

Coating Precautions

1. Do not use the product until you have read the instructions for use provided in the catalogue.
2. Using thinner products other than those specified by our company may result in decreased workability or failure to achieve the specified performance.
3. Thoroughly degrease object surfaces before coating.
4. Use thinners as quickly as possible once they are diluted.
5. The cured coating will exhibit extremely good chemical resistance. However, please note that surface activity will remain high before the coating is fully cured.
Take care to keep the coating from reacting with acidic and alkaline components in a dry atmosphere (e.g., steel processing fluids) and becoming discolored.

Expiration Date and Precautions on Storage

1. The expiration date following shipment from our company (before opening) is six months for the main agent, three months for the hardener, and one year for the thinner. Once opened, use the products as quickly as possible.
2. The hardener will react with moisture in air (humidity). Use as quickly as possible.
3. Avoid exposure to direct sunlight. Keep dry. Store in a cool, dark, and well-ventilated place at temperatures below 40 °C. Keep products locked (in hazardous materials storage).
4. Keep containers tightly sealed. Store in compliance with applicable regulations.
5. Keep out of reach of children.

Precautions on Safety and Sanitation**» Precautions on Use**

1. Keep your face away from the container when opening it.
2. Handle with care. Damaged containers pose risk of contamination or fire. Keep containers upright during transportation and storage.
Do not place on side or upside down.
3. Do not use near flames or sources of ignition.
4. Install local ventilation systems in places where the products are handled.
5. Take care to avoid direct contact between the product and skin during handling. Wear protective gloves, protective clothing, eye protection, and face protection.
6. In case of spillage, scatter sand or other inert materials over the spill and collect.
7. Wash hands and rinse mouth and throat thoroughly after handling.
8. Do not eat, drink, or smoke when using this product.

» First Aid Measures

1. If on skin or in hair, immediately remove all clothing contaminated with paint and wash with plenty of soap and water. Seek medical attention if you feel pain or notice any injuries.
2. If in eyes, rinse with plenty of water. Get immediate medical attention.
3. If inhaled and feeling unwell, remove the person to fresh air and place at rest. Get medical attention, if necessary.
4. If swallowed, get immediate medical attention.

» Firefighting Measures

1. In case of fire, use fire extinguishing agents or dry sand to extinguish.

» Disposal

1. Empty the containers completely before disposal.
2. Dispose of contents/containers as industrial waste in accordance with local/regional/national regulations.
3. Dispose of coating materials, coating containers, and coating tools as industrial waste.

» Other

1. Refer to the product Safety Data Sheet (SDS) for more information.
2. The present product is designed for indoor applications. Refrain from use outdoors or in places exposed to direct sunlight for extended periods.

Note : The contents of the present catalog are subject to change without notice.

Note : The results of testing on various resistance characteristics are based on our in-house evaluations. They do not constitute a guarantee of product quality or performance.

Note : Unauthorized reproduction or use of the contents, texts, or images in the present catalog is strictly prohibited.

Please contact us (see below) for more information.

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2-Part

Special Acrylic
Urethane Resin

Room-Temperature Curing

Antimicrobial Paint

ECO-AVANTE ERA

This paint offers high antimicrobial performance.

Apply this paint to inhibit the growth of microbes

(e.g., *Escherichia coli*, *Staphylococcus aureus*)

and to keep your finished products clean and sanitary.

The total concentration of toluene, xylene, MIBK,

and styrene has been kept below 0.1 %.

This coating offers high environmental sustainability

and minimal environmental impact.



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EDOGAWA GOSEI

Features

High antimicrobial performance to inhibit microbial growth

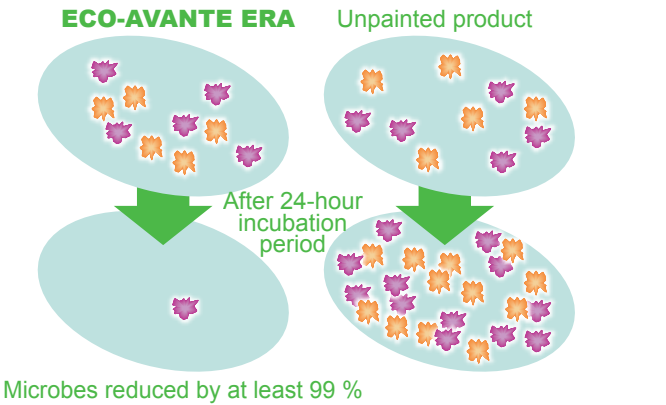
Exhibits powerful antimicrobial effects against *Escherichia coli*, *Staphylococcus aureus*, and other microbes.

[Results of Antimicrobial Testing]

Microbes tested	Antimicrobial activity value*
 <i>E. Coli</i>	5.9
 <i>S. aureus</i>	4.6

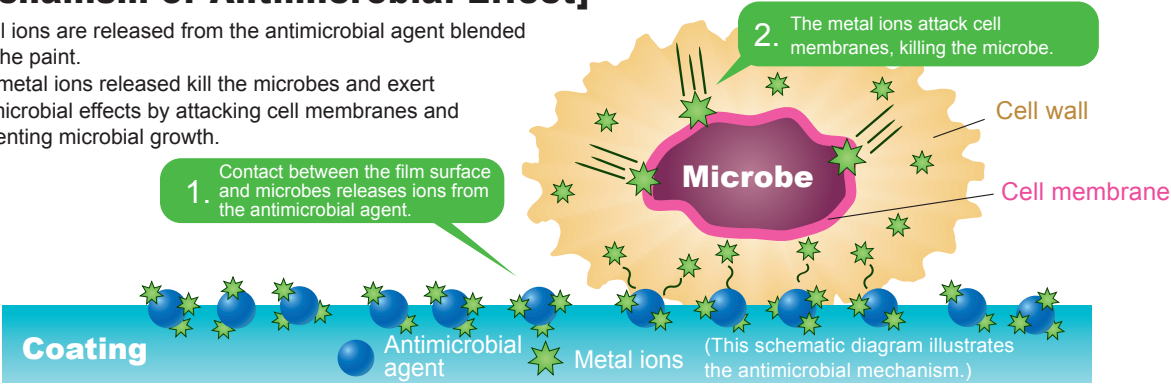
* This value is an index of antimicrobial effects in the test method for antibacterial activity and efficacy stipulated in JIS Z 2801. The value is calculated as a logarithmic value of the cell count on an untreated (control) surface incubated for 24 hours after inoculation divided by the cell count on a surface with antimicrobial treatment incubated for 24 hours after inoculation. JIS Z 2801 stipulates that antimicrobial efficacy may be claimed at antimicrobial activity values of 2.0 or higher (i.e., reduced by at least 99 %).

Tested paint: ECO-AVANTE ERA 802 Black
Test conditions: We carried out antimicrobial tests in accordance with the procedures for plastic products stipulated in JIS Z 2801.



[Mechanism of Antimicrobial Effect]

Metal ions are released from the antimicrobial agent blended into the paint.
The metal ions released kill the microbes and exert antimicrobial effects by attacking cell membranes and preventing microbial growth.



Note : The paint is not guaranteed to be effective against all viruses and bacteria.
Note : Please contact our sales representatives if tests are required for specific bacteria, molds, or viruses.

Outstanding adhesion to a wide range of materials

The product exhibits excellent adhesion to plastic and metal surfaces.

Superior coating performance and workability

The product offers high chemical resistance, solvent resistance, and stain resistance. Rapid drying properties provide superb workability.

Eco-friendly

Our commitment to the environment

- The total concentration of toluene, xylene, MIBK, and styrene is kept below 0.1 %.
- The use of chemical substances designated in the PRTR Act has been reduced by more than 99 % (compared to existing products, based on results of in-house testing, as of July 2020).
- Complies with all requirements of the Ordinance on Prevention of Dangers Due to Specified Chemical Substances (amended in April 2021).
- Entirely free of ten hazardous substances* whose use is restricted by the RoHS Directive.

* Cadmium, lead, mercury, hexavalent chromium, polybrominated biphenyls, polybrominated diphenyl ethers, bis(2-ethylhexyl) phthalate, dibutyl phthalate, benzyl butyl phthalate, diisobutyl phthalate

Intended Use

Plastic and metal products used in medical instruments, home electronics, recreational equipment, optical instruments, machine tools, industrial machines, electronic devices and associated parts, automotive interiors

Color

Customized colors available (gloss reduction only)

Note : For custom colors and specialized thinners to meet your painting needs, please contact our sales representative.

Volume

ECO-AVANTE ERA : 16 kg / 4 kg

Ecobright hardener (standard type) : 2 kg / 500 g

Specialized thinners

Thinner 4100 SW : 16 L / 3.8 L

Instructions for Use

1. Pretreatment

Thoroughly degrease the surface before applying the epoxy resin.

2. Priming

Use Edo Bosei EPR primer before applying the product to metal surfaces that require corrosion resistant treatment.

3. Agitation

Agitate the coating material thoroughly before dilution.

4. Dilution and Mixing

The mixing ratio of the paint is main agent □ hardener : thinner = 8:1:3-7.
Use Thinner 4100SW. Measure precisely to adjust the mixing ratio by weight.
Adjust viscosity in an Iwata NK-2 viscosity cup for 10-15 seconds (liquid temperature: 25 °C).

5. Application (spray coating)

Air pressure	0.2-0.5 MPa	Standard coat thickness	20-30 μm
Nozzle diameter	1.0-1.5 mm	Coverage	Light colors: Approx. 120 g/m ² Dark colors: Approx. 110 g/m ²

Note : The product is a two-part curing agent and has a specific pot life (duration of use after mixing). Use the product within six hours after mixing at 25 °C. Discard mixture after its pot life has elapsed.

6. Drying and Curing

Dry to the touch	10-15 min., at 25 °C	Hardened and cured	4 hours, at 25 °C	Forced curing	30 min., at 60-80 °C	Fully cured	7 days, at 25 °C
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Note : Allow at least one day after application before proceeding to the packaging process.
Note : When carrying out forced curing, allow a setting time of 10-15 min. after application at room temperature.
Note : Check the maximum allowable temperature for plastic materials before forced curing.
Note : The coat must be allowed to cure for at least seven days before the indicated resistance.

Coat Performance

Results of Coat Performance Tests (ECO-AVANTE ERA 802 Black)

Test Items	Results	Test Conditions	Materials
Adhesion	100/100	Cross-cut test with adhesive tape	ABS resin plate/FRP resin plate PC (lupilon®) resin plate PC (Takiron) resin Aluminum (A1050/A5052/A6063) Stainless steel (SUS304/SUS316) SPCC-SD steel sheet Bonderized steel sheet
Pencil Hardness	HB	Film Hardness Tester using Mitsubishi UNI pencils (1 kg load)	ABS resin plate
Water resistance	100/100	Distilled water (immersed for 120 hours at 40 °C; allowed to stand at room temperature for 24 hours before secondary adhesion test)	
Oil resistance	No abnormality	Salad oil (immersed for 72 hours at 40 °C and 95% RH; allowed to stand at room temperature for 24 hours before visual inspection)	
	HB	Salad oil (immersed for 72 hours at 40 °C and 95% RH; allowed to stand at room temperature for 24 hours before pencil hardness test)	
Abrasion resistance	No material exposed	Abrasion tester using erasers (sand eraser; 1.5 kg load; 100 rubbing cycles)	
Humidity resistance	100/100	Humidity resistance tester (exposed to 90% RH at 60 °C for 72 hours; allowed to stand at room temperature for 24 hours before secondary adhesion test)	
	HB	Humidity resistance tester (exposed to 90% RH at 60 °C for 72 hours; allowed to stand at room temperature for 24 hours before pencil hardness test)	
Alcohol resistance	No abnormality	Rubbing with 99.5% ethanol (500 g load; five rubbing cycles)	
Thermal cycle resistance	100/100	Exposed to 100 heating/cooling cycles from -20 °C to 70 °C; allowed to stand at room temperature for 24 hours before secondary adhesion test	
Cosmetics resistance	No abnormality	NIVEA cream (kept at 60 °C for 24 hours after application before visual inspection)	
Detergent resistance		10 % neutral detergent (immersed in Mama Lemon dishwashing detergent diluted with water for 72 hours at 40 °C and 95% RH; allowed to stand at room temperature for 24 hours before visual inspection)	
	HB	10 % neutral detergent (immersed in Mama Lemon dishwashing detergent diluted with water for 72 hours at 40 °C and 95% RH; allowed to stand at room temperature for 24 hours before pencil hardness test)	
Print resistance	No abnormality	Foamed polyethylene (500 g load applied for 48 hours at 40 °C and 95% RH before visual inspection)	

Note : Curing conditions for test sheets: Cured at 80 °C for 30 minutes, then allowed to stand at room temperature for 7 days