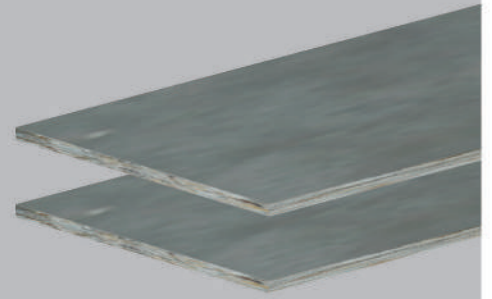


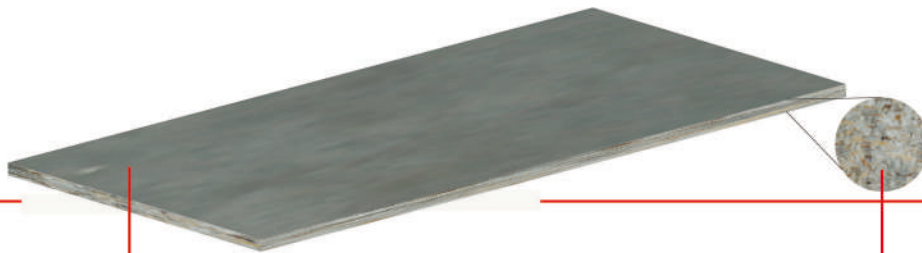
SCG Cementboard

Installation Manual



*Wood Chip Cement Bonded Particleboard
Your Idea Your Style*

SCG Cementboard



Surface Layer

With a mixture of Portland cement bonded and sawdust, SCG Cementboard withstands all strong compressive force while maintains a smooth surface throughout its lifespan.

Core Layer

With a mixture of Portland cement bonded and strips of chipped wood formation for an extra bondage with cement, SCG Cementboard internal structure reinforcement gives strength and elasticity.



TIS. 878 - 2537







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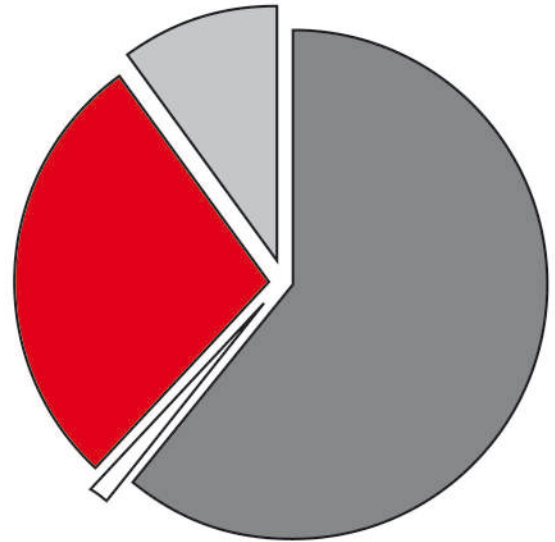


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PHYSICAL COMPOSITION

-  **Cement** 61% Type 3 High strength Portland cement is suitable for heavy duty applications.
-  **Water** 10%
-  **Timber** 28% Eucalyptus wood from commercial plantation
-  **Others** 1%



Environmentally Friendly - Non-toxic chemicals or additives such as Asbestos



High Sound Insulation 30 – 35 db sound insulation rating



Ease of Workability - Only minimal equipment and basic tools (drilling, cutting, stapling, etc.,) required for panel installation



Fire Proof - Approved by the British Standards BS-476 for fire protection in buildings



Thermal Insulation - Thermally insulated panels reduces heat transfer and cools down the building



Asbestos Free



Termite/Fungus Proof



Weather Proof



Economical

Special Features

Fire resistance:

- Since SCG Cementboard has a high ratio of cement as a component, it has fire resistant qualities. SCG Cementboard has also passed BS 476 Part 6 and 7. The wall system built from SCG Cementboard has passed
- BS 746 Part 22 test for 1, 2 and 4-hour fire resistant walls.

Soundproof:

- The SCG Cementboard soundproof wall system has passed STC 41, 50 and 55.
- Since the SCG Cementboard has high density and efficiently reduces ambient sounds with the following sound transmission index:

Density (mm.)	Sound transmission class (STC)
8	28
10	29
12	30
16	31
20	32

Product Specification

Standard Size	4' x 8' (Foot)								
Thickness (mm.)	8	10	12	14	15	16	18	20	24
Weight (kg./pc.)	33.0	41.4	49.7	57.7	62.8	67.3	75.3	83.6	100.3
Weight (kg./sq.m)	11.1	13.9	16.7	19.4	21.1	22.6	25.3	28.1	33.7

Standard Size	120 x 240 cm.					
Thickness (mm.)	8	10	12	16	20	24
Weight (kg./pc.)	32	40	48	65	81	97
Weight (kg./sq.m)	11.1	13.9	16.7	22.6	28.1	33.7

Thickness for Application

Choosing the suitable thickness for each application										
Use	Thickness (mm.)									
	8	10	12	14	15	16	18	20	24	
Interior decoration on brick wall	●									
Interior wall	●	●	●	●	●	●	●	●		
Interior flooring								●	●	

Product Tolerance

Diagonal	± 4
Width/Length	± 2
Thickness 8-12 mm.	± 1
Thickness 16-20 mm.	± 1.5
Thickness 24 mm.	± 2

Technical information

Specific information	Unit	TIS. 878-2537	SCG Cementboard (Average value from test)
Density	kg./m ³	1,100-1,300	1,300
Modulus of elasticity (MOE)	N/mm ²	≥ 3,000	5,470
Modulus of rupture (MOR)	N/mm ²	≥ 9	12.7
Tensile strength (perpendicular to surface)	N/mm ²	≥ 0.5	0.6
Moisture content	%	9 – 15	10.7
Thickness swelling (after 24 hours immersion in water)	%	≤ 2	0.6
Thermal conductivity (K)	W/m ^o c	≤ 0.25	0.1
Other test values			
Water absorption rate (after 24 hours immersion in water)	%		10
Acoustic reduction rating	dB		30 – 35
pH Measure	pH		12



Durable



No Delamination



Easy Use and Quick Installation



Termite Resistant



Heat Resistant

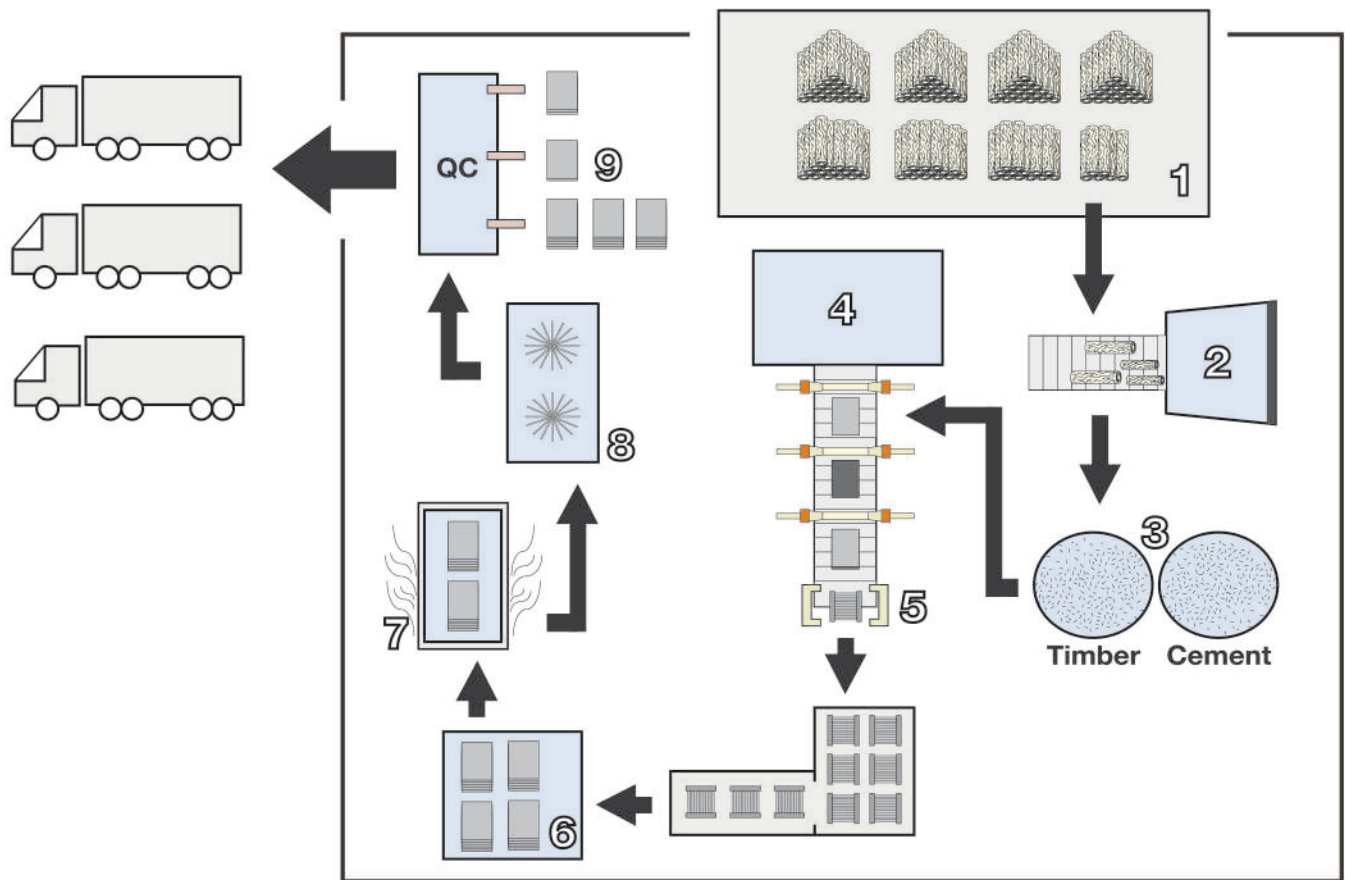


Asbestos Free



Environmentally Friendly

PRODUCTION PROCESS



1. Timber warehouse
2. Timber preparation and processing
3. Homogeneous mixing of cement and processed wood
4. Material preparation with “3 Heads Forming”
5. High pressure bonding compressor
6. Baking oven - removing moisture and curing
7. Cutting & surface treatment
8. Thickness control
9. Quality control & product grading

PRODUCTION PROCESS



1. Timber Preparation



2. Timber Production



3. Material Processing



4. Mixing Process



5. High Pressure Compressing



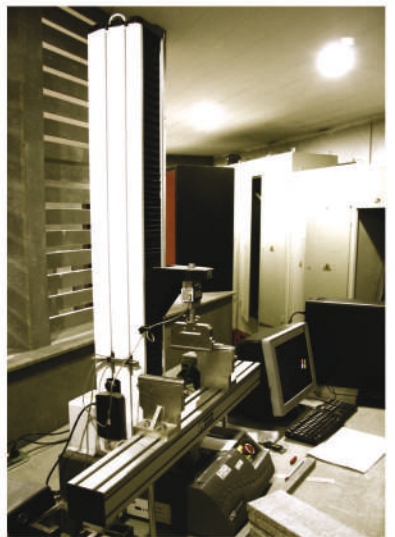
6. Baking and Drying



7. Cutting and Surface Treatment



8. Thickness Control



9. Quality Control

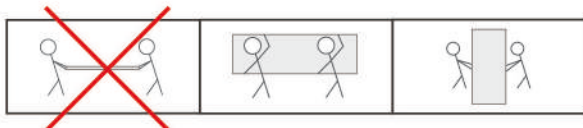
STORAGE GUIDELINE



It is recommended that **SCG** Cementboard should be stored in designated warehouses areas that are environmentally controlled and weather proof. If outdoor storage is unavoidable, store the pack clear of the ground on level bearers, and protected by water-proof coverings to ensure an all-around moisture free storage environment.

SCG Cementboard must be stacked on pallet boards for forklifts transportation. In order to evenly support the **SCG** Cementboard without sagging it, the pallet legs must have a minimum spacing distance of 60 cm. A pallet of length of 240 cm. will require 4 legs, and a pallet of length of 300 cm will require 5 legs, and so on.

Transportation along the length or width of the **SCG** Cementboard requires two or more person to carry, while maintaining the board perpendicular to the floor to strength and prevent sagging of the board. Do not carry **SCG** Cementboard in parallel with the floor as seen in the picture on the right. Sagging can occur which leads to structural stress and damage.



MACHINING EQUIPMENTS

One of the great advantages working with **SCG** Cementboard is the simplicity - involving a few steps and requiring only some of the most basic power tools to do the job.

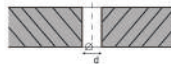


Cutting

Cutting **SCG** Cementboard can be done with some of the basic saw tools such as a reciprocating saw or a circular saw. For circular saws, a 1,800 watt rating with a rotational speed of 5,800 rpm. and a blade diameter of 7" (or 185 mm.) with 40 sets of teeth is recommended. It is also recommended to cut the board from the back side to prevent any damages done to the top decorated surface.

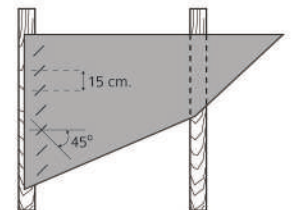
Drilling

High speed power drills are used to secure the panels in place. Drilling pilot holes first are always recommended. Drilling the board from the back side will prevent any damages done to the top decorated surface.



Air Gun Stapling

Power air stapling gun works with 6 - 10 mm. boards to efficiently secure it to wall studs. Stapling should be done at 45 degrees angle parallel to the length of the board with a maximum spacing of 15 cm. between staples.



Sanding

Sanding power tools such as disc sanders and flat sanders are used to trim edges, prepare joinery surfaces and smoothen out joints.



SCG Cementboard Equipment for Installation

SCG Self Drilling Point Screw 10 mm.

- Used to fix **SCG Cementboard** C 74 and U 76 Galvanize Frame, or fix **SCG Cementboard** C 74 and C 74 Galvanize Frame in order to make as door or window frames.
- Easily install, can drill and fix firmly with two or three layers of 0.55 mm. thick of steel ceiling frames.
- Endure to the rust or corrosion because the material is made from high-quality steel wires, can be used either external or internal.
- Containing size : 500 pieces / box



SCG Needle Point Screw 23 mm.

- Specially designed to suit with the work operated with cement material safely, endure, and nice.
- Longer life for rust or corrosion, because the material is made from high-quality steel wires, can be used either external or internal.
- Designed to provide the fin around the screw head which make the screw head fully embedded in the panel automatically resulting nice surface of work.
- Containing size : 500 pieces / box



SCG Self Drilling Wing Screw 32 mm.

- Specially designed to suit with the work operated with cement material safely, endure, and nice.
- Longer life for rust or corrosion, because the material is made from high-quality steel wires, can be used either external or internal.
- Specially designed to provide special drill end, which will not require advance penetration, easily operated, and can drill rapidly into the steel, its fin can core the panel allowing the screw head to be perfectly and nicely embedded into the panel. The fin will automatically break whenever the steel is eventually penetrated.
- Containing size : 500 pieces / box



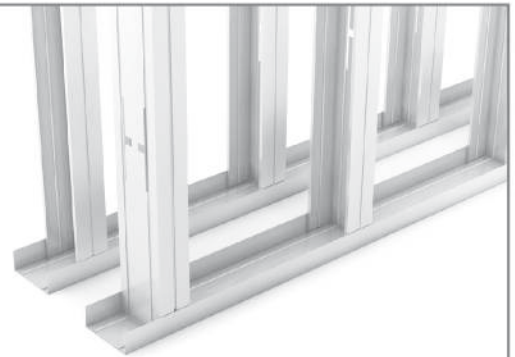
SCG polyurethane joint sealant

- This is the polyurethane material used to seal the joint, easily used, and perfectly adhere to the surface of **SCG Cementboard** or any construction materials such as fiber cement, concrete, brick, roof tile, ceramic tile, aluminium, timber, glass.
- Used as a joint sealant which can well prevent the leakage, can be used in either external or internal of building. Endure to the climate circumstance, and can be painted over without altering the color shade.
- Containing size : 310 ml. / tube.



SCG C 74, U 76 Galvanized Frame

- Thick steel material providing strength, safety, and manufactured in accordance with TIS.863-2532 with full thickness of 0.55 mm.
- Economic section with 45, 47 mm. width frame section, which will not require to make the support for the frame in the joint area between **SCG Cementboard** panel, and will reduce the time and labor for installation. The material is endured for corrosion or rust, and the surface is coated by Hot Dip Galvanized Steel Z22.
- Coated by specially thick surface to prevent rust or corrosion.



Personal Safety Equipment



Glove



Clothes



Safety goggle



Dust protection Mask



Safety Shoes

STUDDING

Studding in building frames is one of the important elements in construction and the application of SCG Cementboard.

Typically, there are three types of materials used for studding - wood studs, steel studs, and galvanized steel studs.

Choosing the right material for studding depends on the user's needs and requirements.



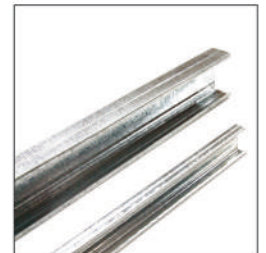
* Although wood studs are extremely rigid, they are not fire-proof and are prone to rot if not properly treated.

Wood Studs

It is essential that Wood Studs are made from hardwood trees that are strong, warp resistant, and perfectly straight and squared on the edges. Use nails to secure Wood Studs while making sure the nails are driven in at a suitable depth.

Galvanized Steel Studs

Treated with zinc coating, Galvanized Steel studs are highly durable, load-bearing, re-proof and corrosion-free. Installation does not require major power tools. Cut it with metal snips and secure it with a drill/screw gun and self-taping screws.



Steel Stud

Unlike Galvanized Steel Studs, regular Steel Studs are not rust coated, but requires construction techniques to shield it from corrosion. Like Galvanized Steel Studs, simple power tools are used to secure the studs.

	Interior Work	Flooring
Wood Studs	■	■
Galvanized Steel Studs	■	■
Steel Studs	■	■

How to choose Steel Stud with **SCG** Cemenboard 20-24 mm. thick.

■ Steel Stud : C 100 x 50

Thickness	Beam Span	Frame Span	Uniform Load
20 mm.	3 m.	60 cm.	150 - 250 Kg/m ²
		40 cm.	250 - 300 Kg/m ²
		30 cm.	400 - 500 Kg/m ²
24 mm.	3 m.	60 cm.	200 - 300 Kg/m ²
		40 cm.	300 - 500 Kg/m ²

■ Steel Stud : C 150 x 50

Thickness	Beam Span	Frame Span	Uniform Load
20 mm.	4 m.	60 cm.	150 - 250 Kg/m ²
		40 cm.	250 - 300 Kg/m ²
		30 cm.	400 - 500 Kg/m ²
24 mm.	4 m.	60 cm.	200 - 300 Kg/m ²
		40 cm.	300 - 500 Kg/m ²

■ Steel Stud : C 200 x 75

Thickness	Beam Span	Frame Span	Uniform Load
20 mm.	5 m.	60 cm.	150 - 250 Kg/m ²
		40 cm.	250 - 300 Kg/m ²
		30 cm.	400 - 500 Kg/m ²
24 mm.	5 m.	60 cm.	200 - 300 Kg/m ²
		40 cm.	300 - 500 Kg/m ²

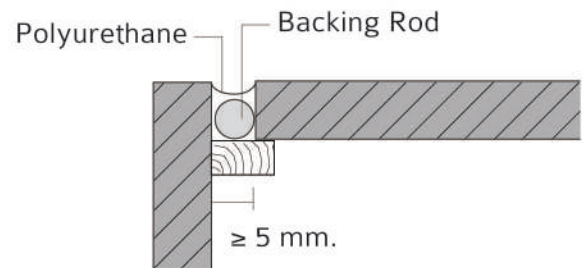
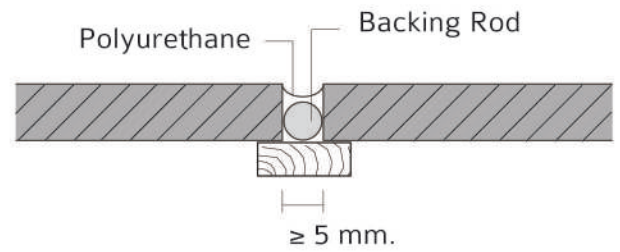
JOINTING

Like any particle-boards, SCG Cementboard are also prone to minuscule expansion and contraction with temperature and humidity changes.

An expansion gap must be provided between the panel edges to allow for any linear expansion.

The technique of achieving this is Jointing with Polyurethane sealant.

■ Jointing with Polyurethane sealant



* Backing rod is optional. It helps save cost of polyurethane

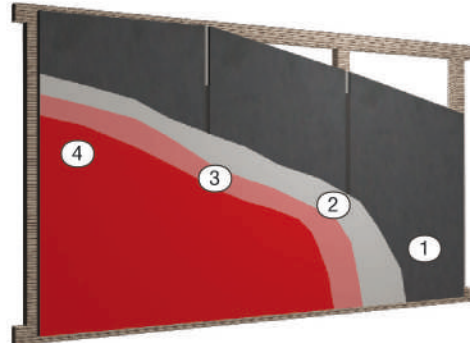
1. Mount panels with a minimum gap of 5 mm.
2. Clean the panels to ensure that the surface is completely dry and dust-free.
3. For panels thicker than 8 mm., insert backing rod along the gap. This will reduce the amount of sealant needed to fill in the gaps.
4. Tape over the top surface of the panels along the edge of the gaps with paper-based tapes. Taping will protect the top surface of the panels when applying sealant.
5. Fill in the gaps with Polyurethane Sealant.
6. Run a wet soapy finger along the gap to push the sealant further in, ensuring a tight fill. Remove excess polyurethanes sealant from finger with a wet paper towel.
7. Wait for 5 minutes, and then carefully remove the paper-based taping along the edge of the gaps. Leave the polyurethane sealant for 2 hours to dry.

SURFACE FINISHING

Our SCG Cementboard application can be aesthetically decorated with a huge selection of finishes.

Some of the more common panel decoration includes paint, stone tiles, wallpaper, carpet, rubber flooring and many more to suit your needs.

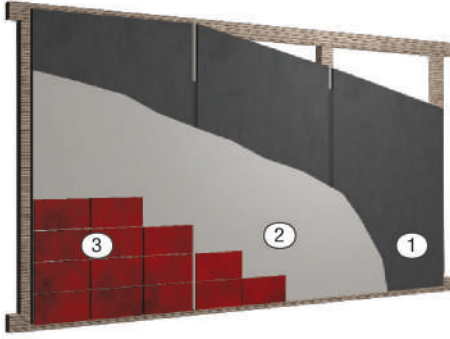
■ Painting



Instruction

1. Prepare the panel surfaces by wiping down any dust and dirt with a damp cloth.
2. Apply primer and carefully letting it dry. A layer of primer evens out the surface for an even color. Priming the panels first also ensures a more durable and finished surface.
3. Applying water-based paint or acrylic-based paint to the panels evenly and wait for it to dry.
4. Repeat the painting process by painting another layer for 2 - 3 more times, while making sure the paint dries first between layers. This ensures an even and vibrant paint finish.

-
- ① SCG Cementboard
 - ② Primer paint
 - ③ Water/Acrylic paint (1st Layer)
 - ④ Paint (2nd Layer)



■ Tiling

Instruction

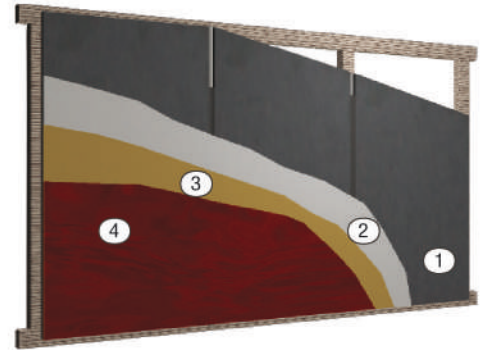
1. Prepare the panel surfaces by cleaning down with a damp cloth.
2. Apply cement-base glue or plaster evenly on the surface.
Make sure the entire surface area is covered.
3. Attach the tiles firmly against the panel surface.

① SCG Cementboard ② Cement-based glue ③ Tile

■ Wallpapering

Instruction

1. Prepare the panel surfaces by cleaning down with a damp cloth.
2. Apply primer and carefully letting it dry. A layer of primer evens out the surface for an even color. Priming the panels first also ensures a more durable and finished surface.
3. Apply wallpaper adhesive to the panel surfaces.
4. Place and hang the wallpaper.



① SCG Cementboard ② Primer ③ Wallpaper adhesive ④ Wallpaper

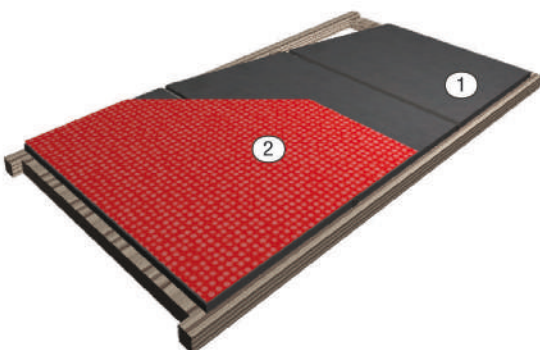
■ Carpeting

Instruction

1. Prepare the panel surfaces by cleaning down with a damp cloth.
2. Start layering the carpet.

① SCG Cementboard

② Carpet material





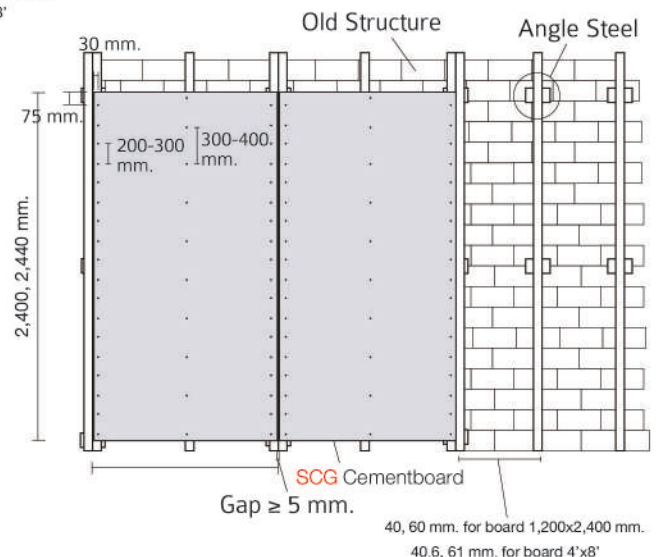
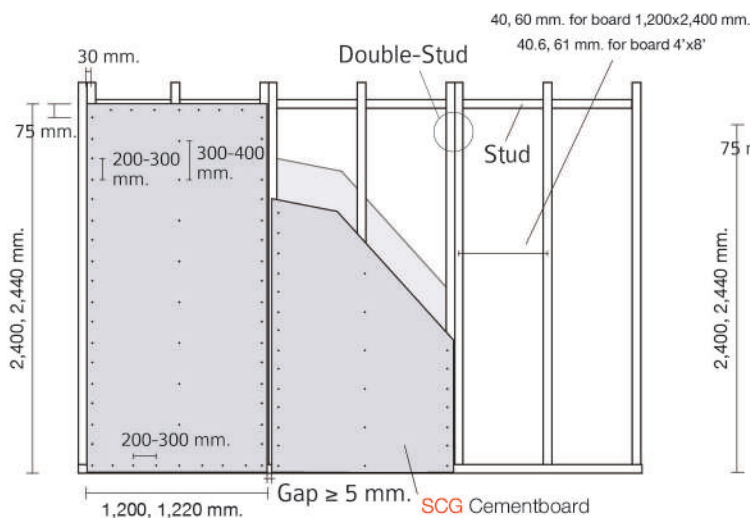
WALL APPLICATION

SCG CEMENTBOARD FOR WALL APPLICATION

	Thickness (mm.)	Length (mm.)
Interior Wall (with loads)	8 - 18	1,200 x 2,400 1,220 x 2,440 (4'x8')
Board Color	Natural Cement-Grey Color	
Studding	Wood / Galvanized Steel	
Tools for Installation	Air Gun, SCG Needle Point Screw, Self Drilling wing screw	
Sealant & Finishing	Clear or Matted Primer, Water-base Paint, Acrylic-base paint.	

INSTALLATION PROCEDURE

1. Prepare stud frames for boarding by spacing out the studs at 60 cm intervals. Double stud frames should be used along the connecting board joint. For External wall, Steel frames are recommended.
2. Align the board along the stud framing, where the edges of the board should be directly on top of the stud frames. Make sure to leave expansion gaps of 5 - 10 mm. between the boards. Expansion gaps allow the board to naturally expand and shrink in changing temperature and humidity.
3. Secure the boards onto the stud frames;
For boards of 8 - 18 mm. thickness, use 35 mm. screws.
4. Drilling pilot holes first are always recommended for screws.
5. Screws spacing are recommended at 200 - 300 mm. intervals along the edges of the board, while 300 - 400 mm. intervals are recommended along the central area of the board.
6. To avoid splitting the boards, leave a spacing of 75 - 80 mm. between the screws from the top and bottom edge of the panel, and leave a spacing of 30 - 35 mm. between the screws from the left and right edges.
7. Clean panel surfaces and cover the expansion gaps by inserting backing rod along the gap and filling it with Polyurethane Sealant. Inserting backing rods will reduce the amount of sealant needed to fill in the gaps.
8. Apply primer and decorate the panels with water-based or acrylic-based paint.
For internal structural walls, surface treatment is not necessary. Using oil-based paint is not recommended.





FLOOR APPLICATION

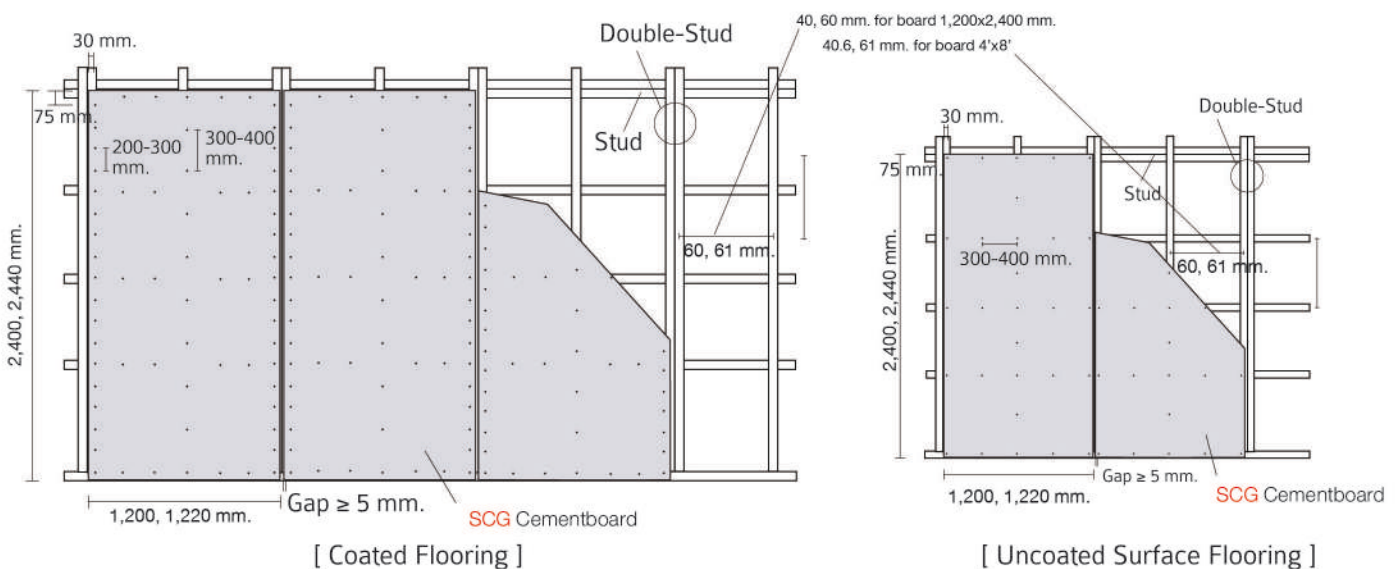
SCG CEMENTBOARD FOR FLOOR APPLICATION

	Thickness (mm.)	Length (mm.)
Floor (Elevated & Levelled)	20 - 24	1,200 x 2,400 1,220 x 2,440 (4'x8')

Board Color	Natural Cement-Grey Color
Studding	Steel
Tools for Installation	Air Gun, Self Drilling wing screw 45 mm.
Sealant & Finishing	Clear or Matted Primer, Water-base Paint, Acrylic-base Paint

INSTALLATION PROCEDURE

1. Prepare stud frames for boarding by spacing out the studs at 40 - 60 cm. intervals, and the beam at 120 cm. Double stud frames should be used along the connecting board joint.
2. Align the board along the stud framing, where the edges of the board should be directly on top of the stud frames. Make sure to leave expansion gaps of 5 - 10 mm. between the boards. Expansion gaps allow the board to naturally expand and shrink in changing temperature and humidity.
3. Secure the boards onto the stud frames by using 45 mm. screw. Screws spacing are recommended at 20 - 30 cm. intervals along the edges of the board, while 30 - 40 cm. intervals are recommended along the central area of the board. Drilling pilot holes first are always recommended for screws.
4. To avoid splitting the boards, leave a spacing of 75 - 80 mm. between the screws from the top and bottom edge of the panel, and leave a spacing of 30 - 35 mm. between the screws from the left and right edges.
5. Clean panel surfaces and cover the expansion gaps by inserting backing rod along the gap and filling it with Polyurethane Sealant. Inserting backing rods will reduce the amount of sealant needed to fill in the gaps.
6. Apply primer and decorate the panels with water-base or acrylic-base paint.



SCG Cementboard Installation Instruction

Caution

- Do not use as any building's structure or other purposes. The installation shall follow the Installation Manual and use only the standard equipments made by producer.
-  Do not eat  avoid the smelling.

Attention to avoid danger

- The Products of **SCG Cementboard** are designed, while the operation methods are specified to suit with the working condition in Thailand only. Any application outside Thailand is considered to be direct responsibility of the designer, construction supervisor, and installer.

For Designer

- All properties shown in this document are the average values from the testing of products which are in accordance with the specified standards by sampling the products during period before the product distribution. Any transportation, application, or any procedures relating to the products such as exposing the products to the sunshine or submerging in water in long period shall result in altering of product properties.
- Specifications for any installation are only the basic recommendation for general application. The Method for Installation and applied structure shall consider from the standard code of building in such country, and shall be direct responsibility of designer and supervisor.
- Application of product which is not specified in the Installation Manual shall be direct responsibility of designer and construction supervisor.

For Installer and User

- Specifications for any installation are only the basic recommendation for general application. The Method for Installation and applied structure shall consider from the standard code of building in such country, and shall be direct responsibility of designer and supervisor.
- Application of product which is not specified in the Installation Manual shall be consulted with the architect or designer engineer.

Recommendation for Safety Operation

- **SCG Cementboard** has composed by the silica. Cutting, grinding, drilling, or polishing of the product shall result in flying dust. If any person accidentally eat or inhale in a considerable amount or in long period it shall harm the respiratory system or body of that person.
- The cutting, grinding, drilling, or polishing of the product shall carried out in good ventilated area, and avoid to use the machine for cutting, grinding, drilling, or polishing of the product which resulting in high amount of dust.
- Wear the Personal Safty Equipment which is in accordance to the standards, such as dust protection mask, safety goggle, clothes, glove, shoes etc.
- Not allow any person who does not wear the Personal Protection Equipment which is in accordance to the standards, or any person who is not concerning with the work into working area in order to avoid any possible accident or injury.
- Lifting or transportation of products shall be carried out with special attention. Do not bend down one is back to lift the product nor twist oneself or change direction during lifting, and avoid working continuously in long period in order to avoid injury and fatigue.
- The person who has to perform lifting must carry out by lowing oneself and hold the products firmly, then apply legs power to lift.
- Cleaning of the working area after complete the cutting, grinding, drilling, or polishing of the product shall be carried out by vacuum machine, then the dust container shall be sealed completely, or cleaned by water. Do not sweep because this can cause spreading of dust.
- Separate and collect the debris occurred from installation, reparation, dismantle of products with special attention, and eradicate with appropriate methods which specified by government service.
- Clean oneself body with clean water after complete the cutting, grinding, drilling, or polishing of the product.

First Aid

- If the dust or any material debris accidentally entered the eye, do not scrub or crush. Clean with clean water several times, and consult the physician immediately.

Verify that all methods are following the most update of Installation Manual of Products

- Installation Manual of Products is always updated. The designer, construction supervisor, and installer shall verify that all methods being used are following the most update of Installation Manual of Products. They can confirm by the website : www.scgbuildingmaterials.com