



COLDIP® TRI-V ZnNi TRUE BLUE 1000

TECHNICAL DATA

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COLDIP® TRI-V ZnNi TRUE BLUE 1000

BLUE TRIVALENT PASSIVATE FOR ZINC NICKEL

COLDIP® TRI-V ZnNi TRUE-BLUE 1000	provides a blue-bright conversion coating over acid chloride zinc-nickel and alkaline cyanide-free zinc-nickel deposits.
COLDIP® TRI-V ZnNi TRUE-BLUE 1000	does not require heat and operates at ambient temperature.
COLDIP® TRI-V ZnNi TRUE-BLUE 1000	is an easy-to-use one-part system that is applied by conventional immersion techniques.
COLDIP® TRI-V ZnNi TRUE-BLUE 1000	works over a wide nickel alloy content of 5 - 18%.
COLDIP® TRI-V ZnNi TRUE-BLUE 1000	is cobalt-free.
COLDIP® TRI-V ZnNi TRUE-BLUE 1000	achieves over 350 hours to white corrosion products and over 1,000 hours to red rust.
COLDIP® TRI-V ZnNi TRUE-BLUE 1000	can be used with Zinc-Chro-Shield® or Zinc-Chro-PELLENT to provide over 500 hours to white corrosion products.

OPERATING PARAMETERS

	<u>RANGE</u>	<u>OPTIMUM</u>
COLDIP® TRI-V ZnNi TRUE-BLUE 1000:	8 - 12%	10%
Temperature:	70 - 95° F	85° F
Dip Time:*	45 - 75 seconds	60 seconds
pH:**		
Alkaline Cyanide Free Zinc-Nickel deposits:	2.2 - 2.8	2.5
Acid Chloride Zinc-Nickel deposits:	1.7 - 2.0	2.0

*NOTE: Dip time varies depending on nickel alloy content, passivate pH, and passivate concentration -

- Higher nickel alloy content will require shorter dip times.
- Higher concentrations of passivate will require lower dip times.
- Higher pH will require longer dip times.

**NOTE: Use Nitric Acid to adjust the pH down. Use Caustic Soda to adjust the pH up

ANALYTICAL PROCEDURE

1. Pipette a 10.0 mL passivate 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 for 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 0.240 = Percent COLDIP® TRI-V ZnNi TRUE-BLUE 1000

HELPFUL HINTS

RECOMMENDED NICKEL CONTENT

- COLDIP® TRI-V ZnNi TRUE-BLUE 1000 works at a very wide nickel alloy content range of 5 - 18% with optimum blue-bright appearance and corrosion resistance at 12 - 15%.
- If operating at 5 - 10%, the blue color can be obtained by COLDIP® TRI-V ZnNi TRUE-BLUE 1000 at higher concentrations of 14 - 15%, lower pH of 1.0, and longer dip times of 90 - 120 seconds

AGITATION

- Agitation of passivate solution is required for complete and uniform passivate formation and coverage.
- Barrel applicators can passivate directly in the barrel. If passivate in an “off-line” basket, the basket must be agitated vigorously to allow for the passivate solutions to continually flow over the plated work.
- Rack applicators must-have solution movement using mechanical, circulating pump, or air agitation.

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 customer and beyond our control, we cannot guarantee that the customer will obtain the results described in this bulletin, nor can we assume responsibility of the use of this product by the customer in any process which may infringe the patents of third parties.

