



Return to nature
it's so simple

Lifestyle

Create a green living lifestyle of your own. We offer a complete package to help you achieving an ultimate green living. Green plants against the wall or above the roof? Make your choice. Having both is obviously a perfect choice. Check out our Green Wall and Green Plant.

Easy

It's easy. It doesn't take much to make your life easy. Leaf is providing a complete solution with a team of well-qualified experts. Harvest solar light with Leaf's solar panels to generate electricity via renewable Solar Energy. Contact our team for the best advice.

Return to nature
it's so simple

Return to nature
it's so simple

Advanced

Touch a button and enjoy yourself. Leaf's intelligent control unit and leaf-free technology advancement can brighten your life. Let the building do the best.

Visit our showroom to experience the atmosphere.

Taiwan
Japan
Germany
advanced technology

Return to nature
it's so simple

Fun

Integrate an Efficient, Flexible and Responsive system. Complete the overall green living and solution. Have you ever thought of re-using the waste water? Or ever wondered how to make your home cooler without air conditioning? Re-use water through the smart rainwater for multi-purpose cleaning, whilst Water Retention System evenly distributes water and flow it back evenly to the soil, bringing back the soil ecology and temperature. Smart Pump expels outdoor and water temperature for various usage. It is environmental friendly and yet, it makes the most out of energy savings. SIGN UP A TOTAL PACKAGE TODAY AND ENJOY GOOD DISCOUNTS!

Green Wall

Return to nature
it's so simple

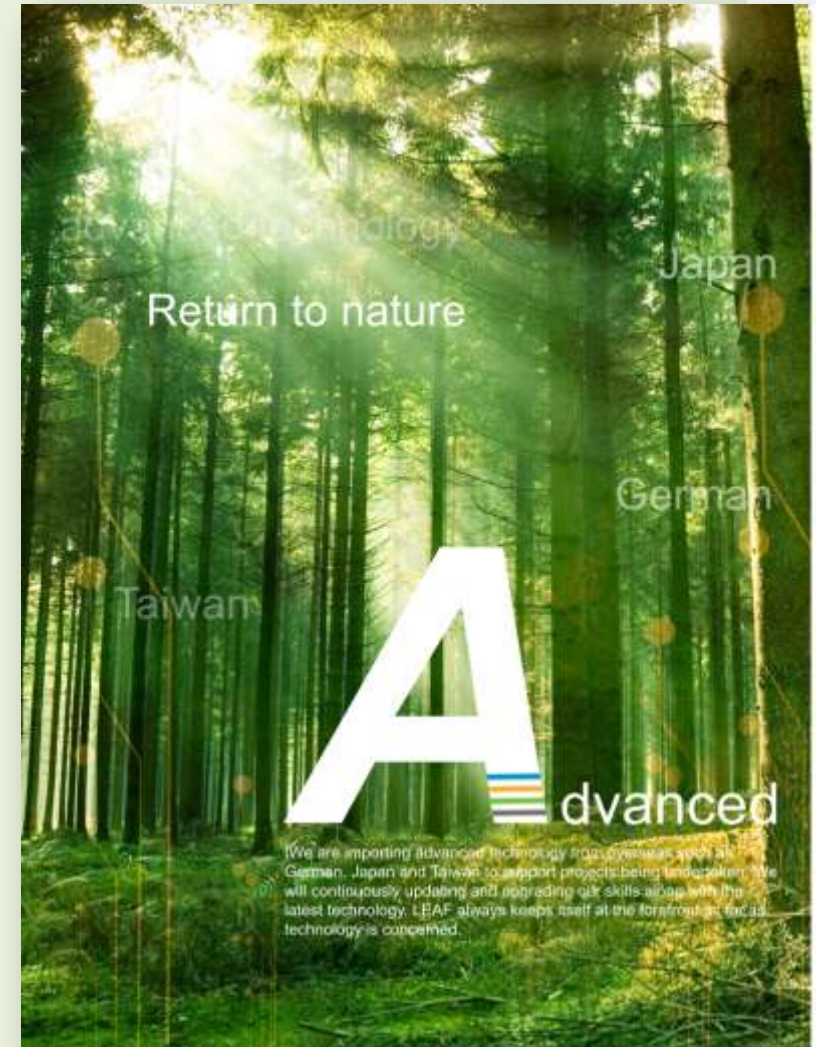




Introduction

Established in 2003, Lian Shun Technology started in manufacturing, alongside with its mother company – Feiti (M) Sdn Bhd, a metal stamping company founded in Taiwan since 1969.

Being a green lover and determined to become a green contributor, Lian Shun is revamping its business in providing green living concept and lifestyle to more people. Therefore, a new label “LEAF” is set up under Lian Shun to offer solutions and consultations to obtain affordable green homes.





Intelligent Green Building

Let the combination of technology and nature brings us the best out of our livings, to achieve the basic six major requirements of green living: Safety, Convenience, Healthy, Energy Efficiency, Comfortable, Everlasting.

Our engineering team in Lian Shun Technology endeavors to simplify the vague understanding of green concepts, to be more conceptual based on product design, so that it can easily be understood in terms of its functions and how can it be achieved. With the application of statistical function of the smart home system, performance analysis and reports of solar energy, LED lighting, green vertical walls, green roof, heat pump water heater, and even rainwater harvesting system as well as water retention, all can be demonstrated and reflected directly on your screen, either by using a smart phone or an IPAD. Just touch a few buttons and you are able to experience and enjoy the most comfortable natural environment.

To return to nature and enjoy greener livings, the four key words say them all: Lifestyle, Easy, Advanced and Fun.

LEAF will provide all you need in green living.

Lifestyle

Pursuing ideal natural living with elegance lifestyle....that's what we insist on lifestyle living. It is also our commitment to provide you the best lifestyle living.

Easy

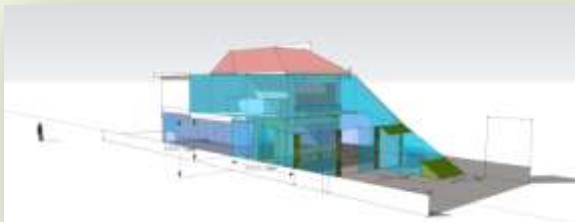
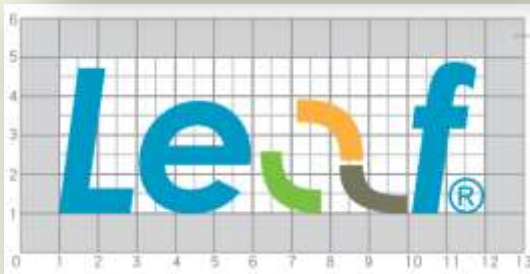
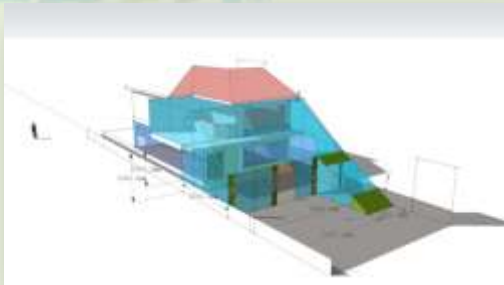
Just touch a few buttons and let the intelligent system takes over the duties. Let your finger do the job.

Advanced

Combine the nature and advanced technology to create a futuristic new living lifestyle. You will be surprised how much you can enjoy, once they are put together.

Fun

When things are under your control, life will be more meaningful and interesting. Enhance your lifestyle and experience a new, yet very different atmosphere.



Products & Services

We offer various types of green products and attempt to package them together, and ultimately, sell them as a concept i.e. Intelligent Green Building. Our products include:

- Solar Panel
- Green Wall
- Green Roof
- Smart Home
- LED
- Rainwater Harvesting
- Water Retention System
- Heat Pump



Intelligent Green Building Consolidation of Green Products Experience the Genuine Feelings Practical Test of the Reality

LEAF solves your psychological Doubt

We will take all the green recycle products, researching each and every one of the product's features, and will examine all the details, efficiency and investment benefits, display and put it in figures, to inform you of the differences, and using the high-tech , wireless scientific equipment, to monitor all the green recycle products, we strongly believe "seeing is believing" !

We know which details you are particularly mind.

In fact, what we mind and concern isyour satisfaction



- **Solar energy , how much electricity being generated, how much money has been saved ?**

Take it easy, the wireless control panel will explain to you accurately how much electricity has been generated, and also the monthly effect of the electric generated . This result will be compiled through the internet passage and then send to our monitor centre (with your permission), and if there is anything unusual, we will keep you informed immediately and you need not worry!

- **LED really saves electricity ? What's the bill for this month? How long it takes to recover the cost?**

The wireless electricity meter panel will notify you in advance your electric bill, in fact, right at the moment the meter is installed, you could even notice the bill differences instantly!

- **The Smart Home wireless system is so cool ? Is it save to use and cost effective?**

Just press the buttons with your fingers slowly, all the pictures, all the figures, will instantly displayed – "safety", "healthy", "convenient" , "comfortable", "energy savings", "sustaining"

Visit LEAF showroom and experience yourself directly the demonstration , by processing you a full set of information.

- **Green wall, Green roof, what is the value ?**

Beside compliments from friends around, you will get the room temperature reading being disclosed to you that your indoor temperature has reduced.(according to statistics, every drop of 1 degree is equivalent to a 5% reduction of air-conditioner electricity consumption)

- **Rain Water Harvesting, what are the benefits?**

When the water supply stops, and your house is the only one that still has water to flush the toilet, then you may imagine how convenient it is! At this crucial moment of activating your rain water harvesting system, you will be most satisfied, LEAF wireless remote control system will notify how much water has been conserved , as well as how much has been saved !

- **The concept of Water Retention/Conservation System**

Check this out, why is it that there is no drain in the jungle? Why is it that the trees in the jungle are thriving prosperously with without watering? The answer is, when the nature rains, the soil retains the water ,when the soil is full of nutrients, plants will definitely prosperous; so, when you walk through the jungle, the feeling of serene environment , the soil cooling effect takes place . To make your backyard similar to the jungle absorbing water module, and even adjusting the temperature, just let LEAF proves to you, your backyard will become like the jungle with flourishing living plants.

- **Is Heat Pump a cheaper option?**

Don't worry, we are more concerned how it can save you even more , through the remote control of the wireless meter , a complete report of the electricity usage well be presented, and we ensure you will be deeply satisfied .





Green Vertical Wall

Green wall provides multiple benefits which include:

- reduction of thermal loading to buildings - lower heating and cooling costs = lower carbon emissions
- reduction of heat island effect - less reflected heat
- air purification - plants are efficient filters of pollution - especially when used indoors
- noise attenuation - quieter buildings and streets
- increased urban biomass - more green increases all of the above
- ecological habitat increased even with non-native plant species
- positive urban psychology - uplifting effect on those who see it

The Green Wall can be implemented outdoor or indoor, in any climatic environment. The plant species selection is mainly set according to the prevailing climatic conditions. For indoor location, an artificial lighting is usually required. Watering and fertilisation are automated.

LEAF offers established and reliable system and it is easy to maintain. Take a look at the overleaf pages for more details.



Green Roof

Return to nature, Green Roof (plants on rooftop) directly reduces temperature, generates good mixtures of healthy airflow, regulates humidity, as well as optimizes rainwater circulation and usage. It is a garden in the air.

Return Of Investment
Beyond Value

Create a harmonious environment and enjoy a peaceful life.

Green Wall

This is an innovative piece of art for environment. It harmonises the air temperature as well as humidity. It also helps to increase the flow of oxygen, and reduce the carbon dioxide. In general, it is a piece of art which enhances green surrounding.

Return Of Investment
Beyond Value

Consolidation of health and art.

The 3rd Generation Vertical Greening System

Capability of Green Wall

1. Anion liberation (water vapour, oxygen molecule).
2. Air purge (indoor air can be purged in 87% within 24 hours).
3. Power saving with heat insulation by using outdoor green wall.
4. Landscaping & Ecological function.

Factors of Green Wall

1. Structure: based on designed system to consider the weight.
2. Receptacles: Monomer Type (1st) / Brick Type (2nd) / Monomeric Brick Type (3rd) / Others
3. Media: cultivated media / absorbent media; normally would be light weight material.
4. Plants: will base on local area, design, result, maintenance and so on to select.
5. Irrigation: micro spray, spray can, micro dropper or other systems; depend on the selection of structure.
6. Illumination: should supply the illumination based on special circumstances (such as indoor environment).
7. Maintenance: maintain cost will relate to the results of factor.



The Tendency of Vertical Greening

1. Enhance the corporate image

Creating green wall is a tendency to globalization. Because it is not only has contribution of carbon reduction but also working towards direction of entire enterprises especially in urban environment. Creating a green wall is the most effective approach of concise and rapid way to upgrade the corporate images by showing their sincerity.

2. Carbon reduction

Due to global climate has been changed within these few years, researchers of international experts believe that the cause of global warming problems came from the heat Island and greenhouse effects so they are trying to set an architectural program with balanced urbanization and ecological environment. Related researches showed that the best way to improve balance is increasing the green ratio. Governments of nations attempt to make the environmental improvement, however it is difficult to enlarge green areas in urban cities, and also there is a big difference between urban development and ecology for expanding green roofs, so architectural green wall will be the important target of complement.

3. Air purge

As we know, plants can produce bactericidal anion due to leaves transpiration, besides absorbing carbon dioxide and creating oxygen what will help increasing the vapor from air humidity. Researchers of NASA found that plants can purge from formaldehyde and toluene toxic gases in indoor air. Professor Deming Ye at the National Taiwan University indicated that green plants can absorb reduce dust pollution from the air. The information of EPA (Environmental Protection Authority) in Taiwan showed that based on overseas research, choosing right houseplants could eliminate 87% of indoor pollutants within 24 hours .

4. Landscaping

People would like to live in a natural environments especially living in a concrete jungle. Results from research clearly showed that, working or living in a beautiful environment with plenty of plants give positive impact and make people feel more comfortable. Architects and Landscaping designers like to use plants to decorate places in a cold architectural building. For example, by using tropical plants will help creating the comfortable and leisure space.

5. Ecology

Normally, green related elements provide the habitats for the nature creatures. Such as trees, bushes and grasses which will contain more places to get more habitats for them just like an oasis in the desert. Generally speaking, biodiversity is one of index in friendly assessment from environment.



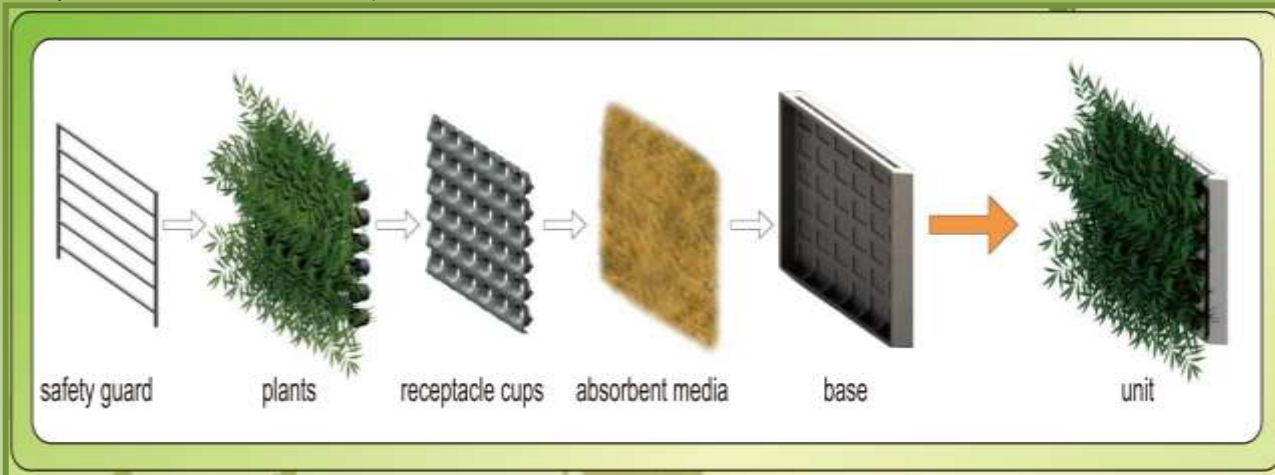
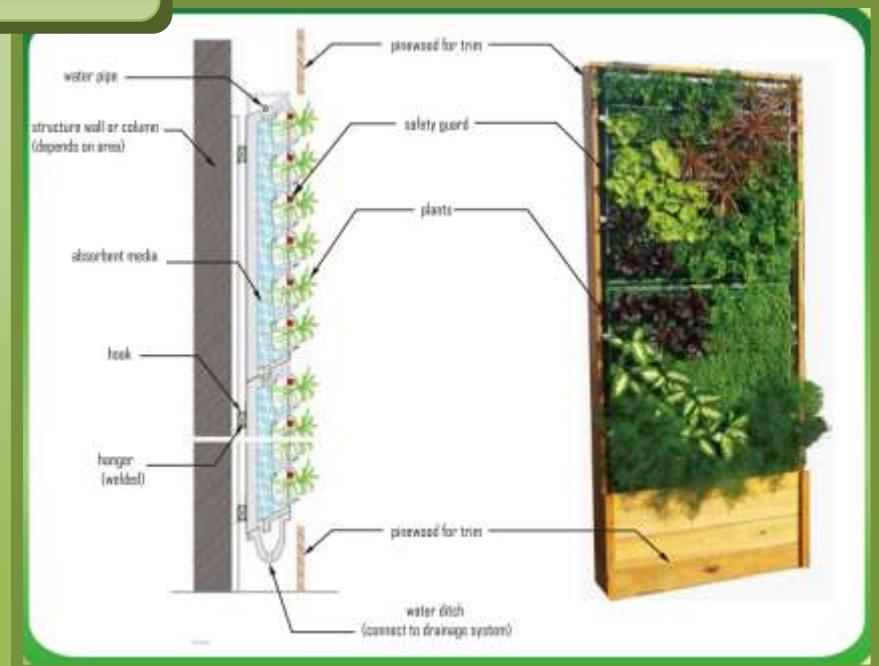
The 3rd Generation Green Wall

Introduction

The system of TGW is based on 10-year experience to create this modified brick which integrated with advantages of other 2 generations that is using simple and balanced way to control water for irrigation. In other words, this system will not overflow from stems and leaves by using absorbent media to help roots growing and climbing when it needs to be changed or replaced.

Characteristic

1. System looks like Monomeric Type which can change and adjust plants individually based on seasons and needs.
2. With absorbent media inside and steady frame outside just like the capability of Brick Type.
 - a. Unique media that can help roots growing and climbing.
 - b. Plants Media will stay in optimal condition to absorb water, humidity and permeability just by using absorption method.
 - c. Water control is easy and balanced which can solve flowing problems from stems and leaves.
3. Irrigation and drainage systems are very simple and economic.
4. Additional frame can protect plants in case of falling.
5. Support structure is simple and quick to install which is suitable for indoor and outdoor.
6. Plants can be replaced individually and easy to maintain.
7. Can be cultivated in the farm or just assemble on site.
8. Easy, fast and economic for follow-up maintenance.



Concept of Lighting

3 Fundamental elements of light:

A. Illumination B. Wavelength C. Cumulated time of illumination

A. The amount of light (Illumination)

Most plants need large amount of light, but basically each leaf needs 600 lux of illumination to perform photosynthesis. Due to the insufficiency of Illumination at indoor area, plants should have the artificial light to support instead.

B. The quality of light (wavelength)

There are 3 kinds of light reaction in growing and differentiation for plants which are Photosynthesis, Photomorphogenesis and Photoperiodism. Besides illumination and timing, wavelength is also very important that is spectrum of light output. The main range of wavelength in photosynthesis should be 400~700nm of photon; the wavelength in photomorphogenesis for red light (R) would be 600~700nm; farther red light (FR) should be 700~800nm and blue light (B) will be 400~500nm of photon.

The recommendation of artificial light can be Metal Halide Light Source to substitute that will get the better lighting effects besides the growing needs.

C. Cumulated time of illumination

Normally, plants shall need the sunlight from 6:00am till 6:00pm even artificial light for indoor plants still need to have an illumination at least 12 hours a day.



Maintenance

Prevention is better than cure

plants domestication → nutrition, enhancer, disinfectant
(such as Essence of fish or algae, Vitamin B, Chitin, Carbendazim, etc)
→ quality control.

Diseased or pest

1. In principle, replacing plants instead of using medication.
2. Medication: using highly secure drugs when necessary.
(such as pepper water or colorless and odorless drugs):
for example - Carbendazim is for spiders (mites),
Mannings is for insects (hexapods)
what the usage is lower than normal pesticides.



Regular maintenance

- 1 Routine check-up (once a week):
inspection and supervision for both systems and plants.
2. Minor maintenance (once in every 1~2 months):
system cleaning, trimming & replacing plants plus nutrition
supplement.
3. Major maintenance (once in every 6 months):
minor maintenance plus pipe cleaning.



Non-regular maintenance

- 1 Emergency: incident, water and power failure,
serious pests and diseases.
2. Disaster (maintain before and after).

Irrigation

1. Control procedure

- (1) Manual : once a day or once in every 2~3 days
- (2) Auto : timer + magnetic valve (once a day or once in every 2~3 days)

2. References of water demand

- (1) Outdoor : 3~5L/unit per day, depending on the weather
- (2) Indoor : 1~2L/unit per day, depending on the season and air-conditioning system

(3) Note : cease the irrigating water when it gets through to the bottom unit(s)

3. Irrigation time : better timing should be early morning due to cool temperature

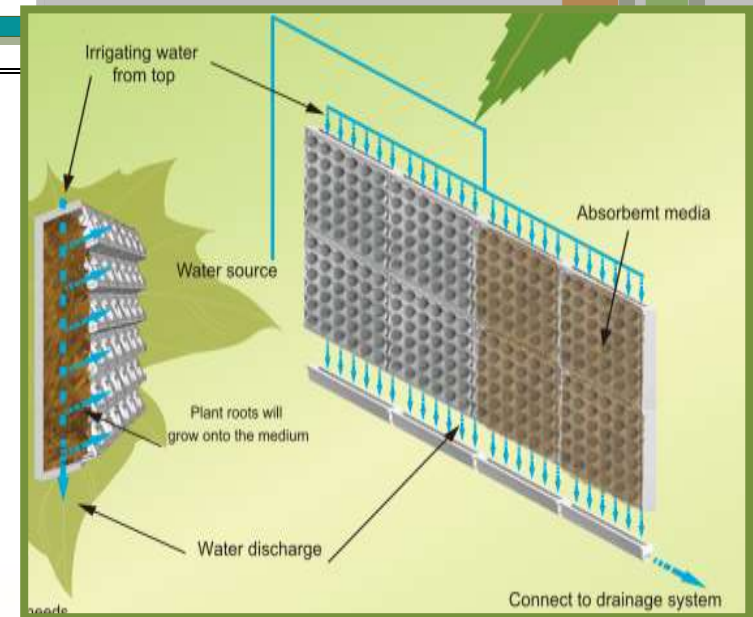
4. Additional remark : use small amount of water to irrigate it repeatedly if the media had been dry out until the function of absorbent media has been fully recovered, then the frequency of irrigation can back to normal.

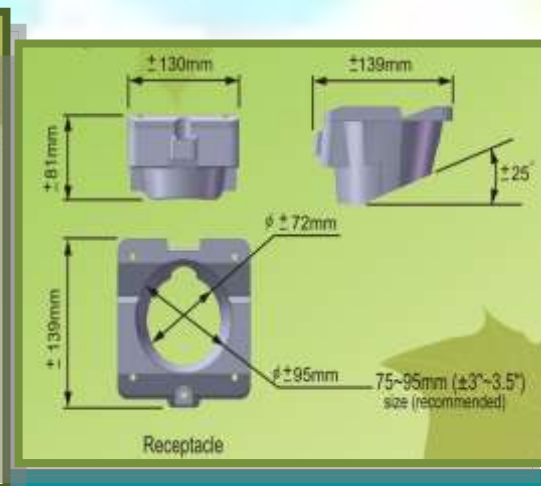
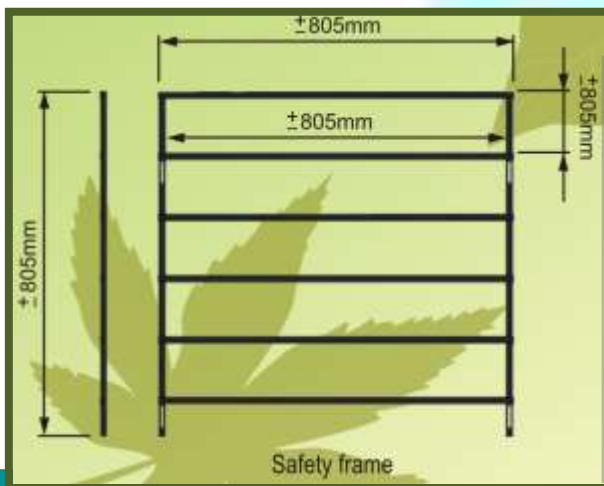
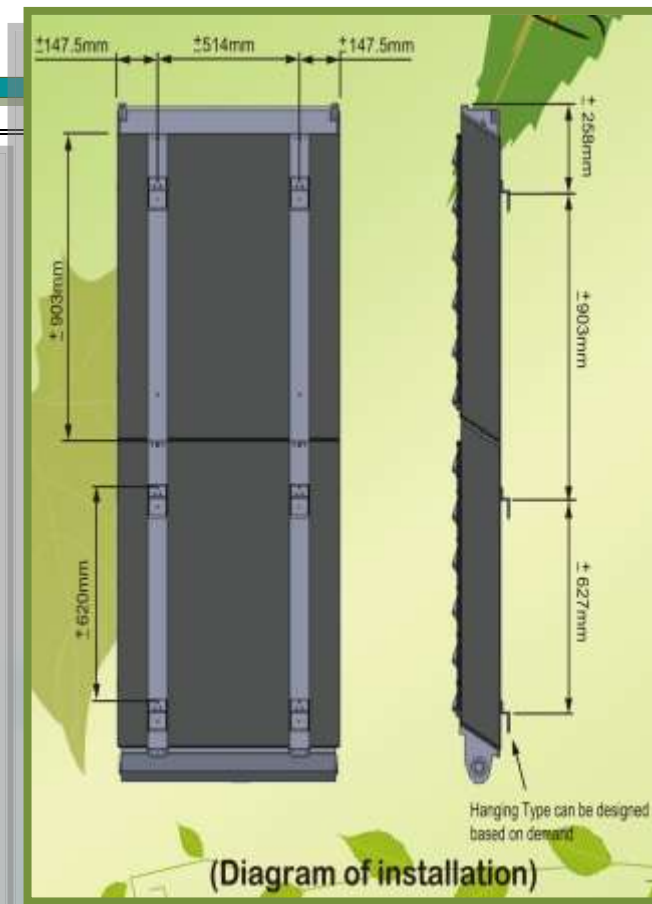
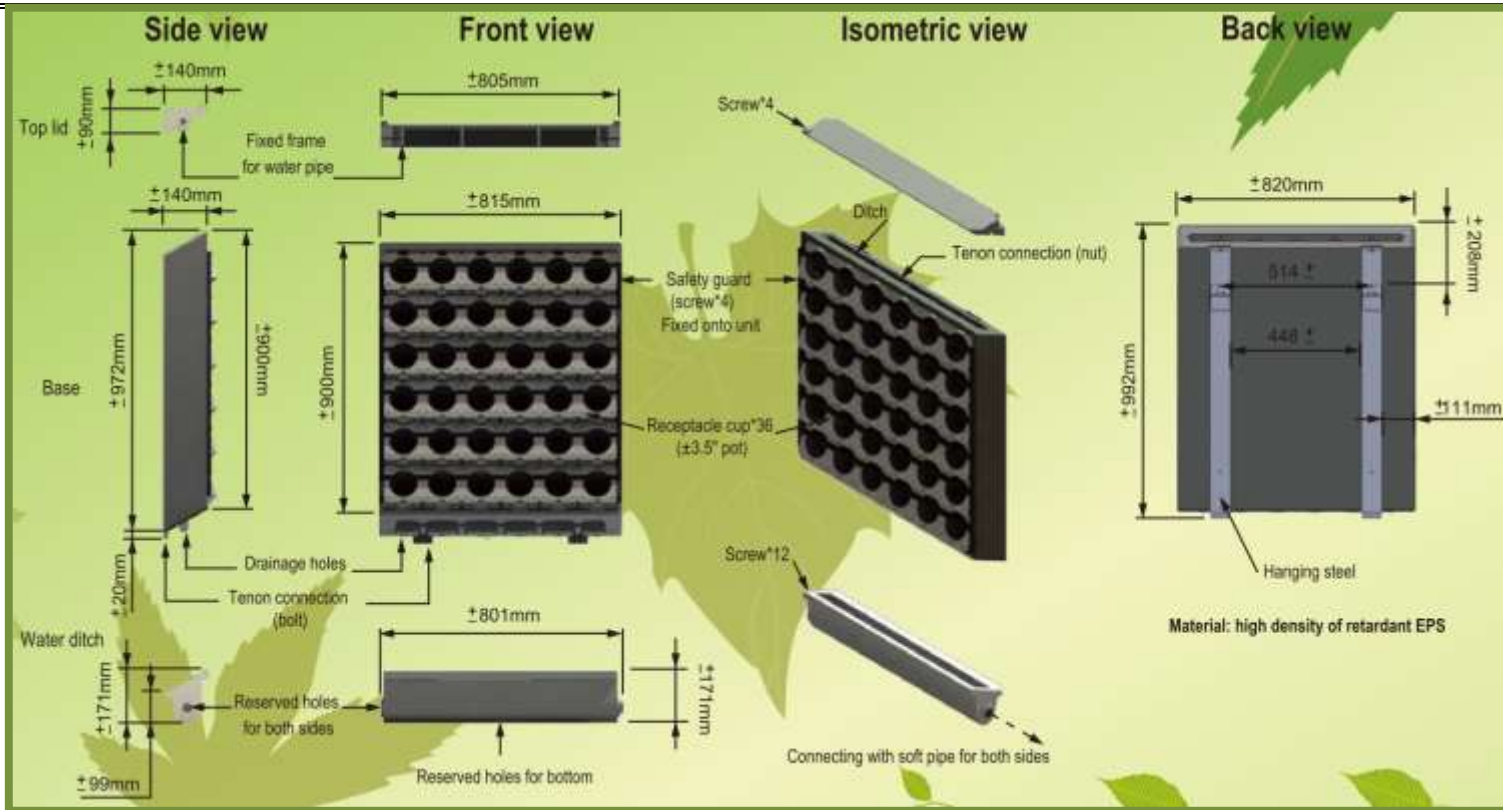
5. Water demand

- (1) Water pressure shall be higher than green wall
- (2) Water source shall be stable
- (3) The amount of water should be stored for 3 days if using water bucket

Drainage

1. Each green wall should have water ditch to connect into drainage system, but it has to base on actual needs. TGW provides the water ditch just in case when it is need.
2. Water ditch drainage holes had been reserved for both sides and the bottom. (both sides: 2"; bottom: 0.5")
3. Drainage system from indoor green wall shall be enforced to drain away





List for Indoor Plants



List for Outdoor Plants



Accomplishments





Wellcan Enterprise Co., Ltd.



Wellcan Enterprise Co., Ltd

Wellcan Enterprise Co.,Ltd is a professional civil construction materials manufacturer. The main projects include water works, drainage works, steel structure fire protection engineering, construction engineering, landscape engineering and land-based soil and water conservation works



Viking Building Materials Landscape Project

Landscape Engineering Materials

In recent years, due to sudden global climate changes, experts from all over the world seem to believe that it is because of the effect of the heat released from the cities causing the warming phenomenon to the Earth. Several researches have shown that, improving the greener environment is the best mean to counter the warming effect. Various government departments have imposed certain rules to improve the environmental conditions. But, it is almost impossible to solve this dilemma when the land resources is scarce and priceless. Development projects in the cities cannot compromise with the eco-protection conservational units. This is where the green-wall landscape comes in to bridge the gap.

- Wellcan Enterprise has invented the 3 Green walls types : they are

- Complete Model
- Economical Model
- Felt Plant Model (No cloth spinning)

- Complete Model consists of green wall system with features below :

- the structure is simple and can be installed easily by Do It Yourself (DIY) concept
- parts can be replaced separately and will not affect the other parts from operation
- price is low and affordable

Illustration of work process :

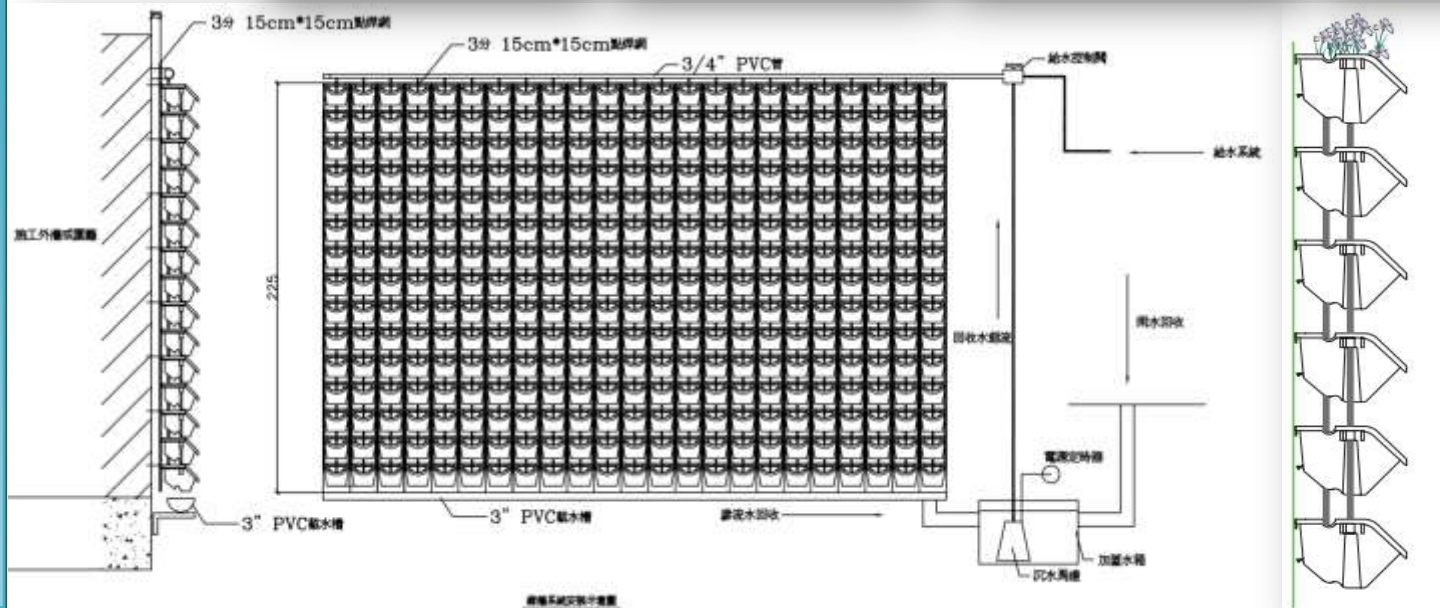
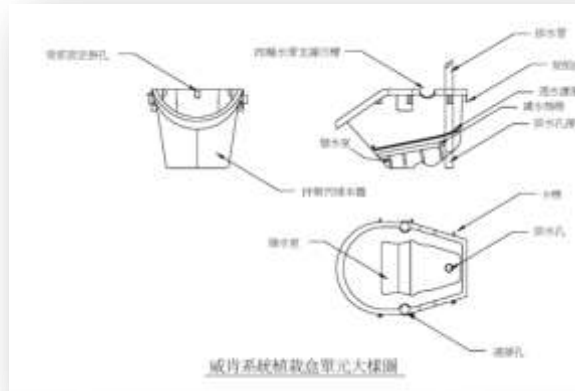
- | | | | | |
|-----------------------------|---------------------------------|-----------------------------|------------------------------------|-------------|
| 1.Pre-pipping
installion | 2. Firmly setting iron
grill | 3. Placing planting
pots | 4. Connection
drainage facility | 5. Test run |
|-----------------------------|---------------------------------|-----------------------------|------------------------------------|-------------|



Wellcan Enterprise Co., Ltd.

4 Irrigation details

- This system can operate with stabilized tap-head drop with the stabilized dripping water-drop to supply, filter unit must be fixed to prevent the cleanliness of the water and also to prevent small particles from blocking the pipe's holes. Thus can be shown:



Wellcan Enterprise Co., Ltd.



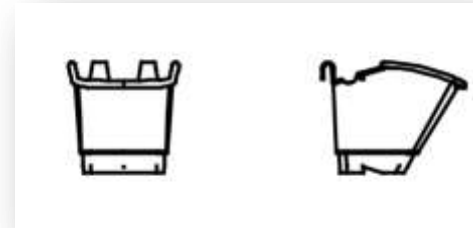
Wellcan Enterprise Co., Ltd.

Economical Model This green wall system has the following features :

- 1 he structure is simple and can be installed easily by **Do It Yourself (DIY)** concept and self operated
- 2 parts can be replaced separately and will not affect the otherparts from operation
- 3 It is cheap , installation is simple, together with the stabilized bag , it is best for the outdoor gardening.

Illustration of work process :

- 1.Pre-piping installation
- 2.Firmly setting iron grill
- 3.Placing planting pots
- 4.Connecting to stabilized bags
5. Test run



4. Irrigation Explanation

This system can operate with stabilized tap-head drop or with the stabilized dripping water-drop to supply water, filter unit must be fixed to maintain the cleanliness of the water

pipes and also to prevent small particles from blocking the pipe's holes. This is because the tap water pipe is fixed outside the compound to

reduce the risk of water leaking.



Physics nature table 200cm X240cm Interval 12.8cm each255 piece

Testing Items	Testing Standard	
Green PET non-woven geotextile	Basic weight $\geq 350\text{g/m}^2$	ASTM5261
Fiber paper	Basic weight $\geq 300\text{g/m}^2$	ASTM5261
	Water soluble $\geq 600\text{g/m}^2$	CNS 7298
Wet guarantee cotton cloth	Basic weight $\geq 700\text{g/m}^2$	ASTM D5261
Add grill net	Material :PP	DSC、FT-IR
	Net spec :12mmX12mm	Inch
	Zip zap pulling strength $\geq 2\text{KN/m}$	ASTM D6637
Plant hole measurement	Standard type 16×16±0.5 cm	Inch
	Density plant 12.8×12.8±0.5 cm	
No. of plants	Standard type 168 pieces(14 hole×12 hole)	Calculation
	Density plant 255pieces(17 hole×15 hole)	
Felt plant measurement	240length×200 width±1 cm	Inch

Felt Plant Model (Non-woven Geotextile)

This green wall system has the following features :

Green wall felt plant model is using high quality green, light raw material type. With the chess-type bags, it is easy for gardening and pattern designing .And so making the green wall as a type of art. Because the material is soft in nature, it is suitable for flat surface, round poles and irregular wall faces. It can beautify the monotonous wall and enhance the greening effect and pleasant view. It also purifies the air and beautifies the environment . The material is made up of many layers, the outer layer is the green wall without cloth spinning, displaying pleasant view and filter function . The middle layer has the highest water soluble fiber and tissue to retain water. This makes the plants grow better. The lowest layer is the iron grill which provides supporting role to the structure.

Green wall felt type special features :

1. Unique oval shape with holes, clothless spinning display straight shape, which is difficult to leak .
2. Bag style structure, the surface of it is easy to form shapes, planting work is easy to carry out.
3. Hidden piping holes, the pipes can be hidden in the felt plant model, not only stylish but also fantastic in fountain design.
4. Felt plant has pre-exist screw holes, easy to install.



Wellcan Enterprise Co., Ltd.



Green Roof

Return to nature, Green Roof (plants on rooftop) directly reduces temperature, generates good mixtures of healthy airflow, regulates humidity, as well as optimizes rainwater circulation and usage. It is a garden in the air.

Return Of Investment Unlimited
Create a harmonious environment and enjoy a peaceful life.

Green Wall

This is an innovative piece of art for environment. It harmonizes the air temperature as well as humidity. It also helps to increase the flow of oxygen and reduce the carbon dioxide. In general, it is a piece of art which enhances green surrounding.

Return Of Investment Unlimited
Consolidation of health and art.

NanYang Chemical Company Ltd

Established in 1954, mainly manufactured extruded plastic netting. The products which are very comprehensive include packaging netting, industrial products- protective netting , colorful decorative netting, kitchen and bathroom netting, agro-gardening netting, civil engineering netting, necessity anti-slippery netting, and so forth. Its uses are extensive and the products are marketed overseas and locally as well.

We have accumulated 50 years of expertise and skills in manufacturing extruded plastic netting. We also manufacture bespoke nets according to customer specifications regarding the length and width , big or small size, colors, and thickness . The company possesses a complete set of automated machinery, constantly making new researches and inventing new products, upgrading the quality of the products; We uphold the trustworthy concept, beyond the customer’s expectation, doing researches to invent new products and this is the direction and the goal of all the staff in NanYang Chemical Company Ltd.

- **Square shape netting . Vertically Green wall special features**

Work Progress, Easily Maintenance, low cost

Square shape netting uses the HDPE as material , T shape three dimensional mesh wire module to stabilize the mould structure and then extruded continuously to make the shape. Square shape three dimension T shape mesh wire can hold firmly any soil layer, very suitable for sticky grass mat and spraying method of planting. Square shape netting has the HDPE structure, can fully creep all over the roots.

Permeate drainage pipe is sealed inside the square shape netting for water irrigation system. Vertical green wall uses square shape netting as foundation, together with the permeate water irrigation system, to ease the work progression as well as maintenance and cost cheaper.





Diameter of pipe		Outer/inner length±	Screw distance±	Length m	
Inch	mm	Model	5.0%mm	5.0%mm	
115	115	SQO-115S-6	98*115	18.0mm	6m
200	200	SQO-200S-6	180*200	22.0mm	6m

Square shape netting can be adjusted according to customer specification



● Flow of works and methods

1.Fixed square shape netting frame



2.Glue the pipes together



3.Fixed the square shape netting on the ground



4.Insert the permeate pipe and cover it with soil



5.Fill up all the soil



6.Join the Irrigation pipes



7.Cover the surface touch with the necessary mixture



8.Paste the grass mat



9.Completed



• Irrigation system / Related spare parts



Water-meter timer



Water-meter timer



Computer controlled For multiple Connecting point



Extruded pro-pressure permeate



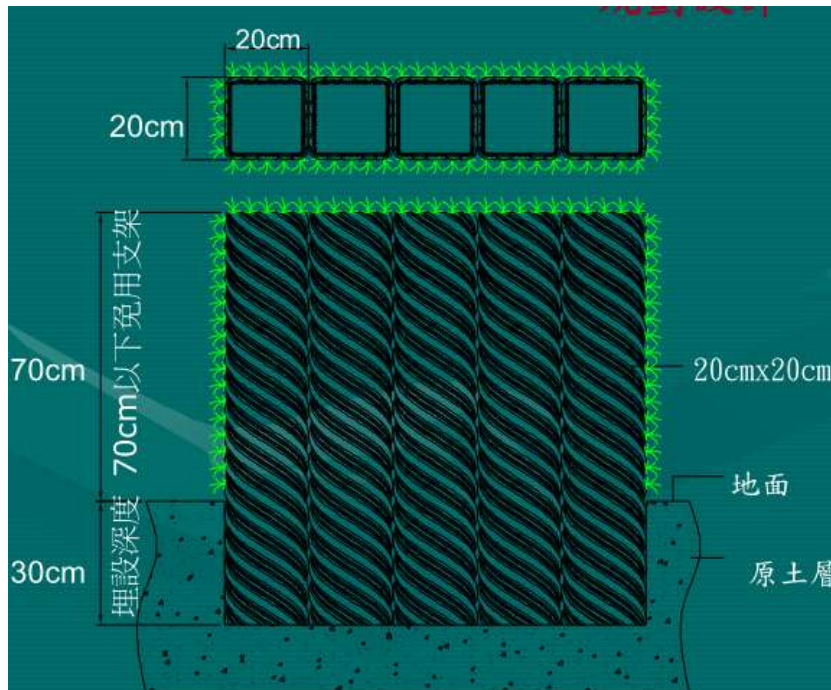
Semi-sphere permeate pipe

otimer



Soil moistureize meter

• Work measurement



Zoysia Japonica



Ophiopogon Japonicus Cv.'Nanus



Zoysia Japonica Z.Tenuifolia



Eremochloa Ophiuroides



Axonopus Compressus



Zoysia matrella



Contract Procedure

- **Business negotiation procedure**

Residential categories: Understanding and identify customer needs, budget, usage purposes

Commercial categories: Company Overview, future growth rate, budget, philosophy and etc.

- **Preliminary proposal**

Budget setting, product proposal and quotation submission.
Site surveying, analysis and photos taking for reference.
Preliminary planning and preparing the draft of design.

- **Contract**

Advance payment of 50% total amount upon contract signed. Draft reviewing for necessary amendments, final verification on the construction details and explanations, construct Gantt Chart of Progress.

- **Construction site**

Launch construction according to design drawings and progress schedule. Advance payment of 40% of total amount upon shipment of equipment along with installation of equipment, program setting and testing.

- **Completion**

Verification and acceptance of work completion with issuance of guarantee letter. Final settlement of 10% of total amount upon completion.



Return to nature it's so simple

