Product Description
Functional Materials

NANOBEST

Thermal insulating coating for glass

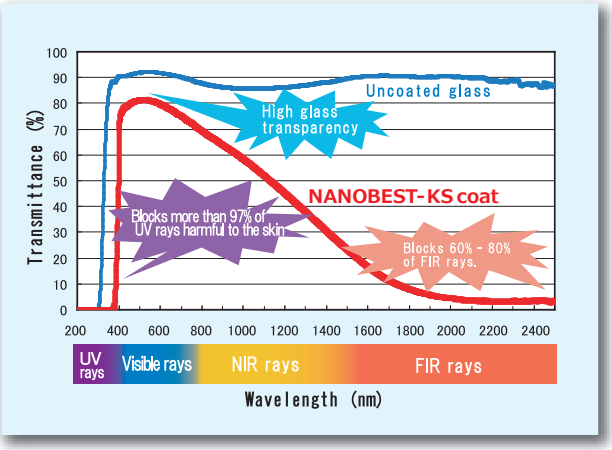
NANOBEST-KS coat

Save energy by coating your window glass!
You can reduce heating and cooling costs in homes, office buildings and factories.

Coating your window glass with our unique metal oxide nanomaterials;

- enhances application efficiency and adds thermal blocking and insulation performance.
- reduces indoor temperature in summer by 2 - 5 ℃.
- reduces power consumption by about 10% by raising airconditioner temperature setting by only 1 ℃.
- allows 2 ℃ lower airconditioner temperature setting in winter as heated air is retained indoors.

Has a great effect on thermal insulation and UV blocking, while keeping interior as light as before coating!



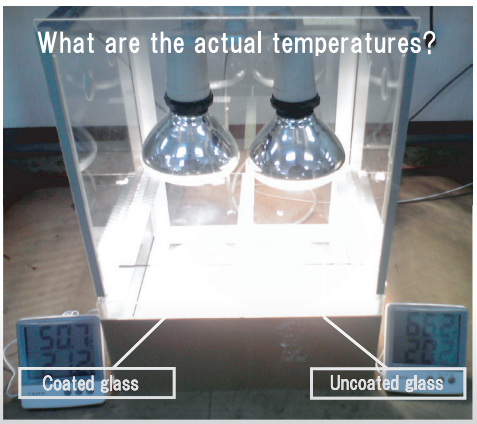
○ Excellent performance of **NANOBEST-KS coat** !

- It is highly transparent. You may wonder, ″Is it really coated?″.
- The coated glass blocks sunlight* and FIR rays from indoor heat source.

* 97% or more UV rays will be blocked.

・20% energy saving can be expected throughout the year.

Temperature Comparison Using Lamp Irradiation.



○ Compared with uncoated glass, temperature difference was 15.5 ℃ !!

Glass coated with **NANOBEST-KS coat** has an outstanding thermal blocking property.

Two temperature sensors were installed at the bottom as shown in the photograph on the left. First the surface without glass was irradiated with 500W halogen lamps until the temperatures of both sensors became constant. The uncoated glass (right) and coated glass (left) were placed under the lamps, and the temperature was measured after 10 minutes.

June 2012

Product Information

Product name	**NANOBEST-KS coat** [A set of Main Agent and Hadening Agent]
Contents	Main Agent 0.9 kg Hardening Agent 0.1 kg
Packaging	Carton (10 bottles) A high-density polyethylene bottle with inner cap
User instruction	Mix the Main Agent and Hardening Agent in 9 to 1 ratio before application. See the Application Manual for application method. *Once Hardening Agent is mixed, store the mixture in a sealed container and use within 2 hours after mixing.


Main Agent Hardening Agent

Item	Appearance	Legally designated ingredients	specific gravity	Storage stability
Main Agent	Dark blue-green liquid Solvent odor	3-methoxy-3-methyl-1-butanol, Isobutanol, Butyl cellosolve	About 1.01	Cool dark place 12 months
hardening Agent	Colorless and clear liquid Solvent odor	Propylenglycol monomethylether	About 1.10	Cool dark place 12 months

○Coated film performance

Spectrophotometric performance	Uncoated glass	Coated glass	Spectrophotometric performance	Uncoated glass	Coated glass
Visible light transmittance	89.6%	80.7%	Visible light reflectance	8.5%	7.3%
Solar transmittance	85.4%	60.7%	Solar reflectance	8.0%	6.3%
Solar absorptance	6.7%	33.0%	UV blocking rate	27.1%	99.5%
Dry to touch (estimated hours)	Approx. 1 - 2 hours (Summer) Approx. 2 - 3 hours (Winter)				
Complete hardening (estimated days)	Approx. 10 - 20 days *May change due to environmental conditions i.e. temperature, humidity.				
Pencil hardness	4H				

- The above values are all reference values based on the sponge application method,
- Spectrophotometric performance analysis was calculated based on JIS R3106 and ISO 9050.

Precautions

"Flammable-Keep Fire Away"
Category IV Hazardous Material/Class II Petroleum/Hazardous Rating III

[Hazardous information]
- Highly inflammable liquid and vapor.
- May be harmful if ingested.
- Harmful if inhaled (fumes/mist).
- Causes dermal irritation and severe eye irritation.
- Causes respiratory, kidney, liver and central nervous system disorders.

[Storage and handling precautions]
- Take care not to generate ignition sources i.e. open flame, static electricity, impact, sparks.
- Wear protective gloves and eyeglasses
- Wear organic solvent mask.
- Provide local or general ventilation.
- Seal tight and store in cool dark place.
- Wash hands and eyes thoroughly after use.

For more information, please refer to our MSDS.

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