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Zinc-Chro-PELLENT

High Performance Sealer For
Chromated Zinc Electroplate
TECHNICAL DATA

04-05-11

Zinc-Chro-PELLENT

Zinc-Chro-PELLENT is a revolutionary, thin-uniform film topcoat. Parts processed in Zinc-Chro-PELLENT actually bead-up and repel humidity and salt spray mist to form a water repellent barrier that provides superior corrosion protection.

Zinc-Chro-PELLENT provides tremendous corrosion protection. See data on page 2.

Zinc-Chro- PELLENT is used as a final rinse, so there is no additional equipment required.

Zinc-Chro- PELLENT operates at room temperature to 100° F (37° C).

Zinc-Chro- PELLENT has very low viscosity and produces very thin coatings making it suitable for both rack and barrel operations.*

**Zinc-Chro-PELLENT reduces adhesion for paint, powder and e-coat, and reduces electric conductivity.*

OPERATING PARAMETERS

	<u>RANGE</u>	<u>OPTIMUM</u>
Zinc-Chro-PELLENT Concentration:	5% to 15% by volume	10% by volume
Dip Time:	10 to 40 seconds	20 seconds
Temperature:	70° to 100° F (21° - 37° C)	80°F (26°C)
pH:	10.5 to 12.0	11.0

Performance Benefits: Zinc-Chro-SHIELD vs. Zinc-Chro-PELLENT

	Zinc and Chromate	With Zinc-Chro-SHIELD (5% by volume)	With Zinc-Chro-PELLENT (10% by volume)
Coldip Tri-V (trivalent blue)	8-12 hours	48-72 hours	72-96 hours
Coldip 326 or Blue Bright (hexavalent blue)	12-24 hours	48-72 hours	72-96 hours
Coldip Yellow 126 (hexavalent yellow)	72-168 hours	240-312+ hours	312-400+ hours
Coldip Tri-V 120 (trivalent blue)	72-120 hours	96-168+ hours	168-224+ hours
Coldip Tri-V 121 (Trivalent blue)	120-168 hours	168-216+ hours	216-300+ hours
Coldip Tri-V Black 50 (Trivalent black) *See TDS	Not recommended	Not recommended	96-120+ hours *ZCP used at 20% by volume
Coldip Black 201 (hexavalent black)	72-144 hours	Not recommended*	Not recommended*
Coldip OD One Coldip Olive Drab (hexavalent OD)	144-215 hours	Not recommended	Not recommended

THE ABOVE DATA IS BASED ON ACTUAL AGED/HIGH PRODUCTION WORKING CHROMATE, ZINC-CHRO-SHEILD AND ZINC-CHRO-PELLENT SOLUTIONS

* Use Zinc-Chro-SHIELD AFTERBLACK 200

Zinc-Chro-PELLENT Analytical Procedures

Percent Solids Method

Procedure –

1. Record the weight of an empty beaker of 100mls or greater capacity.
2. Using a graduated cylinder add 50mls of the ZCP working solution.
3. Heat solution to 110°C (230°F) until all water is evaporated.
4. Allow beaker to cool.
5. Record the weight of the beaker containing the dried ZCP.
6. Subtract initial recorded weight of beaker (#1) from final weight (#5).
7. Refer to chart for concentration.

ZCP Percent solids test

	50mls
30% ZCP	6.6g
25% ZCP	5.5g
20% ZCP	4.4g
15% ZCP	3.3g
10% ZCP	2.2g
5% ZCP	1.1g

Titration Method

Procedure –

1. Take 5mls of working ZCP solution and add to 50mls of water in beaker.
2. Add a few drops of Phenolphthalein indicator.
3. Titrate pink solution with 0.1N HCl to colorless endpoint.
4. Percent ZCP= mls of 0.1N HCl x 0.708

CURING OF Zinc-Chro-PELLENT FILM PRIOR TO SALT SPRAY TESTING

For optimum corrosion protection, the Zinc-Chro-PELLENT film on plated parts should cure or age at ambient temperatures for 24-48 hours before salt spray testing.

EQUIPMENT

TANKS

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

HEAT SUPPLY

Electric - Plain steel immersion heater. Quartz heaters are not recommended.

Steam - Mild steel heating coils.

HANDLING AND SAFETY

CAUTION: Zinc-Chro-PELLENT contain alkaline ingredients which are corrosive to skin and eyes. Protective clothing such as impervious gloves, aprons, boots and chemical goggles should be worn when handling this material. In case of accidental contact, flush immediately with fresh water. Remove contaminated clothing and wash before wearing again. For eye contact, flush with fresh water for 15 minutes and seek medical attention immediately. Avoid breathing mists and vapor.

FREEZABILITY: As with most chemical products, it is preferable that freezing be avoided. However if freezing should occur during transportation or storage, directions for handling the products covered in this technical data sheet are as follows:

If Zinc-Chro-PELLENT freezes, simply allow the container to completely thaw and bring to room temperature of 70-75F/ 21-24C. Thoroughly mix to bring back to original condition.

NON-WARRANTY

The data 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 assure any responsibility of the use of this product by the customer in any process which may infringe the patents of third parties.