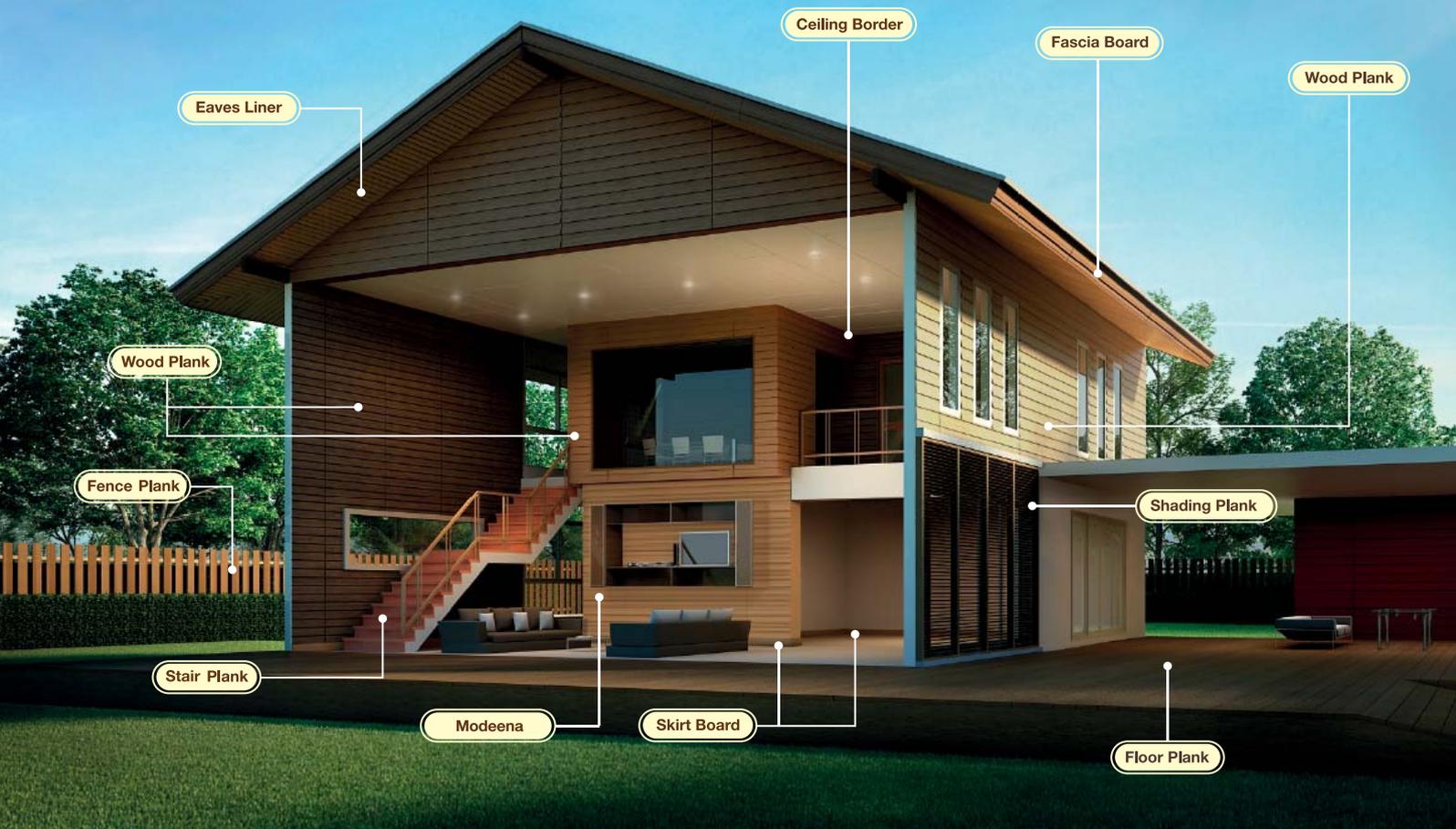




CEILING

SCG SMART CEILING SYSTEM





SCG Smartwood is a fiber cement wood substitute product with a quality innovation from superior **SCG Portland Cement**, **Silica Sand**, and **Special Cellulose Fiber** with high standardized processes (Autoclave Process). **SCG Smartwood** creates natural look, attractiveness, and confidence of use.

COLOR Superiority with LOC

Color Loc technology locks every molecule firmly onto SCG Smartwood fiber with a special spraying technique developed especially for synthetic wood and submitted to a high temperature curing process to help lock the paint for long lasting color, so colored Smartwood stays naturally attractive, looks like real woods and lasts longer.

3rd Layer

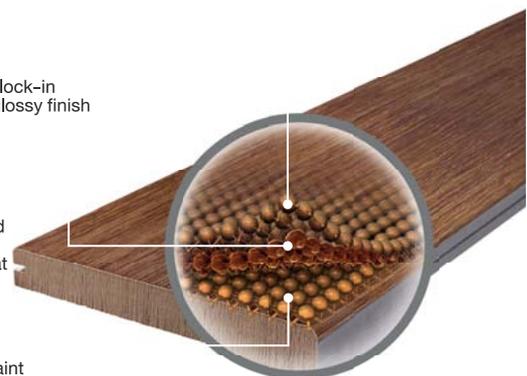
A clear coat to lock-in strength for a glossy finish

2nd Layer

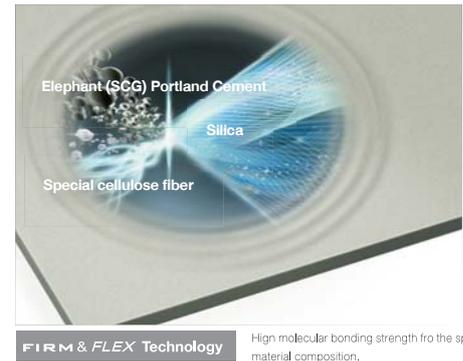
Paint for wood finish tones and adherence to the clear coat

1st Layer

Primer helps paint adhere to the wood



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.



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		Bendable. No water is needed to applied while banding the board.
	Flexibility for various designs	
	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 Smartboard is the ideal material for preventing heat from external environment, reducing energy consumption and answering green designs.

Specification and Standard

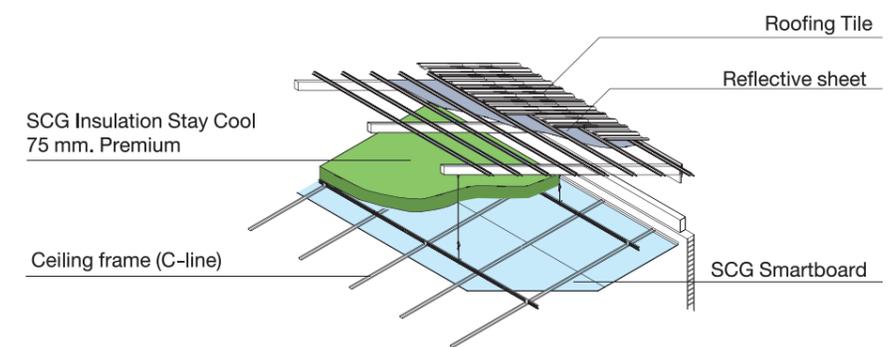
Physical Property	Test value	Unit	Standard
Density	1300	Kg/m ³	ASTM C1185
Modulus of Rupture (Equilibrium condition)	13	Mpa	ASTM C1185
Modulus of Rupture (Wet condition)	10	Mpa	ASTM C1185
Modulus of Elasticity	4500	N/Sqm.	ASTM C1185
Tension force perpendicular to the surface	1	Mpa	JIS A 5905
Moisture content	8-14	%	ASTM C1185
Water absorbtion rate	30	%	ASTM C1185
Length Change by water absorption	0.12	%	JIS A 5420
Dry Shrinkage rate (60°C, 24 hrs.)	0.06	%	ASTM C1185
Resistant to leakage (Water Permeability)	Pass	-	ASTM C1185
Durability Property	Test value	Unit	Standard
Freeze/Thaw Resistance	50	Cycle	ASTM C1185
Warm Water Resistance	Pass	-	AS/NZS 2908
Soak/Dry Resistance	25	Cycle	AS/NZS 2908
Heat/Rain Resistance	25	Cycle	AS/NZS 2908
Fire resistance Property	Test value	Unit	Standard
Ignitability	Pass	-	BS 476 part 5
Fire Propagation Index	Pass	I = 0	BS 476 part 6
Surface Spread of Flame	Pass	Class 1	BS 476 part 7
System flame resistant ²	1-2	Hour	Bs 476 Part 20-22
Heat or Thermal Conductivity (K)	≥ 0.084	W/M ² k	ASTM C117
Noise Protection	Test value	Unit	Standard
Sound Resistant (STC) ¹	38	dB	BS2750

Remark : 1. When installing 8 mm. SCG Smartboard with light-weight-wall galvanized studs with no sound insulation.
 2. When installed with Rockwool fire-insulation or SCG High Temp 3850 insulation.

SCG Cool Ceiling System

Cool Ceiling System	RT (m ² K/W)	Electricity Cost Saving		
		1.8	Up to 47%	
STAY COOL 75 mm. Premium	Facing Type	Thickness (mm.)	Thermal Conductivity (K) W/m.K	Thermal Resistance (R _m) m ² .K/W
	Aluminum Foil	75	0.042	1.8

System detail	R _T calculation		Heat Resistance	
	R _T (m ² K/W)	U _T (W/m ² K)	R _T (m ² K/W)	U _T (W/m ² K)
Concrete Roof tile Smartboard 3.5 mm. SCG Insulation: Stay Cool 75 mm. Premium	0.055 0.008 1.356 1.786 0.042 0.162	3.409	0.293	
Concrete Roof tile Smartboard 4 mm. SCG Insulation: Stay Cool 75 mm. Premium	0.055 0.008 1.356 1.786 0.048 0.162	3.415	0.293	
Concrete Roof tile Smartboard 6 mm. SCG Insulation: Stay Cool 75 mm. Premium	0.055 0.008 1.356 1.786 0.071 0.162	3.438	0.291	
Concrete Roof tile Smartboard 6 mm. SCG Insulation: Stay Cool 150 mm. Premium	0.055 0.008 1.356 3.571 0.071 0.162	5.224	0.191	



Reducing temperature under the roof and ceiling with **SCG Smartboard** and **SCG Insulation Stay Cool** comes with aluminum foil to protect the heat from ceiling to the house. Ultimately save your electricity bill.

SCG Ventilation Ceiling System

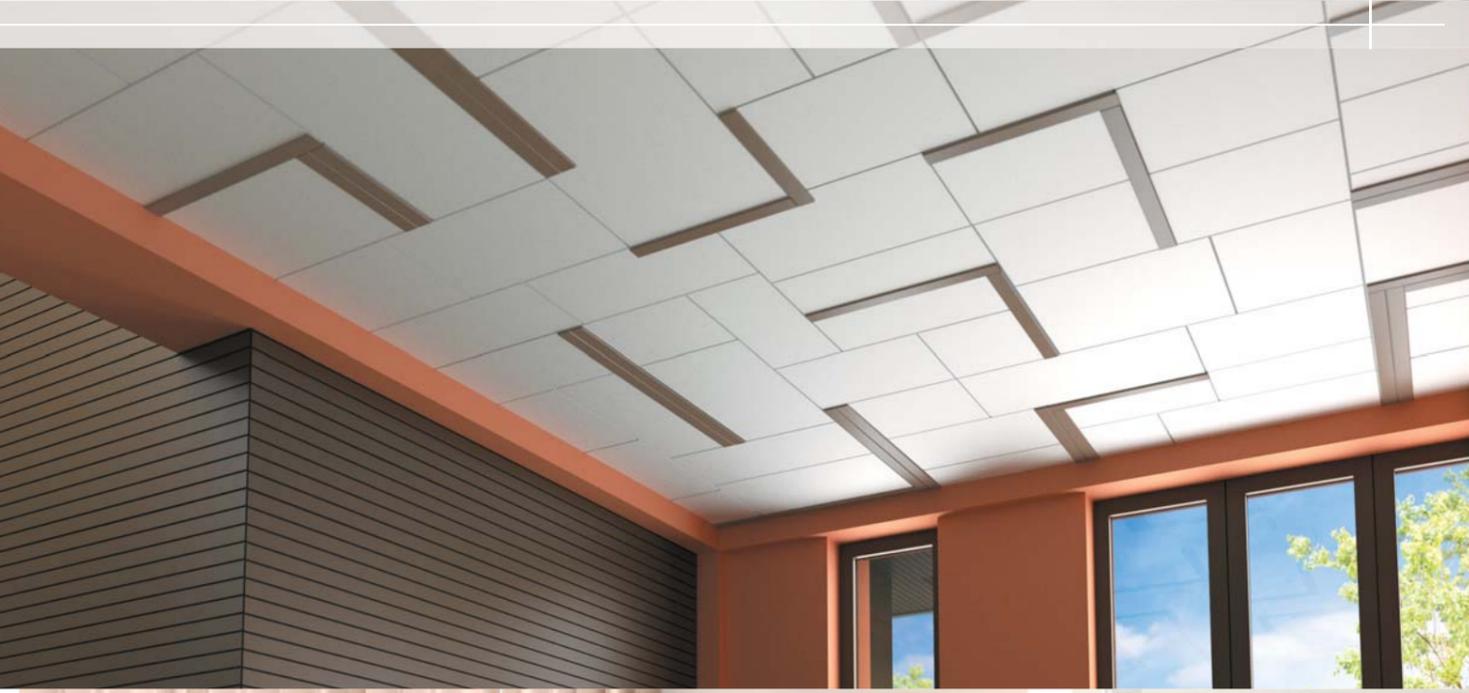
System Detail	Ratio Ventilated: Roof Ceiling area	Temperature Ceiling (°C)	Reducing Temperature (°C)
SCG Smartboard Ventilated Capsule	1:250	38.1	6.9
SCG Smartboard Ventilated wood grain or Ventilated 3inch-lining	1:250	38.1	6.9

- Ventilated
4 mm, thick
- Ventilated Wood Grain
4 mm, thick
- Ventilated 3-inch Lining
4 mm, thick

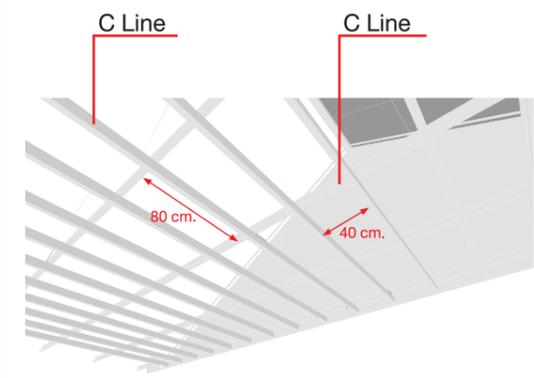


SCG Ventilation Ceiling System enables energy efficiency with living comfort. **SCG Smartboard Ventilation** series helps circulate air flow under the roofing with the factory-made drilled holes suitable for external eaves ceiling application guaranteed moisture and water resistance.

SCG Internal Ceiling System (Space lining)



*Concealed ceiling (no gap) is not suggested due to chance of crack



SCG Smartboard Internal Ceiling System can be installed with various designs such as SCG Smartboard standard (plain), wood grain, 3-inch lining series or with SCG Smartwood Eaves Liner. Installing down lights or painting over by 100% acrylic color (water base) is very convenient

SCG Internal Ceiling System (Space lining)

Design 1



Area: 3 m. X 3 m.

Order	Description	Amount	Unit
1	SCG Smartboard 3 Inches Lining 60X120X0.4 cm.	6	sheet
2	SCG Smartboard Wood Grain 60X120X0.4 cm.	2	sheet
3	SCG Smartboard Square Edge 60X120X0.4 cm.	5	sheet
4	C-Line No.24	18	pcs
5	Wall Angle*	5	pcs
6	Hanger set*(Hanger wire + Hook Wire + Expansion bolt + Bolt Angle + Fix spring)	12	set
7	Connect Clip*	26	pcs
8	SCG Plastic Insert 37 mm.	17	pcs
9	SCG Needle Point Screw 23 mm.	210	pcs
10	SCG Needle Point Screw 38 mm.	17	pcs
11	SCG Smartboard Polyurethane Sealant 310 ml.	2	tube

*Available in leading building material stores.

SCG Internal Ceiling System (Space lining)

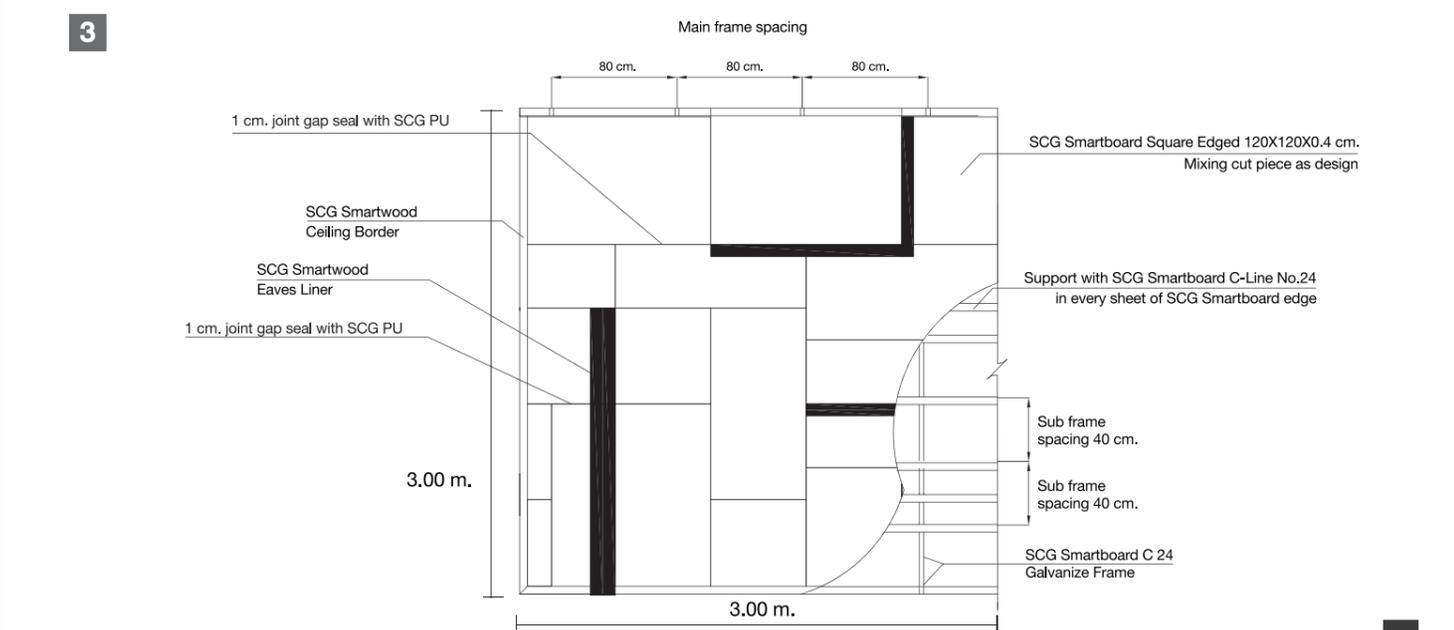
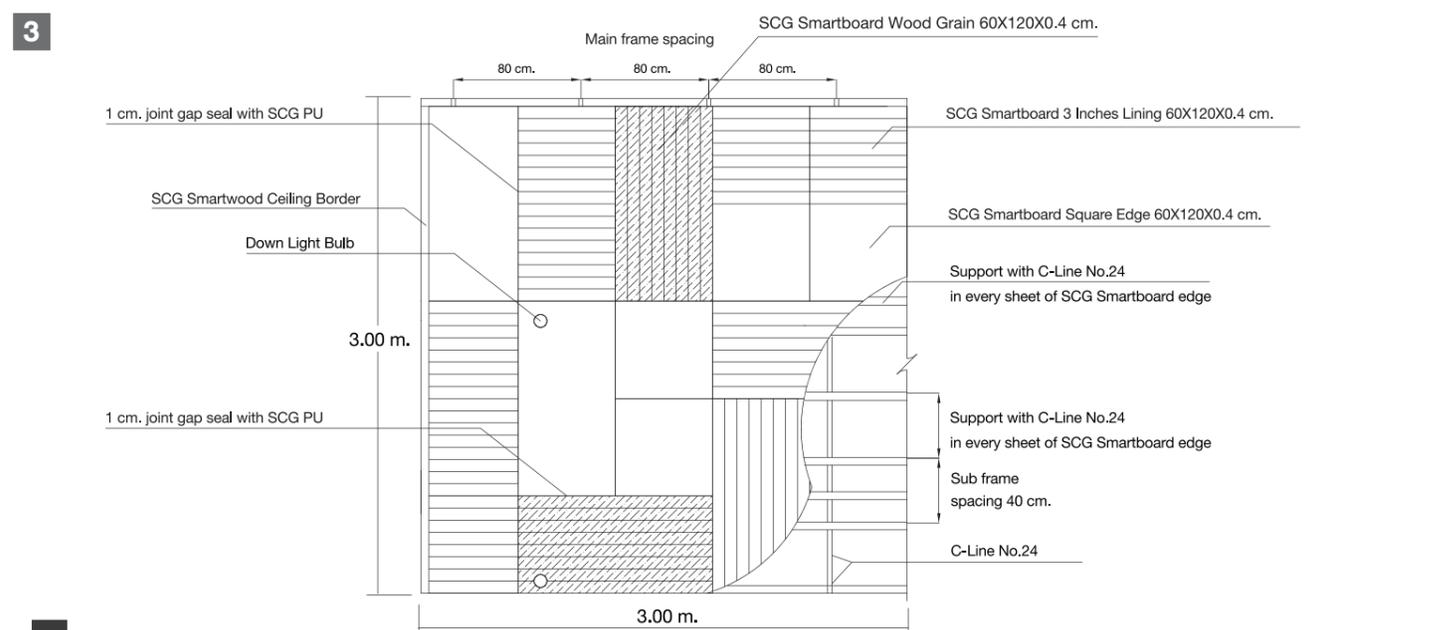
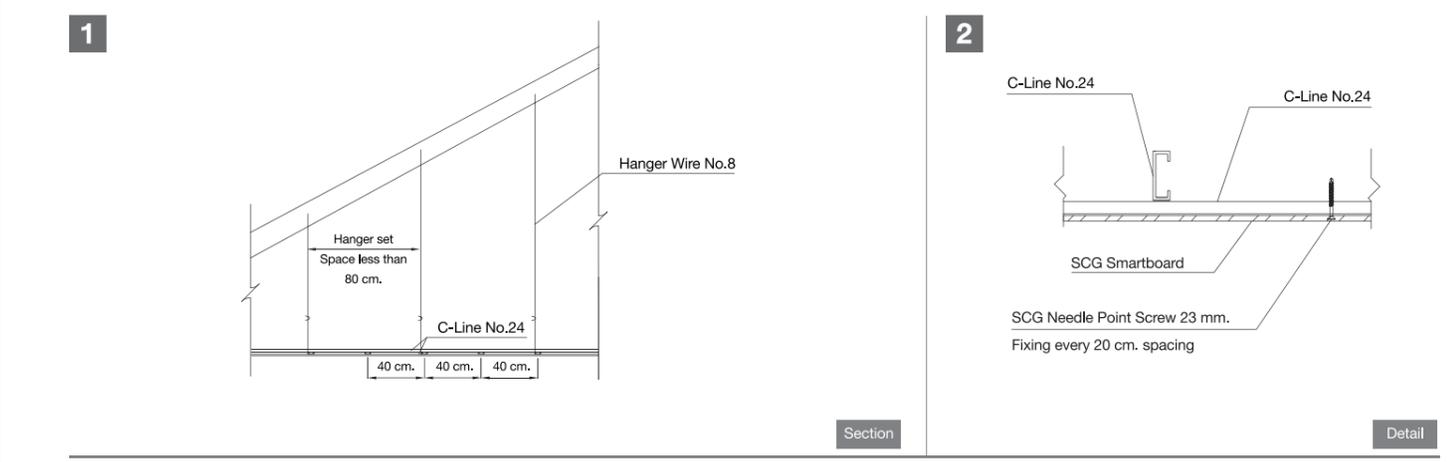
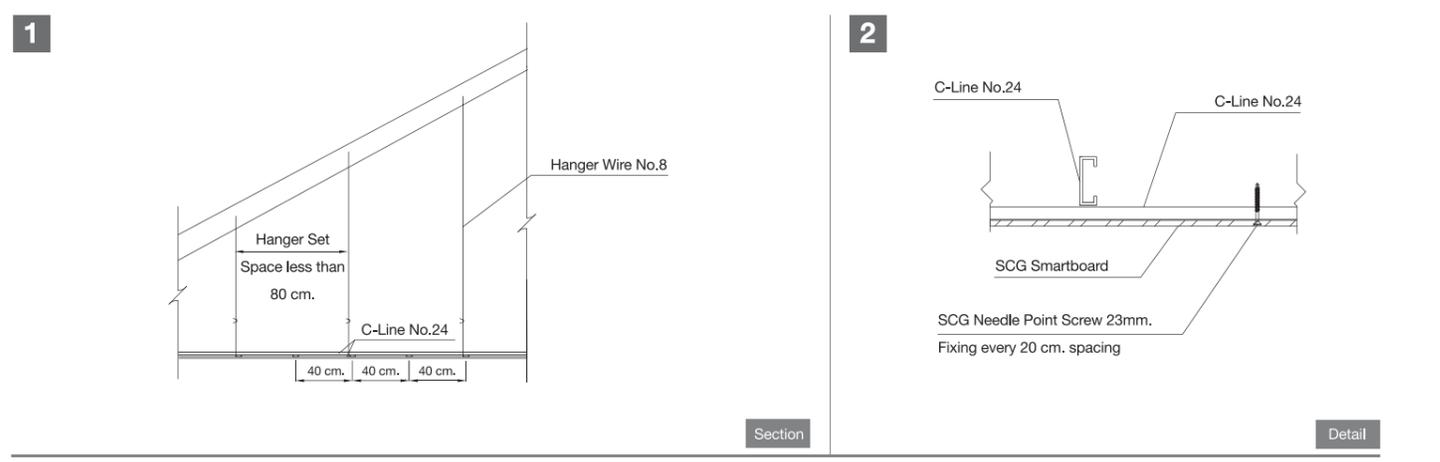
Design 2



Area: 3 m. X 3 m.

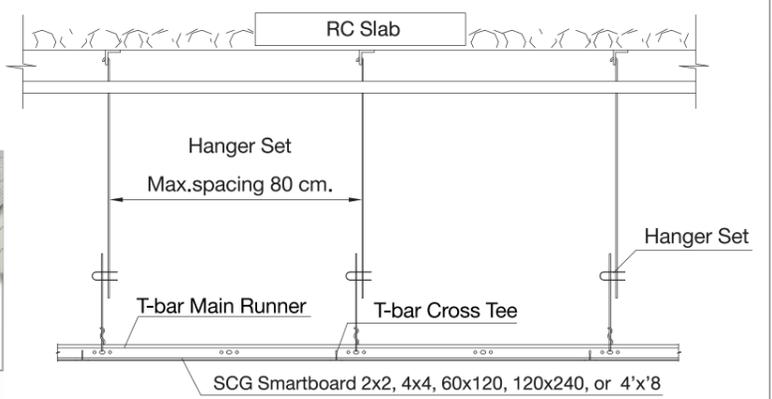
Order	Description	Amount	Unit
1	SCG Smartboard Square Edge 120X240X0.4 cm.	13	sheet
2	SCG Smartboard Eaves Liner	2	sheet
3	C-Line No.24	17	pcs
4	Wall Angle*	5	pcs
5	Hanger set*(Hanger wire + Hook Wire + Expansion bolt + Bolt Angle + Fix spring)	12	set
6	Connect Clip*	26	pcs
7	SCG Plastic Insert 37 mm.	17	pcs
8	SCG Needle Point Screw 23 mm.	226	pcs
9	SCG Needle Point Screw 38 mm.	17	pcs
10	SCG Smartboard Polyurethane Sealant 310 ml.	2	tube

*Available in leading building material stores.





SCG Internal Ceiling System (T-bar or False Ceiling)



SCG T-bar system or **False Ceiling** is another option for internal ceiling for most offices or residences.

In addition to traditional plain ceiling, **SCG Smartboard** offers a wide range of designs and patterns either with lining or wooden grain look presenting unconventional looks

SCG Smart Ceiling System

Product size and dimension

SCG Smartboard

Application	Thickness (mm.)	Width x Length (mm.)	Installation system	Weight (kg/pc.)	Effective Area (pcs./sq.m.)	Series
Internal and External Ceiling	3.5	600 x 2400	T-Bar Space lining No space lining	7.6	0.69	Squared Edge 3.5, 4, 4.5, 6 mm. thick 
		1200 x 1200		7.6	0.69	
		1200 x 2400		15.2	0.35	
		603 x 603		1.90	2.75	
		603 x 1210		3.9	1.37	
	4	610 x 1220 (2'x4') ^①		4.0	1.34	
		1220 x 1220 (4'x4') ^①		7.9	0.67	
		1220 x 2440 (4'x8')		15.8	0.34	
		600 x 1200		4.4	1.39	
		600 x 2400		8.7	0.69	
4.5	1200 x 1200	8.7	0.69			
	1200 x 2400	17.4	0.35			
6	610 x 610 (2'x2')	2.3	2.69			
	1220 x 1220 (4'x4')	9.0	0.67			
		1220 x 2440 (4'x8')	18.0	0.34		
Wood Grain	4	600 x 1200	Space lining No space lining	5.0	1.39	4 mm. thick
				5.1		4 mm. thick
	4	600 x 1200		3-inch Lining	4 mm. thick	
				Ventilated	4 mm. thick	
Ventilated Ceiling	4	600 x 1200	Space lining No space lining	4.2	1.39	Ventilated Wood Grain
				4.9		4 mm. thick
				5.1		Ventilated 3-inch Lining
						4 mm. thick

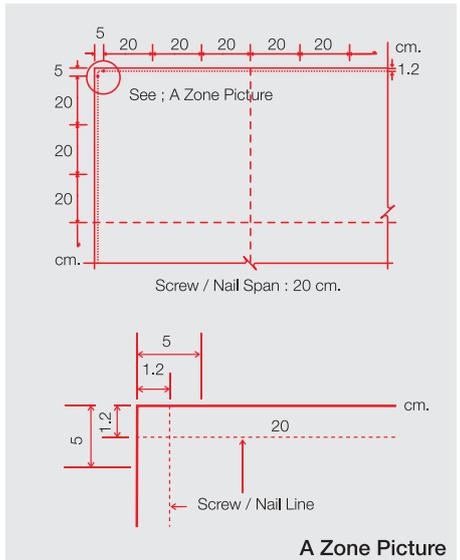
① Made to order

SCG Smartwood

Product Application	Name	Width (cm.)	Thickness (mm.)	Length (m.)	Weight (Kg./pc.)	Surface	Edges	Color/ Model	Usage Quantity (pcs./sq.m.)
Eaves Liner	Eaves Liner Tapered	7.5 (3")	8	3	2.70	Smooth surface	2 Side tapered	Uncolor /Brown Oak /Red Oak	4.44
		10 (4")	8	3	3.60	Smooth surface	2 Side tapered	Uncolor	3.33
	Wood Grain Wow	7.5 (3")	8	3	2.70	Deep wood texture	2 Side tapered	Golden Teak /Red Maka /Pradoo	4.44
	Grooving 3" Lining	30	8	3	9.10	Smooth surface	2 Side tapered	Uncolor /Brown Oak	1.11
	Eaves Liner Wood Grain	7.5 (3")	8	3	2.70	Deep wood texture	2 Side tapered	Uncolor	4.44

Fixing a nail or screw on SCG Smartboard

1. Fix on SCG Smartboard every 20 cm. and away from the edge 1.2 cm. with nail or screw.
2. Wooden Studs ; use hammer to nail down. Steel Studs ; use electric drill not more than 2500 rpm. to drill the SCG screw down.

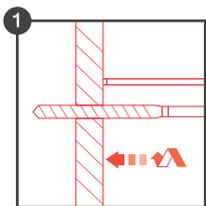


Installing SCG Smartboard Ceiling and Wall

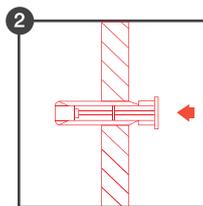
Product	Thickness (mm.)	Installation type	Jointing Accessory	Fixing Accessory
Internal / External Ceiling				
Lite	3.2 - 3.5	SCG Smartboard Polyurethane joint sealant	Fix with 1.5 x 3.0 inch wooden studs. With maximum stud span of 60 cm.	1, 1.5 inch Wood nail
Squared Edge	4.0		SCG Smartboard C 74, U 76 Galvanize Frame without pre-drilling with the maximum stud span of 60 cm.	SCG Self-Drilling Screw 18 mm. (Counter sunk head)
Ventilated	4.0			
Wood Grain	4.0			
Ventilated Wood Grain	4.0			
3-inch Square Lining	4.0			
Ventilated 3-inch Square Lining	4.0			
Squared Edge	4.0 - 6.0	Fix with 1.2 - 3.2 mm. steel		
Internal Wall				
Squared Edge	8.0 - 14.0	SCG Grumcrete	Fix with 0.55 mm. thick	SCG Needle Point Screw 23 mm. (Counter sunk head)
4-inch Square Lining	8.0		SCG Smartboard	
External Wall				
Squared Edge	8.0 - 14.0		Fix with 1.2 - 3.2 mm. steel studs (C 75) without pre-drilling with the maximum stud span of 60 cm.	SCG Self Drilling Wing Screw 32 mm. (Counter sunk head)
Floor				
Squared Edge	16.0 - 20.0		Fix with 1.2 - 3.2 mm. steel studs without pre-drilling with the maximum stud span of 40 cm.	Self Drilling Screw 45 mm. (Counter sunk head)

*Please study SCG Smartboard Installation manual for more information.

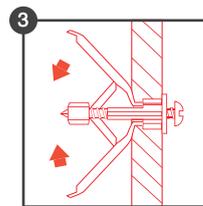
Can be easily done by sunking butterfly-wing plastic hook in the ceiling or wall in the point that you wish to hang your object, simply follow these steps



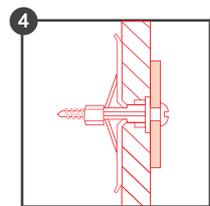
1 Mark and Drill your desire point



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 will be tightly fix with the SCG Smartboard

Recommendations

1. Use the table below to estimate the weight baring level of different thickness and usage of SCG Smartboard.
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.

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

Painting

Chose your own color shade

1. Use old cement primer paint to increase the life time your finishing paint.
2. Use 100% Acrylic paint 1 - 2 times for complete cover up of the original surface color. (the durability of the paint depends on the quality of your chosen paint)

Recommended Equipments and Studs to Install **SCG** Smartwood

Product	Application	Accessory	Package Size
Wood Plank	Interior	SCG Needle Point Screw 23 mm. 	500 screws/box
	Exterior	SCG Self Drilling Wing Screw 28.5 mm. 	250 screws/box
	Brick Walls or Old Brick Walls	SCG C-Line 	1 strip
		SCG Brackets 	60 pcs./pack
SCG Needle point Screw 38 mm. 		250 pcs./box	
		with SCG plastic Insert 37 mm. 	250 pcs./box
		SCG Self Drilling Screw 13 mm. 	500 pcs./box
Eaves Liner	Interior and Exterior	SCG Self Drilling Screw 23 mm. 	500 pcs./box
Fence Plank/ Shading Plank	Interior and Exterior	SCG Self Drilling Wing Screw 32 mm. 	500 pcs./box
Floor Plank	Interior and Exterior	Self Drilling Wing Screw 45 mm. 	Available in tripical store

Equipments for Finishing **SCG** Smartwood

SCG Corner Post Cement

Use to cover inner and outer corners of Wood Plank

Dimension: 7.5 x 7.5 x 300 x 0.8 cm.
Weight: 5.2 Kg.
Color: Cement
Usage: 0.33 pcs./m.



SCG Smartwood Acrylic Paint Sealant

To seal joints and cover screw heads for both external and internal

Size: 310 ml.
Weight: 0.5 Kg.
Color: White
Usage: 15-20 sq.m/tube



SCG Acrylic Paint for Wood Plank

100% water-based paint to finish screw heads or joints

Weight: 1 Kg.
Color: Golden teak, Red maka, Walnut, Ivory, Sky, Red oak, Brown oak (for eaves liner)
Color type: Matt
Usage: 7-10 sq.m/bucket



SCG Acrylic Paint for Fiber Cement

100% water-based acrylic paint for any fiber cement wood

Weight: 3.5 Kg.
Color: Cream primer
Usage: 60 sq.m/bucket

Weight: 3 Kg.
Color: Natural beech, Mahogany, Redwood, Dark oak
Color type: Glossy, Matt
Usage: 20-25 sq.m/bucket (2-3 rounds)



SCG Acrylic Paint for Stair Plank

Primer for coating before paint

Weight: 2 Kg.
Color type: Brown
Usage: 10-15 sq.m/bucket

Acrylic paint for Stair Plank

Weight: 3.6 Kg.
Color: Redwood
Usage: 20-25 sq.m/bucket (2-3 rounds)

Shield gloss to cover the acrylic paint

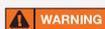
Weight: 2 Kg.
Color type: Clear Glossy
Usage: 20-25 sq.m/bucket



SCG Acrylic Paint for Floor Plank

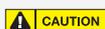
100% water-based acrylic paint especially for Floor Plank. Resistant to scratch from walking.

Weight: 3.6 Kg.
Color: Natural beech, Mahogany, Dark oak, Redwood
Color type: Glossy, Matt
Usage: 20-25 sq.m/bucket (2-3 rounds)

WARNING

Do not use these products as building structures, or parts of a deck or for any purposes that are not advised by SCG. When installing these products, installers must follow every step and criteria provided in the instruction manual and use tools that meet specific standards of the product manufacturer. Do not eat or swallow. Avoid inhaling wood dust generated from sawing, tapering, drilling and sanding. These products should not be installed in areas that are higher than 50 cm. from the ground.



CAUTION

These products contain dangerous chemicals. Do not eat, swallow, or touch your eyes. Use protection equipment that meets safe standards during tactical and technical operations. After the use, store it in a secure location and keep it out of children's reach. If experience skin irritation after touching the surface of the wood, wash the irritated area with clean water and seek medical help right away. If eat or swallow, avoid vomiting, drink plenty of water to abate the chemicals, and get medical help right away. All of the criteria for installation are of rudimentary steps for normal usage only. For more in depth specifications for installations and requirements for proper sites and conditions that materials can be used under, please read the standards of allowable strength design (ELT 1015-40) and criteria for designing building prescribed by the ministerial regulation No. 6 B.E. 2527, which is adopted from "Building Control Act" B.E. 2522. Using the products in a manner that does not meet these criteria will directly and completely hold the contractor accountable. Our installation manuals are constantly updated and available on www.scgbuildingmaterials.com

• Color shade may vary from real product due to production and printing process