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ZINC-CHRO-SHIELD OS

TECHNICAL DATA
04-15-19

ZINC-CHRO-SHIELD OS A HIGH-PERFORMANCE ORGANIC SEALER

ZINC-CHRO-SHIELD OS	provides extended corrosion protection to passivated zinc and zinc-alloy finishes.
ZINC-CHRO-SHIELD OS	provides a self-healing mechanism to trivalent passivated surfaces.
ZINC-CHRO-SHIELD OS	provides over 350 hours of salt spray protection over high performance trivalent chromates to less than 5% white corrosion.
ZINC-CHRO-SHIELD OS	is used as a final rinse, so there is no additional equipment required.
ZINC-CHRO-SHIELD OS	operates at room temperature to 140° F (60° C).
ZINC-CHRO-SHIELD OS	has very low viscosity and produces very thin coatings making it suitable for both rack and barrel operations. *

**ZINC-CHRO-SHIELD OS reduces adhesion for paint, powder and e-coat, and reduces electric conductivity.*

OPERATING PARAMETERS

	<u>RANGE</u>	<u>OPTIMUM</u>
Zinc-Chro-SHIELD Concentration:	3% to 100% by volume	7-12% by volume rack 10-20% by volume barrel
Dip Time:	15-45 seconds	30 seconds
pH	*** 10.0-11.0	
Temperature:	60° to 140° F (16° - 60° C)	
Drying Temperature	120° to 140° F (50° - 60° C)	

De-ionized water is recommended for make-up, city water may reduce tank life.

*****Adjust pH only by adding additional ZINC-CHRO-SHIELD OS**

TYPICAL APPLICATION ZINC

1. Plate
2. Rinse
3. Passivate
4. Rinse
5. ZINC-CHRO SHIELD OS
6. Dry

REPLENISHMENT

Zinc-Chro-SHIELD OS working solutions can be replenished using either of two methods:

METHOD 1: REPLENISHMENT BY ANALYSIS

pH:

Use an electronic pH meter or pH paper to measure the pH at least twice per shift.

Titration Procedure:

1. Pipette a 5 ml. sample of working sealant solution into a 250 ml. Erlenmeyer flask.
2. Add 5 drops of Bromophenol Blue indicator solution to the flask.
3. Titrate with 0.1N Sulfuric acid from a blue to a permanent yellow.

FACTOR: (mls. of 0.1 N Sulfuric Acid-1.1) X 3.38 = % ZINC-CHRO-SHIELD OS in dip tank

METHOD 2: REPLENISHMENT BY DRAGOUT DETERMINATION

Example: The drag-out per day for an average barrel plating tank is 5% by volume. If the plating tank is 5 times the size of the final rinse tank, the final rinse tank will lose 25% by volume per day. Since the optimum initial charge of ZINC-CHRO-SHIELD is 5% by volume (10 gallons for a 200-gallon tank), then 25% of this initial charge or 2.5 gallons must be added each day (along with water to keep the total volume at 200 gallons).

The drag-out per day for an average rack plating tank is 1% by volume. Using the same calculation as above for a 200-gallon final rinse tank and plating tank 5 times its size, the final rinse will lose 5% by volume per day. This means that ½ gallon of ZINC-CHRO-SHIELD must be added each day.

Note: A technical representative from Columbia Chemical can help you determine the addition requirements for your particular plating operation.

EQUIPMENT

TANKS

Polypropylene, PVC, carbon steel and stainless-steel tanks may be used.

HEAT AND COOLING SUPPLY

Plain steel or stainless-steel.

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.

