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**ANTIQUE BLACK® M21 Antiquing Concentrate**  
Operating Instructions

**PRODUCT DESCRIPTION**

ANTIQUE BLACK® M21 Antiquing solution is a general purpose browning solution for brass, bronze & copper, and also a blackener for nickel and silver, and works on both solid and electroplated parts. Supplied as a liquid concentrate, the product is diluted with water to make up an immersion solution that produces attractive antique or distressed finishes.

**OPERATING CONDITIONS**

Bath Make-Up Concentration	20-25% by volume for brown finishes on brass. 10-15% by volume for lighter brown shades. 20-25% by volume to blacken nickel & silver.
Equipment Construction	Acid-proof tank: plastic or PVC-lined.
Ventilation	None required. No fumes.
Filtration	Desirable for production-scale tanks. Use 50-100 micron polypropylene filter element.

**PARTS PROCESSING GUIDELINES**

1. CLEAN the surface to remove oils & soils, as needed, using a mild alkaline cleaning solution, such as SAFE SCRUB® M Multi-Metal cleaner, mixed at 10-20% by volume; 130° F; 5 minutes. Electroplated parts should be processed through the normal plating cycle and plated with a minimum of 0.0002" thickness.
2. RINSE thoroughly in clean, flowing water; 30 seconds, to remove cleaning residues.
3. (Optional) REMOVE TARNISH/OXIDES by immersing parts in weak mineral acid. Use 10% sulfuric for copper/brass and nickel; or use 10% nitric on silver. Neutralize plating residues, if necessary, by immersing parts in 5% sulfuric acid, for 30 seconds. Then, RINSE well in clean water.
4. OXIDIZE SURFACE by immersing in the M21 solution as long as needed to produce desired finish.
5. RINSE thoroughly in clean, flowing water; 30 seconds.
6. DRY and SEAL, using lacquer or wax. Or, HIGHLIGHT with abrasive, such as Scotchbrite® pads or flap wheel. Then use appropriate topcoat.

## **BATH MAINTENANCE**

The ANTIQUE BLACK® M21 bath can be operated as a semi-permanent bath in the process line and is controlled by total acid titration, or by using the CCK Color Change Test Kit (available from Birchwood Technologies®). Other methods, such as Atomic Absorption, may also be used. Maintain the bath strength at 90% of original make-up or higher. Keep tank covered when not in use to minimize contamination and evaporation.

***Before Using This Product – Please Read, Understand and Follow all the Precautions shown on the Product Label and on the Safety Data Sheet.***

The Safety Data Sheet can be found on our website:

<https://www.birchwoodtechnologies.com/Downloads/Safety.html>

**Use Appropriate Warning Labels on any Container used to Store or Apply this Product.**

## **PACKAGING**

1 and 5 gallon containers; 55 gallon non-returnable drums. Store in closed containers.

**NOTE:** The information contained herein is provided in good faith and is believed to be correct as of the date below. However, Birchwood Laboratories LLC makes no representation as to the comprehensiveness or accuracy of the information. It is expected that individuals receiving the information will exercise their independent judgment in determining its appropriateness for a particular purpose. Accordingly, Birchwood Laboratories LLC will not be responsible for damages of any kind resulting from the use of or reliance upon such information.

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