













The strategic vision of **GreenTech** is to promote a green building culture. It is believed that a modern city's development must be accompanied with good environmental measures in order to achieve sustainable development for the well being of its inhabitants. Hence, the mission of **GreenTech** is to focus on developing environmental friendly, cost-effective and high quality building materials to support both the construction industry and the protection of the environment.

Different from traditional building material, **GreenTech** provides a holistic solution to Clients. It gathers the elitists from the industry; provides comprehensive services including budgeting service to estimate the cost savings from using **GreenTech**; provides design support by preparing construction details for special design requirements; provides technical support with detailed methodology and on-site training to ensure smooth construction works; offers random site supervision for minimizing any errors. Choosing **GreenTech** will surely meet with your satisfaction and add value to your projects.





## PRODUCT INTRODUCTION

**GreenTech** Gypsum Blocks are environmental friendly building material used for non-load bearing internal wall partitioning and external wall application. It is made from gypsum which is the by product generated from power plants.

**GreenTech** Gypsum Block Walling System is a completely innovative solution that will provide more benefits to every aspect of today's high demanding construction industry. It includes fast and easy installation, durability, flexibility and cost effectiveness. Architects, Designers, Developers and Contractors will be able to attain maximum benefits from their projects in terms of cost, time and quality.



# PRODUCTION OF GreenTech GYPSUM BLOCKS

**GreenTech** Gypsum Blocks are made from waste material which are formed as a by-product from power plants. The gypsum is produced from the process of Flue Gas Desulphurization (FGD) whereby sulphur dioxide (SO<sub>2</sub>) is removed from the flue gas of power plants. The Limestone (CaCO<sub>3</sub>) slurry reacts with sulphur dioxide in the flue gas. The intermediate product (calcium sulphite, CaSO<sub>3</sub>) is then further oxidized into gypsum (calcium sulphate, CaSO<sub>4</sub>. 1/2H<sub>2</sub>O).

The impure gypsum is collected from power plants. It then undergoes an in-house purification and high temperature calcination process in which the impurities and excessive water content are removed and high quality gypsum is produced. The gypsum is further formulated with additives and manufactured by **GreenTech** patented technologies to form quality gypsum blocks.







# **SPECIFICATION**

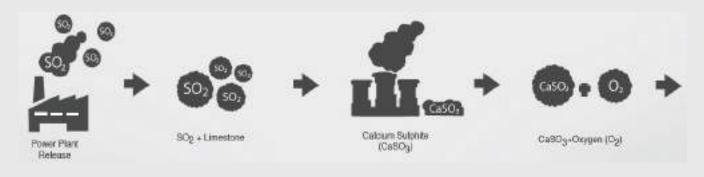
# GreenTech Gypsum Blocks: HIGH DENSITY CONFIGURATION

Series	High Density (HD)			
Thickness	75mm	80mm	100mm	150mm
Size	W:600mm H:500mm T:75mm	W: 600mm H: 500mm T: 80mm	W: 600mm H: 500mm T: 100mm	W: 666mm H: 247mm T: 150mm
Fire Rating (BS EN 1364)	3 hours 4 hours		ours	
Density BS EN 12859:2011	1,100Kg/m3 (+/-5%)			
Color	Greenish			
Sound Insulation	STC 40	STC 41	STC 45	STC 50
Compressive Strength (BS EN 13279)	> 12 MPa			
Flexural Strength (BS EN 13279)	> 4 MPa			
Water Absorption (BS EN 13279)	< 2.0% (Class H1)			
Max. Wall Height w/o Stiffening	5.5 M	6 M	7 M	9 M

## **GreenT**ECH GYPSUM ADHESIVE

Series	GA-90
Packing	25 kg/bag
Adhesive Strength (Pull-out)	< 1 MPa (BS EN 13279-2)
Flexural Strength	> 4.5 MPa (BS EN 13279-2)
Compressive Strength	> 16 MPa (BS EN 13279-2)
Pot Life	8 Months

# **PRODUCTION WORKFLOW**



# ADVANTAGES OF GreenTech GYPSUM BLOCK



# ADVANTAGES OF GreenTech GYPSUM BLOCK

GreenTech Gypsum Block in tongue and groove profile, adopted the technology from Germany, is manufactured in China. It incorporates the advantages of light weight, fire resistant, thermal resistant, sound insulation, easy to install and at competitive cost. Apart from these, GreenTech Gypsum Block is also an environmental friendly building product, 100% recyclable. Wall partitioning system formed by GreenTech Gypsum Block is a continuous walling system, will behave as one complete seamless wall panel. Unlike the traditional block wall jointing, GreenTech Gypsum Block has utilized the characteristic of chemical adhesion and physical crystallization of gypsum adhesive, thus could avoid cracks due to thermal expansion and contraction.



# ADVANTAGES OF GreenTech GYPSUM BLOCK



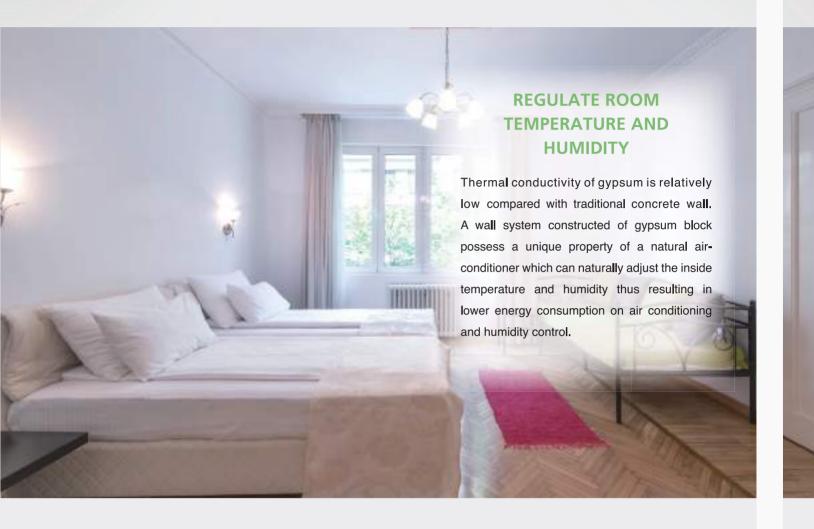
## STRONG AND STABLE

**GreenTECH** Gypsum Block possess strong compressive strength (up to 12MPa) and flexural strength (4MPa). It forms stable compact walls with high resistance capability against mechanical loads. Even heavy loads such as kitchen cupboards or wash basins can simply and securely be installed at any point by normal commercial anchors.

The Strength and Robustness of **GreenTech** Gypsum Block is outstanding, it has been tested in compliance with BS 5234-2:1992, and achieved "Heavy Duty Grade" in all tests.

The unique properties of **GreenTech** Gypsum Block Walling System allows its construction without the requirement of structural steel frame work. No door support, connecting angle or profile is required for the transfer of loads. **GreenTech** Gypsum Block Walling System can be erected up to a maximum height of 10M without steel stiffeners.





## FIRE RESISTANT & THERMAL INSULATION

Gypsum is non-combustible. It will not support the spread of flame in a fire. With its patented technology, wall systems formed by **GreenTech** Gypsum Blocks can achieve a fire rating of 240 minutes (4 hours) in both integrity and heat insulation. It has been tested in compliance with BS EN 1364-1:1999.



## **WATER REPELLENT**

**GreenTech** Gypsum Block is formulated with patented technologies which makes it attain hydrohobic properties. It is water repellent.

The water absorption capacity for total immersion in water for 2 hours at room temperature in accordance with BS EN 12859:2011, is less than 5% by weight. For standard and high density configuration blocks, the water absorption capacity is even less than 2% (H1 grade).

**GreenTECH** Gypsum Block is suitable to be used in all areas including kitchen, wash room and other wet areas.





# SOUND INSULATION GreenTECH Gypsum Block Walling System is having very significant sound insulation property when compared with other walling systems. It can achieve up to STC-50 sound insulation and it is very suitable for spaces which have stringent noise abatement requirements or for those who just desire a quiet space. Special designs are available for areas requiring even higher acoustic performance.



## HIGH CONSTRUCTION EFFICIENCY

The application of **GreenTech** Gypsum Block Walling System is fast and easy. Its smooth surface and zero deviation in dimensional tolerances allows the construction with precision and evenness. This makes the requirement for plastering works unnecessary. Elimination of plastering works significantly reduces construction time, wastage and cost. This provides a safer and cleaner working environment and hence promoting working efficiency and reducing the time for daily clean up.

The large format and tongue & groove design of **GreenTech** Gypsum Blocks helps to speed up the wall construction time. **GreenTech** Gypsum Block Walling System also allows the use of simple hand tools to form grooves and openings for MEP services to be installed after the gypsum block walls are erected. This will save critical time and cost for coordination and construction.







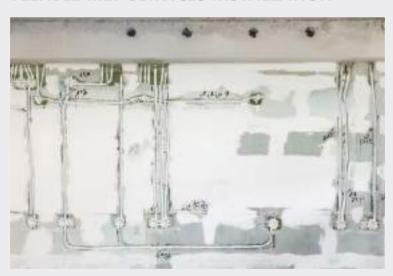
# HIGH CONSTRUCTION EFFICIENCY

## DOOR AND WINDOW FRAME INSTALLATION





## **FLEXBLE MEP SERVICES INSTALLATION**





# SMOOTH SUREACE, NO PLASTERING WORK, CLEAN AND TIDY





### **COST EFFECTIVE**

GreenTECH Gypsum Blocks are bonded together by special gypsum adhesives and do not require any expensive adjointing materials. The precision manufacturing process produces near zero dimensional deviation thereby eliminating the need for cement based plastering works. Less labor is required and hence building cost and construction management fee can be reduced. The elimination of cement based plastering works also saves site clearance costs will be an advantage.

From a developer's point of view, wall systems formed by GreenTECH Gypsum Blocks are thinner than conventional masonry construction which results in more useable floor area. This means higher sales price can be achieved per square footage with increased useable area. Enhanced speed of construction can achieve earlier completion and handover dates which can allow income and profit from sales and leasing for properties to be realized earlier!



## **GreenT**ECH SUPPORT & SERVICES

## **BUDGETING SERVICE**

Estimate the cost for using GreenTECH Gypsum Block. Make comparison with original or traditional specification.



Provide detailed methodology and on-site training where necessary.



## **DESIGN SUPPORT**

Provide construction details for special design requirement.

## SITE SUPERVISION

Supervise the application to eliminate any errors. Make records for the whole process.











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