

# ZINCOVATE JET BLACK AZ 2

TRIVALENT BLACK PASSIVATE FOR ACID ZINC

## INTRODUCTION

Zincovate Jet Black AZ 2 with Zincovate Jet Black 2 produces a uniform black color on acid zinc deposits. When followed by a topcoat provides enhanced corrosion resistance. Rack and barrel applications.

## BENEFITS

- Over 100 hours to white rust with topcoat
- Uniform black finish
- Two tank operation for optimum blackening

## SOLUTION MAKE-UP

Zincovate JET BLACK AZ 2                      15.0% v/v (Tank 1)

Zincovate JET BLACK 2                         15.0% v/v (Tank 2)

## OPERATING DATA

	Zincovate Jet Black AZ 2	Zincovate Jet Black 2
<b>Concentration</b>	10 – 20% v/v	10 – 20% v/v
<b>pH</b>	1.8 – 2.2	1.8 – 2.2
<b>Zinc</b>	<15 g/L	<15 g/L
<b>Temperature</b>	68 – 86°F	68 – 86°F
<b>Time</b>	10 – 50 seconds	30 – 60 seconds
<b>Agitation</b>	Air or mechanical	Air or mechanical

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# EQUIPMENT

<b>Tanks</b>	Polypropylene or PVC lined tanks.
<b>Heaters</b>	PTFE heaters with thermostatic control.
<b>Ventilation</b>	Recommended

# INSTALLATION

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

If there is any doubt as to the cleaning procedure, contact Automated Chemical Solutions.

1. Fill two tanks to 2/3 volume with water.
2. Add the Zincovate Jet Black AZ 2 to Tank 1
3. Add the Zincovate Jet Black to Tank 2
4. Make up to final volumes with water turn on air to mix.
5. Check and adjust pH.
6. Heat to operating temperature.

# PROCESS SEQUENCE

1. Zinc plate
2. Rinse
3. Acid dip (0.5% nitric)
4. Rinse
5. Zincovate Jet Black AZ 2
6. Rinse
7. Zincovate Jet Black 2
8. Rinse
9. Top Coat (Optional)
10. Dry

# MAINTENANCE AND CONTROL

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

Zincovate Jet Black AZ 2 and Zincovate Jet Black 2 can be maintained by regular additions based on throughput depending & dragout.

Zincovate Jet Black AZ 2: 100 – 200 ml/ft<sup>2</sup>  
Zincovate Jet Black 2: 100 – 200 ml/ft<sup>2</sup>

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

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# ANALYSIS

## Zincovate Jet Black 2

### Reagents

Zincovate Jet Black 2  
DI water  
UV/VIS Spectrophotometer

### Method

1. Pipette a 10ml aliquot of Zincovate Jet Black 2 concentrate into a 100ml volumetric flask. Label as flask A.
2. Pipette a 10ml aliquot of the sample solution into a 100ml volumetric flask. Label as flask B.
3. Top up to the mark with DI water, stopper and mix well.
4. Set the wavelength on the UV to 392nm.
5. Fill a cuvette with DI water and place in UV.
6. Set zero using this solution.
7. Rinse the cuvette and fill with solution from flask A.
8. Place in UV and record absorbance as A
9. Rinse the cuvette and fill with solution from flask B.
10. Place in UV and record absorbance as B

### Calculation

$B / A \times 1000 = \text{ml/L Concentration of Zincovate Jet Black 2}$

# OPTIMUM PERFORMANCE

Passivates perform optimally when the zinc plate brighteners are properly maintained per supplier specifications, and the passivate pH, time and temperature are optimized for desired finish.

# STORAGE

Store in original containers above 40°F

# SAFETY

CAUTION! Zincovate Jet Black AZ 2 and 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 AZ 2	237062
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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