

Why? SCG Goes Green

Green Building Products

SCG President & CEO Today, environmental awareness is widely recognized in our society. Environmental issues have become a part of everyday lives. You, too, can help to save the world and the environment. In the construction industry, the manufacturers and distributors are expected to operate their businesses with minimum effects on the environments, while satisfying the needs of customers in terms of aesthetic, comfort, and maximum utilization.

Building materials which help reduce energy consumption in a building is one of the best solutions that can contribute to preserving the environment.

SCG is the first Thai organization that takes the tangible role in eco-product development. SCG's innovative eco products are labeled "SCG eco value". This label guarantees that consumers will get high quality product while taking part in environment conservation.

"SCG continues to conduct the business alongside a commitment in sustainable development through the systematic environmental management in all business operations: doing research & development on environmentally friendly products and services; promoting environmental awareness; and continually implementing environmental conservation programs.

Kan Trakulhoon
SCG President & CEO

SCG seriously places an importance on its internal environmental management in product manufacturing, services, and natural resources enhancement such as renovation of its office building to save energy and reduce 300,000 tons of greenhouse gas emission per year.

The award by Dow Jones Sustainability Index, DJSI - the global indexes tracking the performance of the leading sustainability-driven companies worldwide - ensures SCG's commitment in sustainable development.

In the building materials industry, SCG is highest awarded "Gold Class". Recently, SCG had launched "SCG eco value, a self-declaration on our sustainable development, and also launched "SCG eco value label" to guarantee our product innovations and services that they are environmentally friendly and have minimal effect on the environments throughout its life cycle, with better manufacturing processes than any other similar business in reference to ISO 14021.

"Today... lead to Green Building"

SCG is ready to concretely act in response to the green building concept, both domestically and internationally.

LEED

(Leadership in Energy and Environmental Design)

LEED (Leadership in Energy and Environmental Design) is a building and construction rating system developed by the U.S. Green Building Council (USGBC) with the aim to promote efficient resources consumption in a building including energy, water, and building materials and to provide better life's quality to its tenants all over the building's life cycle. (Site selection, Design, Construction, Operation, Maintenance, and Demolition)

In order to be certified by LEED, a qualified building needs to accumulate quality and reliability with 7 rating categories as follow:

- Sustainable Site (SS)
- Water Efficiency (WE)
- Energy & Atmosphere (EA)
- Materials & Resources (MR)
- Indoor Environmental Quality (IEQ)
- Innovation in Design (ID)
- Regional Priority (RP)

LEED certification is ranked in 4 classes based on score earned by the project. High ranked class represents high efficiency and sustainability of the building.

Award	score
Certified	40-49
Silver	50-59
Gold	60-79
Platinum	80-110

Furthermore, to make it easy to implement, LEED classifies its certification into different categories as follow: LEED for New Construction and Major Renovations; LEED for Existing Buildings: Operation and Maintenance; LEED for Commercial Interiors; LEED for Core and Shell; LEED for Neighborhood Development; LEED for Schools, Retail, Healthcare; and LEED for Homes

HOW SCG Contributes to LEED



Based on the fact that an environmentally friendly building is partially built from environmentally friendly materials, SCG realizes that importance and to show the standing point on that issue we are now a member of U.S. Green Building Council which is a global organization placing importance on green building development. Accordingly, SCG gives full support both in providing key LEED-related information on products and developing them on highest standard basis following LEED criteria that includes:

- SS SUSTAINABLE SITE**
Utilization of sustainable site means having low impact to site which includes the reduction of private vehicle use, promoting green open space, protection of flood, lessening urban heat islands, and light pollution reduction. SCG also emphasizes on these criteria: presently, our products help increase more green space, reduce flood, and urban heat islands.
- WE WATER EFFICIENCY**
Water efficiency includes minimizing demand on water supply in landscaping, for toilet and urinal use, and reducing overall water consumption in the building. Based on this principle, SCG's products are designed to reduce water consumption, while maintaining effective functionalities. This makes our products the right solution for these criteria.
- EA ENERGY & ATMOSPHERE**
Energy and atmosphere includes reducing energy consumption, promoting renewable energy, systematic measurement of energy consumption, using low toxic refrigerant, purchasing of power from plants that are certified for using renewable energy. SCG has long been an energy conscious organization, like LEED. Thus, SCG's products in both building envelope materials and landscaping are developed to save energy while maintaining comfort to end users.
- MR MATERIALS & RESOURCES**
Construction materials and resources selection includes providing areas for recyclable waste management, reuse of buildings or building materials, construction waste reduction, uses of recycled materials, uses of local materials, uses of materials made from rapid growth plants, and uses of woods from certified forestry (FSC). Effective uses of natural resources in production process have long been SCG's philosophy in doing the business. SCG continually promotes the use of local materials and the knowledges in using recycled materials as a part of product development while maintaining high product quality and functionality thereby conforming to this criteria.

Note: Construction material is one of the supporting components in achieving LEED certification.

SCG Products Accreditation

SCG commits on developing products to be certified by various institutions and organizations in compliance with sustainable development in environment, safety, health, and social support.

SCG eco value

"SCG eco value" is a label for eco-friendly products. Products with this label have minimal effect on the environments throughout its life cycle, with better manufacturing processes than other similar businesses in reference to ISO 14021. In order to be qualified as SCG eco value, a product must be approved by SCG's committee.



Green Label

"Green Label" is a label granted to quality products those are shown to have minimal impact on the environment in comparison to other products with the same functionality. This label keeps the consumers informed that the products are valued for environment and additionally it motivates manufacturers and distributors to develop and provide more eco-friendly products and services. The green label, which is awarded by HYPERLINK "<http://www.tisi.go.th/>" Thai Industrial Standards Institute (TISI) and Thai Environment Institute, is a tool to conserve the environment through production and public consumption.



Carbon Label

"Carbon Label" is a standard award given by Thailand Greenhouse Gas Management Organization (Public Organization) and Thai Environment Institute to products those are manufactured with minimal greenhouse gases emission during the production process and are friendly to the atmosphere. This offers choices to consumers who are environmental conscious.



Carbon Footprint

Carbon footprint is the amount of greenhouse gas emitted by a product throughout its life cycle, starting from acquiring and processing of raw materials, manufacturing, transportation, utilization, and final disposal. Carbon Footprint informs consumers about total of greenhouse gas emissions for their decision making, and additionally it motivates manufacturers and distributors to apply more eco-friendly technology in manufacturing process. The certification is awarded by Thailand Greenhouse Gas Management Organization (Public Organization) and Thai Environment Institute.



WaterMark

WaterMark is an industrial standard certification relating to water supply, sanitary ware, and drainage systems. The WaterMark label is certified by Standards Australia Limited in Australia.



Water Efficiency Labelling and Standards (WELS) Scheme

This label shows the ability to conserve water. More number of stars in the label means higher water efficiency. The criteria of this standard are approved by Australian Government.



Standards and Industrial Research Institute or Malaysia

Products imported into Malaysia must comply with Malaysia Standard (MS Mark) which requires displaying of manufacturer's name, brand, model name or number, manufacturer's origin, and manufacturing date. Product Certification Scheme is done by applying for MS Mark which requires production plant inspection. The certificate has to be extended on an annual basis.

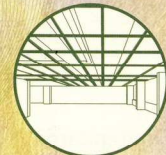


Building Components

With a variety of the products manufactured under environmental friendly production as fundamental approach of an ideal green building, using 7 groups of SCG Green Building Products is a mean to create long term value added for the building.



Bathroom



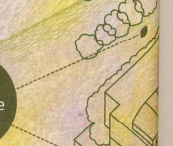
Utility

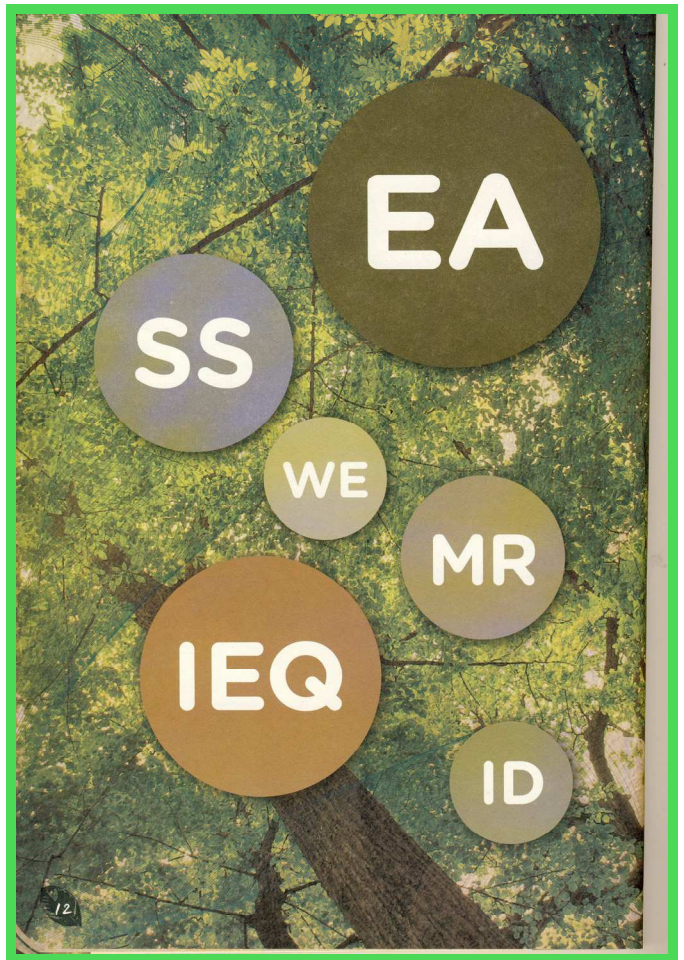
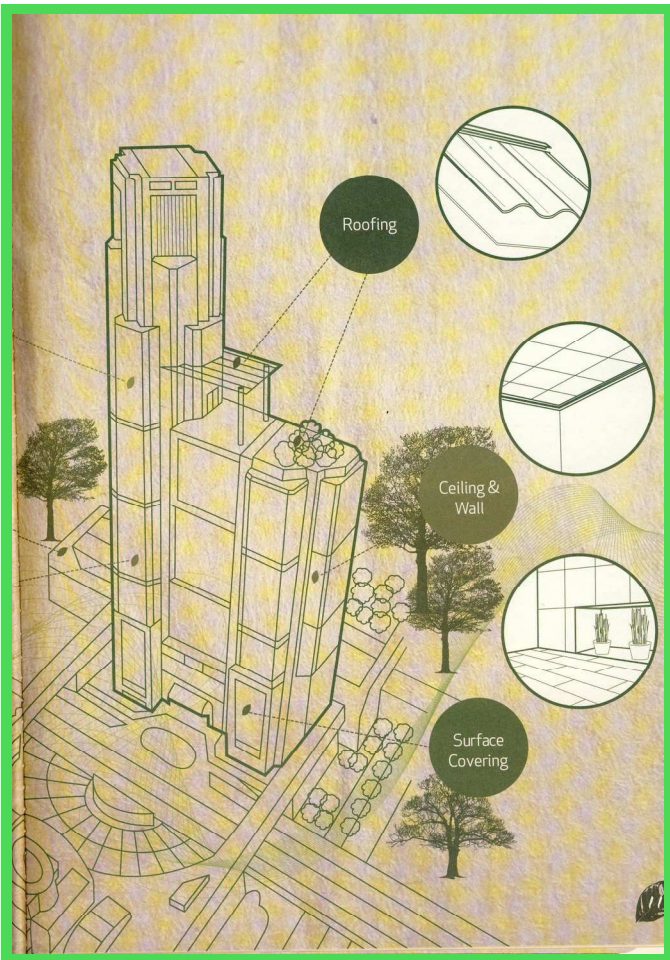


Kitchen



Landscape





SCG Green Building Products Contributed to LEED

LEED NC	Structural		Architectural						Land Scaping	Utility				
	Concrete	Steel	Roofing	Ceiling & Wall	Surface Covering	Bathroom	Kitchen	Stair	Doors & Windows	Plumbing	Air Conditioning	Electricity & Communication	Elevator	
SS			✓											✓
WE						✓	✓							
EA			✓	✓									✓	
MR			✓	✓	✓	✓						✓		
IEQ														
ID														

Remarks

- LEED NC = LEED for New Construction and Major Renovations
- SS = Sustainable Site
- WE = Water Efficiency
- EA = Energy & Atmosphere
- MR = Materials & Resources
- IEQ = Indoor Environmental Quality
- ID = Innovation in Design

Ceiling & Wall

EA MR

Tra Chang SmartBoard ceiling and wall system was developed for both internal and external application. It helps prevent heat transferring in the building, which is in compliance to energy conservation. Moreover, Tra Chang SmartBoard is durable, can be installed quickly and easily and help reduce building maintenance cost in the long term.

Ceiling & Wall System

Tra Chang ceiling and wall system is a combination of Tra Chang SmartBoard, Tra Chang STAY COOL insulation, and Tra Chang installation components. This combination offers flexibilities for the designer to meet the EA requirements on ceiling and wall system's Resistivity Value.

Cool Wall System

Cool Wall system: CBP-W110

The system composed of 8 mm Tra Chang SmartBoard installed with Tra Chang SmartFrame C74 and U76 frames. Tra Chang STAY COOL insulation is applied in the middle layer. The system features R Value of 2.212 m² C/W and U Value of 0.452 W/ C m².

COOL Wall System: CBP-W207

The system composes of Autoclaved light weight wall coating with 10 cm cement and features Tra Chang STAY COOL insulation - Cool Wall T65 in the middle layer. It's installed with Tra Chang SmartFrame C74 and U76 frames and 8 mm Tra Chang SmartBoard surface. The system features R Value of 2.212 m² C/W and U Value of 0.452 W/ C m².

Cool Ceiling System
Cool Ceiling System: CBP-C403

The system composed of 20 cm concrete board with 150 mm Premium Tra Chang STAY COOL insulation and 6 mm Tra Chang SmartBoard in the middle layer. The system features R Value of 4.152 m² C/W and U Value of 0.241 W/ C m².

Ceiling & Wall Insulation

Ceiling

Tra Chang insulation – STAY COOL is fiber glass coating with Aluminum foil to reflect heat. The insulation materials are Green-3 which is a hygiene and eco-friendly product; and HydroProtect™ which features water resistance and no water absorption to help prolong product's life.

Wall

STYROFOAM™ insulation – WALLMATE™ was designed for wall system as a solution to reduce energy loss through the wall. It can be installed in both under-construction buildings and completed ones. STYROFOAM™ insulation helps strengthen the building structure. Various types of surface coating can be applied including Color Render, SmartBoard or gypsum board.

Fiber Cement Board

Tra Chang SmartBoard is fiber cement board featuring water resistance, moisture resistance, anti-termite, and high Resistivity Value (0.04-0.19). 60% of raw materials are local. Tra Chang fiber cement board is non-asbestos [Rockwool] formula that features 2 times lower Thermal Conductivity (k) than boards made from asbestos and gypsum board which helps cool your home and save electricity cost.

- Tra Chang SmartBoard concealed ceiling 3.5-6.0 mm.
- Tra Chang SmartBoard interior wall 8.0-16.0 mm.

Ceiling & Wall

Fiber Cement Wood Substitute

Tra Chang SmartWood is non-asbestos [Rockwool] fiber cement wood substitute. It features 2 times lower Thermal Conductivity (k) than asbestos formula synthetic wood. So it makes your home cooler than ever. Tra Chang synthetic wood products covers:

- Eaves liner
- Fence plank
- Skirt board
- Shading plank
- Wood plank
- Floor plank

* Color of products in this print may vary slightly due to the printing process. Final color selection should be made from product samples.

Wall

Autoclaved Light Weight Concrete

Autoclaved light weight concrete is an innovative quality wall featuring high durability, 2-3 times higher compression resistance when comparing with brick, and 4-8 times higher Resistivity Value that able to prevent heat from entering into the building, reduce energy consumption of air-conditioners. It consists of no harmful substances, is safe to human touch, and produces no injurious smoke when burned.

Ceiling & Wall

Solutions / Products	EA		MR			Accreditation
	EAp2 (Req.)	EA1 (19 pts)	MR4 (2 pts)		MRS* (2 pts)	
			Pre-consumer	Post-consumer		
Ceiling & Wall System						
Cool Wall System (CBP – W110)	U = 0.45 (W/ °C m ²)		✓	✓	≥ 55%	✓
Cool Wall System (CBP – W207)	U = 0.37 (W/ °C m ²)		✓	✓	≥ 90%	✓
Cool Ceiling System (CBP – C403)	U = 0.24 (W/ °C m ²)		✓	✓	≥ 65%	✓
Ceiling & Wall Insulation						
Tra Chang Insulation STAY COOL: 150 mm. Premium	R = 3.57 (m ² °C/W)		≥ 15%	≥ 60%	≥ 85%	✓
Tra Chang Insulation STAY COOL: Cool Wall	R = 1.55 (m ² °C/W)		≥ 15%	≥ 60%	≥ 85%	✓
Tra Chang Cylence™ Zoundblock s950 (Acoustic)			≥ 15%	≥ 60%	≥ 80%	✓
Tra Chang Cylence™ Zandera set (Acoustic)			≥ 10%	≥ 60%	≥ 75%	✓
Fiber Cement Board						
Ceiling & Wall Tra Chang SmartBoard	R = 0.04 – 0.19 (m ² °C/W)				≥ 60%	✓
Fiber Cement Wood Substitute						
Eaves liner						
Fence plank						
Fascia board						
Skirt board	R = 0.04 – 0.19 (m ² °C/W)				≥ 60%	✓
Shading plank						
Wood plank						
Floor plank						
Wall						
ALC	R = 0.68 (m ² °C/W)				≥ 95%	✓

Remark:
MR = Materials & Resources
MR4 = Recycled Content
MRS* = Regional Materials (Show % of sourcing material in Thailand)

% = Percentage by weight
EAp2 = Maximum Energy Performance
Pts = Possible points in each criteria
Req. = Prerequisite criteria

EA = Energy & Atmosphere
EAp2 = Maximum Energy Performance
EA1 = Optimize Energy Performance

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