

## Insta-Blak® A-384

### Room Temperature Swab-On Oxidizing/Blackening Solution for Aluminum and Brass

The **Insta-Blak A-384** liquid concentrate is used full strength and is applied by swab-on techniques for oxidizing/blackening of diamond drag engravings, etchings, prototype parts or for the quick touch-up of scratched or re-machined black anodized surfaces.

The black finish is of negligible thickness and, therefore, produces essentially no dimensional changes in the finished part.

Blackening results are uniform, consistent, repeatable...stable under lacquer...colorfast through age or sunlight.

**Insta-Blak A-384** blackens castings that cannot be anodized.

**Insta-Blak A-384** cannot replace hard anodized finishes where a high degree of abrasion resistance is required. However, it can be used to touch-up black anodized surfaces which have been scratched. For touch up of aluminum, products such as **Insta-Blak A-384** can be used to meet **AMS 2483B**. However, **EPI** does not perform testing on these products to verify conformance to this specification.

#### EQUIPMENT REQUIRED

Containers and other equipment coming in contact with the **Insta-Blak** solution must be acid resistant. Most plastics are suitable. Do not use an uncoated metal container as it will rapidly deplete the solution.

#### Remove Oils and other Soils:

1. Degrease the area to be finished with **E-Kleen 163** neutral spray bottle cleaner. Do not use petroleum solvents as a replacement. Let the cleaner work 1-3 minutes.
2. Rinse with running water, a damp sponge or damp cloth. Apply the damp sponge or cloth for several applications to thoroughly remove residual cleaning solution. If water breaks occur during rinsing, try using **E-Kleen 163** again. Water breaks mean the substrate is not clean.

#### FINISHING PROCEDURE

Surfaces to be oxidized/blackened must be free of lacquers, oils and other soils as well as being free of aluminum oxide or brass oxides. Surfaces are prepared either mechanically or chemically.

**Mechanically or electronically engraved** aluminum and brass surfaces on lacquer coated stock may be blackened without further surface preparation if kept free of oils, greases, oxides and fingerprints. Freshly engraved surfaces should be blackened within a few hours of engraving before an oxide film can develop which would stop the blackening reaction or produce a non-uniform and non-adherent black finish. Aged engraved surfaces will require cleaning and deoxidizing with **E-Kleen 154**. **E-Kleen 154** will also enhance the depth of black of freshly engraved surfaces and improve adhesion.

**Chemically etched** surfaces must be free of residual etching solutions prior to blackening. A thorough running water rinse will remove most etching solutions. A sponge dampened with clean water can also be used to remove etching solutions.

Small areas may be cleaned by scrubbing with a liquid household detergent or with a solvent. Cleaning and deoxidizing can be accomplished in one step by using a liquid detergent while abrading with an abrasive pad.

The preferred method of deoxidizing surfaces is to use a 10-50% by volume solution of **E-Kleen 154** in water. Immerse the parts for 2-5 minutes or use a swab or sponge saturated with **E-Kleen 154** solution to rub the engraved surface. Following cleaning with **E-Kleen 154**, the surface will be rinsed with running water or a sponge saturated with water prior to blackening with **Insta-Blak A-384**.

**Surface oxides** may be removed from small areas by hand with steel wool, emery cloth or other abrasive pads. Larger areas are deoxidized by scrubbing with or soaking in a solution of **EPI's E-Kleen 154** or with sand or glass bead blasting or with abrasive belts or wheels.

All residual cleaning and deoxidizing solutions and blasting and sand dust must be removed with running water or a dampened sponge before blackening.

**Oxidizing/blackening** is accomplished by generously applying the full-strength **Insta-Blak A-384** solution with a swab, brush, rag, sponge, or plastic spray bottle with coated stock. The surface to be blackened is covered as rapidly as possible with a light rubbing action. Allow the solution to react for 30 seconds to 2 minutes. Do not rub the surface the last 10 to 20 seconds. The **A-384** solution is normally used full strength. However, if a slower reacting solution is desired for improved adhesion or other reasons, the **A-384** concentrate may be diluted with 1 to 3 parts water.

Residual **Insta-Blak A-384** solution is removed with running water or a dampened sponge. Hot water accelerates drying. Air dry or wipe dry the oxidized area.

The oxidized/blackened area may have to be buffed with a cloth or brush to remove any non-adhering smut or dusty chemicals from the surface.

**Seal** the oxidized/blackened area with **EPI's E-TEC 520** or **521** sealants or with an oil. This will enhance the depth of blackness and provide corrosion and abrasion resistance to the blackened areas. The black finish will appear to be only a dark gray

in color until sealed and it has very little corrosion resistance without a sealant. If sealed with oil, use a soft paper towel or cloth to remove excess oil. For architectural finishes use **E-Tec 520, E-Tec 521 or RENWAX.**

### **TOUCH-UP OF BLACK ANODIZED SURFACES**

With black anodized surfaces it is possible to see scratches and nicks which have not cut completely through the anodized oxide finish to the base aluminum metal. **Insta-Blak A-384** will only react with and blacken the base metal. Scratches which do reach the base metal will have a natural oxide on the surfaces which can be of sufficient thickness to stop or retard the blackening reaction producing a non-adherent or non-uniform black finish. Therefore, after cleaning the scratched area with solvent or detergent, the scratched or damaged area should be scraped with a hard, pointed metal scribe or pick to remove the oxide. Full strength **Insta-Blak A-384** solution is then applied, rinsed, dried and sealed as above.

### **CAUTION**

The **Insta-Blak A-384** and **E-Kleen 154** concentrates and solutions are mildly acidic. Avoid contact with eyes, skin and clothing. Wear eye protection (glasses, goggles or face shield), protective rubber gloves and aprons, when preparing solutions and while working with the solutions. Do not mix the **Insta-Blak A-384** or **E-Kleen 154** concentrates or solutions with cyanide or alkaline materials, or any other chemical substances. The **Insta-Blak A-384** solutions are toxic if taken internally.

Do not work with the **Insta-Blak A-384** or **E-Kleen 154** solutions or other materials without first reading and understanding the **SAFETY DATA SHEET** furnished by **EPI.**

### **PACKAGING**

One (1), 5 and 55-gallon non-returnable containers.

### **IMPORTANT NOTICE! For Industrial Use Only**

The following is made in lieu of all warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose: sellers and manufacturers only obligation shall be to replace such quantity of the product as proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith. **Neither seller nor manufacturer shall be liable either in tort or in contract for any loss or damage, direct, incidental or consequential, arising out of the use or the inability to use the product.**

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