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 the paint as quickly as possible once it is diluted with thinner.
5. The cured coating will exhibit extremely good cutting oil resistance and 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 contaminated clothing 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.

Please contact us (see below) for more information.
TEL: +81-493-26-0781 FAX: +81-493-26-0786 Online contact form: https://www.edog.co.jp/inquiry/

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PP-067_00E 2024.10

Eco-friendly

1-Coat paint

2-Part | Acrylic Resin | Room-Temperature Curing

Cutting Oil Resistant 1-Coat Paint

HARD BARRIER ZERO-ONE HB

This paint requires just a single coat to achieve
cutting oil resistance equivalent to that of two-coat two-part curing paints,
dramatically streamlining coating processes.
This new-generation coating agent offers versatility,
extreme toughness, and friendliness both to
humans and the environment.

EDOGAWA GOSEI

Features

Innovative one-coat paint

This paint requires just a single coat to achieve cutting-oil resistance equivalent to conventional two-coat (primer + topcoat) paints, dramatically streamlining coating processes, shortening work times, and improving productivity. Since this is multi-purpose paint, it can be used for topcoat and undercoat.

Outstanding cutting-oil resistance

A single coat confers high cutting-oil resistance and prevents peeling to ensure a long-lasting aesthetically pleasing finish on the product.

Reduction in environmental load

Reducing the amount of paint needed helps to lower CO_2 and VOC emissions and conserve energy.

Excellent adhesion and wide substrate compatibility

The product exhibits excellent adhesion to various surfaces, including iron, cast metals, aluminum, stainless steel, and other metals, as well as plastics. It has wide-ranging applications, including for coating machine tools and general products.

Broad range of effects and high-quality finish

Achieves a wide range of attractive effects through color and gloss adjustment, including metallic textures, and can greatly raise the aesthetic appeal of finished products.
Its high-solid formulation also offers high masking potential for covering surface scratches and sheet metal blemishes, thereby improving the external appearance of products.

Friendly to humans

Minimizes use of additives known to be strong skin irritants, thus protecting the health of painting and coating workers.

Eco-friendly

Our commitment to the environment

- The total concentration of toluene, xylene, MIBK, and styrene is kept below 0.1 %.
- In-house testing indicates reduced use of chemical substances designated in the PRTR Act as of October 2024.
- Complies with all requirements of the Ordinance on Prevention of Dangers Due to Specified Chemical Substances (amended in April 2024).
- 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

Machine tools, industrial machines and medical equipment, etc.
Metal and Plastics products that require oil resistance and chemical resistance.

Color

Customized colors available

Volume

HARD BARRIER ZERO-ONE HB main agent: 16 kg / 4 kg
HARD BARRIER ZERO-ONE HB hardener: 3.2 kg / 800 g

Specialized thinners

Thinner 4300 S(for summer) / SW(for spring and fall) / W(for winter): 16 L

Instructions for Use

1. Pretreatment

Make sure the surface of the substrate is thoroughly degreased and adequately prepared.

2. Agitation

Agitate the coating material thoroughly before dilution.

3. Dilution and Mixing

The mixing ratio is main agent : hardener : thinner = 5 : 1 : 0.6–1.6.
Use Thinner 4300. Measure precisely to adjust the mixing ratio by weight.
Adjust viscosity in an Iwata NK-2 viscosity cup for 12–22 seconds (liquid temperature: 25 °C).

4. Application (spray coating)

Air pressure	0.3–0.5 MPa	Nozzle diameter	1.2–1.5 mm	Standard coat thickness	40–50 µm	Coverage	Light colors: Approx. 160 g/m² Dark colors: Approx. 150 g/m²

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

5. Drying and Curing

Room temperature (25 °C)	Dry to the touch	10–15 min.
	Hardened and cured	8–10 hours
Forced curing (60 °C–80 °C)		30 min.

Note: The coat must be allowed to cure for at least seven days before the indicated resistance.

HARD BARRIER ZERO-ONE HB

Coat Performance

Results of Coat Performance Tests (HARD BARRIER ZERO-ONE HB 901 White)

Test Items	Results	Test Conditions			Materials
Adhesion	100/100	Cross-hatch adhesion test with adhesive tape			Steel plates *1 Plastic plates *2 Glass plate
Topcoat compatibility	100/100	Cross-hatch adhesion test with adhesive tape	Single component paint (1K type)	"MA" acrylic resin paint "TE" polyester resin paint	Cold rolled steel plate
			Two component paint (2K type)	"ER" acrylic urethane resin paint "NX" acrylic urethane resin paint	
Undercoat compatibility	100/100		Single component paint (1K type)	"Super Multi Grip" polyolefin resin paint "Edo Bosei EPR" vinyl resin paint "Edo Bosei EB" modified vinyl resin paint "NEW Edobo NB" modified epoxy resin paint	
			Two component paint (2K type)	"Epolite Amine-Free" modified epoxy resin paint	
Pencil Hardness	2H	Pencil hardness tester using Mitsubishi UNI pencils (damage evaluated at 1 kg load)			
Erichsen value	No abnormality	Erichsen tester (φ20 mm × 5 mm extrusion)			
Bending resistance		Coating bending tester (φ6 mm × 180°/s)			
Impact resistance		DuPont impact tester (φ1/2 inch × 500 g × 30 cm)			
Water resistance		Distilled water (immersed for 240 hours at 25 °C; allowed to stand at room temperature for 24 hours before visual inspection)			
Acid resistance		5 % HCl (immersed for 480 hours at 25 °C and allowed to stand at room temperature for 24 hours before visual inspection)			
Alkali resistance		5 % NaOH (immersed for 240 hours at 25 °C and allowed to stand at room temperature for 24 hours before visual inspection)			
Solvent resistance	No material exposed	Lacquer thinner rubbing (with load of 500 g, number of rubbing cycles 30)			
Saltwater resistance	Rust width: < 2 mm	Salt spray tester (5 % NaCl aqueous solution at 35 °C and 95 % relative humidity for 168 hours)			
	[Cross-cut section] Peel width on one side: < 5 mm				
	[Non cross-cut section] Adhesion: 100/100 No abnormality				
Boiling water resistance	No abnormality Adhesion: 100/100	Immersion for one hour at 100 °C, then left to stand at room temperature for 24 hours before visual inspection			

Note: Curing condition for test sheets: left to cure at room temperature for 7 days after application
*1 Cold rolled steel plate / Bonderized steel plate / Zinc phosphate treated steel plate / Mill scale steel sheet (SS400) / ZAM steel plate / Hot-dip galvanized steel sheet / Aluminum plate (A1050 / A1085 / A1100 / A2017 / A5052 / A5083 / A6061) / Stainless steel plate(SUS304 / SUS316 / SUS430)
*2 ABS resin plate / Acrylic resin plate / PET resin plate / PES resin plate / m-PPE resin plate / FRP resin plate / Nylon-MXD6 resin plate

Results of Cutting Oil Resistance Test (HARD BARRIER ZERO-ONE HB 901 White)

Tested Cutting Oils	Type	Solution concentration	Results	Test Conditions	Material
HI-CHIP SX-507K *3	Water-soluble, soluble	10%	No abnormality	Immersed for 50 hours at 95 °C and left at room temperature for 24 hours before visual inspection.	Cold rolled steel plate
Syntilo 9954 *4	Water-soluble, synthetic	15%			
Synergy 735 *5	Water-soluble, synthetic	10%			
B-Cool 755 *5	Water-soluble, emulsion	10%			
Blasocut BC 35LFSW *5	Water-soluble, soluble	7%			
Yushiroken AP-EX-E1 *6	Water-soluble, emulsion	10%			

Note : Curing conditions for test sheets: left to cure at room temperature for 7 days after application
*3 Product of TAIYU CO., LTD. *4 Product of BP Japan K. K. *5 Product of Blaser Swisslube Japan Co., Ltd.
*6 Product of YUSHIRO CHEMICAL INDUSTRY CO., LTD.