Special coating liquid with dirt prevention and thermal barrier effects

Ecology Coating Agent for Windowpanes and Outer Walls

Features

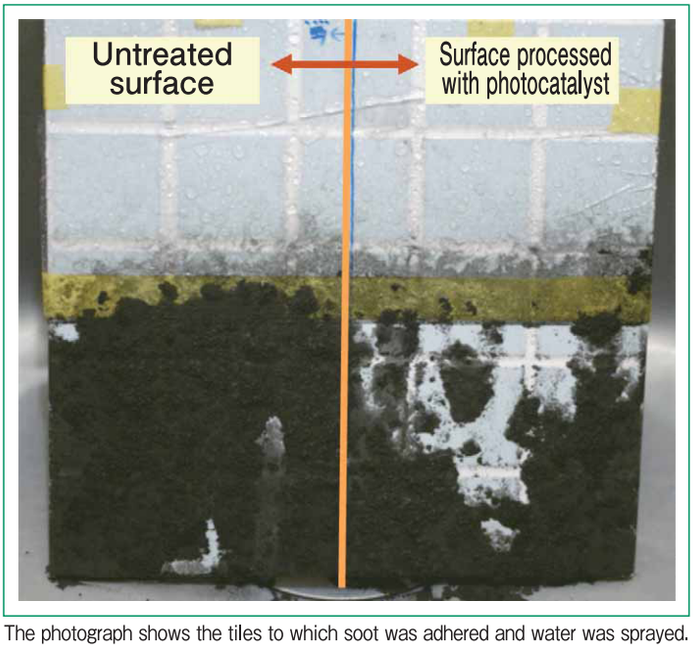
- Coated to outer walls so that rainwater will wash away the dirt on the outer walls and the gloss and colors of the outer walls will be maintained.
- Prevents the surface cracking and chalking of outer walls and prolongs the life of the outer walls.
- Coated to windowpanes to drop the indoor temperature by 2°C to 4°C.

Overview (Technical principles, actions, etc.)

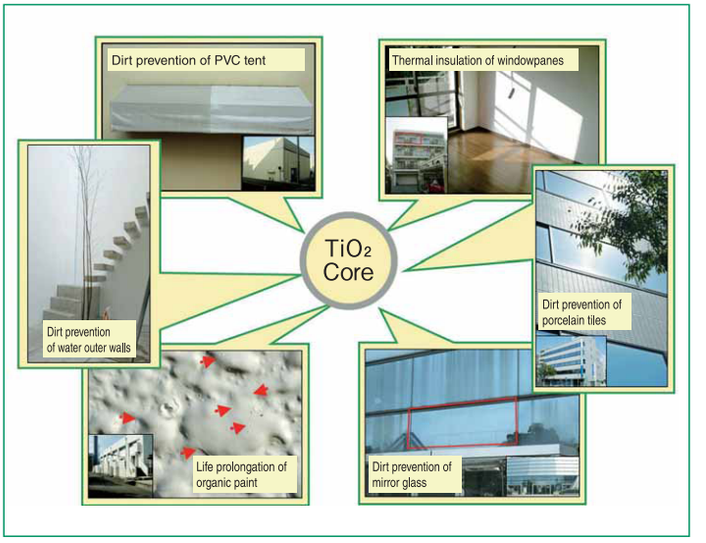
This product is a titanium oxide-based coating liquid that works on ultraviolet (UV) rays, visible light (VIS), and infrared (IR) rays individually. Unlike conventional optical photocatalysts that require ultraviolet rays to cause photoexcitation, the wet-type mechanochemical reaction of titanium oxide powder can generate photo-induced hydrophilicity not only in ultraviolet rays but also in visible light.

The above reaction generates low-level titanium oxide resulting from oxygen vacancies the generated low-level titanium oxide looks a little blackish. If the product is applied to windowpanes, the windowpanes will radiate the infrared rays in the sun, thus suppressing indoor temperature rises in summer while suppressing indoor heat radiation in winter.

If the product is applied to painted outer walls, the product will reflect sunlight, thus mitigating the stress on the surface of the paint, preventing the deterioration of the paint, and prolong the life of the paint that may otherwise cause cracks. The product generates photo-induced hydrophilicity with visible light as well as ultraviolet rays. Therefore, the product will prevent the adhesion of soot and dirt on the walls located in the shade and the soot and dirt will be removed with ease by sprinkling water and rainwater.



The photograph shows the tiles to which soot was adhered and water was sprayed. Only the tiles on the right-hand side were processed with a photocatalyst.



On-site work examples

Introductory Track Record

- **Outer walls coated with organic white paint (Residence)**
- **Outer walls made of porcelain tiles (Financial institution)**
- **Windowpane (Business establishment)**
- **Urethane-based outer walls (Business establishment)**
- **General-purpose colored PCV tent (Business establishment)**
- **Mirror glass building (Prefectural institution)**

Besides, the product was applied to a large number of buildings in Japan.

Effects

◎ **Photocatalyst stain-proof coating agent (SAKURA W06)**

The dirt on the surface of material is eliminated after the dirt floats in the water.

SAKURA W06 introduces stable oxygen vacancies to the titanium oxide surface, thus making it possible to generate photo-induced hydrophilicity in visible light.

This product is responsive to visible light, thus generating hydrophilicity in the shade as well.

Furthermore, the product supports a wide variety of materials by using different base processing solutions.

◎ **Stain-proof thermal barrier coating liquid (WT06)**

The WT06 reflects the infrared rays in the sun.

This product highly efficiently shuts off the infrared rays in direct sunlight, thus alleviating the intensity of scorching sunlight.

The product shuts off heat radiation from indoors through windowpanes, thus increasing the efficiency of heating equipment in winter.

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