

# Challenge zero energy "ECOCELLA"

## You still stick to the toxic wallpaper!



CHAMGIL co.,ltd



On September 9, 2009, the Chamgil corporation acquired the patent No 10-0917739 for the method to manufacture hazardous materials blockers for building internal materials, and applied it to hundreds of thousands of households. However, since it is made of charcoal, it is not suitable for use as a finishing material in black.

We thought about it for about 10 years and started research and development for about a year.

Application for priority screening patent No. 10-1805161

" Liquid-solid Wallpaper Composition and How To Made it "

on November 29, 2017 completed the accreditation process for a certification authority. (China CQC, USA Green Guard)

It is a revolutionary new technology in the fourth industry with advanced technology applied for new technology certification in Korea.

This is not a miracle.

It's a new technology for the fourth industrial revolution.

Comparative testing with the previously marketed third-party insulated paint products revealed that no one beats this one.

Insulation, cut off heat, nonflammables, dew condensation, waterproof, anions, far-infrared radiation, sick house syndrome, ability to change color with room temperature, pest control, 600 different patterns  
= Everything is solved at once.

Global warming is bringing many life-threatening disasters.



# Company History

**1987  
- 2005**

- Established Ethens Interior
- Registered in Korea Interior Management Association
- Established Chamsali Co. Ltd.
- Built a factory in Gimpo-si, Gyeonggi-do
- Registered in Korea Interior Industry Association
- Registered HIT 500
- Various products displayed in domestic exhibitions

**2006  
- 2012**

- Changed the company name to Chamgil Co. Ltd.
- Registered Chamgil trademark
- Registered Bbalaenureumi trademark
- Registered a patent for semi-auto handled clothes horse
- A member of Korean Trade Association
- Registered patents for anion lamp and a lamp to prevent mosquitos
- Registered a patent for automatic clothes hoarse
- Registered a patent for blanket drying rod with ventilation materials
- Plaster this on building interior materials to prevent toxic substances
- Registered a patent for mixing method
- Grand prize in environment-friendly products by green management
- New leading power of Korea's economic growth
- Leading future-company in environment area
- Awarded for contribution for national economy by small business promotion association

**2013  
- 2015**

- Build a factory in Incheon
- Registered in national market of Public Procurement Office
- Grand prize in promising brand by Kyunghyang Daily News
- Designated as an excellent product by small and medium-sized businesses
- Acquired ISO 14001:2009
- Acquired ISO 9001:2009
- Research and Development department Established Technology Research
- Awarded for management capability and job creation
- Korean interior Joined in Industrial Cooperation Association
- Test against extraction of 5 main toxic substances
- Test against measurement of anion release
- Test against indoor air quality measurement
- Test against radiation factor of far infrared rays
- Inspection test of comparison with charcoal of other companies
- Tests of colon bacillus, staphylococcus and fungus
- Test of complete absorption of nuclear waste glassification

**2016  
- 2020**

- Grand prize for good brand in Korea
- "Excelent level" certified by "Atopy Korea"
- Built domestic exhibition center
- Participated in Shenzhen export exhibition (China)
- Participated in Yiwu export exhibition (China)
- Participated a construction exhibition in Vietnam
- Participated in Hanoi exhibition
- Participated in Laos exhibition
- Participated in Las Vegas exhibition
- Joined in Korea Air Cleaning Association
- Participated in various exhibitions in Korea
- TV / magazines / news Sponsorship and news articles
- Promoted various exports businesses
- Promoted various exports businesses
- Exported to Ho Chi Minh, Vietnam
- MBC Architecture Fair
- 2020 1:1 Video Consultation with Overseas Missionary Directors

## Important award details and certification details

|             |   |
|-------------|---|
| <b>2010</b> | Korea's New Growth Engine Future Leading Company / Grand prize in environment-friendly products by green management / Small Business Agency National Economic Contribution Award  |
| <b>2015</b> | Quality Management System / Research and Development department Established Technology Research / Director of the Korea Terrier Industry Cooperative / Bupyeong-gu Office Job Creation Company Citation Letter  |
| <b>2016</b> | Certificate of Excellence Brand   |
| <b>2017</b> | Small and Medium Business Administration Award for Regional Economic Development / Minister of Environment Commendation Letter of Commendation  |
| <b>2018</b> | Confirmation of Venture Business (Technical Evaluation Loan Company) / Small and Medium Venture Business Minister's Confirmation of Disabled Enterprises<br>Minister of SMEs and Startups Award for Best Business Management / Award from the head of Bupyeong-gu Office for New Technology |
| <b>2020</b> | National Root Industry Promotion Center Root Company Confirmation Letter  |



### High growth, promising company

Increase of sales by two times every year  
Designated by HIT 500 products of small and medium-sized businesses



### A company with strong capabilities in export

Developed global brands  
Strengthened overseas marketing  
Advanced practical trade capabilities



### Good brand prize in Korea

2016 Korea Superb Brand Awards  
Grand prize for brand by Kyunghyang Daily News  
A company leading new growth of Korea



### Expanded to overseas

Exported to overseas, including China, Vietnam and European countries  
Sold at overseas department stores, duty free shops and supermarkets  
Participated in overseas exhibitions



### Certified as an environment-friendly business

"Excellent level" certified by "Atopy Korea"  
People's Solidarity for environment-friendly life  
Korea Air Cleaning Association  
Certified as no.310 by Association of Korean Indoor Environment under the Ministry of Environment  
Certified by Association of Korean Indoor Environment  
Grand prize in radon prevention of sick house syndrome  
Grand prize in environment-friendly products by green management



### Business with advanced manufacturing technology

Established a research institute under the company in 2016  
KICA Korea Interior Cooperative Association  
KIMA Korea Interior Management Association  
Korea Industrial Technology Association  
Korea Testing & Research Institute  
ISO14001 in environmental management  
KIMA Korea Interior Management Association  
ISO9001 in quality certification

**Chamgil ECOCELLA**



# ECOCELLA

*Energy savings are average from 30% to 70%.*



## Insulation Paint 15 Colors

It is not until 48 hours after painting that the aerosol is released to the surface for it to be functional.

**It protects lives in case of fire with non-burnt features.**

Safe and non-burnt material



**Excellent thermal cooling effect**

Reduce heating costs in summer and winter.



**Outstanding Effects of new house syndrome**

Absorbing, discharging, and decomposing harmful substances



**Maintain a clean environment with antibacterial function**

Prevention of fungus germs



**Deep forest deforestation effect**

Blood circulation and metabolic facilitation



**Negative ion : Strengthen immunity by activating cells (breathing, skin absorption)**

Far-infrared radiation release : Produce good air after destroying harmful substances in the air.





# Do you still paint wallpaper with toxic materials?

## Now, just put on "**ECOCELLA**"

### ECOCELLA : Challenge zero energy

Healthy and clean natural insulating functional paint / just apply it with an ecocella

#### ● Effect of ECOCELLA

[ insulation, heat insulation, nonflammable, condensation, Humidity Control, Light Wave Energy, far infrared, reduction-new/old house syndrome Color changes depending on room temperature (selection) / Various patterns (selection) ]

#### "ECOCELLA" Energy savings are average from 30 % to 70 %.

It is not until 48 hours after painting that the aerosol is released to the surface for it to be functional.

1. Indoor use only = ECOCELLA
2. Verandah only = ECOELASTIC
3. Roof outside only = ECOGREEN

#### ● Precautions for Use ECOCELLA

- \* Store the contents of this product in a dry-cold cow at room temperature (10~20°C) to avoid freezing.
- \* Avoid strong impact, multiple loading, and rapid temperature changes when transporting and handling this product.
- \* On rainy days, high humidity days (more than 80%), low temperature days (5°C), and high temperature days (more than 40°C). Avoid painting work because it does not exhibit normal physical properties. (cracks in the paint, poor adhesion, poor durability, etc.) may occur.
- \* Be careful not to get into the eye, especially not to touch children or infants.
- \* Mix the color pigments with natural vegetable ingredients and refrigerate the remaining amount after use.
- \* Validity period: 3 years for non-opened and 1 year for release. After use, make sure to seal the remaining products and store them in a dry-cold cow.
- \* If there is anything wrong with this product, we will compensate and exchange it according to the consumer regulations of each item notified by the Ministry of Finance and Economy.
- \* If you have any questions regarding product use and construction, please contact your dealer or our customer service office.

### Quality Indication by the Quality Control Act of Industrial Products

ECOCELLA Natural insulation paint. - functional insulating paint

[insulation, heat insulation, nonflammable, condensation, water proof negative ion, far infrared, reduction-new/old house syndrome]

ECOCELLA Natural insulation paint is insulation, heat insulation, nonflammable, condensation, waterproof, negative ion, far infrared, reduction-new/old house syndrome. It is a paint that resolves the function of changing color according to indoor temperature at once. Energy savings are reduced by 30% to 70% on average. Use 15 kinds of natural pigments. It is a functional insulating paint that is beneficial to the human body. (Natural Powder(pigments):Separate)

#### ● Product specification of ECOCELLA

- Usage : plaster, wood, cemento, water-based, matt
- Package : water-based, matt, liquidation
- Main ingredients : calcium, carbon, Insuladd, powder jade, plaster, activa
- Diluent ratio : Recommendation for the use of undiluted solution. Use distilled water and ultrapure water to dilute. Use up to 10% (max)(Do Not Use Groundwater)
- Recommended painting area : 70㎡ / 18L (for two times painting)
- To be applied : Indoor concrete, plaster board (wall, ceiling and floor), cemet mortar, wood and etc. (Tile and wet construction parts not available)
- Drying time : 30minutes' fast drying (temperature 20℃/ humidity 60%) slow drying (temperature 20℃)
- Finishing work time : after 24 hours / solid drying (temperature 20℃/ humidity 60%), Function: Can be used after 48 hours
- Volume : 18L
- Solid content : about 33%
- Deodorization rate : 93%(after 120 minutes)
- Release rate of far-infrared rays : 0.913(7~20μm)

#### ● Painting specification of ECOCELLA

1. Organization clear before the paint : Remove impurities from the background and repair damaged and cracked parts.
2. Preparation of Paint : Mix using an electric stirrer. and use it.
3. how to paint : paint it with brush, water roller, spray and etc.

#### ● Painting specification of ECOCELLA

1. Clean the surface and completely dry it.
2. Before use, stir the paint sufficiently before use (always stir for more than three minutes)
3. Diluent material is use distilled water and ultrapure water (See Dilution and Ratio)  
Do not use water supply if possible. (No Groundwater Usage)
4. Paint it evenly with a brush, roller or spray( must be used extrusion gun spray)
5. It is very convenient to use a screw mounted on a drill when stirring.
6. After 24 hours of complete drying, the final finishing material work (walled paper, paint, etc.) shall be constructed.
7. Avoid painting work with a relative humidity of 80% or higher or a temperature of 10°C or below.
8. The effectiveness of this product can be maximized when complying with the above construction method.
9. The period of use shall not exceed one year.

### Production available capacity



4.5L



9L



18L

Chamgil ECOCELLA

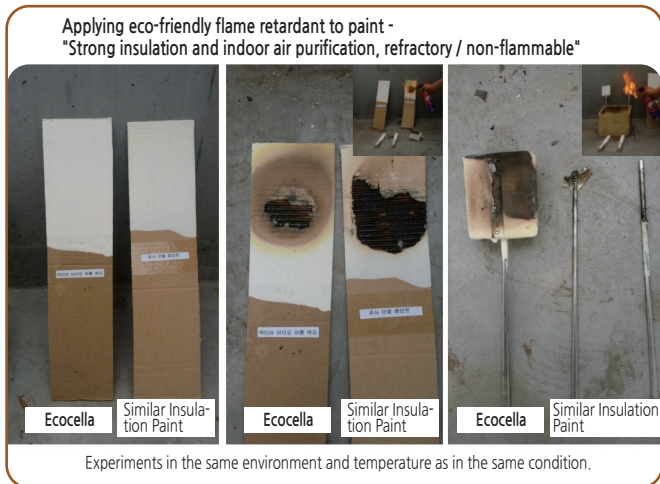


# Performance Test

- Anionic measurement effect



- Non-flammable effect



- Insulation temperature shielding effect



[Indoor Veranda General Elastic Wall] Temperature - 0°C

[Ecocellar Insulation Paint Construction Wall]  
Temperature measurement +11°C

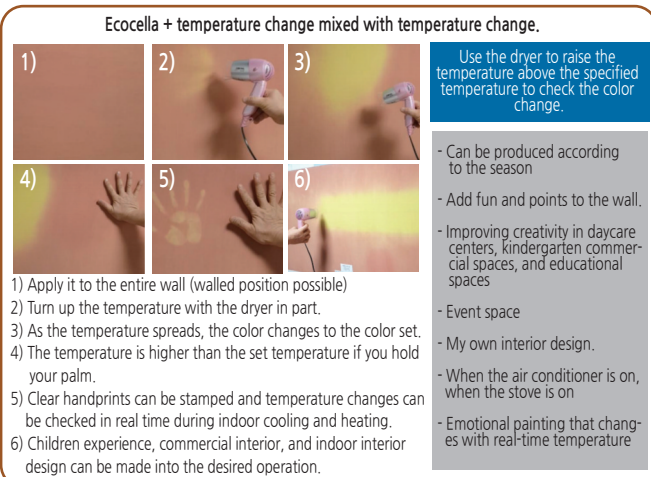
- Condensation effect



▲ Pseudo: Ice melts and the surface is wet

▲Company:  
Unwetted  
surface condition

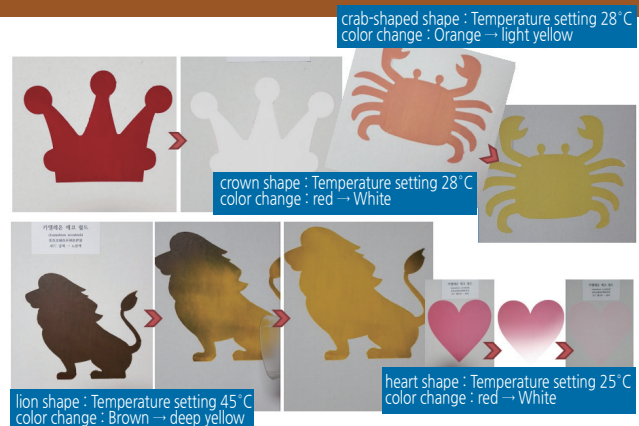
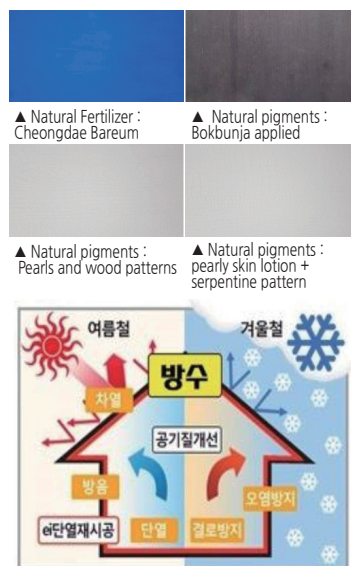
### ■ Effect of Cyclone Safety on Temperature Variation



■ Ecocella Insulation Paint Practical Construction Team



▲ Ecocella Insulation Paint Practical Construction Team



| Basic color  | setting color | changing color | setting color | changing color | setting color | changing color |
|--------------|---------------|----------------|---------------|----------------|---------------|----------------|
| Yellow       | green         | yellow         | black         | yellow         | turquoiseblue | yellow         |
| orange       | orange        | yellow         | black         | blue           | magenta       | yellow         |
| magenta      | red           | yellow         | darkblue      | violet         | red           | orange         |
| green        | black         | pink           |               |                | purple        | blue           |
| sky blue     |               |                |               |                |               |                |
| blue         |               |                |               |                |               |                |
| turkish blue |               |                |               |                |               |                |
| dark blue    |               |                |               |                |               |                |
| violet       |               |                |               |                |               |                |
| black        |               |                |               |                |               |                |

**Temperature setting** (You can set it in 1°C units, and you can set the color)

Setting color if the setting temperature is lower or higher than the ambient temperature → in color of change

- Setable temperature : -20℃~70℃ (General 0℃~55℃)
- Setting color : setting color, changing color is you can select all color

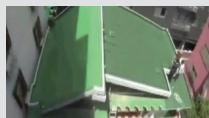
**Temperature setting** (You can set it in 1°C units, and you can set the color.)

Setting color if the setting temperature is lower or higher than the ambient temperature → in color of change

- Setable temperature : -20℃~70℃ (General 0℃~55℃)

- Configurable color : setting color, changing color is you can select all colors.

▼ Before construction



- Check the surface of the roof under the sun.

## ▼After construction



- The problem of detached houses can be supplemented.
- Insulation paint work on the roof

## ▼Temperature change after construction



- It can reduce the temperature by about 30 degrees from 58°C to 27°C.



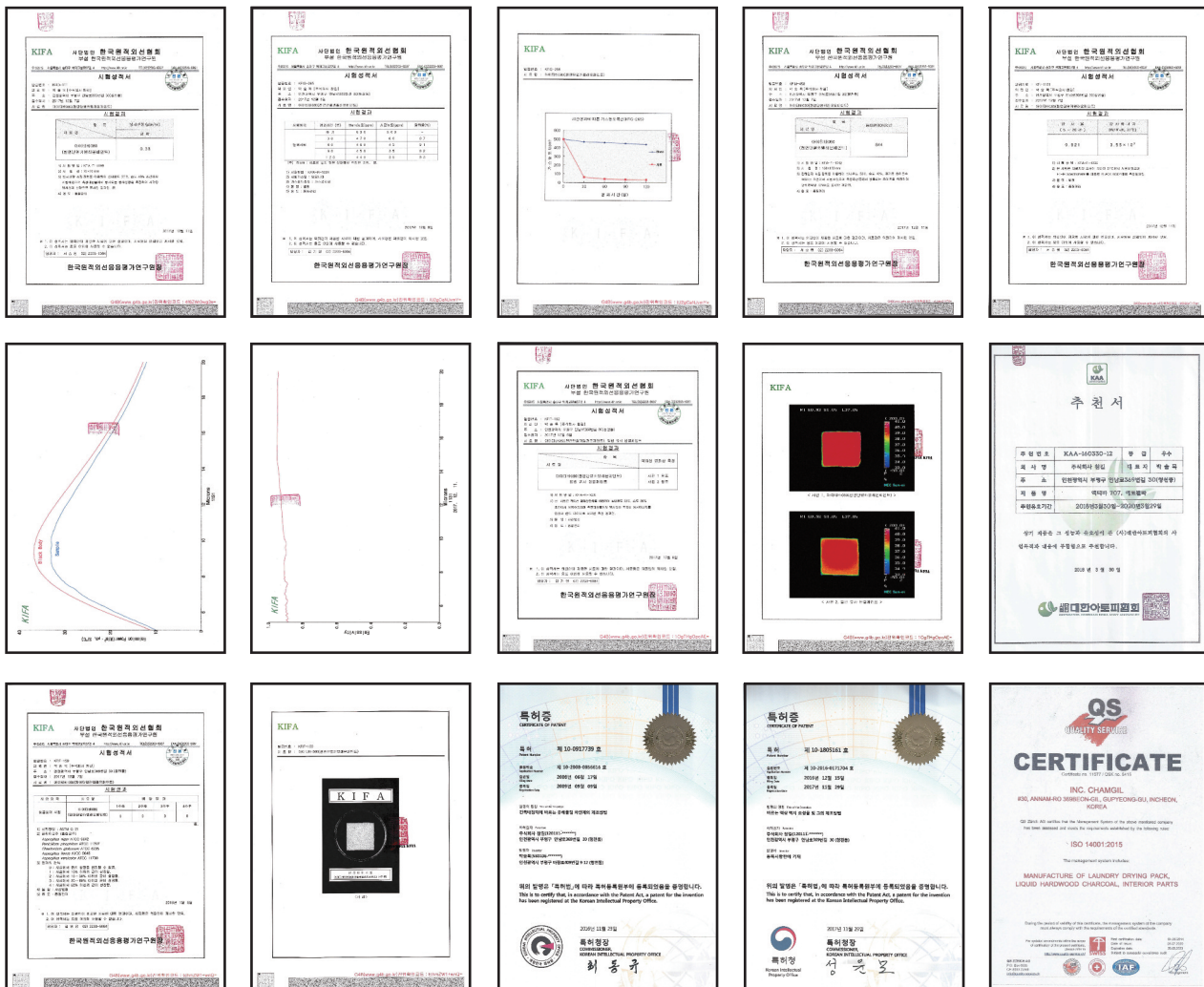
Recently, fire has caused significant losses in Korea and other parts of the world.

As a result, this product is no longer widespread in flames over 400 degrees Celsius, and is capable of reducing toxic gas emissions.

1. Indoor use only = **ECOCELLA**
2. Verandah only = **ECOELASTIC**
3. Roof outside only = **ECOGREEN**

We pride ourselves that this product is the best product not only in Korea but also anywhere in the world.

Thinking about the present and future, we will not only pursue the small benefits that are before us, but will always put our business in the right place with the right beliefs and values and put customer satisfaction first.





Chamgil Homepage : [www.croad.co.kr](http://www.croad.co.kr)  
 Shop : [www.croadshop.com](http://www.croadshop.com)  
 Sub-brand: NURMI : [www.ccroad.co.kr](http://www.ccroad.co.kr)  
 E-mail : [psulmok@hanmail.net](mailto:psulmok@hanmail.net)

## CHAMGIL Co., Ltd. ECOCELLA Application



Residential area  
/ Remodeling



Kindergarten  
/ Nursing home



Sterilized room  
/ Hospital



Office / Factory



Entertainment area  
/ Accommodation



Food / Restaurant



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