Installation Manual for
SCG Smart**BOARD**

Fiber Cement Board
Non Asbestos

FIRM FLEX TECHNOLOGY

FIRM **FLEX**
TECHNOLOGY

SCG SmartBOARD fiber cement board

SCG SmartBOARD is a new generation of fiber cement material with **FIRM** & **FLEX** Technology made the board gain strength, durability and elasticity in one time. **SCG SmartBOARD**, with state-of-the-art composition of Elephant (SCG) Portland Cement, Silica and Special cellulose fiber through Autoclave process, is specifically designed for various ceiling, wall and flooring applications both internal and external usage.

SCG SmartBOARD Ceiling

Smooth Surface

Squared Edge
3.5, 4, 6 mm. thick

NEW
4-side Tapered Edge
Premium 5.5 mm. thick

4-side Tapered Edge
6 mm. thick

Wood Grain/Square Lining

Wood Grain
4 mm. thick

NEW
3-inch Square Lining
4 mm. thick

Ventilated

Ventilated
4 mm. thick

Ventilated Wood Grain
4 mm. thick

NEW
Ventilated 3-inch Square Lining
4 mm. thick

SCG SmartBOARD Wall

Smooth Surface

Squared Edge
8, 10, 12 mm. thick

2-side Tapered Edge
8 mm. thick

Wood Grain/Square Lining

6-inch Square Lining Wood Grain (Golden Teak Color)
6*, 8 mm. thick

4-inch Square Lining
8 mm. thick

* not recommended for structural materials.

SCG SmartBOARD Floor

Smooth Surface

NEW
Squared Edge
16, 18 mm. thick

Special Properties

FIRM

High impact strength	High impact strength from state-of-the-art composition of Elephant (SCG) Portland Cement, Silica and Special cellulose developed by our laboratory.
Water-Resistance and Non-decay	Long lasting even using in hot, humid, and strong raining weather condition according to JIS Standard A5420.
Termite Resistance	Termite resistance from Portland cement material.

FLEX

Flexibility for various designs	Bendable. No water is needed to applied while bending the board.

R= 1.0 m — 4 mm. 1 m. bending radius
R = 1.5 m — 6 mm. 1.50 m. bending radius
R = 2.0 m — 8 mm. 2.0 m. bending radius
R = 4.0 m — 10 mm. 4.0 m. bending radius

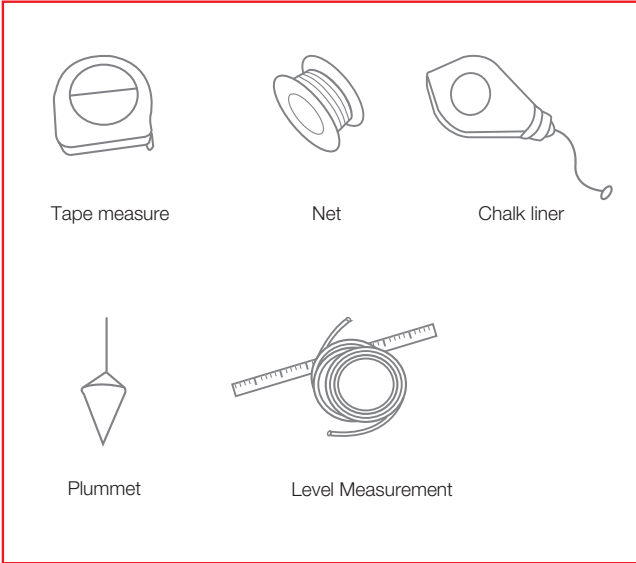|	
Light weight, fast and easy to install	With only 30 kg. per sq.m. total weight of internal partition and faster installation than conventional system, it provides flexibility of designs and durability of applications better than conventional systems.
Better heat resistance	With specially low heat conductivity compared to typical light-weight ceiling and wall material, SCG Smart**BOARD** is the ideal material for preventing heat from external environment, reducing energy consumption and answering green designs.

Choosing SCG SmartBOARD to match your application

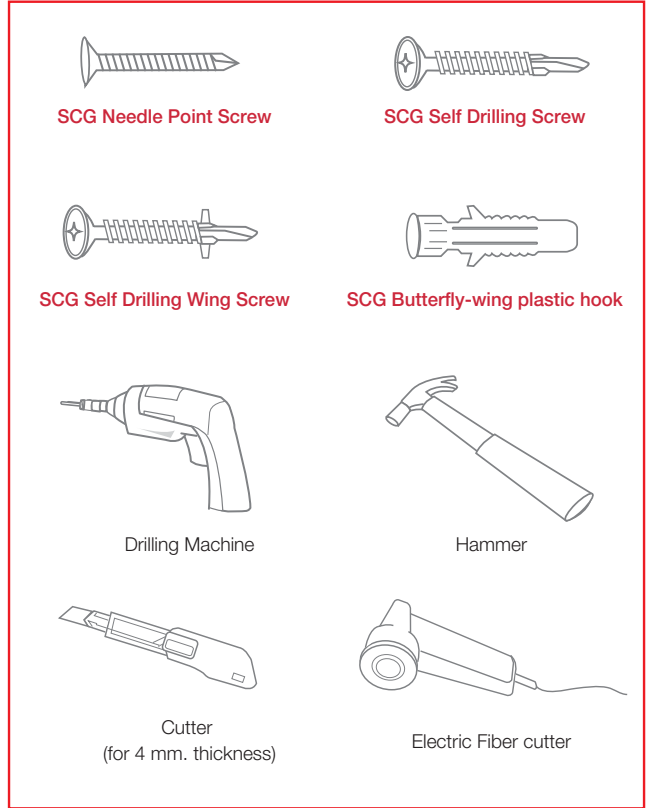| Application	Usage area	Series	Surface		Installation System	Recommended Thickness
Internal Ceiling	Any room that you want to prevent problem from termites and moisture, for example: Bathroom, Kitchen, Storage room, etc.	Squared Edge	Smooth Surface		Space Lining, T-Bar, No Space Lining	3.2, 3.5, 4, 6 mm.
		4-side Tapered Edge	Smooth Surface		Concealed Edge	6 mm.
		Wood Grain	Wood Grain Texture		Space Lining, T-Bar, No Space Lining	4 mm.
External Ceiling	Areas where regularly expose to Rain and Sun. 1. House/Building Roof Overhang Ceiling 2. House/Building Terrace 3. Garage, Open Cabin or Cottage	Squared Edge	Smooth Surface		Space Lining, No Space Lining	3.5, 4, 6 mm.
		Ventilated	Smooth Surface	Ventilated hole	Space Lining, No Space Lining	4 mm.
		Ventilated Wood Grain	Wood Grain Texture			
		3-inch Square Lining Wood Grain	- Smooth Surface - 3-inch Lining Smooth Surface		Space Lining, No Space Lining	4 mm.
		Wood Grain	- Wood Grain Texture - 3-inch Lining Smooth Surface		Space Lining	4 mm.
		3-inch Square Lining	- Smooth Surface - 3-inch Lining Smooth Surface		Space Lining, No Space Lining	4 mm.
Light Weight Wall	Areas where you want light weight wall to replace brick walls without beam reinforcement needed - Durable and High resistant to Impact - Easy to customize siding designs to maximize individual needs - Fast and Easy to Install - Safe from termites	Squared Edge	Smooth Surface		Space Lining, No Space Lining	8 - 12 mm.
		2-side Tapered Edge	Smooth Surface		Concealed Edge	8 mm.
		4-inch Square Lining	- Smooth Surface - 4-inch Lining Smooth Surface		No Space Lining	8 mm.
		Squared Edge	6-inch Lining with Golden Teak Wood Grain		No Space Lining	8 mm.
Decorative Wall	For decorating new built or renovating existing wall	Squared Edge	6-inch Lining with Golden Teak Wood Grain		Space Lining 6 mm.	6 mm.
External Wall	For permanent external wall that needs to be expose to sun, rain and wind regularly to replace brick walls because faster installation, time saving and cost saving.	Squared Edge	Smooth Surface		Space Lining 8 - 16 mm..	8 - 16 mm.
		Squared Edge	6-inch Lining with Golden Teak Wood Grain		Space Lining 8 mm.	8 mm.
Backer Board	Suitable for kitchen or bathroom walls with ceramic tiles finishing which will be resistant to impact, termite and moist.	Squared Edge	Smooth Surface		No Space Lining	8 - 16 mm.
Floor Underlay	Underlaying for parquet and laminated floor to reduce time, labour, and cost.	Squared Edge	Smooth Surface		Space Lining 8 - 12 mm.	8 - 12 mm.
Floor	For internal and external floor which are not always soaked in water.	Squared Edge	Smooth Surface		No Space Lining	16 - 18 mm.

SmartBOARD

Content

Tools and Equipment

Leveled Equipment

Tape measure

Net

Chalk liner

Plummet

Level Measurement

Metal Frame

Galvanized iron metal frame for T-Bar ceiling

Galvanized iron metal ceiling frame (C-line)

Structure steel metal wall frame

SCG Smart**BOARD** C74, U76 Galvanize Frame

Drill, Cut, Drive, Hold Equipment

SCG Needle Point Screw

SCG Self Drilling Screw

SCG Self Drilling Wing Screw

SCG Butterfly-wing plastic hook

Drilling Machine

Hammer

Cutter (for 4 mm. thickness)

Electric Fiber cutter

Patching Material and Equipment

SCG Smart**BOARD** polyurethane joint sealant

SCG Smart**BOARD** Plaster Joint Compound

SCG Smart**BOARD** Acrylic Joint Compound

Stainless trowel (11-inch)

Stainless trowel (6-inch, 8-inch)

Made from Siamfibrecement, Ltd.

*Color of the Products in this brochure may vary slightly due to the printing system. *The information in this brochure may be modified or updated by the company without prior notice.
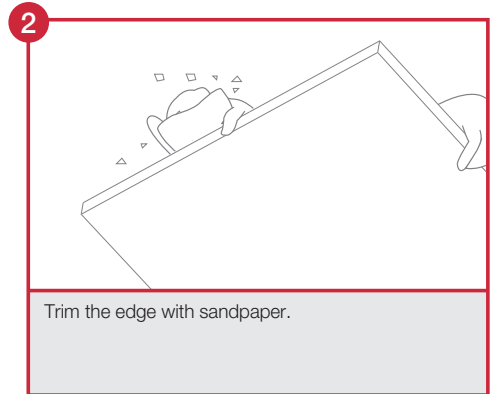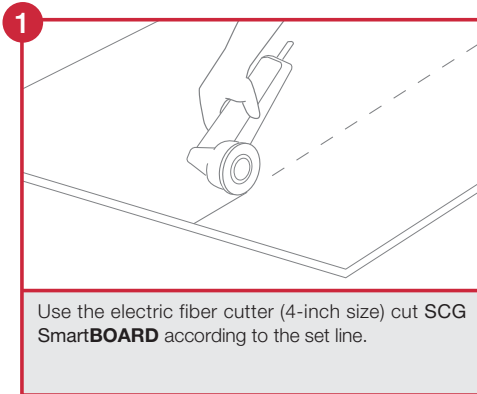
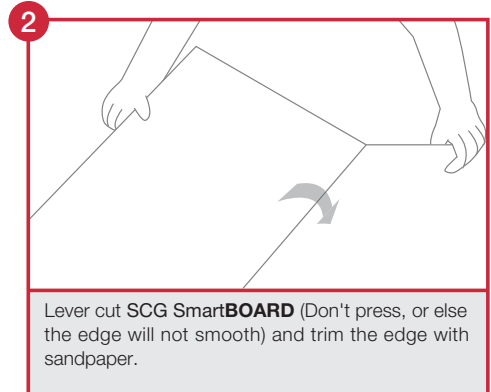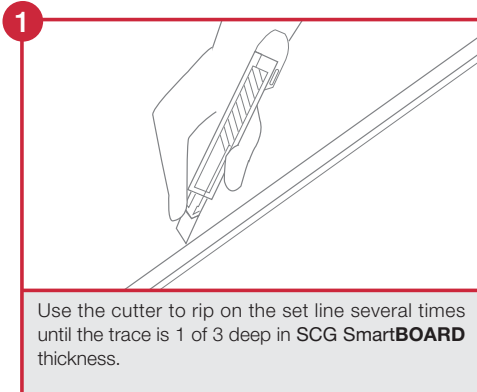# SmartBOARD Cutting and Drilling

Tools and Accessories

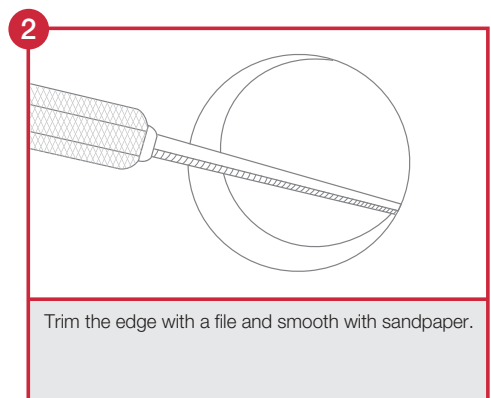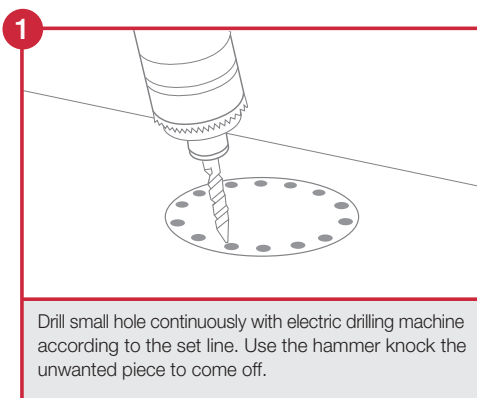|		
Cutting Tool	:	Electric fiber cutter (4-inch size) or cutter with 1 inch wide-blade.
Drilling Tool	:	Electric drilling machine.
Grinding Tool	:	Sandpaper, File, Grinding Machine.

Installation Instruction

To cut with electric fiber cutter : suitable for SCG SmartBOARD in every size (3.5 - 18 mm.)

1

Use the electric fiber cutter (4-inch size) cut SCG SmartBOARD according to the set line.

2

Trim the edge with sandpaper.

To cut with cutter : suitable for SCG SmartBOARD 3.2 - 4 mm.

1

Use the cutter to rip on the set line several times until the trace is 1 of 3 deep in SCG SmartBOARD thickness.

2

Lever cut SCG SmartBOARD (Don't press, or else the edge will not smooth) and trim the edge with sandpaper.

To drill SCG SmartBOARD

1

Drill small hole continuously with electric drilling machine according to the set line. Use the hammer knock the unwanted piece to come off.

2

Trim the edge with a file and smooth with sandpaper.

1 Ceiling Installation

1.1 Space Lining Ceiling Installation with Wooden Frame

Frame and accessories

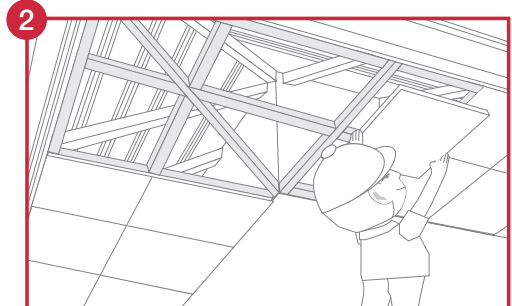|	
Frame	: Hard wood frame size 1.5 x 3 inches.
Fixing Tool	: SCG needle point screw 23 mm. or 1 inch nail.
Sealant Material	: **SCG SmartBOARD** polyurethane joint sealant.
SCG SmartBOARD	: Squared Edge 3.5 - 6 mm. thick.

Installation Instruction

1
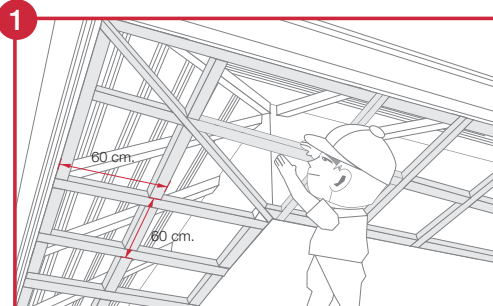
60 cm.

60 cm.

Install hard wood frame size 1.5 x 3 inches. The distance between frame is 60 x 60 cm. with straight surface, no twisting.
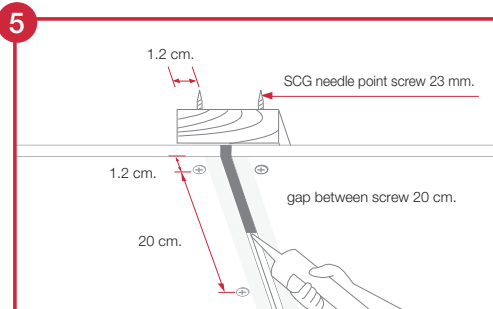
2

Install SCG Smart**BOARD**. The distance between SCG Smart**BOARD** is around 0.5 cm.

3
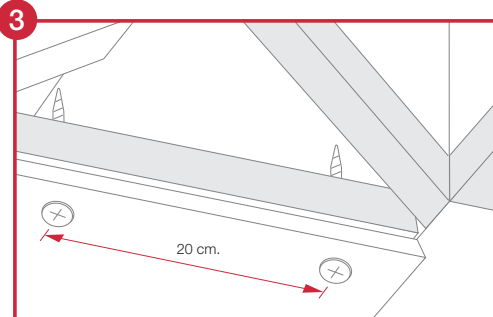
20 cm.

Tight SCG Smart**BOARD** with SCG needle point screw 23 mm. or 1 inch nail, 20 cm. apart.

4

For cornering, cut the SCG Smart**BOARD** oblique as the frame and tight with needle point screw.

5

1.2 cm.

SCG needle point screw 23 mm.

1.2 cm.

gap between screw 20 cm.

20 cm.

Use SCG Smart**BOARD** polyurethane joint sealant between SCG Smart**BOARD**, pull the tape and leave it dry for 7 days.

6

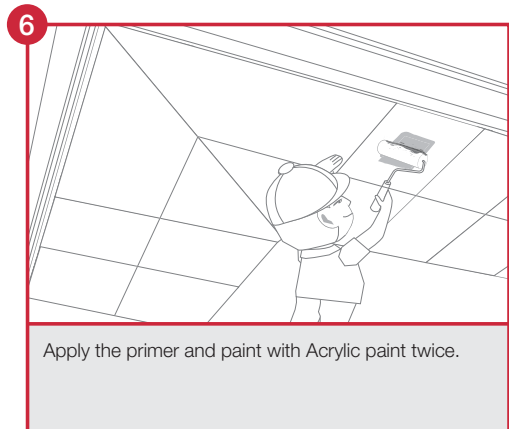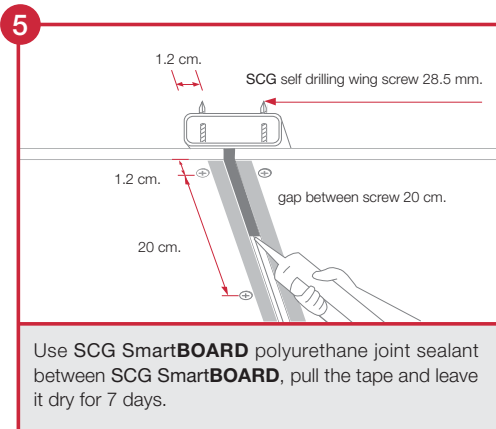Apply the primer and paint with Acrylic paint twice.

SmartBOARD
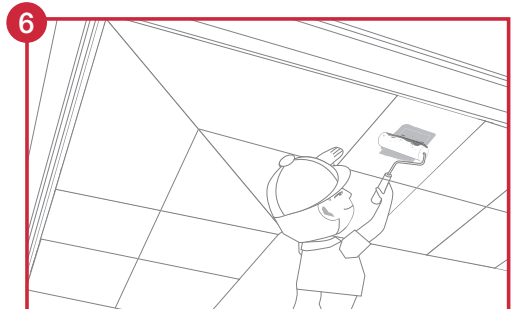
1.2 Space Lining Ceiling Installation with Metal Frame

Frame and accessories

Frame : Hollow steel square section 2 x 3 inches, 1.2 mm. thick.
Fixing Tool : SCG self drilling wing screw 28.5 mm.
Sealant Material : SCG Smart**BOARD** polyurethane joint sealant.
SCG Smart**BOARD** : Squared Edge 3.5 - 6 mm. thick.

Installation Instruction   (Method of ceiling frame installation follow to frame producer.)

1

Install Hollow steel square section 2 x 3 inches. The distance between frame is 60 x 60 cm. with straight surface, no twisting.

2

Install SCG Smart**BOARD**. The distance between SCG Smart**BOARD** is around 0.5 cm.

3

Tight SCG Smart**BOARD** with SCG self drilling wing screw 28.5 mm., 20 cm. apart.

4

Use the tape before using SCG Smart**BOARD** polyurethane joint sealant for the smoother of jointing.

5

Use SCG Smart**BOARD** polyurethane joint sealant between SCG Smart**BOARD**, pull the tape and leave it dry for 7 days.

6

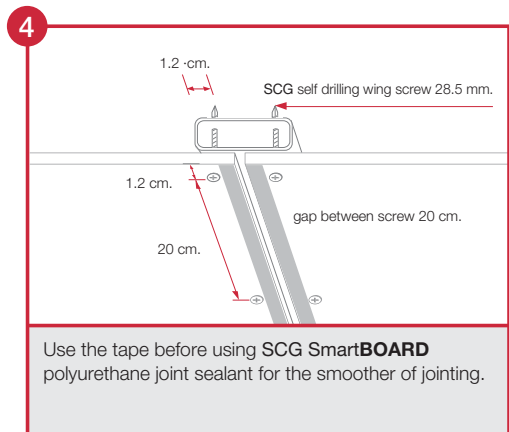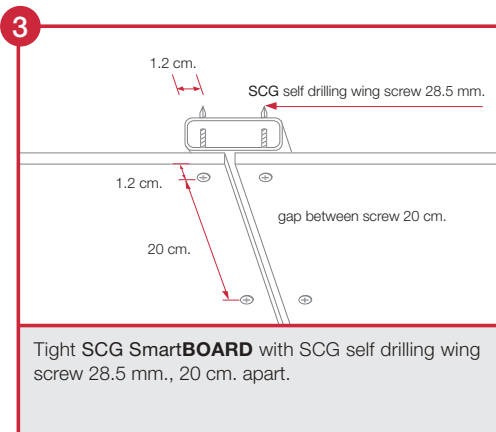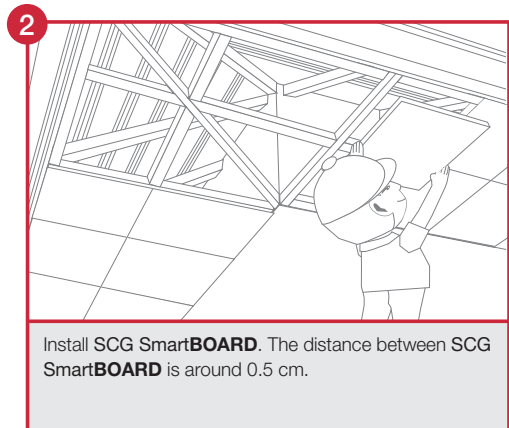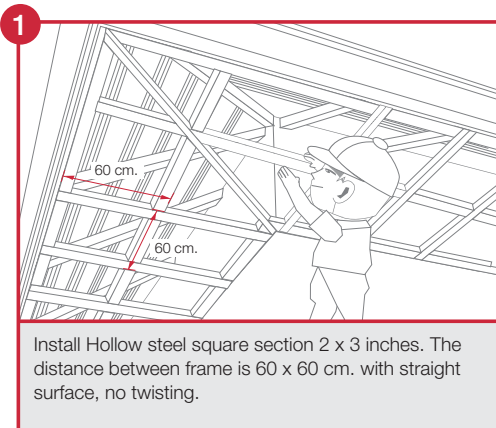Apply the primer and paint with Acrylic paint twice.

1.3 Concealed Ceiling Installation

Frame and accessories

Frame	:	Galvanized iron metal ceiling frame (C-line) No. 24, minimum width of 38 mm.
Fixing Tool	:	SCG needle point screw 23 mm.
Face Tool	:	SCG Smart**BOARD** acrylic joint compound, Stainless trowel, Square wooden-tray, Cotton tape, Waterproof abrasive paper.
SCG Smart**BOARD**	:	4-side Tapered Edge 6 mm. thick.

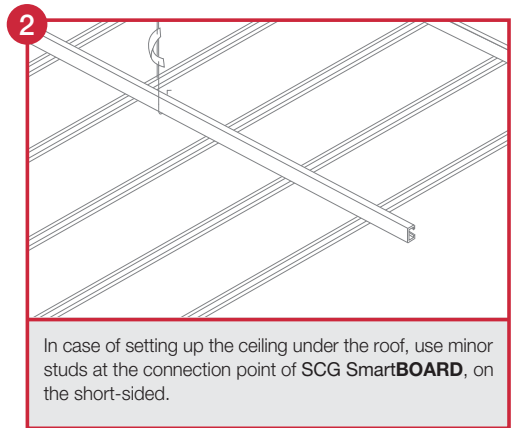**Installation Instruction**   (Method of ceiling frame installation follow to frame producer.)

1

80 cm.
40 cm.
major metal studs
minor metal studs
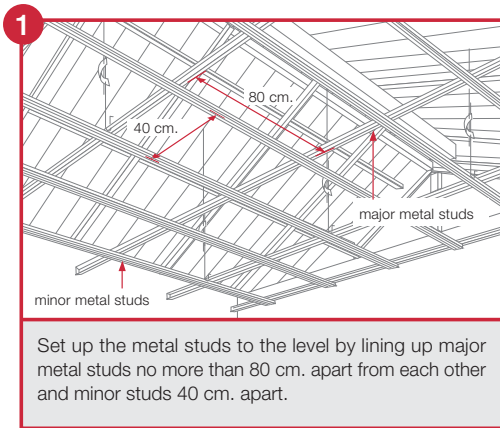
Set up the metal studs to the level by lining up major metal studs no more than 80 cm. apart from each other and minor studs 40 cm. apart.

2

In case of setting up the ceiling under the roof, use minor studs at the connection point of SCG Smart**BOARD**, on the short-sided.

3
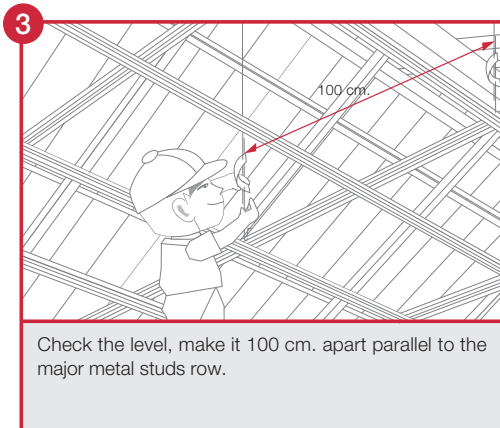
100 cm.

Check the level, make it 100 cm. apart parallel to the major metal studs row.

4
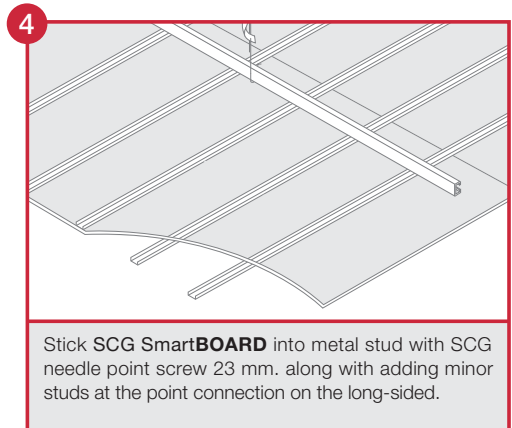
Stick SCG Smart**BOARD** into metal stud with SCG needle point screw 23 mm. along with adding minor studs at the point connection on the long-sided.

5

away from the edge 1.2 cm
40 cm.
20 cm.
gap between screw
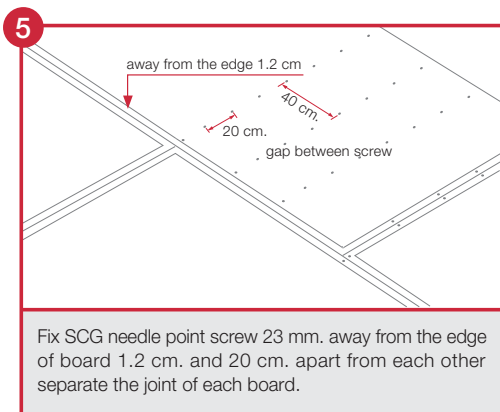
Fix SCG needle point screw 23 mm. away from the edge of board 1.2 cm. and 20 cm. apart from each other separate the joint of each board.

6
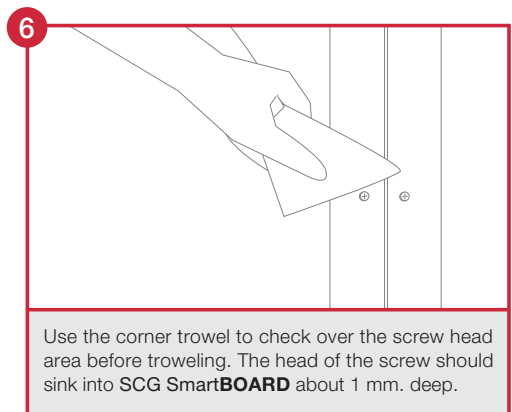
Use the corner trowel to check over the screw head area before troweling. The head of the screw should sink into SCG Smart**BOARD** about 1 mm. deep.

Concealed Instruction

(Only SCG Smart**BOARD** acrylic joint compound shall be used to plaster the joint between SCG Smart**BOARD** tapered edge. All System and Opening works shall be completed prior the plastering).

7
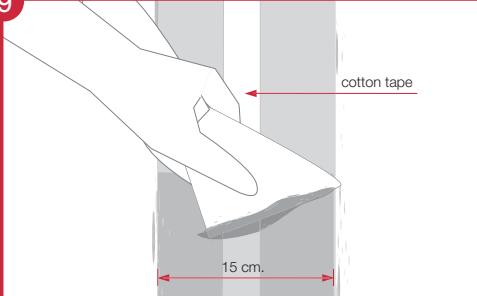
Clean properly, the gap between board shall be embedded by SCG Smart**BOARD** acrylic joint compound, and leave it dry.
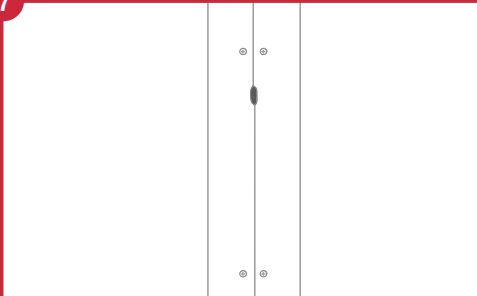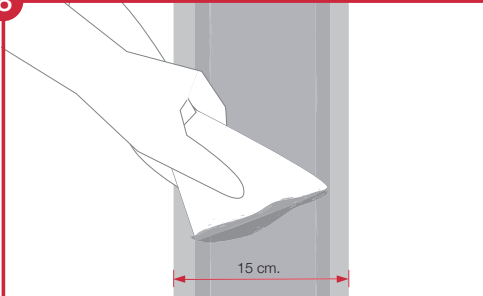
8
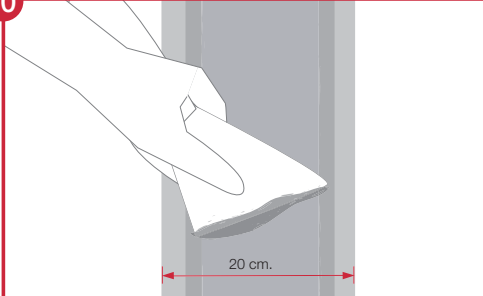
15 cm.

Use 6" trowel to make first plastering for 15 cm. width.

9

cotton tape

15 cm.
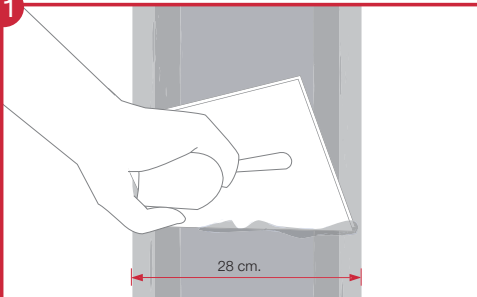
Use 3.5 cm. width cotton tape to cover the joint, and plaster over this cotton tape again, and leave it dry.

10
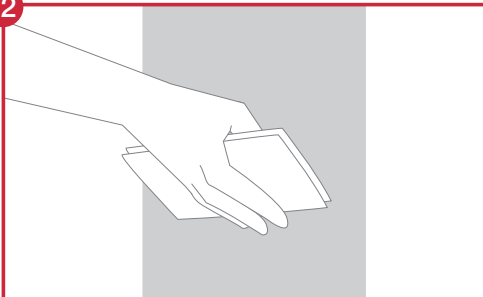
20 cm.

Make second plastering by 8" trowel by plastering for 20 cm. and leave it dry.

11

28 cm.

Make third plastering by 11" trowel by plastering for 28 cm. and leave it dry for 1 day.

12

Polish the plastering by waterproof abrasive paper no.120, and paste the prime coating for original plaster for whole ceiling board prior covered by 100% acrylic paint for at least 2 layers.

Recommendation ;

The concealed SCG Smart**BOARD** ceiling shall be installed in the area which will not directly contact to water, or the area that tend to be vibrated by structure.

1.4 T-Bar Ceiling Installation

Frame and accessories

Frame	:	Galvanized iron metal frame T- Bar 38 mm. in height.
Fixing Tool	:	SCG butterfly-wing plastic hook 37 mm. , SCG needle point screw 38 mm.
SCG Smart**BOARD**	:	Squared Edge 3.5, 4 and 6 mm. thick, cut into 60 x 120 cm. or 60 x 60 cm.

Installation Instruction   (Method of ceiling frame installation follow to frame producer.)

1

121 cm.

60,5 cm.

minor metal studs

major metal studs

Wall Angle

60 cm.
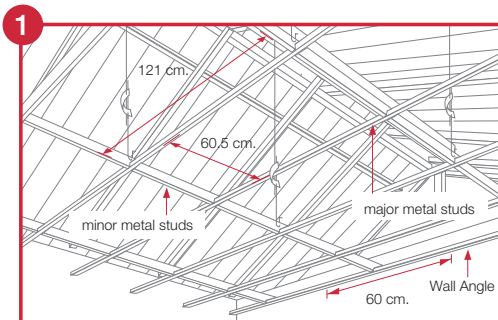
Set up the metal studs to the level by lining up major metal studs no more than 121 cm. apart from each other and minor studs 60.5 cm. apart.

2
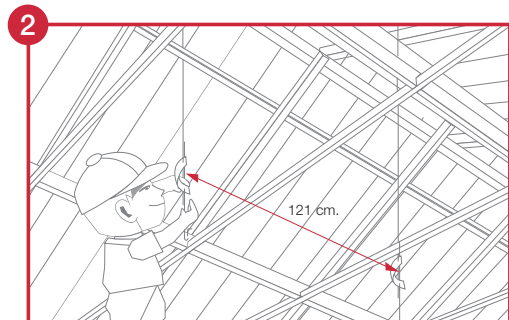
121 cm.

Check the level, make it 121 cm. apart parallel to the major studs row.

3
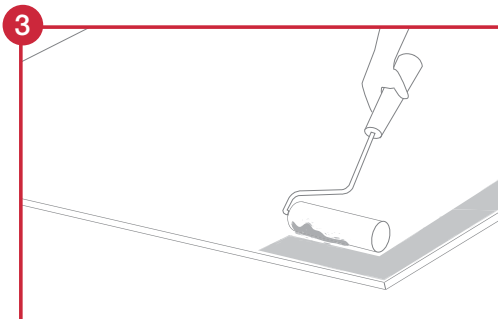
Cut SCG Smart**BOARD** into 60 x 120 cm. paint the surface with old cement primer paint, Acrylic paint 2 times for complete cover up of the original color, leave it dry.

4
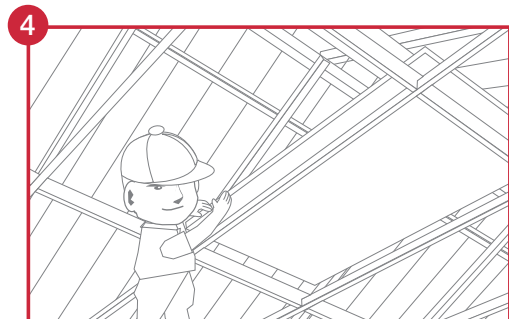
Attach SCG Smart**BOARD** to prepared studs.

Instruction:

In case need ceiling size 60 x 60 cm. enhance major studs 60.5 cm. in length with existing studs 121 x 60.5 cm.

1.5 Curved Surface Installation

Frame and accessories

Frame	:	Galvanized iron metal ceiling frame (C-line) No.24
Fixing Tools	:	SCG needle point screw 23 mm.
SCG Smart**BOARD**	:	Squared or Tapered Edge 4 mm. or 6 mm. thick.

Installation Instruction   (Method of ceiling frame installation follow to frame producer.)

1

fix curved stud that be bended

attach the studs to structural element

Bend studs to have curve form of desired radius.

2

attach the studs to structural element

curved studs

100 cm.

Attach curved stud to structural element no more than 100 cm. apart from each.

3

drive screw into major studs

hook for connection

no more than 40 cm.

no more than 40 cm.

cut flank, curved C-line No.24

fix minor studs to major studs no more than 40 cm. apart.

4

attach Smart**BOARD** to prepared studs

no more than 20 cm. apart from each other.

Attach SCG Smart**BOARD** to minor studs by SCG needle point screw 23 mm. length, 20 cm. apart from each.

Remark : In case need to trowel connection point, you can do as the process for concealed ceiling.

Suggestion

SCG Smart**BOARD** can be bend-installed by attach the board to the frame as the fixed radiance as follows:

Product	Thickness (mm.)	Minimum Radius	Spacing between minor studs	Spacing between fixing tool
SCG Smart**BOARD** Ceiling	3.5 - 4 cm.	1.00 m.	40 cm.	20 cm.
	6 mm.	1.50 m.		

Note : Above radius is radius of SCG Smart**BOARD** in length.

2 Wall Installation

2.1 Space Lining External Wall Installation

Frame and accessories

Frame	:	Steel C 75 x 45 x 15 x 2.3 mm.
Fixing Tool	:	SCG self drilling wing screw 32 mm.
		SCG self drilling screw 45 mm. (For SCG Smart**BOARD** 16 mm. thick)
Sealant Material	:	SCG Smart**BOARD** polyurethane joint sealant.
Corner covered Tool	:	SCG cement corner.
SCG Smart**BOARD**	:	Squared Edge 8 -16 mm. thick.

Installation Instruction

1

60 cm.

Fix studs to structural element no more than 60 cm. apart.

2

Attach SCG Reflective Insulation or moisture impermeable membrane.

3

20 cm.

Fixing SCG Smart**BOARD** 8 -12 mm. thick by SCG self drilling wing screw 32 mm., 20 cm. apart from each other and 1.2 cm. apart from edge of board. Fixing SCG Smart**BOARD**16 mm. thick by SCG self drilling screw 45 mm.

4

45 mm.

SCG Reflective Insulation 15 mm.

SCG Smart**BOARD**

SCG self drilling wing screws 32 mm.

75 mm.

covering with Acrylic for external painting

1.2 cm.

Leave the space between board 0.8 – 1.6 cm.

Leave the space between board 0.8 – 1.6 cm.

5

tape

Cover the space with tape before applying SCG Smart**BOARD** polyurethane joint sealant, take tape off, leave it dry.

6

Fix SCG cement corner by butterfly-wing plastic hook, 37 mm. and SCG needle point screw 38 mm. to external corner.

7

finishing the screw head by SCG Smart**BOARD** polyurethane joint sealant.

The pole

SCG self drilling wing screw 32 mm., SCG self drilling screw 45 mm.

SCG Smart**BOARD**

SCG Smart**BOARD** polyurethane joint sealant

For internal corner,leave the space between board and apply SCG Smart**BOARD** polyurethane joint sealant to the space, leave it dry.

8

The pole

Paint old cement primer before covering with Acrylic for external painting two layers at least.

Remark : For SCG Smart**BOARD** 16 mm. thick fixing by SCG self drilling screw 45 mm.

Detail for Installation

Metal studs

SCG self drilling wing screw 32 mm./45 mm.

Lift up from the ground 8 mm.

SCG Reflective Insulation

SCG Smart**BOARD**

zinc No. 28 (for external used)

The outside wall installation should lift up the end of SCG Smart**BOARD** above soil level at least 10 cm.

10 cm.

soil level

Reinforce concrete beam
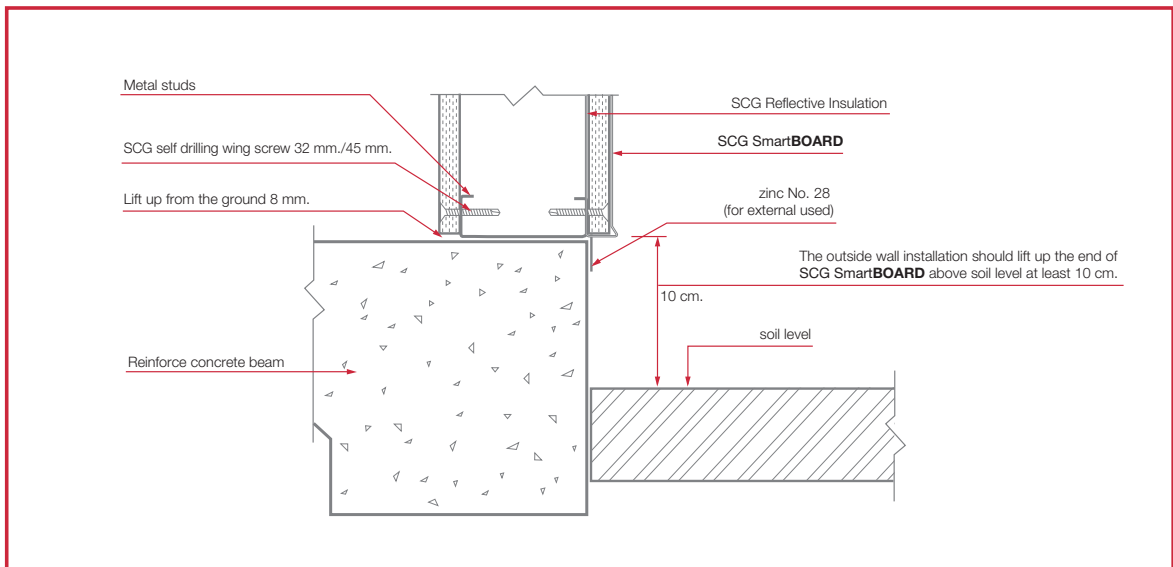
Suggestion

For external wall installation, should consider about wind and other forces.

Height of Building (m.)	Spacing Frame for SCG Smart**BOARD** (cm.)		
	The thickness of SCG Smart**BOARD**		
	8 mm.	10 mm.	12 mm.
Less than 10	40	60	70
10 - 20	Not Recommend	40	50
20 - 30	Not Recommend	Not Recommend	40
More than 30	Not Recommend	Not Recommend	Not Recommend

Remark : Length between and the thickness of SCG Smart**BOARD**, follow the engineer who design the building.

2.2 Space Lining Internal Wall Installation

Frame and accessories

Frame	: SCG Smart**BOARD** C 74, U 76 galvanize frame.
Fixing Tool	: SCG self drilling screw 23 mm.
Sealant Material	: SCG Smart**BOARD** polyurethane joint sealant.
SCG Smart**BOARD**	: Squared Edge 8 mm. thick, 2 size 120 x 240 cm., 120 x 280 cm.
	4-inch Square Lining 8 mm. thick, size 120 x 280 cm.
	6-inch Square Lining Wood Grain (Golden Teak Color) 6, 8 mm. thick, size 60 x 300 cm.

Installation Instruction

1

Determine the alignment of wall on the floor and ceiling board.

2

Install SCG Smart**BOARD** U 76 galvanize frame on the floor and ceiling board on the required alignment by using SCG plastic insert 37 mm. and SCG needle point screw 38 mm., in 60 cm. spacing.

3

SCG Smart**BOARD** U 76 galvanize frame

SCG Smart**BOARD** C 74 galvanize frame

60 cm.

Install SCG Smart**BOARD** C 74 galvanize frame into SCG Smart**BOARD** U 76 galvanize frame by insert and twist to be perpendicular to SCG Smart**BOARD** U 76 galvanize frame, in 60 cm.* spacing.

4

Fix SCG Smart**BOARD** C 74 galvanize frame to SCG Smart**BOARD** U 76 galvanize frame by SCG self drilling point screw 10 mm.

5

2 pieces of general C 74 frame

In case that general light-weight frame is used, another pair frames shall be used to support the joint between SCG Smart**BOARD**.
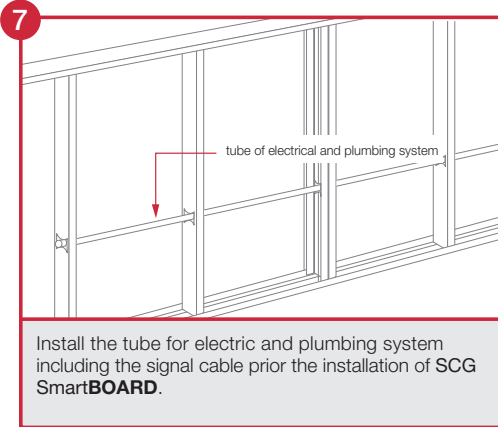
6

Add SCG Smart**BOARD** U 76 galvanize frame

Frame Higher than 280 cm.

280 cm.

In case that the wall height is higher than 240 or 280 cm. SCG Smart**BOARD** U 76 galvanize frame shall be used to support on upper horizontal line at the panel level (240 - 280 cm.) as for supporting the panel jointing.
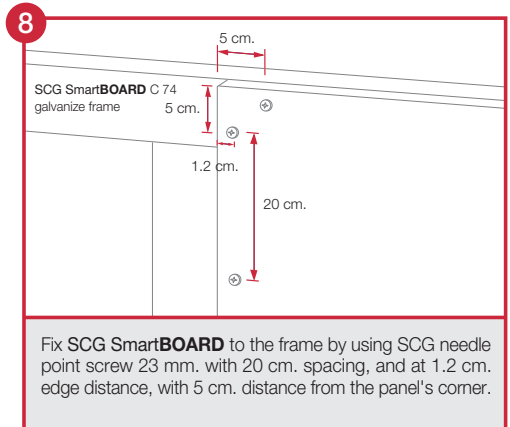
7

tube of electrical and plumbing system

Install the tube for electric and plumbing system including the signal cable prior the installation of SCG Smart**BOARD**.

8

5 cm.

SCG Smart**BOARD** C 74 galvanize frame   5 cm.

1.2 cm.

20 cm.

Fix SCG Smart**BOARD** to the frame by using SCG needle point screw 23 mm. with 20 cm. spacing, and at 1.2 cm. edge distance, with 5 cm. distance from the panel's corner.

9

SCG Smart**BOARD** Wall

SCG needle point screw 23 mm.

1.2 cm. 0.8 cm.
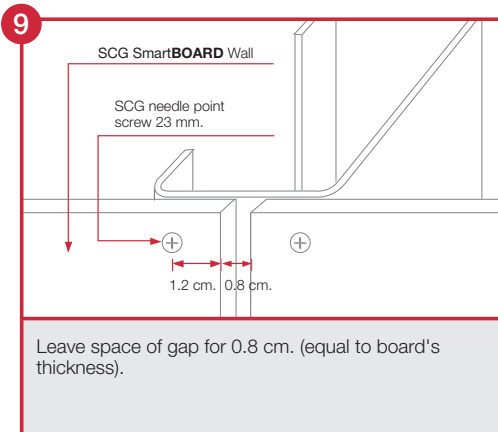
Leave space of gap for 0.8 cm. (equal to board's thickness).

10
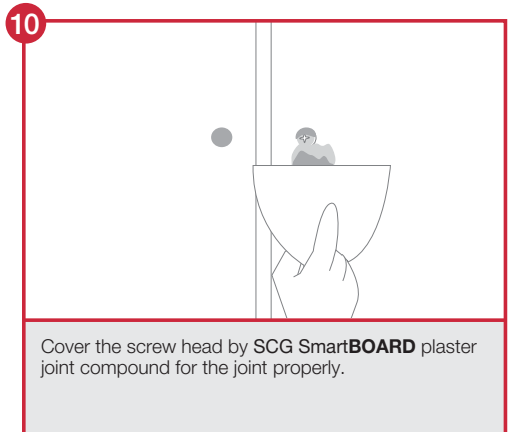
Cover the screw head by SCG Smart**BOARD** plaster joint compound for the joint properly.

11
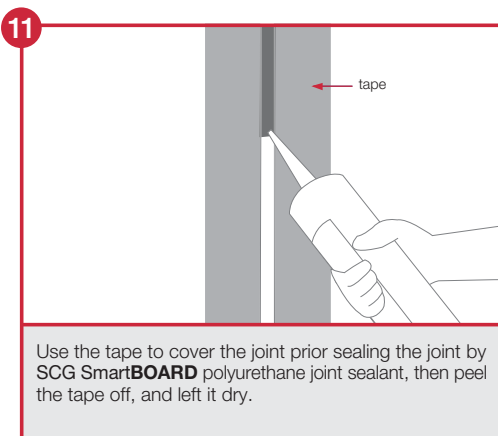
tape

Use the tape to cover the joint prior sealing the joint by SCG Smart**BOARD** polyurethane joint sealant, then peel the tape off, and left it dry.

12
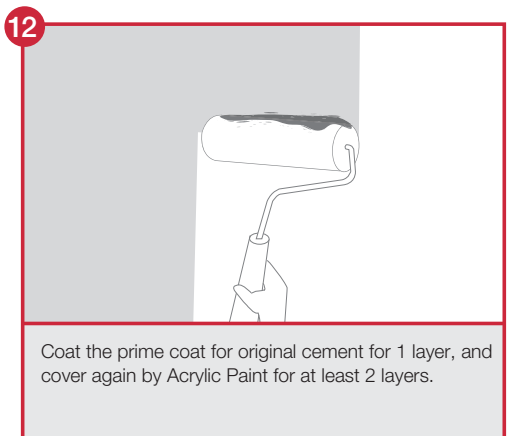
Coat the prime coat for original cement for 1 layer, and cover again by Acrylic Paint for at least 2 layers.

* **Remark :** In case that SCG Smart**BOARD** with 6-inch square lining wood grain (Golden Teak Color) is used as real wall, the frame should be installed in every joint along the length of panel in order to allow sealing of the joint by SCG Smart**BOARD** polyurethane joint sealant.

2.2 Space Lining Internal Wall Installation

Installation Instruction in door or window area

1

boxing C 74

SCG Smart**BOARD** U 76 galvanize frame

60 cm. 60 cm. 60 cm. 60 cm.

SCG Smart**BOARD** C 74 galvanize frame

SCG Smart**BOARD** U 76 galvanize frame

Double SCG Smart**BOARD**
U 76 galvanize frame

SCG Smart**BOARD** U 76 galvanize frame

Door Frame

Install the door or window frame to the ceiling frame SCG needle point screw 23 mm. with 15 cm. spacing.

2

SCG needle point
Screw 23 mm.

SCG Smart**BOARD**
C 74 galvanize frame

SCG Smart**BOARD**

SCG self drilling
screw 38 mm.

Door Frame

SCG Smart**BOARD** polyurethane
joint sealant

Seal the joint between panel and frame with SCG Smart**BOARD** polyurethane joint sealant.

Installation Instruction in wall corner

1

SCG Smart**BOARD** C 74 galvanize frame

The pole

SCG needle point screw 23 mm.

SCG Smart**BOARD** Wall

SCG Smart**BOARD** polyurethane
joint sealant

Make the gap for 0.5 - 1.0 cm. at wall corner, and seal the joint between panel and frame with SCG Smart**BOARD** polyurethane joint sealant.

2.3 Concealed Wall Installation

Frame and accessories

Frame	:	SCG Smart**BOARD** C 74, U 76 galvanize frame.
Fixing Tool	:	SCG self drilling screw 23 mm., SCG needle point screw 10 mm.
Sealant Material	:	SCG Smart**BOARD** plaster joint compound, Sandpaper no. 3
SCG Smart**BOARD**	:	2-side Tapered Edge 8 mm. thick, size 120 x 280 cm.

Installation Instruction

The set-up step is the same as The Space Lining Internal wall Installation.

1

SCG Smart**BOARD**
U 76 galvanize frame

SCG Smart**BOARD**
C 74 galvanize frame

60 cm.

Set up **SCG SmartBOARD** U 76 galvanize frame on the floor and the ceiling with 60 cm. concrete hook and after that set up **SCG SmartBOARD** C 74 galvanize frame as 60 cm. apart from each other.

2

5 cm.

Maximum distance of frame 60 cm.

SCG needle point screw 23 mm.

1.2 cm.

20 cm.

SCG Smart**BOARD** Tapered Edge

Attach **SCG SmartBOARD** tapered edge with SCG needle point screw 23 mm. as 20 cm. apart from each other (as the picture).

Concealed Instruction

Step of concealed wall installation is the same as The Concealed Ceiling Installation

light weight wall frame

SCG needle point screw 23 mm.

SCG Smart**BOARD** Tapered Edge

Tape 3.5 cm. width

① Apply the primer color to cover the old surface

② Plaster the first layer with 15 cm. width

③ Plaster the second layer with 20 cm. width

④ Plaster the third layer with 28 cm. width

⑤ Scrub with sandpaper no. 3

⑥ Apply the primer color cover all over the board before painting with the real color

Suggestion

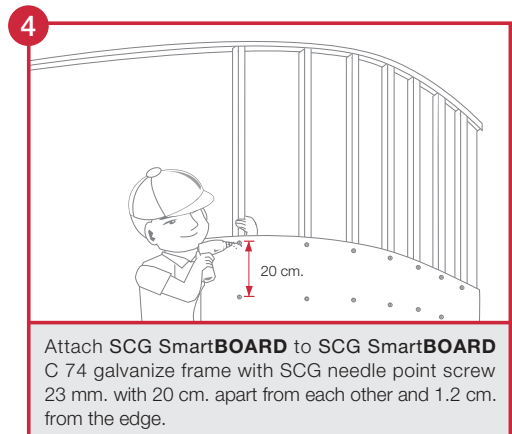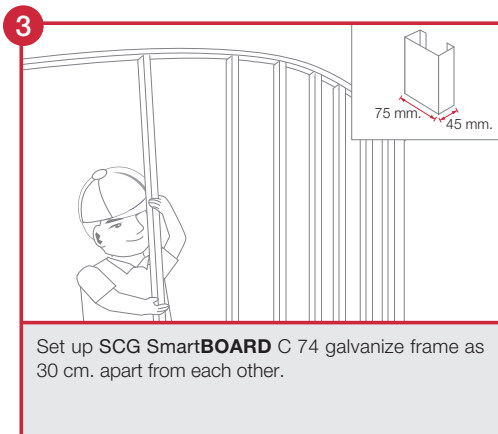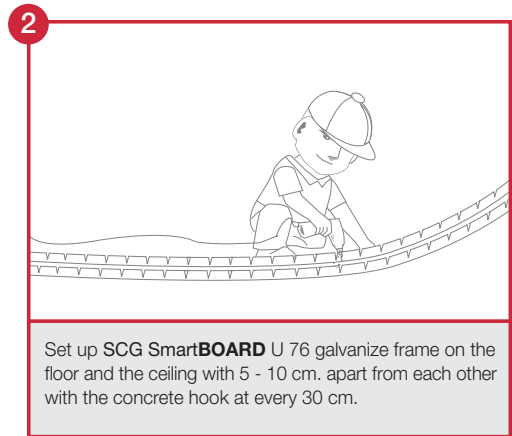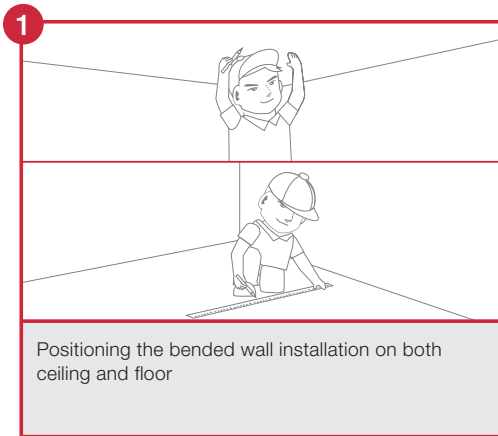Concealed wall : using advised only interior and dry area only.

2.4 Bended Wall Installation

Frame and accessories

Frame : SCG Smart**BOARD** C 74, U 76 galvanize frame.
Fixing Tool : SCG self drilling screw 23 mm.
SCG Smart**BOARD** : Squared Edge 8 mm. thick.

Installation Instruction

SCG Smat**BOARD** is flexible, so it can be bended without water soaking as follows :

1

Positioning the bended wall installation on both ceiling and floor

2

Set up **SCG SmartBOARD** U 76 galvanize frame on the floor and the ceiling with 5 - 10 cm. apart from each other with the concrete hook at every 30 cm.

3

75 mm. 45 mm.

Set up **SCG SmartBOARD** C 74 galvanize frame as 30 cm. apart from each other.

4

20 cm.

Attach **SCG SmartBOARD** to **SCG SmartBOARD** C 74 galvanize frame with SCG needle point screw 23 mm. with 20 cm. apart from each other and 1.2 cm. from the edge.

Suggestion

SCG Smart**BOARD** can be bend-installed by attach the board to the frame as the fixed radiance as follows:

Product	Thickness (mm.)	Minimum Radius	Spacing between frame	Space between fixing tool
SCG Smart**BOARD** Wall	8	2.00 m.	30 cm.	20 cm.
	10	4.00 m.	30 cm.	20 cm.

Note : Above radius is radius of SCG Smart**BOARD** in length.

3 Floor Installation

Frame and accessories

Frame   : Steel.
Fixing Tool   : SCG self drilling screw 45 mm.
Sealant Material   : SCG grumcrete.
SCG Smart**BOARD**   : Squared Edge 16 - 18 mm. thick.

Installation Instruction

1. Prepare the structure to support SCG SmartBOARD flooring by allow the size and spacing of the frame to support the load safely as designed by the Engineer, or can choose the size and spacing of the frame approximately from the table.

Table 1 Spacing of stinger for the maximum safe load

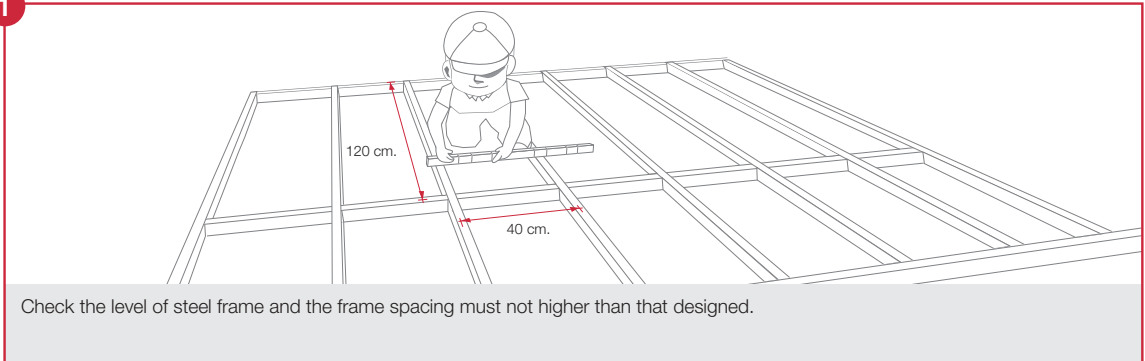| SCG SmartBOARD for flooring			
Thinkness (mm.)	Distance of support (cm.)	Type of building	Live Load (kg./m^2)
16	40	House / Residence	150
18	40	Hotel / Dormitory	200
	40	Office / Bank	250
	40	School / University	300
	30	Departmentstore / Cinema / Hall / Restaurant / Carpark	400
	30	Cargo / Museum / Plant / Publisher	500

Remark :   SCG Smart**BOARD** floor shall not support point load higher than 100 kg., on 10 sq.cm. area.
               Do not use in the area which always wet and moist.

2. The frame must provide at least 4.5 cm. width, in case that the steel frame is used there should be a rust protection at appropriate level and suit to the environment and operating condition.

3. In case of using SCG Smart**BOARD** in area that longer than 6 m., all jointing spaces of SCG Smart**BOARD** and ceramic tiles (floor covering materials) must be full-filled by SCG Smart**BOARD** polyurethane joint sealant.
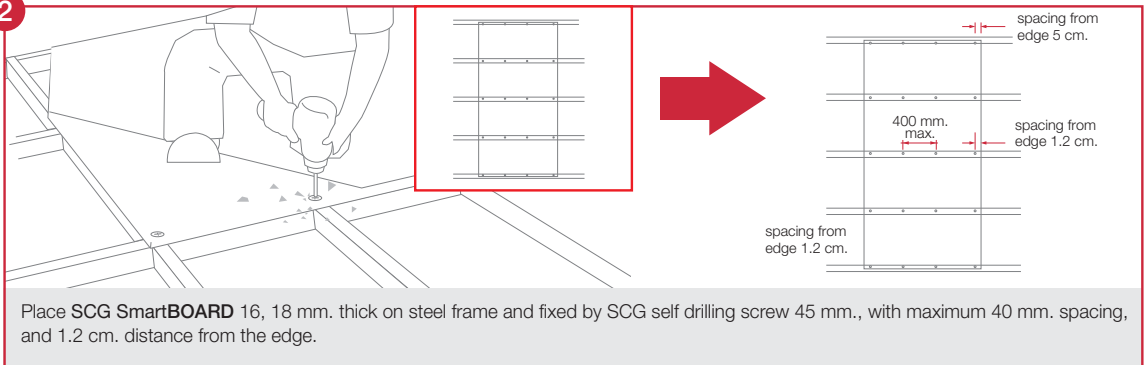
Floor Installation

1

Check the level of steel frame and the frame spacing must not higher than that designed.

120 cm.

40 cm.

2

spacing from edge 5 cm.

400 mm. max.

spacing from edge 1.2 cm.

spacing from edge 1.2 cm.

Place **SCG SmartBOARD** 16, 18 mm. thick on steel frame and fixed by SCG self drilling screw 45 mm., with maximum 40 mm. spacing, and 1.2 cm. distance from the edge.

3
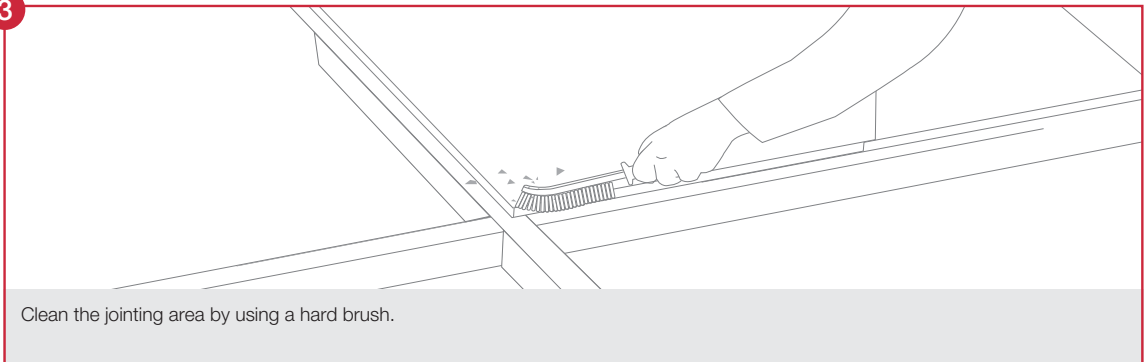
Clean the jointing area by using a hard brush.

4

Mix SCG grumcrete with the recommended ratio.

5

Bring mixed SCG grumcrete to paste on the edge of **SCG SmartBOARD** 16, 18 mm. thick.

6

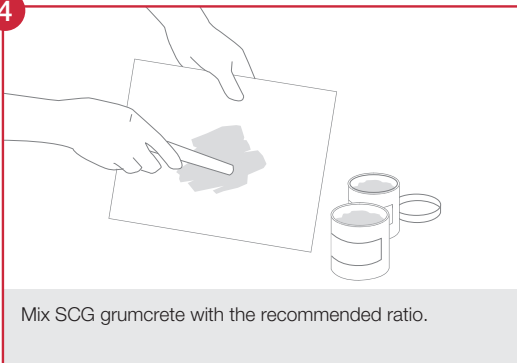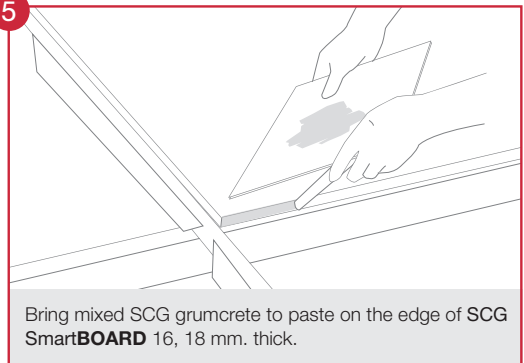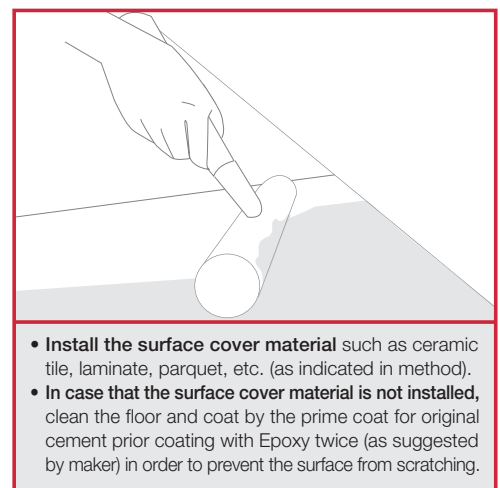Fix next piece of SCG Smart**BOARD** together without space lining.

7

Shape the SCG grumcrete that excesses properly and fixed SCG Smart**BOARD** by SCG self drilling screw 45 mm. SCG Smart**BOARD** shall be installed alternately in order to stagger the joint.

8

Cover the screw head by SCG grumcrete.

SCG grumcrete

SCG Smart**BOARD**
16 / 18 mm.

SCG self drilling
screw 45 mm.

steel

9

Install next SCG Smart**BOARD** by following the above method until complete, and clean all surface to be out of dust and oil stain by moist cloth.

- **Install the surface cover material** such as ceramic tile, laminate, parquet, etc. (as indicated in method).
- **In case that the surface cover material is not installed,** clean the floor and coat by the prime coat for original cement prior coating with Epoxy twice (as suggested by maker) in order to prevent the surface from scratching.

4 Underlay Installation

Tools and accessories

Fixing Tool	:	Concrete nail 1 inch for SCG Smart**BOARD** 8 mm. thick.
		Concrete nail 1.5 inches for SCG Smart**BOARD** 10 - 12 mm. thick, Glue.
SCG Smart**BOARD**	:	Squared Edge 8 - 12 mm. thick.

Installation Instruction

1

Prepare leveled and polished rough surface concrete by let it has 7 days setting time.

2

40 cm.
5 cm.

Mark nailing guideline every 40 cm. and away from the edge 5 cm.
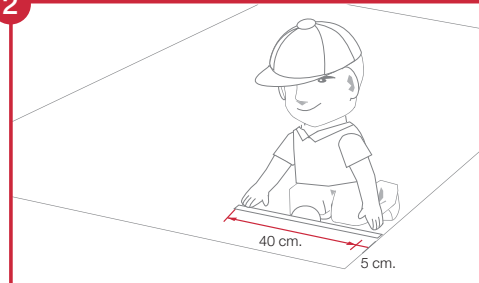
3
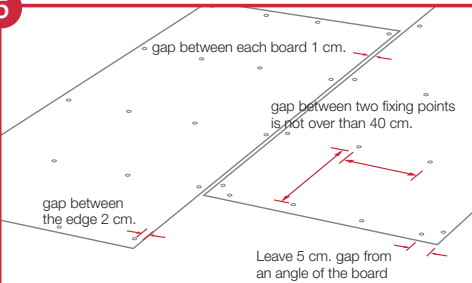
For column cut SCG Smart**BOARD** to fit around the corner.

4
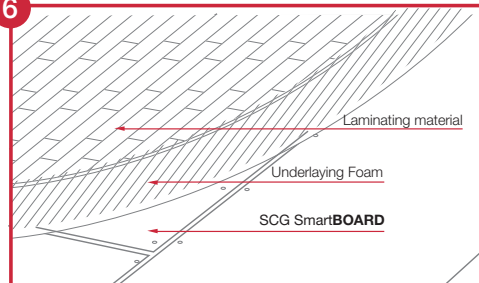
Apply Latex to entire SCG Smart**BOARD**.

5

gap between each board 1 cm.

gap between two fixing points is not over than 40 cm.

gap between the edge 2 cm.

Leave 5 cm. gap from an angle of the board

Fix SCG Smart**BOARD** with 1" concrete nail at marked point and keep 1cm. away between SCG Smart**BOARD** overlaped.

6

Laminating material

Underlaying Foam

SCG Smart**BOARD**

Install flooring for example Laminate, Parquet.

Suggestion

- For fixing SCG Smart**BOARD** with 1" concrete nail, be careful not to deepen the nail to reach reinforcing steel level.
- Adjust the surface to be that same level before installation.
- High drying shrinkage rate materials are not recommended to apply on SCG Smart**BOARD**.

5 Fixing and Hanging objects

5.1 Fixing and Hanging objects

Installation Instruction

1

Mark and Drill your desire point.

2

Sunk butterfly - wing plastic hook into the ceiling or wall hole.

3

Drill the screw into the butterfly-wing plastic hook.

4

When the screw is completely installed the butterfly-wing plastic hook will be tightly fix with SCG Smart**BOARD**.
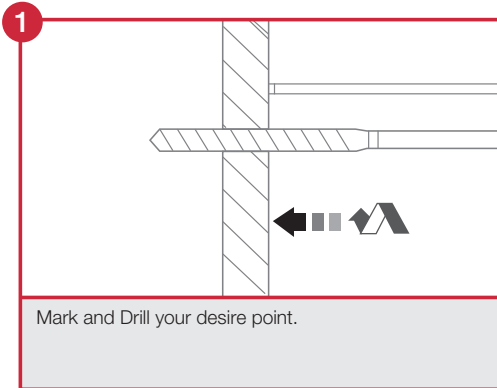
Suggestion : Hanging devices can be fixed to both ceiling and wall by using the following accessories.

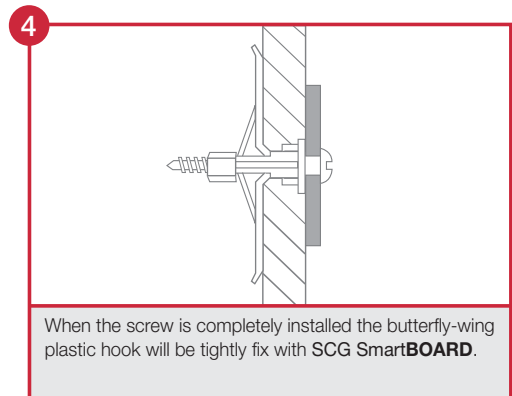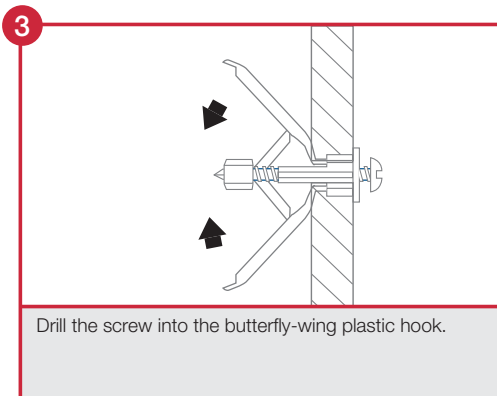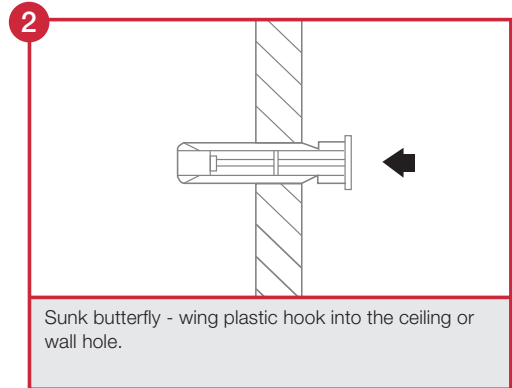| Product	Application	Accessories	Maximum Weight Stand (kg.)
SCG Smart**BOARD** 3.5 mm. thick	Ceiling	butterfly-wing plastic hook PT - 5 with drilling screw	5
SCG Smart**BOARD** 4 mm. thick	Ceiling	butterfly-wing plastic hook PT - 5 with drilling screw	7
SCG Smart**BOARD** 6 mm. thick	Ceiling	butterfly-wing plastic hook PT - 13 with drilling screw	10
SCG Smart**BOARD** 8 mm. thick	Wall	butterfly-wing plastic hook PT - 13 with drilling screw	80

Recommendations 1. Use the table above to estimate the weight baring level of different thickness and usage of SCG Smart**BOARD**

2. When hanging heavy weight objects, it is advised to fix your object in the position that is on the studs, the maximum weight stand will also vary depending on the strength of different studs.

5.2 SCG Smart**BOARD** Maintenance

Frame and Accessories

Frame   : C-line frame.
Fixing Tool   : SCG needle point screw 23 mm.
Sealant Material   : **SCG SmartBOARD** plaster joint compound, Sandpaper.

Installation Instruction

• In case of Minor Damage (Less than 2 cm. crack)

1

Apply the cotton tape in the form of a cross and apply the first coat of **SCG SmartBOARD** plaster joint compound.

2

After the first coat of the plaster is set, apply the second coat and polish with sandpaper after it dries.

• In case of Moderate Damage (2 - 5 cm. crack)

1

10 cm.   10 cm.

Cut C-line frame 10 cm. longer than the crack on each side.

2

1.5 cm.   3 - 5 cm.

Insert the C-line frame from behind by using string before drilling the SCG needle point screw 23 mm.

3

Apply the cotton tape in the form of a cross over the crack then apply two layers of **SCG SmartBOARD** plaster joint compound, polish with sandpaper, and apply coat of color.

• In case of Major Damage (More than 5 cm. crack)

1

Use electric saw to cut out the damage area.

2

1.5 cm.   3 - 5 cm.

Fix the C-line frame with SCG self drilling screw, 1.5 cm. from the edge of the crack and fix another screw 3 - 5 cm. to both sides.

3

Fix **SCG SmartBOARD** with SCG self drilling screw. Apply the cotton tape then apply two layers of **SCG SmartBOARD** plaster joint compound, polish with sandpaper, and apply coat of color.
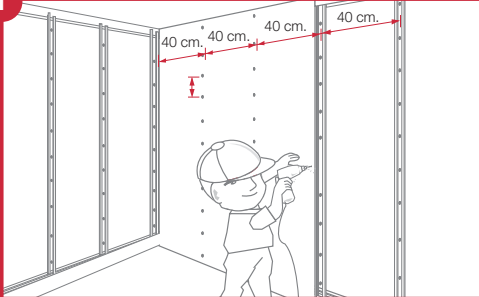
6. Placing Ceramic Tiles on SmartBOARD

Frames and Accessories

Fixing tool   :   Tile adhesive cement (flexible type)

SCG Smart**BOARD**   :   Squared Edge with 10 - 12 mm. thick.

Installation Instruction

1

40 cm.   40 cm.   40 cm.   40 cm.
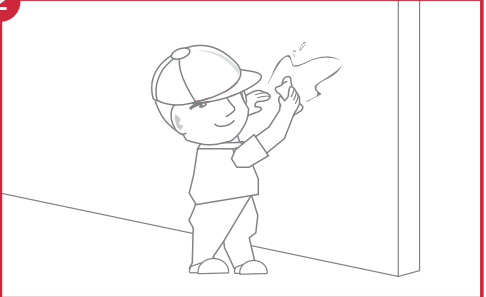
For SCG Smart**BOARD** that is going to be attached the tile, leave 40 cm. gap between studs in order to prevent vibration during ceramic installing.

2
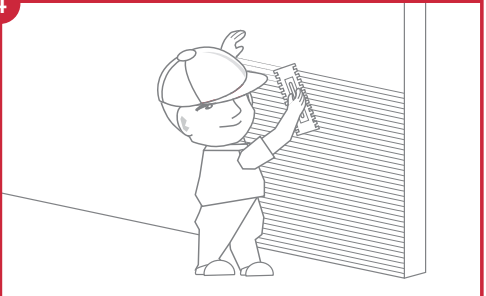
Prepare the surface of SCG Smart**BOARD** by cleaning and applying primer, then leave it dry.

3

Mix Tile Adhesive Cement (flexible type) as advised in the manual.

4
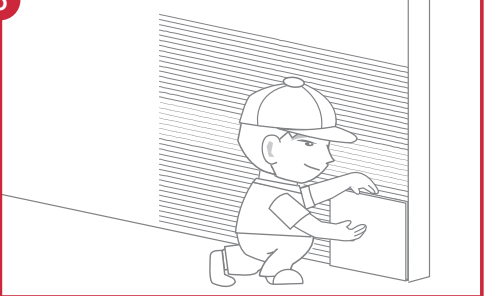
Use the trowel to spread Tile Adhesive Cement (flexible type) on all area of SCG Smart**BOARD**.

5

After soaking tiles in the water, make it nearly dry before placing on SCG Smart**BOARD.**

6

Place all tiles on SCG Smart**BOARD** (Jointing line of ceramic tiles must be aligned on board's jointing line). Leave it dry for 7 days for stable setting purpose. Then, joint the gap between tiles.

Suggestion about placing ceramic tiles on SCG SmartBOARD

It is our recommendation not to do it on the panel which is over 5 meters long. In such case, technical discussion in details with us is needed.

SCG SmartBOARD Equipment for Installation

SCG Self Drilling Point Screw 10 mm.

- Used to fix **SCG Smart BOARD** C 74 and U 76 Galvanize Frame, or fix **SCG Smart BOARD** 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 Fiber 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 Fiber 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 SmartBOARD polyurethane joint sealant

- This is the polyurethane material used to seal the joint, easily used, and perfectly adhere to the surface of **SCG Smart BOARD** 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, and 600 ml. / foil tube

SCG SmartBOARD Acrylic Joint Compound

- This is joint-plastering material made by already mixed high-quality acrylic. It is prompt to used for plastering the joint of **SCG Smart BOARD**, or other fiber cement panel inside the building.
- Viscous acrylic matrix, smoothly plastered, and the surface can be furnished easily while exposing nice plastering or coated panting.
- **Suit with ceiling work.**
- Containing size : 5 kg. / box

SCG SmartBOARD Plaster Joint Compound

- This is ready-usable plaster cement for joint plastering especially made for **SCG Smart BOARD**. The cement matrix is viscous resulting into smooth plastering surface, easily mixed, no shrinkage, crack, peeling because the material provide high adhesive and can be easily furnished by sandpaper.
- **Suit with wall work.**
- Containing size : 25 kg. / bag

SCG SmartBOARD C 74, U 76 Galvanize 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 Smart BOARD** 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.

Recommendation on lifting and moving

Lifting or moving of products shall be carried out with special attention and avoid continuous work in long period in order to prevent the injury or fatigue. The operator shall drop oneself on knee and firmly hold the product every time that perform the lifting. Then use his leg power to lift by holding at 30 cm. distance from the edge of **SCG SmartBOARD**
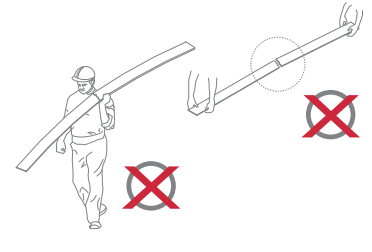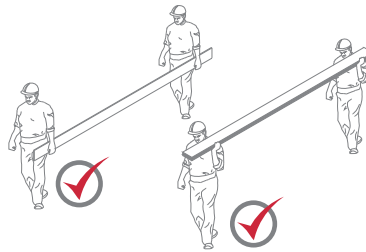
Storing Tips

Should be stored in-door with dry leveled floor on a pallet or 1.5 x 3 inches wood laid with a span of 60 cm.

Cover with water and dust proof canvas

Support with 1.5 x 3 inches wood in every 60 cm. or a pallet
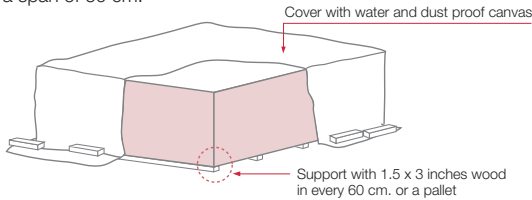
Personal Safety Equipment

Glove

Clothes

Safty goggle

Dust protection Mask

Safty Shoes

SCG SmartBOARD Product Series

SCG SmartBOARD	Thickness (mm.)	Width x Length (mm.)	Series Squared Edge	Series Tapered Edge	Weight (kg./pc.)	Effective Area (sq.m.)
Lite	3.2	603 x 1213	•	-	3.6	0.73
		610 x 1220 (2'x4')	•	-	3.6	0.74
		1220 x 1220 (4'x4')	•	-	7.2	1.49
	3.5	600 x 2400	•	-	7.6	1.44
		1200 x 1200	•	-	7.6	1.44
		1200 x 2400	•	-	15.2	2.88
		603 x 1210	•	-	3.9	0.73
		610 x 1220 (2'x4')	•	-	4.0	0.74
		1220 x 1220 (4'x4')	•	-	7.9	1.49
		1220 x 2400 (4'x8')	•	-	15.8	2.97
Squred Edge	4	600 x 1200	•	-	4.4	0.72
		600 x 2400	•	-	8.7	1.44
		1200 x 1200	•	-	8.7	1.44
		1200 x 2400	•	-	17.4	2.88
		610 x 610 (2'x2')	•	-	2.3	0.37
		1220 x 1220 (4'x4')	•	-	9.0	1.49
		1220 x 2400 (4'x8')	•	-	18.0	2.97
	4.5	1220 x 2400 (4'x8')	•	-	20.2	2.97
	6	1200 x 2400	•	-	26.1	2.88
		1220 x 2440 (4'x8')	•	-	27.0	2.97
	8	1200 x 2400	•	-	34.8	2.88
		1200 x 2800	•	-	40.2	3.36
		1220 x 2440 (4'x8')	•	-	36.0	2.97
	9	1200 x 2400	•	-	39.2	2.88
		1220 x 2440 (4'x8')	•	-	40.0	2.97
	10	1200 x 2400	•	-	43.5	2.88
		1220 x 2440 (4'x8')	•	-	44.9	2.97
	12	1200 x 2400	•	-	52.2	2.88
		1220 x 2440 (4'x8')	•	-	53.9	2.97
	16	1200 x 2400	•	-	69.6	2.88
		1200 x 3000	•	-	87.0	3.60
		1220 x 2440 (4'x8')	•	-	72.0	2.97
	18	1200 x 2400	•	-	78.3	2.88
		1220 x 2440 (4'x8')	•	-	81.0	2.97
Tapered Edge	5.5	1200 x 2400	•	4 side	24.0	2.88
	6	1200 x 2400	•	4 side	25.8	2.88
		1220 x 2440 (4'x8')	•	2 side	26.7	2.97
	8	1200 x 2800	•	2 side	40.2	3.36
	12	1220 x 2440 (4'x8')	•	2 side	53.6	2.97
Timber Texture	4	600 x 2400	•	-	7.1	1.44
		1200 x 1200	•	-	7.6	1.44
		1200 x 2400	•	-	15.2	2.88
Wood Grain, 3-Inch Lining, Ventilated, Ventilated Wood Grain, Ventilated 3-Inch Lining	4	600 x 1200	•	-	5.0	0.72
6-inch Square Lining Wood Grain (Golden Teak Color)	6	600 x 3000	•	-	11.2	1.80
	8	600 x 3000	•	-	15.0	1.80
4-inch Square Lining	8	1200 x 2800	•	-	40.0	3.36

Specification for Installation of SCG SmartBOARD

⚠ 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 Smart BOARD** 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 Smart BOARD** 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 oneís 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 legsí 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.siamfibrecement.com

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