particles to the fiber cement board formulation.

General properties of nanocomposite

METHOD	PROPERTY	RESULT	
EN12467	Density	1400 + 50 kg/m3	PASS
EN12467	Moisture movement	£0.08%	PASS
EN12467	Water permeability	No water drops formed.	24hr PASS
ASTM C1186	Water absorption	≤25%	PASS
EN12467	Warm water performance (56 days at 60 °C)	≥0.80	PASS
EN12467	Soak-dry performance (category A	≥0.83	PASS
EN12467	Freeze-thaw performance	R_L ≥92	PASS
EN12467	Heat-rain performance	After 50 cycles, no cracks or structural changes that would affect their performance in use have been observed	PASS
EN12467	Water contains	≤10%	PASS
EN12467	Flexural strength — After dry storage:	After wet storage:	Category A Class 4
EN12467	19MPa at right- angles to fiber direction 13MPa parallel to fiber	18MPa at right-angles to fiber direction 16MPa parallel to fiber	
EN12467	Young's modulus	≥5000 N/mm²	PASS
ISO1182	Reaction to fire	Non-combustibility	Class a
ASTM C1185, C1186-99	Flat non-asbestos	PASS	
EN13501-1: 2007	Fire classification using test data from reaction to fire test	Class A1	
Dimensional conformity			
EN12467	Length Width Straightness of edges Squareness of edges	Level I	(Pass)

Dimensional deviation of nanocomposite board

Thickness (mm)	Width (mm)	Length (mm)	Weight per m2 of sheet (kg/m2)	Each pallet contains sheet	Application for Usage
8	1200	2400	12	70	External Partition
10	1200	2400	15	60	Exterior wall
12	1200	2400	18	50	Wet area and Tile backing
18	1200	2400	26	30	floor

DP polymer cement putty

DP polymer cement putty is a specially formulated cement-based wall putty having excellent bonding properties on fiber cement surfaces. DP putty stands unique in the market as it is developed as an adhesive resistant and durability. A Putty powder utilized for a surface preparation by filling and smoothing uneven areas. It is widely applied to address cracks, seams, and surface imperfections on walls and ceilings, ensuring a uniform and level substrate. A dry putty powder comprising Portland cement, cellulose fibers, silica aerogel, metakaolin, ethylene vinyl acetate, the dry putty powder, such that a fast-drying putty obtained by adding water to the dry putty powder shows a drying time in a range of 10 minutes to 15 minutes after coating on a substrate

Applications:

- Suitable for filling joints in cement board panels
- Ideal for sealing internal corners and the gap between drywall structures and masonry walls
- Perfect for cut edges of cement board panels
- Usable for sealing uncut edges of cement board panels
- Ideal for sealing external corners with corner protection tape
- Used for sealing and filling screw holes
- Suitable for sealing outer corners with joint tape
- Capable of smoothing wall and ceiling surfaces before painting
- Perfect for repairing surface cracks
- Helps prevent future cracking issues

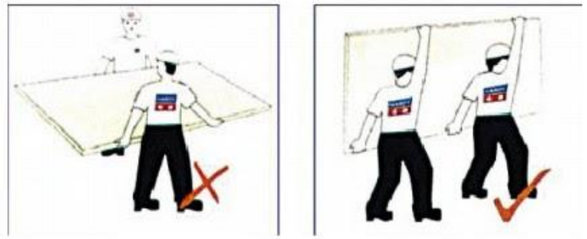
Physical and mechanical properties of magic sealing putty

Dry Putty Powder Density (g/cm3)	1.13-1.40
Dry Putty Powder Water Absorption Capacity (%)	3
Dry Putty Powder Particle Size (µm)	55±10
Fast-Drying Putty pH	10-12
Dry Putty Powder Color (-)	Milky
Adhesion Strength (MPa)	2.91 ± 0.529
Tensile Strength (MPa	1.20± 0.30
Elongation at break (%)	1.30± 0.12
Compression Strength (MPa)	15.00±1.00

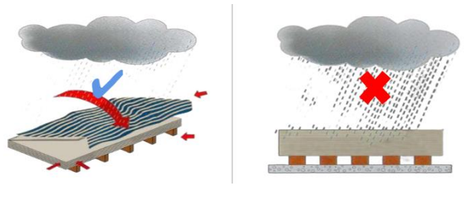
Benefits

- Improved hardiness
- Strong adhesion to various surfaces Excellent coverage ability
- High resistance and strength against environmental conditions and external factors
- Optimal performance when exposed to fire
- Superior quality
- low drying time,
- suitable for multiple applications

Handling



while loading and unloading of dp board always be carried on long edge (width wise) by two (for less than 2800m2 size) or four persons (for more than 2800 m2) of 2800m or more to avoid damage to the board and excessive strain on people handling them. maximum two to three sheets should be handled for thickness of 6 mm or less.
for thickness higher than 6 mm. single sheet should be handled at a time during transportation Wherever possible, always lift the boards from underside rather than slide the boards on each other on the stack to prevent damage or scratches on surface of the boards Always carry the boards on edge but do not store on the edge.



Storage

Dp boards are supplied with protective plastic sheet wrapped around the timber crates. This protection should not be removed until the boards should be stored and stacked on covered and dry, level ground, preferably 6 in chest to inches above the levelled surface.

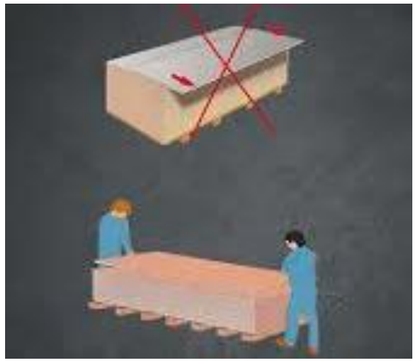
Dp board should always be stored adequately ventilated covered space without allowing direct exposure to sunlight, rain, etc Pallets should be a maximum of 800mm height (h ≤ 800mm) on firm level ground. If two or more pallets are stacked, the total stack height must be less than 3200mm (H ≤ 3200mm).

Safety

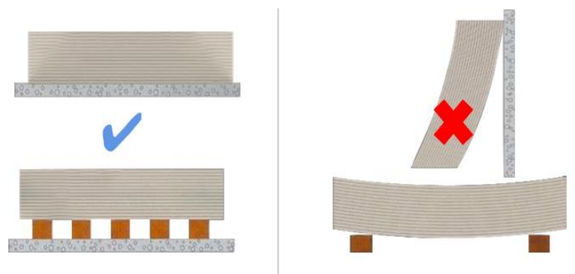
All fiber cement products should be cut in open, well-ventilated areas. Wear a respirator and safety glasses when working with this product.

Loading

DP boards are supplied on pallets suitable for fork lift unloading. If off-loading by crane and slings is envisaged; care should be taken to avoid damaging edges of the boards.



Where pallets are removed from container, care should be taken not to subject pallets to any impact shock as this could result in cracking of the boards. Dp board should be handled without opening the pack. while using the board, care should be taken in removing packing
strip to avoid damage to the board.



If the boards are subsequently moved around the site, they should be placed on a level surface with sufficient support for lifting by forklift. store boards undercover and keep dry prior to fixing. if the boards become wet allow drying before fixing is commenced. in any case, boards should be installed in position within 2-3 weeks of procurement.