

# ACCU-LABS INC.

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**A2LA Accredited ISO/IEC 17025:2005 Certificate # 2558.01**

## 410 Black Brass Liquid

### GENERAL DESCRIPTION:

ACCU-LABS #410 Black Brass Liquid produces jet-black coatings of cupric oxide. These coatings are heat resistant (typically up to 400°F) and promote excellent adhesion. The coating can also withstand 12-24 hours in salt spray and up to 200 hours when lacquers, oils, or waxes are applied to the coating. Typical coating thickness is 0.05 – 0.20 mils. Dimensional changes in the blackening process are approximately 0.05 mils.

### ADVANTAGES:

- Can provide bright or dull finishes depending on pre-treatment of the surface.
- Can provide an excellent base for organic finishes such as: enamels, lacquers, and paint due to enhanced adhesion between the metal and the organic coating.
- Can provide varying color ranges when adjustments are made to the concentration of the bath, operating temperature, and dwell time.
- Meets MIL-F-495 Type 111, Finishes for Equipment Hardware.

### APPLICATIONS FOR ALLOYS:

Virtually all alloys that are >65% copper can be blackened with 410; some elements i.e. beryllium, silicon, and tin may interfere with the blackening process. If the copper concentration in the alloy is >90% direct blackening can be achieved after cleaning and acid dipping. If the copper concentration is <90% an activation step is necessary for proper blackening. Accu-Labs 145 Acid Salt may be a suitable product as it is very good for “hard to activate” metals.

### TYPICAL BLACKENING PROCEDURES:

For copper alloys containing >90% copper (including electroplated copper):

- Prepare the surface; buff the substrate if a glossy finish is desired or chemical etch or matte brush if a dull finish is desired.
- Remove buffing compounds as necessary.
- Water rinse.
- Remove any oxide with dilute acid dip, 4 oz/gal HCl or 10% sulfuric acid.
- Water rinse.
- Process in 410 Black Brass.
- Water rinse.
- Hot water rinse.
- Dry

**For blackening of brass or alloys containing 65%-90% copper:**

- **Prepare surface (as mentioned above).**
- **Remove buffing compounds as necessary.**
- **Water rinse.**
- **Process with 145 Acid Salts or other activator as may be recommended.**
- **Water rinse.**
- **Process in 410 Black Brass.**
- **Water rinse.**
- **Hot water rinse.**
- **Dry**

**OPERATING GUIDELINES:**

**Concentration:** 50-75% by volume with water (can vary with material & pretreatment)  
**Temperature:** 195-215°F (195-200°F is typical)  
**Dwell Time:** 5-10 minutes  
**pH:** 12.0-12.50 typically provide best results; as pH declines, small additions of 410 Black Brass Liquid can be used to maintain pH >12.0 in conjunction with small additions of water to maintain level from evaporation.

**HANDLING:**

As with all chemical read MSDS prior to handling or working around this product. Personal protective gear and eye protection should be worn when handling or working with this product.

**NON-WARRANTY:**

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