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COLDIP® NI-Z CLEAR 250

TECHNICAL DATA
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COLDIP® NI-Z CLEAR 250

CLEAR TRIVALENT CONVERSION COATING FOR ZINC-NICKEL

COLDIP® NI-Z CLEAR 250	is a unique trivalent passivating conversion coating for electroplated zinc-nickel alloys.
COLDIP® NI-Z CLEAR 250	will impart an aesthetically pleasing clear, colorless conversion coating which when applied properly will produce a finish that exceeds 250 hours of neutral salt spray to white corrosion products.
COLDIP® NI-Z CLEAR 250	is operated under mild conditions that results in very low thickness loss during passivation.
COLDIP® NI-Z CLEAR 250	is a cost-effective alternative to high corrosion finishes.
COLDIP® NI-Z CLEAR 250	when top coated with Zinc-Chro-SHIELD® will provide 500 hours to white corrosion products.

OPERATING PARAMETERS

	RANGE	OPTIMUM
COLDIP® NI-Z CLEAR 250:	5 - 10% by volume	7.5% by volume
Immersion Time:	30 - 90 seconds	60 seconds
Temperature:	75 - 85° F (23.9 - 29.4° C)	80° F (26.7° C)
pH:	2.5 - 3.5	3.0

MAINTENANCE ADDITIONS

Additive COLDIP® NI-Z CLEAR 250 (Cr): 5 mL per 100 square feet

Periodic titrations should be made to ensure correct concentration.

Diluted sodium hydroxide (caustic soda) should be used to increase the pH of the working solution
Diluted nitric acid should be used to decrease the pH of the working solution.

Operating at temperatures lower than 80 - 85°F can lead to decreased corrosion protection.

Following passivation, parts will be slightly more yellow than non-passivated parts.

Recommended Maximum Iron Concentration = 150 - 200 ppm

Recommended Maximum Zinc Concentration = 10,000 - 15,000 ppm

TYPICAL CYCLE

1. PLATE
2. RINSE
3. RINSE
4. COLDIP® NI-Z CLEAR 250
5. COLD WATER RINSE
6. HOT WATER RINSE
7. DRY

ANALYTICAL PROCEDURE

1. Pipette a 10 mL sample of the working passivate solution into a 100 mL volumetric flask. Dilute to 100 mL with distilled water and mix well.
2. Pipette 10 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 5 mL 35% Hydrogen Peroxide.
4. Boil solution approximately 5 minutes.
5. If using a cyanide-based plating bath, slowly add 1 mL 10% Nickel Chloride Solution and continue boiling for an additional 2 minutes. If the plating bath does NOT contain cyanide, proceed to step #6.
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 Standard 0.010 N Sodium Thiosulfate from a dark blue-purple to clear blue-green endpoint.

FACTOR: mL 0.010 N Sodium Thiosulfate x 0.351 = % COLDIP® NI-Z CLEAR 250

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.

