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## ANTIQUÉ BROWN® M38 Browning Solution

### Operating Instructions

#### PRODUCT DESCRIPTION

ANTIQUÉ BROWN® M38 browning solution operates at room temperature to form attractive brown coatings on brass, bronze & copper surfaces – either solid or electroplated. This product is formulated to allow the user to generate repeatable pleasing color tones ranging from golden to chocolate brown, including US10B and oil-rubbed bronze finishes. The M38 can be mixed with water to make up an immersion bath for bulk loads of parts. Or, it can be used undiluted as a brush-on browning solution for large surfaces.

#### OPERATING CONDITIONS

Immersion Bath Make-Up Concentration	25% by volume for medium-dark brown finishes 15-20% by volume for lighter brown shades.
Equipment Construction	Acid-proof tank: plastic or PVC-lined steel.
Ventilation	None required. No fumes.
Filtration/Recirculation	Desirable for production-scale tanks. Use 50-100 micron polypropylene filter element.

#### PARTS PROCESSING GUIDELINES

1. **CLEAN** and degrease the parts for five minutes in SAFE SCRUB® M Multi-Metal liquid cleaner, mixed at 10-20% by volume; 100-140° F. If parts are electroplated, apply a minimum plating thickness of 0.0002”.
2. **RINSE** in clean water tank for 30 seconds, to remove cleaner/plating residues.
3. (Optional) **REMOVE TARNISH** and neutralize residual plating cyanide by immersing parts in a solution of OXYPRIME® POWDER, mixed at 1 lb/gal for 1-3 minutes. Or use 10% sulfuric acid for 1-2 minutes. **RINSE** in clean water for 20 seconds.
4. **APPLY M38 FINISH** by immersing parts in ANTIQUÉ BROWN® M38 solution for 1-4 minutes, or as long as necessary to produce the desired color. Agitate parts gently to assure solution contact with all surfaces.

5. **RINSE** in clean water tank for 20 seconds to stop the reaction.
6. **DRY** the parts and **HIGHLIGHT** the finish, if desired, with an abrasive or polishing wheel or in a vibratory finisher. **APPLY PROTECTIVE TOPCOAT**, such as clear lacquer, wax or oil. Note: the topcoat will enhance and darken the color of the finish as it is absorbed. The final color should be judged only after the topcoat is applied.

## **BATH MAINTENANCE**

The M38 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 80-120% of original make-up. Keep tank covered when not in use to minimize contamination.

## **PACKAGING**

1 and 5 gallon containers; 15 and 55 gallon non-returnable drums. Store indoors in closed containers.

***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.**

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