

Accu-LABS INC.

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A2LA Accredited ISO/IEC 17025:2005 Certificate # 2558.01

BCF Black Zinc Coating

Accu-Labs BCF is a single component liquid used to produce uniform, attractive black color coatings on zinc plated and zinc die casting surfaces. Accu-Labs BCF works well on zinc plating from cyanide, alkaline non-cyanide and chloride plating processes.

- Easy to use single component process
- Requires no high cost silver nitrate
- Attractive black chromate free coating
- Can be sealed, waxed, oiled, or chromated for increased corrosion resistance

Make-Up:

Accu-Labs BCF	20% by volume
Water	80% by volume

Adjust pH to 3.0 - 3.3 with very small additions of sulfuric acid. Raise operating temperature 120-150°F. Check pH at operating temperature and adjust if needed. (Adjustment of the solution pH can be made with very small additions of sulfuric acid or liquid caustic soda to adjust the pH down or up respectively as required.)

Operating Conditions:

	<u>Range</u>	<u>Optimum</u>
Accu-Labs BCF	15 - 30%	20 - 30%
pH	2.5 - 4.0	3.1 - 3.7
Temperature	120 - 150°F	130 - 135°F
Immersion Time	1 - 4 minutes	1 - 2 minutes

Equipment:

Tank	PVC or stainless steel
Heaters	304, 316 stainless steel, Teflon, or titanium
Agitation	Mechanical, prop, cathode rod, work
Filtration	Optional, 10-20 micron

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Maintenance:

When temperature and pH are maintained in range the Accu-Labs BCF solution will produce uniform production results within a very wide concentration range. Use 1-2% by volume additions of BCF-2 to maintain desired black finishing results. Discard bath when additions fail to produce desired results.

Operating Cycle (short cycle):

1. Zinc Plate
2. Rinse
3. Rinse
4. Activate Accu-Labs BP, 10-12%
By volume 30-60 seconds
5. Rinse
6. Black Accu-Labs BCF
7. Rinse
8. Topcoat Accu-Labs KSN seal, lacquer, oil, or
Accu-Labs SP-4 coat.
9. Hot Air Dry 140°F, 5 minutes minimum.

BCF Black Zinc Maximum Cycle:

The following process is recommended for maximum black coating appearance, adhesion and corrosion protection.

1. Zinc Plate
2. Rinse
3. Rinse
4. Acid Activate ¼% nitric acid, 5 – 15 seconds, 70 - 85°F
5. Rinse
6. Accu-Labs BP 10 – 12%, 30 – 60 seconds, 70 - 95°F
7. Rinse
8. Rinse
9. Copper Activate 1% Accu-Labs 507-P, pH 2.0 – 2.5, 70 - 95°F,
5 – 30 seconds
10. Rinse
11. Rinse
12. Black Coat 25% Accu-Labs BCF, pH 3.1 – 3.7, 125 - 150°F
45 – 90 seconds
13. Rinse
14. Rinse

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|-----------------|---|
| 15. Top Coat | 12 – 30% Accu-Labs SP-4, 110 - 120°F
10 – 20 seconds |
| 16. Hot Air Dry | 140 - 150°F, 5 minutes minimum. |

The above “maximum cycle” process will produce consistent paint-like black finish results on a wide variety of zinc plated parts.

Safety:

Read the material safety data sheet instruction before using this product and any related chemicals used. Follow the safe handling instructions. Use protective gear.

DISCLAIMER

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