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COLDIP TRI-V 200 UB

TECHNICAL DATA
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COLDIP TRI-V 200 UB

A HIGH CORROSION RESISTANT TRIVALENT "ULTRA -BLUE" CONVERSION COATING FOR ZINC

COLDIP TRI-V 200 UB	is an ultra-blue, high performance, trivalent conversion coating for electroplated zinc.
COLDIP TRI-V 200 UB	is an aesthetically pleasing blue-bright conversion coating which, when applied properly, will provide a finish that exceeds 175 hours of neutral salt spray to first white corrosion.
COLDIP TRI-V 200 UB	is an easy to use one-part system that is applied by conventional immersion techniques.
COLDIP TRI-V 200 UB	provides 350+ hours to first white corrosion when top coated with Zinc-Chro-SHIELD or Zinc-Chro-PELLENT™.

OPERATING PARAMETERS

	RANGE
Concentration:	5% to 10% by volume*
Dip time:	45 to 120 seconds
Temperature:	80° to 100° F (26° - 38°C)
pH:	1.8 to 2.5
Zinc deposit thickness:	Minimum 0.3 Mil (8 Microns)

NOTE: Dip times can vary depending upon the concentration and the age of the chromate.

**See "HELPFUL HINTS" for additional operating ranges.

MAINTENANCE ADDITIONS

Periodic titrations should be made to ensure correct concentration. If the analysis shows the proper amount of COLDIP TRI-V 200 UB and the pH is high, small additions of 50% by volume of nitric acid or sulfuric acid can be made to adjust the pH.

ANALYTICAL PROCEDURE

1. Pipette a 10.0 mL chromate sample into a 100 mL volumetric flask. Dilute to 100 mL with distilled water and mix well.
2. Pipette 10.0 mL of the above diluted solution into a 250 mL Erlenmeyer flask and dilute to 100 mL with distilled water.
3. Add 5 mL 20% Sodium Hydroxide and 1 mL 35% Hydrogen Peroxide.
4. Boil solution approximately 5 minutes.
5. Add 1 mL 10% Nickel Chloride Solution and continue boiling for an additional 2 minutes.
6. Cool solution to room temperature.
7. With mixing, add 10 mL Concentrated Hydrochloric Acid, 1 g Ammonium Bifluoride, 10 mL 10%Potassium Iodide and 2 mL Starch Indicator Solution.
8. Titrate with 0.010 N Sodium Thiosulfate Solution to a clear / green endpoint.

FACTOR: mL 0.010 N Sodium Thiosulfate x 0.280 = Percent COLDIP TRI-V 200 UB

TYPICAL CYCLE

1. PLATE
2. RINSE
3. ACID PRE-DIP (0.25% TO 0.5% NITRIC ACID)
4. RINSE
5. COLDIP TRI-V 200 UB
6. COLD WATER RINSE
7. HOT WATER RINSE
8. DRY

HELPFUL HINTS

1. A Nitric Acid pre-dip is recommended to increase the life of the COLDIP TRI-V 200 UB solution, particularly when an alkaline zinc electrolyte is utilized.
2. Removing fallen parts from the COLDIP TRI-V 200 UB tank and the Nitric Acid pre-dip tank is recommended to reduce the build-up and drag-in of iron contamination. In cases where the iron has exceeded the maximum concentration, the use of COLDIP IRON CONTROL can be used to help extend the life of the chromate.

3. The pH for a new solution make-up will be above the recommended operating range and it is recommended adjusting to 1.8 to 2.5 with nitric or sulfuric acid.

4. Zinc-Chro-SHIELD or Zinc-Chro-PELLENT™ can be used in the final hot water rinse to help improve corrosion protection.

5. With trivalent chromate-based conversion coatings, care should be taken to avoid excess abrasion of the parts after processing. Trivalent coatings when fractured do not "heal" as in the case of traditional hexavalent products.

6. A cold COLDIP TRI-V 200 UB solution will affect the corrosion resistance of the chromate film. Maintaining the working temperature at 90° to 100°F (32° to 38°C) will help improve corrosion protection.

7. Simply by increasing the COLDIP TRI-V 200 UB working concentration, temperature and dwell time can improve overall consistency of color and corrosion protection.

8. Nitric or sulfuric acid can be used to adjust the pH down in a working COLDIP TRI-V 200 UB solution.

9. ** Additional Operating Ranges

COLDIP TRI-V 200 UB CONCENTRATION	SALT SPRAY PROTECTION
2% to 3% by volume	48 to 96 Hours
3% to 6% by volume	96 to 192 Hours
6% to 12% by volume	192+ Hours

HANDLING & STORAGE

Columbia Chemical recommends referring to the specific product Safety Data Sheets for safety, handling, and storage precautions.

NON-WARRANTY

The data contained in this bulletin is believed by Columbia Chemical Corp. to be accurate, true, and complete. Since, however, final methods of use of this product are in the hands of the end-user and beyond our control, we cannot guarantee that the end-user will obtain the results described in this bulletin, nor can we assume responsibility of the use of this product by the end-user in any process which may infringe the patents of third parties.