

ZINCOVATE JET BLACK 2

BLACK TRIVALENT PASSIVATE FOR ALKALINE ZINC

INTRODUCTION

Zincovate Jet Black 2 is a next generation single component trivalent black passivate producing a uniform black color on alkaline zinc deposits. It can be followed by a topcoat to enhance corrosion protection and increase luster. It was developed to be a stable and robust process. Rack and barrel applications.

BENEFITS

- Over 100 hours salt spray to white rust
- Uniform black finish
- Single component
- Robust process

SOLUTION MAKE-UP

Zincovate Jet Black 2 15% v/v

OPERATING DATA

Zincovate Jet Black 2	10 – 20% v/v
pH	1.8 – 2.2 (opt 2.0)
Zinc	<15g/L
Iron	<150ppm
Temperature	68 – 86°F
Time	30 – 60 sec
Agitation	Air or mechanical

EQUIPMENT

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Tanks	Polypropylene or PVC lined tanks.
Heaters	PTFE heaters with thermostatic control.
Ventilation	Recommended

INSTALLATION

It is essential that the tanks to be used for ZincoVate Jet Black 2 are thoroughly cleaned and leached before any product is introduced.

If in any doubt as to the cleaning procedure contact Automated Chemical Solutions Technical Department.

1. Fill the tank to 2/3 volume with water.
2. Add the ZincoVate Jet Black 2.
3. Make up to final volume with water turn on air to mix.
4. Check and adjust pH.
5. Heat to operating temperature.

PROCESS SEQUENCE

1. Acid Zinc plate
2. Rinse
3. Acid dip
4. Rinse
5. ZincoVate Jet Black 2
6. Rinse
7. Top Coat (Optional)
8. Dry

MAINTENANCE AND CONTROL

The solution should be analysed regularly and replenished as necessary. (See Analysis Method)

ZincoVate Jet Black 2 can be maintained by regular additions based on throughput depending & drag-out.

ZincoVate Jet Black 2: 100 – 200 ml/ft²

pH is corrected with either dilute nitric acid or sodium hydroxide solution (100 g/L).

NOTES on Topcoats:

Black or clear topcoats provide additional corrosion protection, promote passivate self-healing and give enhanced luster. Entrapped sealer on racked parts and tooling holes should be removed before drying.

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ANALYSIS METHOD

Zincovate Jet Black 2

Reagents

Hydrogen peroxide (100 Vol)
Hydrochloric acid (S.G = 1.18)
Sodium hydroxide (10% w/v)
Ammonium bifluoride
Potassium iodide
0.1N sodium thiosulfate (standard volumetric solution)
Iodine indicator.

Method

1. Pipette a 5ml aliquot into a 500ml conical flask.
2. Add 10ml of 10% sodium hydroxide.
3. Add 100ml of DI water.
4. Warm the solution.
5. Add 20ml hydrogen peroxide very slowly allowing the effervescence to subside between additions.
6. Boil the solution for 30 minutes.
7. Allow the solution to cool and wash down the sides of flask with DI water.
8. Add 10ml hydrochloric acid and 5g ammonium bifluoride. Stir to dissolve.
9. Add one spatula of potassium iodide and stir to dissolve.
10. Titrate with 0.1N sodium thiosulfate to a pale straw colour.
11. Add iodine indicator and continue titration to a light green colour.
12. Record the titre = t mls.

Calculation

$t \times 7.7 = \text{ml/L Zincovate Jet Black 2}$

Replenishment

For every 1 ml/L required add 1 ml/L Zincovate Jet Black 2

STORAGE

Store in original containers above 40°F

SAFETY

CAUTION! Zincovate Jet Black 2 concentrates and working solutions contain acidic components. Avoid contact with eyes, skin and clothing. Wear chemical handler's gloves, goggles and protective clothing when handling. Read and understand Material Safety Data Sheet before using this product.

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PRODUCT GROUPS

The following products are referred to in this data sheet.

PRODUCT NAME	PRODUCT NUMBER
Zincovate Jet Black 2	237061

NOTICE

The information and recommendations of PMD (UK), Ltd. and Automated Chemical Solutions, Inc., and its representatives, regarding this product are, to the best of our knowledge, true and accurate. We make no guarantee of results because the conditions of actual use are beyond our control. We assume no liability for damages or penalties resulting from the use of this product or following our recommendations. Our recommendations and suggestions for use of this product are not intended to grant license to operate under or infringe any patent.

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