



# HeatAX Nano Heat Insulation Coating

X

Exclusive **NINANO** Technology

Ultimate cooling based on integrated craftsmanship  
[heatax.com.tw](http://heatax.com.tw)

# Our Spirit



“ What's important, is that we work together with nature. ”

---Frank Lloyd Wright

Hailed as 'the greatest American architect', the designer of such classic architectural works as Fallingwater and the Guggenheim Museum, was convinced that a building should be designed to achieve harmony between mankind and the environment.





### **Promise to Believe**

Beginning as an elite team of Taiwan's National Chiao Tung University and National Tsing Hua University, dedicated to research and development, the fruits of many years of hard work are now available. Countless nights were spent burning the midnight oil in the laboratory. The revolution in paint technology is the R & D team's own battle post: Wholeheartedly guarding our respect for nature Concerning our sense of mission to make breakthrough, and upgrade the industry And the honor of manufacturing superior quality paint products which are Made in Taiwan

### **It's like wanting to capture the new strategic high ground**

That's what our R & D personnel are doing every day . The most crucial formula for success is nickel-based super alloys. These can withstand all kinds of extreme weather, yet maintain a stable and lasting effectiveness. And the aerospace industry components widely employed by America's National Aeronautics and Space Administration (NASA) first use HeatAX® for their insulation coatings. With its stability and excellent reliability. It takes insulation paint into a whole new realm

### **With our feelings of dedication, we do not forget our original intent**

Now, in any land where the sun shines brightly  
There is a good chance you'll see from this premium paint from Taiwan  
HeatAX® guards the Earth and makes the world cool  
In the most pleasantly comfortable temperatures, we recapture our initial inspirations

Brand Story



Before



After

**Maximum room temperature drop by 13° C**

Natural, fresh, and pleasant

\* Actual performance may vary depending on the surrounding environment and differing external conditions.

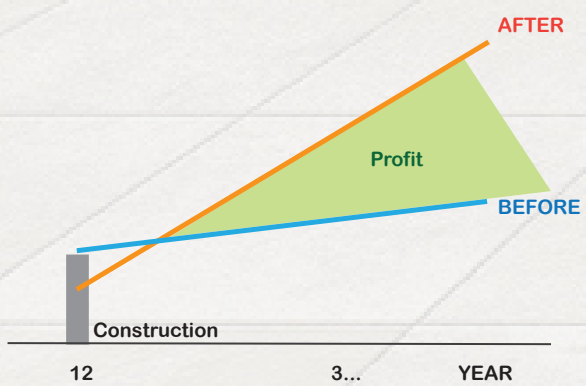


# Temperature Drop

## Only the temperature drops, not the warmth

13 degrees, that's a magical temperature difference

Enough to liberate people from the heat and give them peace of mind. We understand you, Only with a cool head, does the body come into harmony with the melody of the mind; The warmth of feelings are the best temperature for a family to enjoy together.



### Save up to 61% on air conditioning costs

From a minimum of one month up to a maximum of 18 months to recover costs

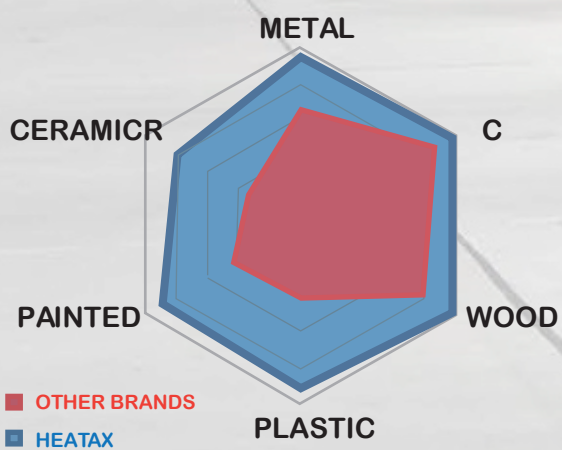
\* Actual performance may vary depending on the surrounding environment and differing external conditions.



# Energy Saving

## Energy Saving Saving All We Can

Stepping on the paving stones, you can experience the natural coolness. Wearing comfortable cotton clothing, running, you can feel the breeze move you deeply. Saving energy and reducing carbon emissions, is to respect the land, to live with nature. It will repay you with the purest happiness.



### Paint Anything, Anywhere

A variety of materials can be given a paint coating, and the adhesion is far better than that of similar products

\* Actual performance may vary depending on the surrounding environment and differing external conditions.



# Generic Use

## Protect the castle of every home

Let the color of the paint become a full enjoyment of performance art

In the process of painting, heal yourself at the same time.

The most enjoyable thing about it, is its excellent adhesion

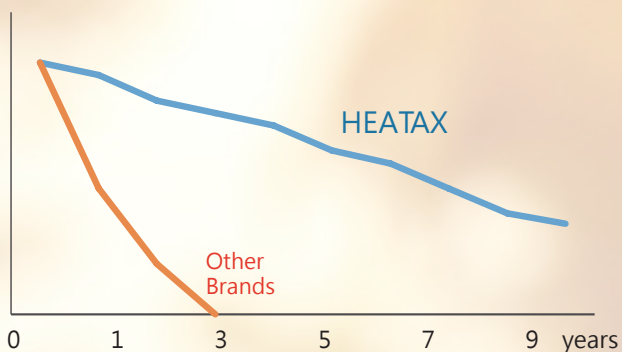
So that the whole home becomes your canvas

Regardless of the material your castle was built from

We are able to give it protection.

## Durable – like running a marathon

The dramatic twists of a marathon, exist in the psychology of each competitor: In a competition lasting tens of kilometers, rhythm and regular breathing, the ability to remain 'stable', and 'lasting' are the keys to success; Just like our high specification requirements of our paints: Being durable – it's the only way to finish the race.



### **Our proprietary Nano super-resistant insulation technology**

not only insulates, but also withstands the harshest tests of weather

\* Actual performance may vary depending on the surrounding environment and differing external conditions.



A woman is captured from behind, running outdoors. She has long, reddish-brown hair tied in a ponytail that is blowing in the wind. She is wearing a white, ribbed tank top and blue athletic shorts. The background is a soft-focus, golden-hued scene of trees and foliage, suggesting a park or wooded area during sunrise or sunset. A semi-transparent white rectangular box is positioned in the upper right quadrant of the image, containing the text "Long Lasting" in a bold, dark brown font.

**Long Lasting**



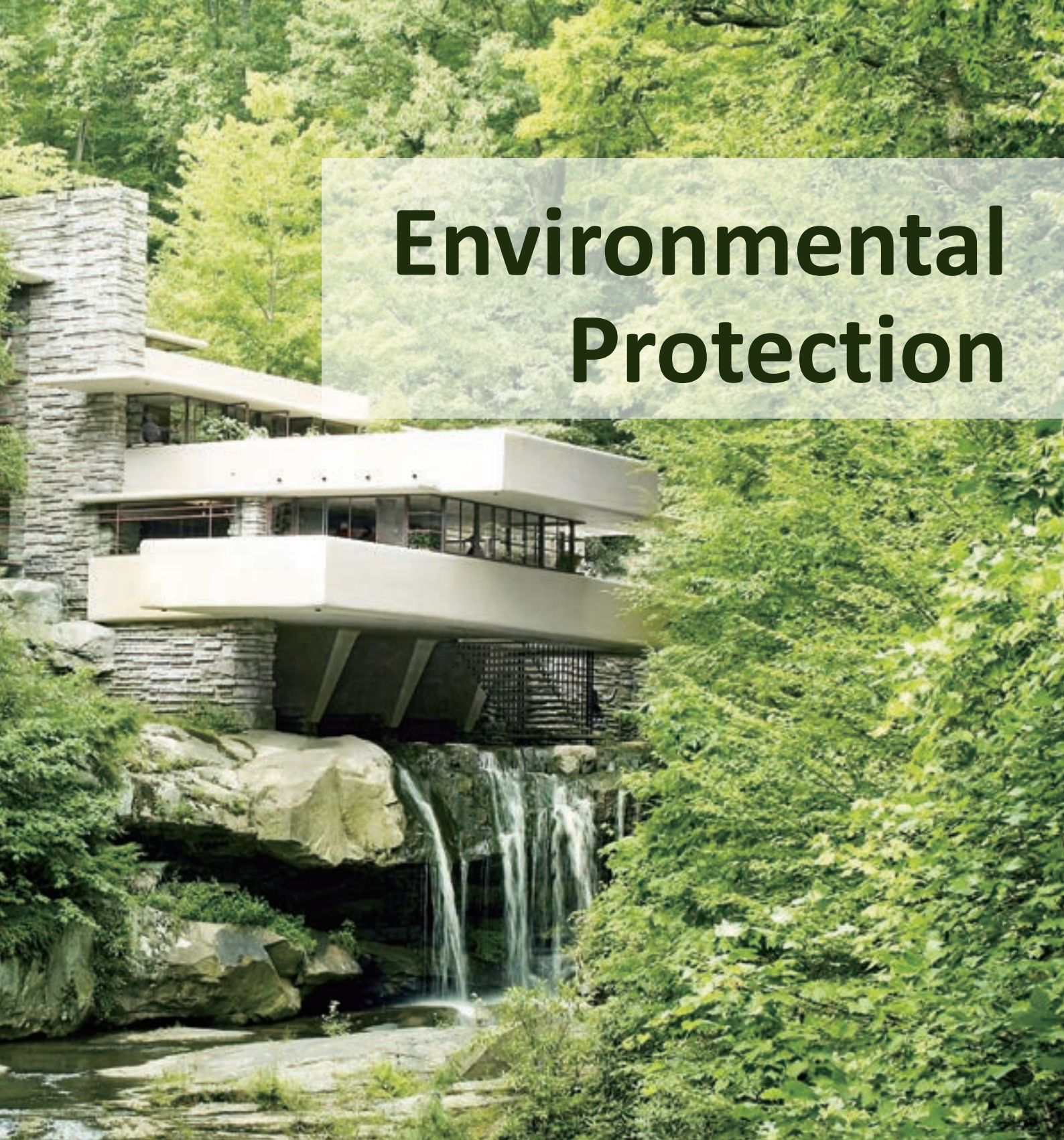
A lush green forest scene with a small waterfall cascading over rocks in the lower right corner. The trees are dense and vibrant green, creating a sense of a healthy, natural environment.

## What comes to mind when you think about trees?

Their photosynthetic effect? Ecological equilibrium? Or your childhood days, playing with your friends through the lushness of the woods? The natural environment you longingly recall, is also what we are commitment to protect. Reducing carbon emissions, is just a part of everyday life.



# Environmental Protection



**HeatAX® customers have to date already planted 26 million trees for the Earth**

One can of HeatAX nano heat insulation coating, is equivalent to the annual carbon uptake of 120 trees

\* Actual performance may vary depending on the surrounding environment and differing external conditions.



DESCRIPTION

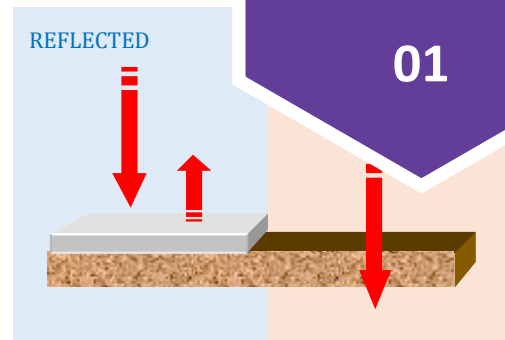


**Technology for the bricks, Art for the tiles**  
**Creating balance and coexistence between humans and nature**

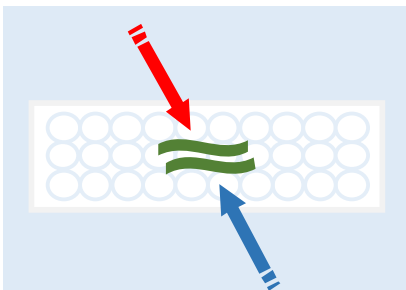


## Reflection

There are three types of energies in sunlight: 5% of ultraviolet light, 45% of visible light, and 50% of near infrared light. These energies will propagate in the form of radiation and bring a huge amount of thermal energy. HeatAX® nano heat insulation coating can reflect 88% of sunlight energy thus preventing the house from absorbing heat even under intensive sunlight.



## Blocking

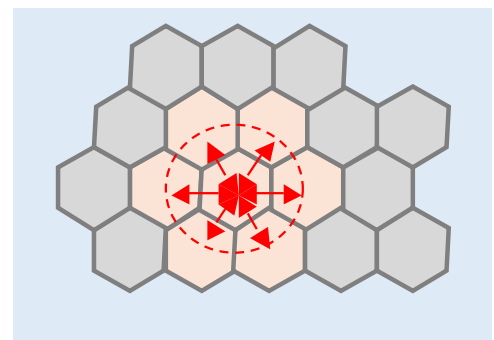


The energy (such as thermal energy or sound wave) is equipped with phonon propagation property in an object, which will propagate into the room through certain media such as outdoor roof and wall. HeatAX® nano heat insulation coating can destroy the energy propagation path based on the property of nano hollow ceramic particle, which works just like the principle of heat insulation mug.

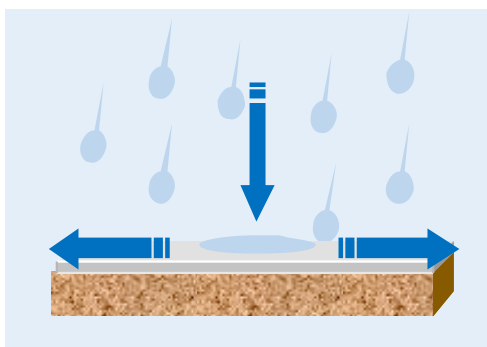


## Weather endurance

“NINANO Ultra Heat Insulation Technology” is about the inter-molecular force generated by the polymerization of the composite material based on Nickel-based alloys (Inconel 625) with high resistance. The hexagonal stack structure is as robust as bee hive. NINANO demonstrate unparalleled reliability even under extreme working conditions.



## Waterproof



Polymer nano material is equipped with two kind of waterproof features. One is to propel the water molecule in the environment outward based on the hydrophobic nature of polymer material, and the other is to prevent moisture from entering the bond due to the capillary pore size being far smaller than water molecule in the nano material.



### Highly efficient heat insulation **NASA grade composite material process**

We were the first to introduce “Ninano Ultra-Resistant Heat Insulation” technology with the world record 88% thermal reflectivity and outstanding performance. ( Note 1 )

### Safe and non-hazardous **Harmless to human body and environment**

Certified by EU RoHS standard to be free of hazardous substances, heavy metals, formaldehyde, and toluene thus not leading to any burden to human body and the environment. (Note 2)

### Lasting effectiveness **Strong against all kinds of weather conditions**

It is equipped with stain resistance, UV resistance, and weathering resistance. Ninano Ultra-Resistant Heat Insulation technology has a service life as long as 10 years with weather endurance.(Note 3)

### Building protection **Work as a protective shield for your house**

It is waterproof and noise-proof with corrosion and rust resistance by forming a protective barrier at the surface of building. This protection will lead to doubled service life.

### Energy saving and environmental protection **Making your home a green building**

Experiencing the honor of Singapore Green Label with the saving of air conditioner expense up to 61% and the effective reduction of carbon emission. (Note 4)

### Simple construction **Everyone can be the heat insulation expert**

It does not require any professional training. The construction can be carried out by anyone using either brush, roller, or spray gun.

### A wide range of application **It can be coated anywhere for any purpose**

It does not require any professional training. The construction can be carried out by anyone using either brush, roller, or spray gun.

[Note 1]Qualified by GB/T9755-2001,JG/T235-2008,CRRC heat insulation coating performance standard inspection as superior product.

[Note 2]Proven by RoHS 2002/95/EC and IEC 62 321/2nd CDV (111/95/CDV) EU safe coating standard to be free of any hazardous and heavy metal components.

[Note 3]Qualified by GB/T 9755-2001 and CNS 10757(1995) inspection to be the superior product with resistance against weathering, sulfuring, and corrosion.

[Note 4]According to the data provided by Taiwan Power Company, every degree of raised temperature of air conditioner will lead to 6% of electricity saving and the reduction of carbon emission by 0.636 kg.





## HeatAX® Nano Heat Insulation Coating Specification

<b>Color</b>	White (Tunable)
<b>Net weight</b>	22.5 kg ± 3 % ( 5 gallons)
<b>Total solids content</b>	63.6% (by weight) 68% (by volume)
<b>Density</b>	1.21 kg/liter
<b>Drying time</b>	50~60 mins at 25°C
<b>PH value</b>	8.3 ~ 8.8
<b>Viscosity</b>	2,000 ~2,500 cps
<b>Content of VOC</b>	27.5 g /liter
<b>Preservation period</b>	1 year kept in cool and ventilated place away from sunlight exposure
<b>Corrosiveness</b>	No
<b>Toxicity</b>	Non-toxic
<b>Fungal resistance</b>	Good
<b>Film thickness</b>	Wet film 16mils(400um) Dry film 10mils(250um)
<b>Average consumption</b>	Metal material: 1.38 liter/ping (or 0.41 liter/m <sup>2</sup> ) RC material: 1.72 liter/ping (0.52 liter/m <sup>2</sup> ) A bucket can cover up to10-13 ping / 33-43 m2
<b>Suggested working temperature</b>	Minimum 18°C , optimal 25~35 °C , maximum 80°C
<b>Suggested spray coating thickness</b>	250um ~ 400um
<b>Sound insulation</b>	-9.8db



US Intertek



Singapore green label



China CMA



Taiwan SGS



Taiwan TAF



Taiwan patent

REFERENCE



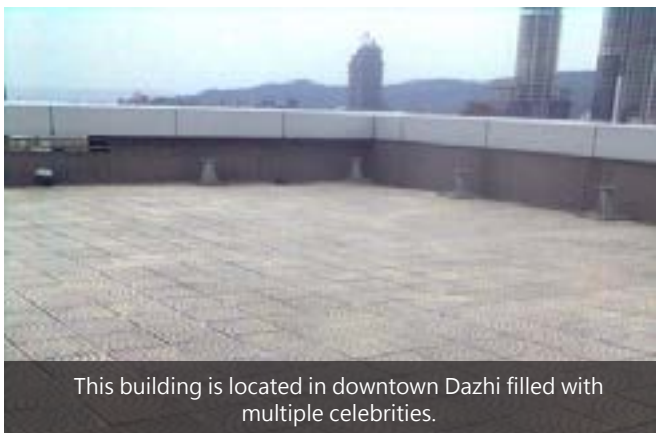
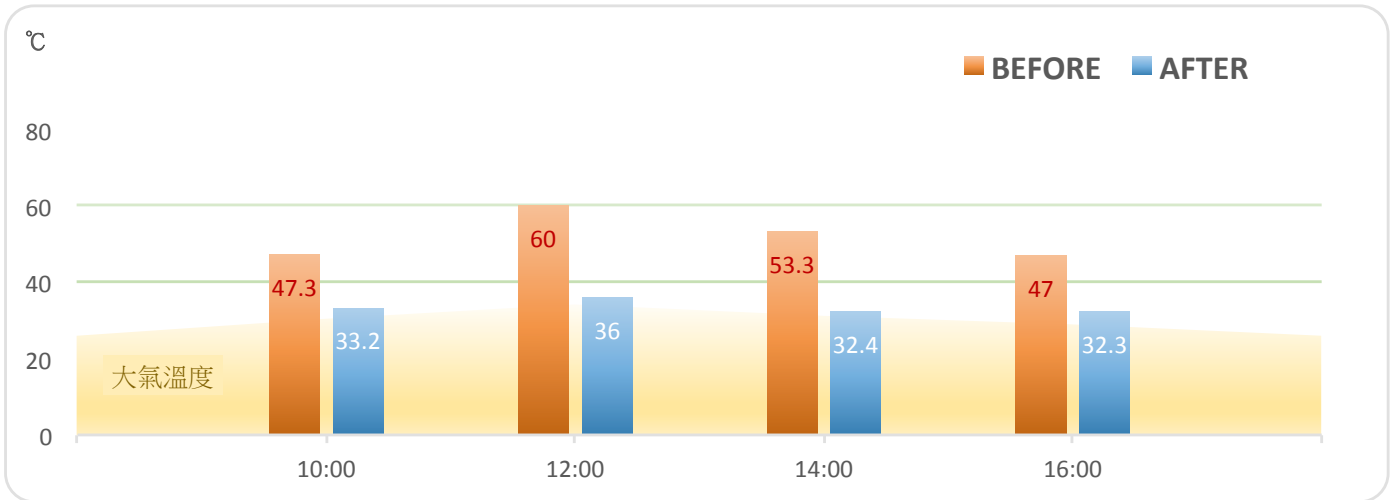
**Fighting with our devotion, cooling with our performance  
HeatAX® can be seen everywhere under sunlight**



# Taipei X Tiding celebrity house

Home

Building attribute	Mansion	Construction method	Roller
Building material	RC, heat insulation brick	Building age	Around 5 years
Total area	198m <sup>2</sup>	Total consumption	28.8 gallons
Ambient temperature	34°C - 31°C	Surface temperature difference	24°C - 14°C

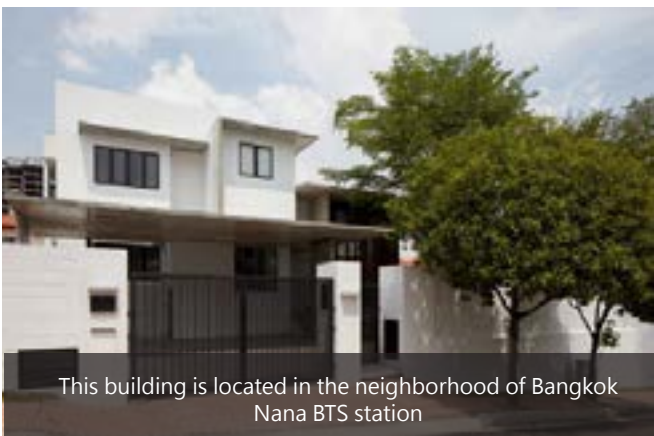
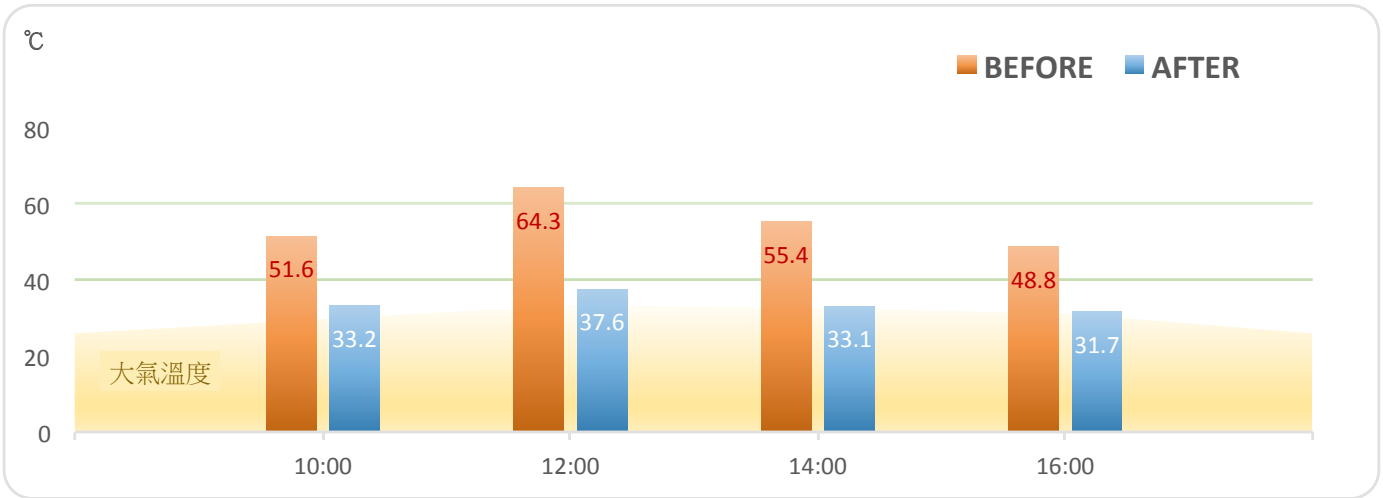




# Bangkok X Landscaped rental villa

Home

Building attribute	Single townhouse	Construction method	Roller
Building material	RC, waterproof PU	Building age	Around 13 years
Total area	221m <sup>2</sup>	Total consumption	35 gallons
Ambient temperature	33.3°C - 29.9°C	Surface temperature difference	26.7°C - 17°C

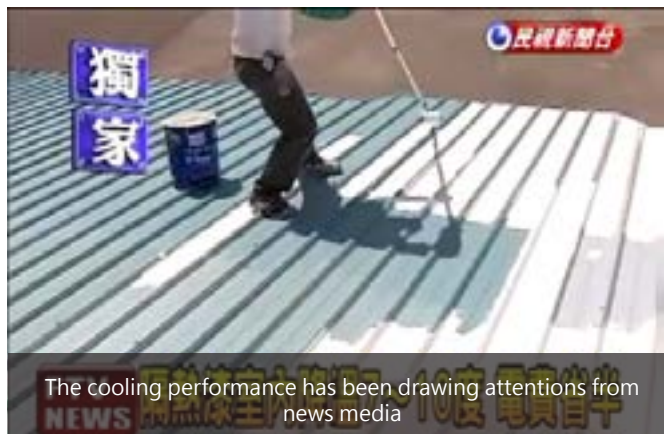
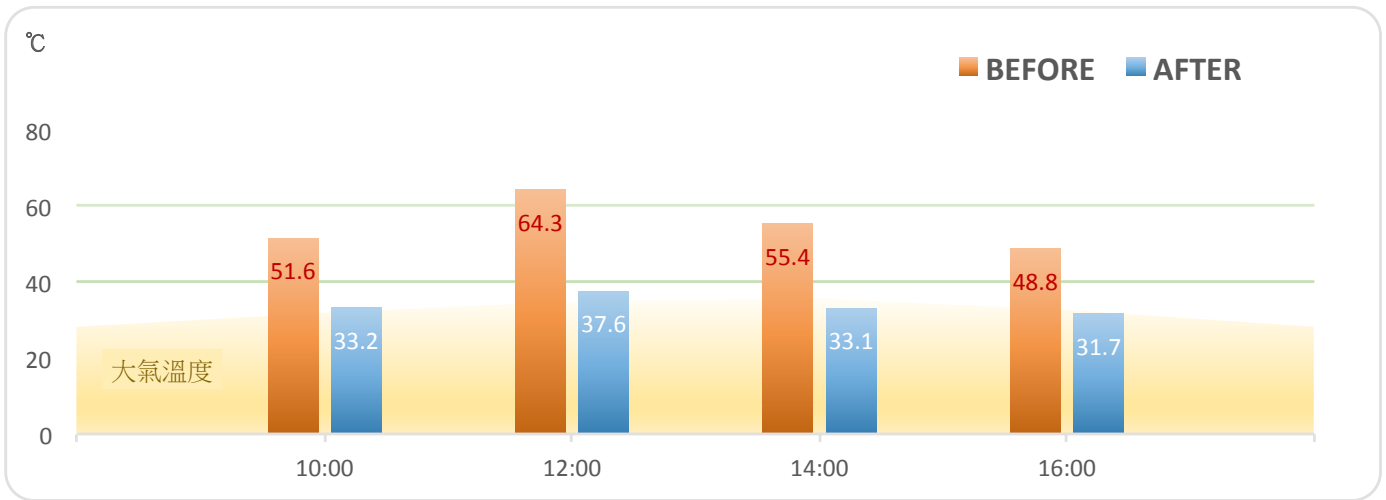




# Taoyuan X The honor through the clouds • GFC

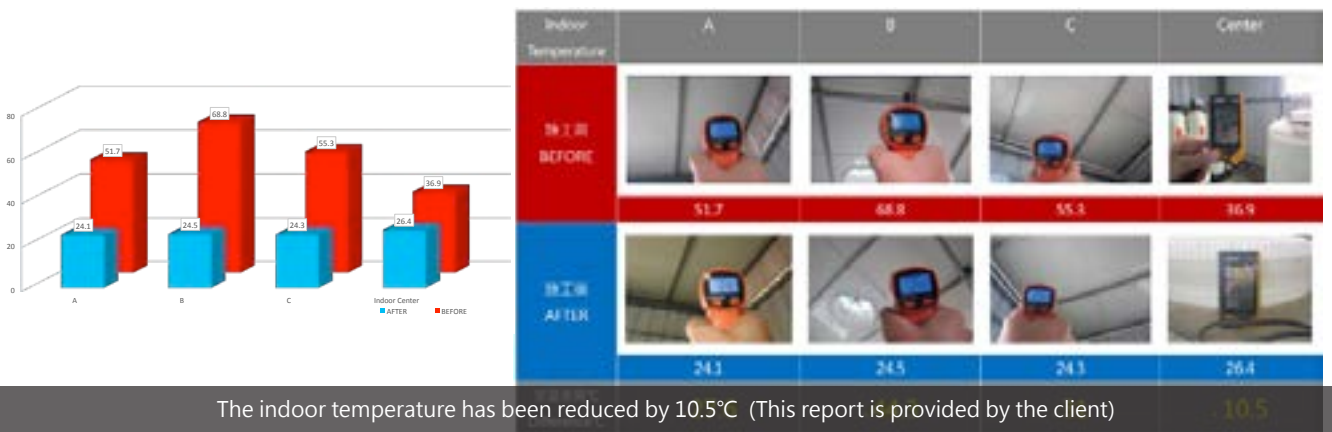
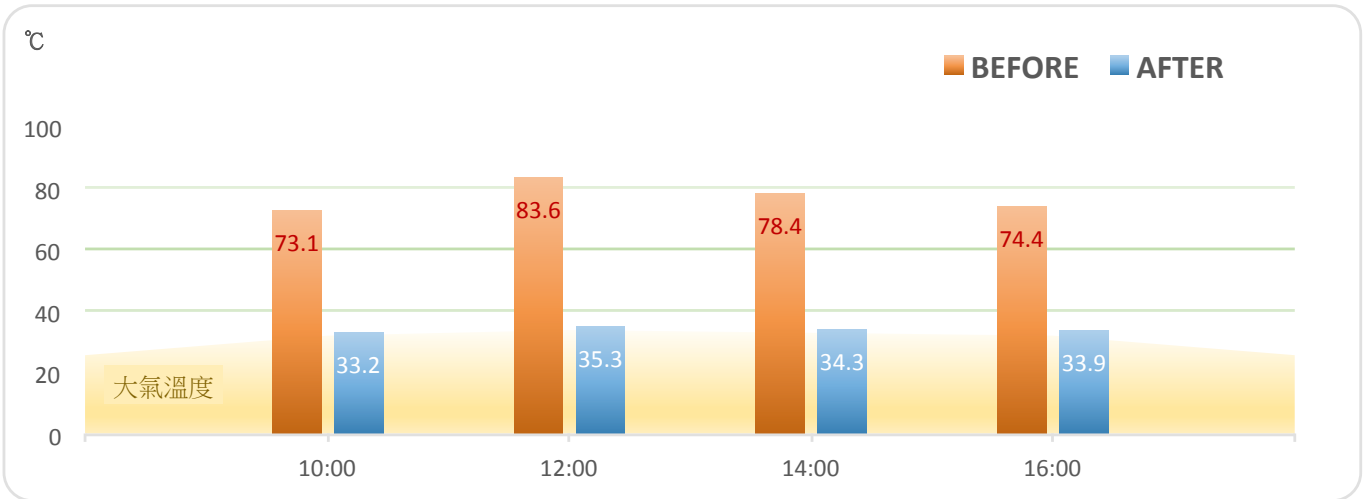
## Factory production line

Building attribute	Factory	Construction method	Roller, brush
Building material	Corrugated galvanized iron	Building age	Around 9 years
Total area	1,000m <sup>2</sup>	Total consumption	81.5 gallons
Ambient temperature	35.5°C - 32°C	Surface temperature difference	40°C - 31.3°C



**Xiamen X Best performing stock of Apple touch control •F-TPK Factory production line**

Building attribute	Factory	Construction method	Roller, brush
Building material	Corrugated galvanized iron/ventilation ball	Building age	Around 8 years
Total area	180m <sup>2</sup>	Total consumption	18.85 gallons
Ambient temperature	34.2°C - 32°C	Surface temperature difference	48.3°C - 40°C
		Indoor temperature difference	10.5°C



The indoor temperature has been reduced by 10.5°C (This report is provided by the client)

## ! Taipei X Green energy bus • Kuo-Kuang Motor Transport

## Transportation

Building attribute	Bus	Construction method	Pneumatic spray painting
Building material	Painted steel	Building age	Not available
Total area	24m <sup>2</sup>	Total consumption	10 gallons
Ambient temperature	36.3°C	Surface temperature difference	22.2°C
		Indoor temperature difference	12.0°C



## ! Chiayi X Mobile medical car • Department of Health, Chiayi County

## Transportation

Building attribute	Bus	Construction method	Pneumatic spray painting
Building material	Painted steel	Building age	Not available
Total area	28m <sup>2</sup>	Total consumption	15 gallons
Ambient temperature	32.3°C	Surface temperature difference	23.8°C





## ! Yunlin X Rapid energy saving •Formosa Plastics

## Energy saving

Building attribute	Industrial equipment	Construction method	Brush
Building material	Iron	Building age	Not disclosed
Total area	Not disclosed	Total consumption	Not disclosed
Ambient temperature	31°C	Surface temperature difference	5.9°C



Formosa Mailiao industrial equipment (internal heating), temperature difference before and after the insulation is 5.9°C.

2012年7月份安裝廠區設備於熱交換器，經試算節能效益如下。

熱交換器直徑2370mm 高900mm 面積2.133m<sup>2</sup> (保溫厚0.05m)  
 計算公式:  $Q = k \cdot A \cdot (T_1 - T_2) / d$   
 Q: 熱流, W; A: 面積, m<sup>2</sup>; k: 熱傳導係數 (W/m<sup>2</sup>·°C); T<sub>1</sub>: 最高溫, °C; T<sub>2</sub>: 最低溫, °C; d: 厚度, m  
 (1) 安裝前之熱傳導係數計算:  
 $Q = 2370 \times 900 \times 0.05 \times 100 \times (31 - 25.9) = 85.7 \text{ kW}$   
 (2) 安裝後之熱傳導係數計算:  
 $Q = 2370 \times 900 \times 0.05 \times 100 \times (31 - 27.4) = 45.7 \text{ kW}$   
 (3) 節省能源量計算:  
 $85.7 - 45.7 = 40 \text{ kW}$   
 (4) 節省能源量計算:  
 $40 \text{ kW} \times 24 \text{ hr} \times 30 \text{ days} = 288 \text{ kWh}$   
 (5) 節省能源量計算:  
 $288 \text{ kWh} \times 0.5 \text{ (電費)} = 144 \text{ (元)}$   
 (6) 節省能源量計算:  
 $144 \text{ (元)} / 1.5 \text{ (元/kWh)} = 96 \text{ (天)}$

The payback period of energy saving is two months (this report is provided by the client)

## ! Nantou X Non-stop communication •Chunghwa Telecom

## Energy saving

Building attribute	Equipment	Construction method	Brush
Building material	Metal container house	Building age	Not available
Total area	55.2m <sup>2</sup>	Total consumption	8.1 gallons
Ambient temperature	34.4°C	Surface temperature difference	20.2°C
		Indoor temperature difference	8.6°C



There are heat generating equipments in the communication base station such that it will take two air conditioners for cooling at all times.



Under cold room condition, the room temperature drops from 36°C to 27.4°C with energy consumption reduced by over 50%.

## ! Hsinchu X Prevention of condensation •UMC

## Temperature control

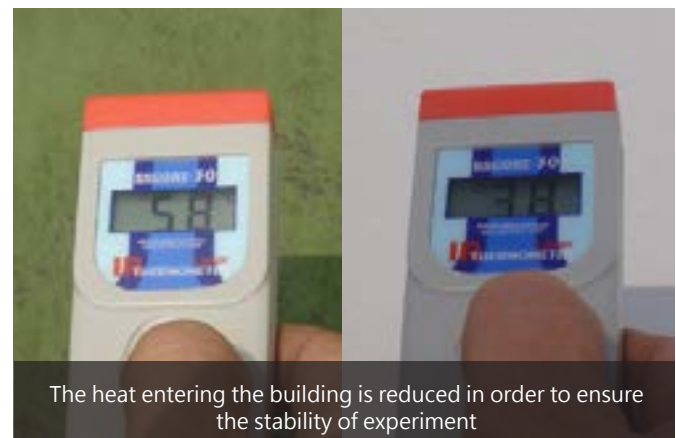
Building attribute	Storage tank	Construction method	Spray painting, brush
Building material	Carbon steel/anti-rust coating	Building age	Not disclosed
Total area	Not disclosed	Total consumption	Not disclosed
Ambient temperature	29.7°C	Surface temperature difference	12°C
		Indoor temperature difference	7°C



## ! Chiayi X Refinery Institute •CPC Taiwan

## Temperature control

Building attribute	Control laboratory	Construction method	Spray painting, brush
Building material	Concrete/PU	Building age	Around 16 years
Total area	165m <sup>2</sup>	Total consumption	31.0 gallons
Ambient temperature	36.2°C	Surface temperature difference	20°C





## Taipei X War against wall mold • Yangmingshan Community

## Wall mold prevention

Building attribute	Traditional apartment	Construction method	Brush
Building material	Concrete (indoor)	Building age	Around 35 years
Total area	66 m <sup>2</sup>	Total consumption	9.6 gallons



This is an indoor construction project for the purpose of preventing wall mold due to moisture in the mountains.



Six years later, the wall mold has never reoccurred, and the surface of painting remains intact.



## Taipei X Anti-rust shield • Minsheng Community

## Corrosion and rust resistance

Building attribute	Penthouse	Construction method	Brush, anti-rust patch
Building material	Corrugated galvanized iron (corroded)	Building age	Around 38 years
Total area	62 m <sup>2</sup>	Total consumption	6.2 gallons



For the corroded sheet iron, the rust removal and patching treatment will be applied first.



The HeatAX nano heat insulation coating can provide the protection against worsening corrosion and prolong the service life of building.

## Be careful! Is the heat insulation paint you bought for real?

Price hike of gasoline and electricity, nuclear crisis, greenhouse effect. Everything you are afraid of had happened. Perhaps buying a set of heat insulation coating with cost saving, energy saving, and cooling features is the best option for you.

**Trick1** Claiming to show beautiful statistics of xx degree drop if cooling, ultrahigh reflectivity, and ultralow thermal conductivity without any certificated data!



Reflectivity and thermal conductivity are very important performance indicators of heat insulation coating, yet the performance statistics can be exaggerated. You should always go for qualified products with professional specification certification.

**Trick2** Claiming that the product contains heat insulation material (such as ceramic hollow ball), yet the actual ratio of such addition could be less than 5%!



Heat insulation coating is a kind of functional composite coating, and the performance of such product is closely related to the grade and ratio of heat insulation material. A slight amount of additive does not make it a heat insulation coating. Please think twice before going for cheap product.

**Trick3** Adding white dye into general waterproof glue or flexible cement and calling it heat insulation coating!



Different compositions have led to very different costs and performances. The white color of heat insulation coating is the original color of the material without adding any dye. Even though the waterproof glue after addition of white dye looks like the heat insulation coating, the performance and service life are incomparable.

**Trick4** Some low cost heat insulation coating only guarantee the immediate cooling, yet they don't guarantee it will remain effective the next year!



Heat insulation coating is for outdoor environment, and the heat insulation performance is as important as the service life of coating. So you should be careful during product selection, otherwise you may save little for now and end up spending more for re-construction in the next year.

## Authenticity comparison

	HeatAX® nano heat insulation coating	"Fake" heat insulation coating
Certificate by professional organization	Most international authorized certificates	None
Adopted by renowned enterprises	Designated by the most renowned enterprises	None
Reliability service life test	As long as 10 years	The performance will be deteriorated in 6-12 months on average.
Heat insulation material addition ratio	> 99.8%	< 5%
Construction after sales warranty	Guaranteed cooling by more than 15°C for three years	None
Patented recipe	<b>NANOI</b> ultra resistant heat insulation technology	None
Dye processing	Dye-free (except for customized color matching)	Adding white dye into waterproof glue





Well Ling Co., Ltd. is composed of elite research teams from NCTU and NTHU. Based on our cooperation with Singapore developer group, starting from 2014 HeatAX® will officially be merged with Well Ling Nano Heat Insulation Coating to make an official move to the global brand market with a brand new corporate image.

We have always been dedicated to the development of nano composite material technology and provision of professional application coating service. The outstanding quality of our own heat insulation coating production line has not only been certified by authoritative organization, but also been recognized by renowned enterprises in multiple countries thus becoming the most wanted product.



- Highest SRI global professional heat insulation coating index at 111.5, ASTM Designation: E1980-1
- The only one in the world with temperature difference before and after construction at 13oc with CMA certificate 200940339
- World's best white coating reflectivity (SR) at 0.88 with Intertek USA certificate 100096065MID-001DR1
- World's best dark color (not white) coating reflectivity (SR) at 0.57 with Intertek USA certificate 100096065MID-001ER1
- World's best light color (not white) coating reflectivity (SR) at 0.87 with Intertek USA certificate 100096065MID-001FR1
- The first Asian coating provider awarded with Singapore Green Label CH-25418/LZP In compliance with the highest regulation of Taiwan government with TAF certificate 100821123-1



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Chanel



## Global Distribution Network

For further understanding of HeatAX® Nano Heat Insulation Coating, please contact our local distributors.

Information on Distributors





Ultimate cooling based on integrated craftsmanship  
[heatax.com.tw](http://heatax.com.tw)

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