ENE Black Immersion G 17

Room temperature antiquing solution for copper, brass, and Muntz metal, which produces color tones from light Flemish browns and statuary bronzes to blackish browns to black.

Features & Benefits

US 5, 10B, US 20 Finish	Matching of hardware finishes
Uniform deposition coating	Easily relieved to get varying levels for worn antique
ROHS and REACH Compliant	Reduction of hazardous chemicals

Operating Conditions

Instructions

ENE Black Immersion G 17 liquid concentrate is diluted with water and used at room temperature as an immersion "oxidizing" solution. The color developed and the reaction rate with the various metal surfaces is controlled by varying the concentration and the immersion time. Prior to charging a production tank, some experimentation should be done with properly prepared sample parts to determine the conditions required to produce the desired finish.

Equipment

Acid resistant tanks, tumbling barrels, baskets and racks must be used with the solution. Plastic, plastic lined, rubber lined, glass or stoneware are suitable. Mild steel may be used for the cleaning, rinsing and sealant tanks.

Solution Makeup and Color Development

Prior to charging a production tank, some experimentation should be done with properly prepared sample parts, using various dilutions and immersion times to determine the conditions required to produce the desired color. Black and blackish-brown finishes are obtained with dilutions of one (1) part concentrate to 3 to 10 parts water and immersion times of 30 seconds to 3 minutes. Light statuary brown colors are developed by using short immersions of 30 seconds or by increasing the dilution to 8 to 15 parts water. Immersion times and concentrations are not critical, and the colors can be consistently reproduced in production. The recommended operating temperature range is between 75°F and 90°F.

Antique finishes should be protected with oil, wax, or lacquer topcoat. Since the ultimate color will be influenced and enhanced by the topcoat, the topcoat must be applied before judging the depth of color or before comparing with other antique finishes. The natural color of the alloy and the mechanical finish on the surface will also affect the final color of "highlighted" or burnished finishes.

Surface Preparation

Plated Surfaces

1. Minimum plating thickness should be 3 to 4 mils.
2. Rinse thoroughly in cold water.
3. Rinse for 15 to 30 seconds in a dilute solution of the appropriate Hubbard-Hall Acid Salt to neutralize residual alkaline plating solution, which could contaminate the ENE Black Immersion G 17 solution.
4. Rinse thoroughly in cold water.

Wrought Alloys and Sheet Stock

1. Thoroughly clean part with the appropriate Hubbard-Hall Aquaease cleaner, followed by subsequent deoxidizing with the appropriate Hubbard-Hall Acid Salt, or burnish, belt sand, glass bead or sandblast the surface.
2. Rinse thoroughly with cold water to remove residual cleaning solutions or blasting dust.

"Oxidizing", Relieving and Sealing

1. Immerse pieces, while still wet from preceding rinse, in the ENE Black Immersion G 17 solution for the length of time necessary to produce the desired color. Rotating perforated barrels are recommended for processing small parts. If dip baskets are used, the parts should be agitated when first introduced into the solution to break air bubbles and to assure solution contact with all surfaces.
2. Rinse thoroughly with water. If hot water rinse is used to accelerate drying, it should be preceded with a short dip in cold water to minimize staining.
3. Force dry in heated spin drier, oven or cob meal. Large architectural panels should be wiped dry or blown dry with compressed air. Small parts do not have to be dried if they are to be barrel or vibratory burnished immediately after rinsing.
4. A variety of attractive antiqued or “highlighted” finishes are produced by buffing, scratch brushing,
5. barrel or vibratory burnishing.
6. A protective topcoat should be applied to enhance the color and give added abrasion and corrosion resistance. The appropriate Hubbard-Hall’s Metal Guard should be applied to obtain the desired finish.

Solution Replenishment and Maintenance

The solution is gradually depleted through use but may be replenished indefinitely with periodic additions of ENE Black Immersion G 17 concentrate. When the time required to produce the desired color increases, add enough concentrate to reduce the time to your

established standard. When the time interval to produce the desired tone becomes inordinately long and further additions of ENE Black Immersion G 17 do not increase rate of color production, the bath is spent and should be replaced.

The frequency of additions will depend upon the volume of work processed.

The life of the solution and the coverage will be increased by continuous circulation and filtration. An alternative is to allow the solid by-products of the reaction to settle to the bottom of the tank and transfer the solution to a clean, plastic lined drum to be retained for recharging after the tank is cleaned.

Caution

The ENE Black Immersion G 17 solution is mildly acidic. Avoid contact with eyes, skin and clothing. Wear eye shields, protective gloves and aprons. The solution is toxic if taken internally. Read and understand OSHA Safety Data Sheet and drum warning labels prior to working with or handling this product.