

Bright Acid Zinc - Ready-Made Solution User Guide

Operating Instructions & Best Practices for Ready-to-Use Liquid Solution

1. Product Overview

The **JODECRAFT Bright Acid Zinc** ready-made solution is a pre-compounded, professional-grade liquid plating bath designed for immediate use. It delivers smooth, highly reflective, and uniform zinc deposits on steel, iron, and prepared brass substrates with excellent throwing power.

2. Technical Operating Parameters

Solution State	Ready-to-use liquid (Do not dilute)
Operating pH Range	4.8 – 5.5 (Check periodically with calibrated digital pH meter)
Bath Temperature	20°C – 35°C (Optimum performance at 25°C)
Cathode Current Density	1.0 – 4.0 A/dm ² (Adjust based on part geometry)
Anodes	High-purity zinc (>99.99%) suspended on titanium hooks
Tank Material	Polypropylene, PVC-U, or borosilicate glass

3. Getting Started: Tank Setup

- 1
- Tank Selection:** Transfer the ready-made solution into a clean, dedicated plastic tank (polypropylene or polyethylene) or borosilicate glass container. Ensure no chemical residues from previous processes are present.
- 2
- Anode Placement:** Hang pure zinc anodes along the sides of the tank and connect them to the positive (+) output of your DC power supply. Connect your workpieces (cathodes) to the negative (-) output.
- 3
- Temperature Check:** Allow the solution to reach room temperature (20°C–35°C) before initiating plating. Avoid extreme cold during operation.

4. Recommended Plating Workflow

Step-by-Step Finish Cycle:

1.

Surface Preparation: Thoroughly degrease and clean workpieces using an alkaline soak cleaner or ultrasonic cleaner to remove all oils and fingerprints.

2.

Water Rinse: Rinse components thoroughly in clean running water or deionized water.

3.

Acid Activation (Pickle): Dip parts in a 10% hydrochloric acid or sodium bisulfate pickle for 30–60 seconds to strip surface oxides and activate the metal.

4.

Final Rinse: Give parts a final rinse in clean deionized water.

5.

Zinc Plating: Submerge parts into the JODECRAFT Bright Acid Zinc solution under live contact (apply power just as or immediately before the parts enter the bath). Plate for the desired duration depending on your target micron thickness.

6. **Post-Treatment:** Rinse plated parts immediately in clean water. Optionally finish with a clear or iridescent chromate conversion passivation for enhanced corrosion resistance.

5. Maintenance & Storage

Keep the container tightly sealed when not in use to prevent evaporation. If minor evaporation occurs during long-term storage or usage, top up exclusively with pure deionized water. Monitor the pH level regularly and adjust using dilute hydrochloric acid (to lower) or potassium carbonate (to raise) if necessary.

Safety & Handling Warning

Handle plating solutions with care. Always wear appropriate Personal Protective Equipment (PPE) including chemical-resistant nitrile gloves, safety goggles, and a protective apron. Use in a well-ventilated area. Refer to the product Safety Data Sheet (SDS) for detailed health and safety information.