Water based

2 chouice of texture

Gorgeous gloss 50% gloss OR Calm matte 30% gloss

New Housing | Renovation | Homes | Apartment bldg. | Facilities

Factories | Shops | Govornmental Office | Public institution | Livestocks

" Easy to cool down "

High albedo / solar reflectance coating for roofs and walls

Adcool AQUA

Water-based Heat-shield coating

The best !! high reflective and heat dissipation

Heat-shielding at summer, heat retention at winter (reducing air-conditioner load)

Amazingly keep the functionality (90% sustainability for 10 years)

Low-pollution and self-cleaning (anti-algae / anti-rusting)

Stable quality for 10-15 years with water-based coating !

Future colour, focusing children...

未来色 Mirai iro

NCK NCK Co.,Ltd.

Cooling down just by coating!

Adcool Aqua is one of the best proud environmental technologies from Japan.

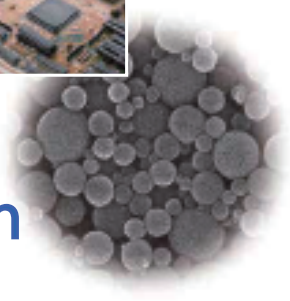
The characteristics of the Adcool Aqua

Heat-shield effect

The functionality of the non-porous spherical ultrafine ceramics maximize the "solar reflectance + heat dissipation" effectively to realize the exclusive "double-blind" effect from the energy of the sun.

* image of the ceramics application

International patent technology



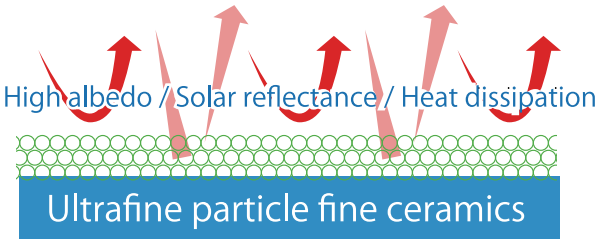
Solar reflectance

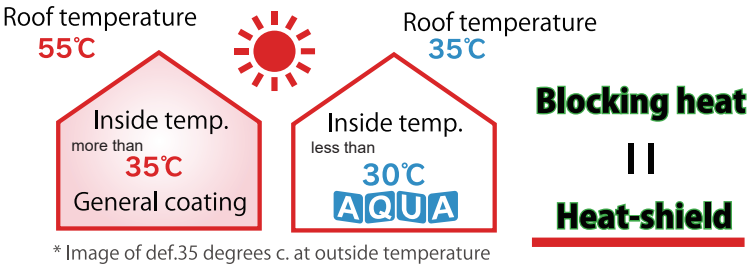
Special nano-ceramics highly reflect near infrared rays by electromagnetic wave scattering.

Heat dissipation

Non-porous spherical shaped material eliminates heat fogging and dissipation instantaneously.

Two major unique function





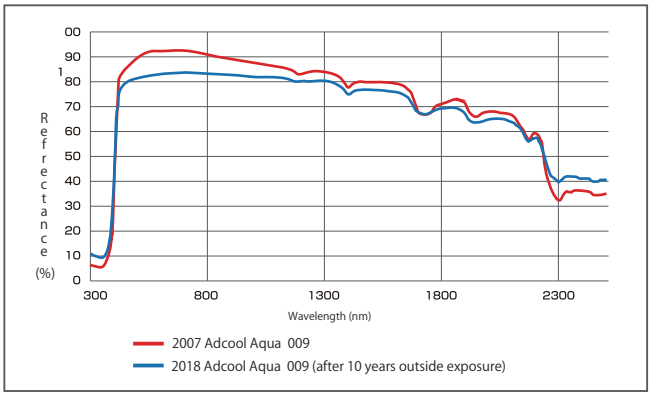
* Image of def.35 degrees c. at outside temperature

Sustainability

Execute the functionality for long term.

10 years outside exposure testing result

Term: June 2007 to January 2018
Venue: on a roof top of a building, Mie prefecture, Japan

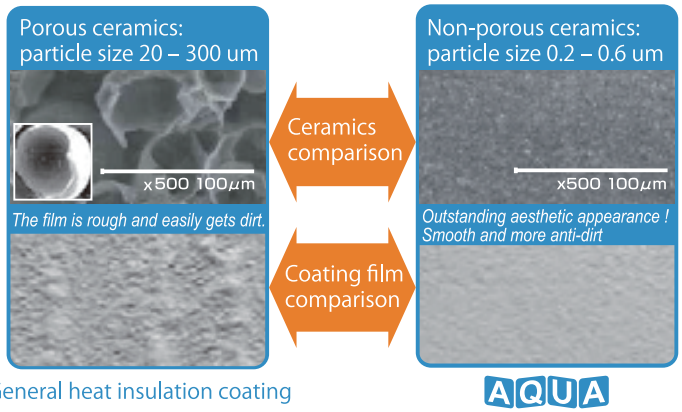


Even after the 10 years, Adcool Aqua keeps approximately **90 %** of the reflectance tremendously.

Aesthetics

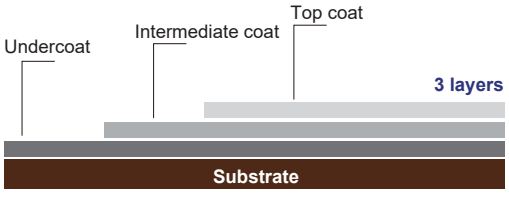
- Anti-algae / Anti-rusting

Free from coating thickness! Adcool Aqua has excellent smooth coating film and anti-dirt with thin-thickness coating film.
Adcool Aqua contains anti-algae / anti-rusting agent so that to keep the aesthetics appearance for long term with clean environment.



Workability / Economical

Adcool Aqua achieved the better workability and minimize the application process than others. Thin film and material usage of Adcool Aqua is less then half amount compared with other products, realizing high cost performance.



Reliability / Environmentality

It is the environmentally friendly and the stable JIS certified coating, which is authorized both internationally and domestically with **water-based** condition.

High albedo / solar reflectance coating for roofs - class1, LG type
(50% gloss only as of Jan. 2023)

The power of Adcool Aqua

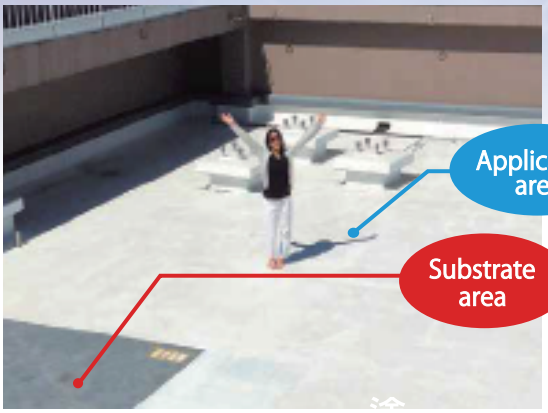
The high quality, high functionality coating with original purpose of "coating" to protect coated area and beauty of buildings.

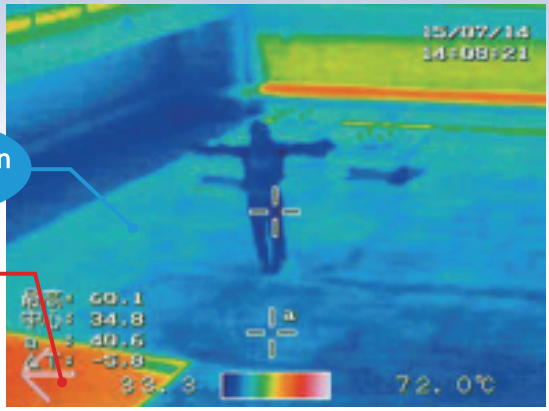
Step.1 Direct Effect

Cooling down only by application!

To reduce the surface temperature of the coating application area ***more than 20 degrees c.***

The picture of thermography camera





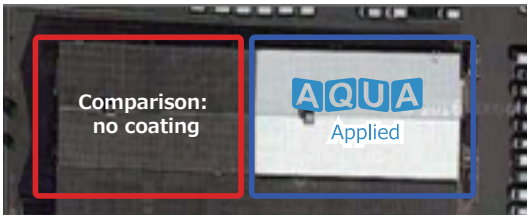
Step.2 Indirect Effect

Heat measurement! Building inside temperature reduction

[Summary]
Factory / slate roof
Material: Adcool Aqua 009 white, the heat shield coating
Case study: A car manufacturer effect verification test in Japan.
Support: Vehicle Production Engineering Division Environment Energy Technology Division

* Note: It will be up to the condition and circumstances to maximize the effect.

Actual verification : **7 degrees c. reduction inside of the building**



21 May 2016 14:12	Outside temp.	No coating	Applied	Temp. difference
Inside (near attic) temp.	28.8℃	42.9℃	28.9℃	-14.0℃

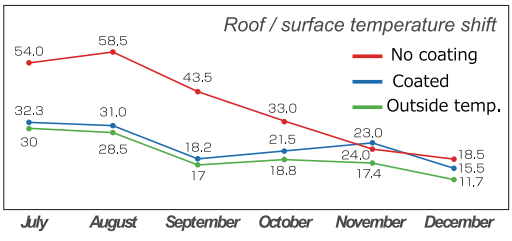
21 May 2016 14:12	Outside temp.	No coating	Applied	Temp. difference
Inside (near floor) temp.	28.8℃	32.6℃	25.2℃	-7.4℃

The past case study: Factory

Factory / office / warehouse / shops and markets housing / both international and domestic, We have lots of past case studies !

Venue: Housing manufacturer factory in Okayama pref. JPN
Measuring term: July to December 2012
Roof material: Galvalume steel plate (27,000 m2)

Summer peak time	No coating	Coated	Temp. difference
Outside temp.	28.5℃	28.6℃	Nearly the same
Roof temp.	58.5℃	31.0℃	− 27.5℃
Inside temp.	37.5℃	33.5℃	− 4.0℃



Step.3
Indirect Effect

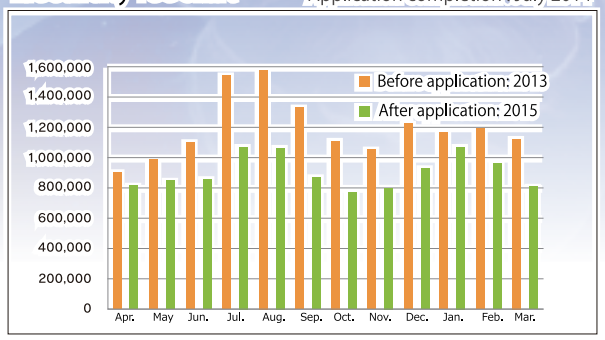
Energy saving measurement ! Electricity consumption reduction

[Summary]
Market / Galvalume steel plate
Material : Adcool Aqua 009 white the heat shield coating

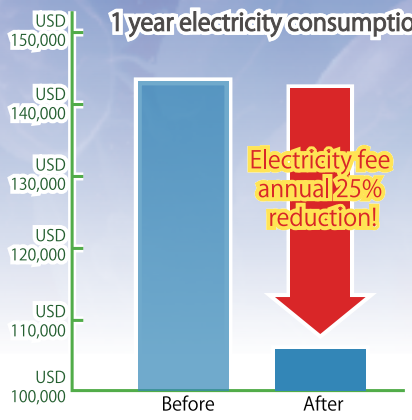
* Note: It will be up to the air conditioner setting and circumstances to maximize the effect.

Electricity fee shift

Application completion : July 2014



1 year electricity consumption



The voice of the client

There are 16 air conditioners but we are often satisfied only 8 air conditioners to make inside comfortable after application.

The energy saving point !

One of the hot reasons is " Heat storage " inside

It is said that the heat storage is the reason of the heat island phenomenon, which leads the inside temperature rise. Once the sun hit the building (or any other things), the light energy becomes the heat and the heat gradually penetrates into the building as the radiant heat.
The radiant heat is occupied of the inside hotness average 75%, in the other word, the heat-shield coating is the best solution to reduce the temperature rise both roof and wall for the inside heat measurement and the building protection from the thermal fatigue.

Point of Energy Saving!

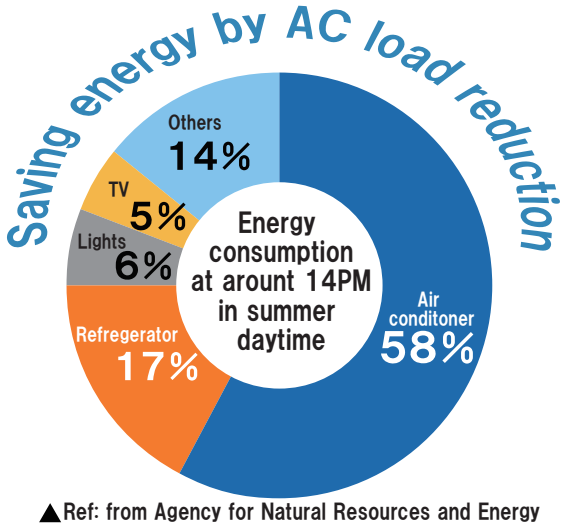
Reducing electricity consumption in peak months

Another key point for saving electricity is to control air conditioning costs, which account for a relatively large portion of the electricity bill. Especially in corporate contracts, there are many cases where the contract unit price for the next fiscal year is established based on the maximum amount of use for the year. As a result, the contract unit price for the next fiscal year can be lowered, and also we can expect to reduce electricity costs throughout the year.

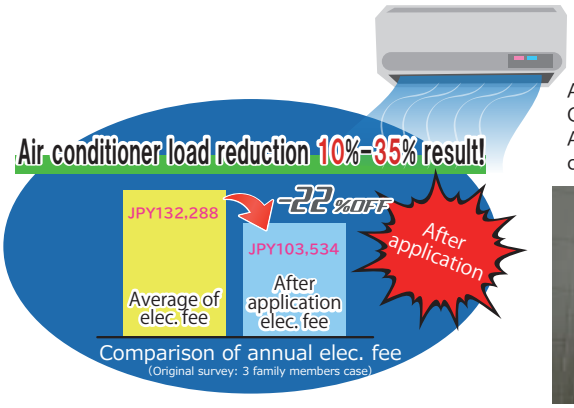
Comparison of electricity usage in summer			
Month	Before	After	Reduction ratio
8	506	331	35%
9	314	240	24%
10	238	201	16%

Comparison of electricity usage in winter			
Month	Before	After	Reduction ratio
12	367	247	33%
1	345	144	58%
2	213	144	32%

Unit : kWh
Past case study at a home in Hirakata city, Osaka
(Application: Aug. 2021 - Inspection : from Aug. 2021/8 to Feb. 2022)
*This is just one example and may not apply to all cases.

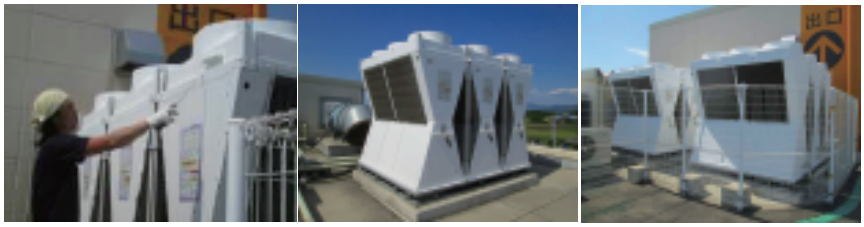


▲Ref: from Agency for Natural Resources and Energy



Effective for AC outdoor unit load reduction

Adcool Aqua can also be used to reduce the load on outdoor units by application. Generally, the depreciation period for air-conditioning units is said to be 10 years, but Adcool Aqua has an expected service life that exceeds this period, so it also contributes to maintaining aesthetics and saving energy by reducing the load.



Effective for heat shield measurement both roofs and walls
(For remodeling and renovation)

Recoating of houses — Recommended with lighter colors if the functionality emphasis!

Satisfied the coating finish!

How beautiful finish without any unevenness!

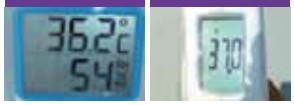
Even dark colour!

Due to the physics theory, Adcool Aqua achieved the hyper-solar reflective condition even with darker color compare to other general coatings.

Over-coating of waterproof material layer — Rapid increase as a top coat material for rooftop waterproof layer

Before application

After application



How " COOOOOOOOL "

On the concrete / Asphalt road during daytaime in summer with **Adcool Aqua**... !

Construction benefits of Adcool AQUA

Heat Shield Coating

Aesthetic Improvement Rust Prevention

Roofs and walls cannot be avoided rust and deterioration due to constant exposure to rain, wind, and UV rays.
Coating not only restore the luster of new construction, but also gives it an anti-rust effect.
In addition, Adcool Aqua can be expected comfort and energy saving effects due to heat shielding and heat dissipation effects.

Building Protection

Adcool Aqua not only has anti-fouling and anti-corrosion effects, but also greatly suppresses the deterioration of building materials due to heat and UV rays with its heat shielding and heat dissipation effects.
By protecting the building materials from all directions, the life of the building is extended.
It is expected to reduce maintenance costs over the medium to long term.
It is expected to reduce maintenance costs over the medium to long term.

Safety

Adcool Aqua is an eco-friendly water-based coating.
Since there is no unpleasant solvent smell, it provides a safe and comfortable environment for the client, local residents, and workers.

Adcool Aqua is not only environmentally friendly, but also certified by Japanese Industrial Standard JIS K 5675 (high solar reflectance paint for roofs) without sacrificing performance.

Economic Efficiency

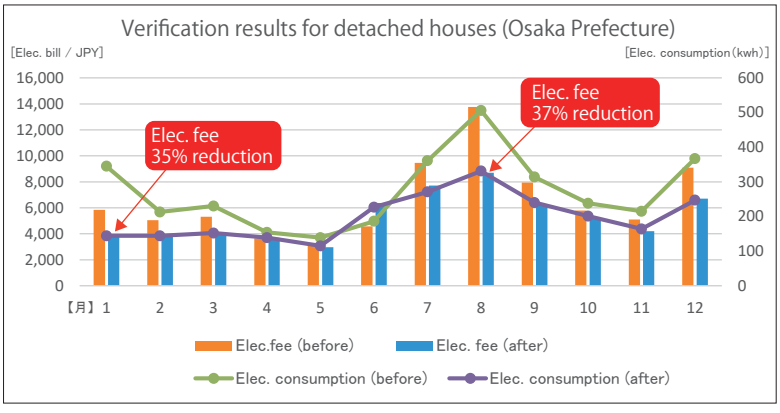
You can expect lots of benefit by Adcool Aqua application such as;
- building protection
- return on investment in several years by the energy saving effect
- heat shield effect

Both direct and indirect economic effect by the coating.

Both Summer and Winter to be effective!! Lots of past case study for homes/detached houses!!

Adcool Aqua can also be used as a countermeasure against soaring electricity bills and heatstroke indoors.
This is a case study in Osaka, Japan, that proved both heat shield effect and energy saving in summer and winter without endureing hotness/coldness during normal use.

*This is proof data, not a guaranteed value.



Before application: Outside temp. 37℃, Roof surface temp. over 72℃
After application, surface temperature decreased more than 15℃.
(Since Adcool Aqua is applied twice, further effects can be expected.)

Packing: 14kg / can Approx. 90m2 / 1 coat, 45m2 / 2 coat
Packing: 4kg / can Approx. 26m2 / 1 coat, 13m2 / 2 coats

Adcool AQUA

Heat Shield Coating

Colors Lineup

*30% gloss = "T" with the folooing No.s (e.g. T009)
50% gloss = "F" with the following No.s (e.g. F009)

Standard Colours

Heat shield effect with the colour variation

22-90B	15-80D	15-75B	15-70D	15-60D
030 (82.6%)	031 (80.5%)	032 (79.2%)	033 (77.3%)	034 (72.3%)
25-92B	25-90C	22-75F	19-70F	22-85B
040 (83.1%)	041 (82.0%)	043 (74.9%)	044 (70.2%)	050 (81.0%)
19-80C	22-65C	22-60D	29-90B	35-90B
052 (78.7%)	053 (73.3%)	054 (68.4%)	060 (83.6%)	061 (81.4%)
27-70D	65-85A	N-82	N-75	N-67
064 (69.7%)	070 (82.5%)	071 (81.2%)	072 (79.6%)	073 (72.5%)
N-55	N-95			
074 (72.7%)	009 (86.8%)			

*recommended white / lighter colours for the functionality maximization.

- Adcool Aqua 50% gloss standard colours are all JIS certified.
  JIS K 5675 High albedo / solar refrectance coating for roofs Class 1
  LG type water-based.
- Colour adjustment is only available for the certified applicators with the RAL / Pantone / Japan Paint Manufacturers Association Color Number.
  (additional paid support and possible adjusting colours are limited.)
- Adjusted colours will be not JIS applicable.

New / special colours

05-90B	07-80H	35-90D	55-90D	69-80D
080 (74.3%)	081 (72.3%)	082 (73.5%)	083 (73.5%)	084 (71.9%)
95-70D	42-80D			
085 (67.5%)	086 (70.5%)			

45-30B	45-30D	09-30D	55-30B	75-20D
101 (43.9%)	102 (43.4%)	103 (45.4%)	104 (44.0%)	105 (36.2%)

*The numbers in () is the solar refrectance of the near-infrared ray area (780-2500nm) with the 50% gloss colours.
*The colours on the catalogue is printed, similar to the actual but it may slightly different due to the ink and the printed material.
*The colours may slightly different due to the type, gloss and lot.
*The colours may be looked brighter when applied in larger area.

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