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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: www.birchwoodtechnologies.com

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

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