BLUE RIVER COATINGS
Product Data Sheet

EK-100

PRODUCT DESCRIPTION

BLUE RIVER COATINGS EK100 is a two-component clear coat corrosion treatment system designed for long-term protection of coated substrates, specifically non-ferrous metals (aluminum, copper, brass, nickel, and galvanizing), from oxidation and abrasion. EK100 was formulated for Original Equipment Manufacturers (OEM) and Military applications but has multiple other uses. Potential application areas include marine environments resulting from salt air/mist, high humidity areas, acid or alkaline environments, and DOT/automotive equipment resulting from salt applications during winter conditions. EK100 can also be applied over weathered or oxidized painted surfaces to restore color and gloss. EK100, when applied properly, will not yellow, chip, crack, or peel. If gouged or damaged, the finish is repairable. The product is designed to coat surfaces that require a hard, flexible, and corrosion resistant thin coating. A value added benefit of EK100 is that is can withstand temperatures of 2,000°F. EK100 offers excellent coverage, durability, and oxidation protection as well as being an EPA compliant coating. EK100 is applied clear and will dry clear.

ENVIRONMENTAL ADVANTAGES

BLUE RIVER COATINGS EK100 is an EPA compliant coating and does not contain lead or chromates. The solid and semi-solid sludge produced in spraying and clean up can be dried and sent to a “Class B” landfill. Please follow local and state regulations in the proper use and disposal of this product.

CHARACTERISTICS

- Excellent hardness
- Excellent flexibility
- Excellent impact resistance
- Excellent adhesion, mar, and abrasion resistance
- Excellent heat tolerance (2000°F+ with no visible affects)
- Excellent chemical resistance
- Available in satin to gloss finish
- Non-photochemically reactive
- Application by spraying, dipping or wiping
- Little to no irritating odor
- Solvent is used for clean-up
- Non-hazardous
- Air dry or force curing preferred
- Pot life of 24 hours
- No special safety equipment required

USES

- Aluminum
- Brass
- Copper
- Stainless Steel
- Nickel
- Galvanized Surfaces
- Oxidized Painted Surfaces
- Ceramic Tile and Porcelain
- Welding Tips/Nozzles
- Plastics
- Plexiglas

AIR QUALITY DATA

- VOC (Volatile Organic Compounds) 2.68 lb/gal; 321 gm/ltr when catalyzed
- Free of lead and chromates

PHYSICAL DATA

- Liquid
- Specific Gravity: >1
- Evaporation Rate: Slower than ether
- VOC: 2.68 lb/gal; 321 gm/ltr
- % Solid by weight: 16.6%
- % Solid by volume: 16.5%
- Weight per gallon: 8.1 lbs
- Flash Point: 150°F CC Part A
- Flash Point: 47°F CC Part B

PERFORMANCE DATA

Recommended film thickness for test results on Aluminum is 0.1-0.2 mil.

- Salt Spray: Excellent-Passed 4,000 hour test with no visible effects
- UV Resistance: Excellent
- Solvent Resistance: 20+ Double-rubs MEK, Xylene, Acetone
- Flexibility: Excellent
- Theoretical Coverage at 0.1 mil: 2,647 ft2 (1,604 x 16.5% solids by volume)
- Salt Spray: Excellent-Passed 4,000 hour test with no visible effects
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SPECIFICATIONS

Metals: Surface must be free of grease, oil, dirt, and other foreign matter. Oxidation material must be removed.
Plastics: Surface must be free of grease, oil, dirt and other foreign matter.
Paints: Surface must be free of grease, oil, dirt and other foreign matter and completely cured.
Powder Coating: Surface must be free of grease, oil, dirt and other foreign matter.

CLEANING / PRETREATMENT

Cleaning and Pretreatment: Cleaning and pretreatment are critical for success of any coating system. As each application may be different, the cleaning/preparation may be different as well. Blue River Coatings recommends different cleaning/pretreatment processes depending upon each application and the amount of cleaning required:

General Purpose Cleaning/Degreasing: Use Blue River Coatings Pow'r Cleaner reduced 30:1 with water (30 parts water-1 part Pow'r Cleaner). This concentration will be sufficient for general cleaning/degreasing of the surface to be coated. Use appropriate cleaning equipment (clean cloth/rag, scrubbing brush, spray bottle, pump-up sprayer or pressure washer) for the substrate in question. If the 30:1 concentration is not sufficient to achieve adequate cleaning results, use a concentration of 20:1 or 10:1 for more aggressive cleaning. If a stronger concentration is used, thoroughly rinse the surface to remove any cleaning solution residue prior to coating. If cleaning/coating a vertical surface, work methodically from the top of the substrate down to the bottom to insure adequate cleaning, rinsing (if required), and coating are completed. **Make sure the substrate to be coated is completely dry prior to EK100 application.**

Aggressive Cleaning/Degreasing for Bare Metal Surfaces (Aluminum and Stainless Steel): Use Blue River Coatings NFM Cleaner, a triple combination acid based detergent, degreaser and metal brightener. NFM Cleaner is reduced 25:1 with water (25 parts water-1 part NFM Cleaner). This concentration will be sufficient for cleaning/degreasing of bare metal surfaces. If more aggressive cleaning is required, use a concentration of 20:1. DO NOT REDUCE MORE THAN 20:1. Strong concentrations of the NFM Cleaner may result in a "fogging or hazing" over of the metal surface. Use appropriate cleaning equipment (clean cloth/rag, scrubbing brush, spray bottle, pump-up sprayer or pressure washer) for the substrate in question. After cleaning, thoroughly rinse substrate to remove any cleaning residue prior to coating. If cleaning/coating a vertical surface, work methodically from the top of the substrate down to the bottom to insure adequate cleaning, rinsing (if required), and coating are completed. **Make sure the substrate to be coated is completely dry prior to EK100 application.**

MIXING INSTRUCTIONS

To obtain the optimum performance, the mixing instructions for EK100 must be followed precisely. Each component has been precisely formulated for optimum flow and hardness characteristics.

1. Wear appropriate safety equipment during mixing to include latex or nitrile gloves and safety goggles.

2. In a clean glass, metal, or HDPE plastic container, measure three parts by volume of EK100 Part A to one part by volume of EK100 Part B (3 parts A:1 part B). Do not use paper containers.

3. Under constant agitation with a laboratory magnetic stirrer, variable speed drill or drill press, mix the combined parts for 30 minutes uncovered or until the liquid becomes clear. Let the product stand uncovered for 1 hour prior to application. This induction or sweat-in period is required to insure that the product is catalyzed properly. During the mixing/catalyzation process, the combined products will generate a slight exothermic heat reaction and the sides of the container may feel warm to the touch. This reaction is normal. Temperature will be a factor in the mixing/application process. The catalyzed product will have a pot life of at least 24 hours. If temperatures are above 90°F, pot life may be shortened.

For small batches (16 ounces or less), it may be more efficient to hand shake the components as compared to mixing with equipment. For small batches, obtain a glass or HDPE container with a cap. Combine the appropriate volumes of part A and Part B in the container and cap tightly. Shake the container by hand every 3-5 minutes for 30 minutes. Remove or loosen the cap after each time the product is shaken. As stated in the above, the container may get slightly warm to the touch. Allow the product to sweat-in for an additional 2 hours prior to application.

APPLICATION

Application is by spraying, dipping, or wiping. Amount of coverage per gallon is dependent upon the applicator and the equipment used. For best results, product should be heat cured for 30 minutes at 250°F. Regular air-drying is acceptable but cure times will be longer. Insure that proper protective clothing and equipment is used during application. Wear NIOSH approved respirator and solvent resistance gloves and safety goggles.

Spraying EK100 with Standard Spray Painting Equipment

1. Wear appropriate safety equipment during mixing to include latex or nitrile gloves and safety goggles.
2. Mix EK100 as instructed.
3. For best results, the fluid nozzle on the spray equipment should be very small, 0.5 to 1.0 will provide the best application. Fluid Nozzle sizes will be dependent upon the equipment used. Please consult with your local equipment supplier for the best equipment choice for the application. The viscosity of the catalyzed product is very close to water, 14-16 seconds on a Zahn #2 viscosity cup.
4. The first pass of spraying should be a light mist or fog coat. The second coat should be a light to medium wet coat. If a third application is necessary, allow the product to set/air dry for 10-20 minutes before recoating. **Recoating cannot be accomplished if the coating has cured for an hour or longer.**
5. Surface cure can be achieved in 30 minutes with the addition of heat (200-500°F) and sufficient air movement.
6. Parts can be handled in 1-2 hours when air-drying at 50% humidity and 75°F. **Caution: Full cure may not occur for 10-15 days without adding heat. Note: Most catalyzed systems require 10-15 days before a qualified ASTM test can be performed.**

Wiping EK100 (unpolished surfaces)

1. Wear appropriate safety equipment during mixing/application to include latex or nitrile gloves and safety goggles.
2. Mix EK100 as instructed.
3. Apply EK100 to a clean, soft, lint free cloth or on to the substrate with a finger pump mister/spray bottle.
4. Wipe the EK100 on the surface in one direction only. Wipe in the same direction and manner until the substrate is completely coated. DO NOT RUB THE EK100 INTO THE SURFACE.
5. **Recoating cannot be accomplished if the coating has cured for an hour or longer.**

Wiping EK100 (highly polished surfaces)

- Consult Blue River Coatings

Dipping into EK100

- Wear appropriate safety equipment during mixing/application to include latex or nitrile gloves and safety goggles.
- Mix EK100 as instructed.
- Submerge clean part into the EK100 mixture and let the excess material drip off.
- EK100 has low surface tension and it may be necessary to wick off excess EK100 accumulating at the bottom of the part by touching with a dry paper towel or cloth.
- Parts that are dipped may need to be hung vertically to dry.
- Recoating cannot be accomplished if the coating has cured for an hour or longer.

ENVIRO-RINSE

ENVIRO-RINSE can be applied to any EK100 application to help accelerated curing times. Please consult the ENVIRO-RINSE product data sheet for complete information. ENVIRO-RINSE can only be applied to substrates that have cured in ambient conditions for at least 24 hours or have been heat cured at 200°F for 30 minutes and allowed to cool to ambient conditions.

CLEAN-UP

Use solvent for cleanup such as acetone or MEK. Insure the all equipment for product application is thoroughly cleaned or disposed of according to local and state regulations. Insure that proper protective clothing and equipment is used during application and cleanup.