

Black Matte, Concentrate

Black Treatment

Black Matte is a black treatment for use in immersion type zinc phosphate operations. Used in combination with hydrochloric acid to impart a black finish on steel.

Black Matte provides a rich black color treatment on steel when applied prior to a zinc phosphate coating treatment.

Black Matte does not deter from corrosion resistance performance of coated metal. Provides a highly decorative finish which is durable and corrosion resistant

Features & Benefits

- High solids liquid. Repeatable quality results.
- Low use cost. Long solution life.
- Easy to apply and use.
- Resistant to contaminants.
- Bath is easy to control and maintain.
- Coating can be removed in a strong alkaline soak bath.
- Equivalent to removal of the phosphate coating and acid cleaning.

Note: Do not overheat zinc phosphate bath when processing black for best results maintain temperature at 172 F.

Physical Data

pH	1
Product Type	Liquid
Spec. Gravity	1.238
lbs./gal.	10.32
Foam, 0 = Low, 9 = High	0
Shelf-Life Years	10 years
Freeze Information	Not damaged by freezing.

Typical Processing

1. Alkaline Clean
2. Rinse.
3. Hydrochloric Acid clean.

4. Rinse.
5. Black matte, 1/4-1%, 80-110F., 1-4 min, 1 RPM or slow rotation. Hydrochloric acid 10-14% to maintain acidity and clarity of bath.

Note:

- *Cloudy bath indicates: Too high of black or too low of acid.
- *Blotchy coating or misses - voids in black indicates: 2) Acid too strong over 20%.
- *CP-150 to pre-rinse at .01 - .05 % can eliminate voids spots.
- *Coating "rub-off": Too hot, time too long, strength too high.

6. Zinc phosphate, 600- 2,500 MG/FT. Temp 160- 180 (test per process).
7. Rinse.
8. Final treatment., Oil, Polymer, Lube. etc.

Packaging

Container Type	Poly dr. and pail.
Net Units	568
Tare Wt.	25 lb.
Gross Wt.	593
DOT_Name	UN 1789, Hydrochloric Acid, 8, PG II.
DOT Hazard	Corrosive.
Tariff ID	2806.10.00

Use Parameters

Concentration Range	¼ - 2.5% + 12 – 18% HCL Acid
Temperature Range	75 - 110 F.
Time Range	30-120 seconds.
Agitation	Preferred, very mild if needed.

Waste Disposal

Neutralize, precipitate solids in wastewater treatment.

Holding Tank Materials of Construction

Poly, glass, brick, rubber (not steel or stainless).

Other Information

It is important that the OSHA DATA, "Material Safety Data Sheet" be carefully read and reviewed with the users of this product. OSHA data is required to be posted in the work area by law.

Testing, Operating & Troubleshooting Data

- 1) Titration To Maintain 10-14% Acid. See Hcl Acid Test Below.
- 2) Black Concentration : 1/4-1% Black Matte. (procedure Not Available 11/03)
(bench Tests Must Be Conducted In The Lab To Confirm Proper Level As Noted Below.)
- 3) Maintain Temperature As Noted. 80 - 110 F.
- 4) Remove Parts From Tank Bottom.
***for Metals That Readily Blacken, You May Run The Acid As Low As 5% And The Black 1/4-1/2% At

Longer Immersion Times. 10-2017: Do Not Use Amines For Ph Adjustment In Soluble Oils. (it Will Bleach

The Black Matte On A Finished Part

Hcl Acid Test:

- (1) Transfer 2 Mls Of Acid Solution Into Test Bottle. ,
- (2) Add 5-drops Methyl Orange Indicator.
- (3) Titrate With 1.0 N Caustic To Color Change,
- (4) Number Of Mls Of 1.0 N Naoh Times A Factor Of 5 = % By. Volume As 32% Acid.

Operating Hints:

Problem:	Cause:	Corrective Action:
1) Cloudy Bath Indicates: Black	A) Concentration Too High Of Black	Dilute Bath To Reduce
Re-test & Adjust For Proper Acid Level	B) Or Too Low Of Acid Concentration	Add Acid To Normal Range. To Achieve Bath Clarity.
2) Blotchy Coating Or Misses - Voids In Black Coating:	A) Oil On Parts Improve Rinsing, Check Cleaner.	
B) Acid Too Strong Over 20%. Adjust For Proper Black Level After Dilution)	Dilute Acid Level With Water.	
3) Coating "rub-off":	A) Too Hot	Adjust Bath Temperature.
	B) Time Too Long,	Adjust To Desired Time
	C) Black Strength Too High.	Dilute Bath
4) Coating Taking Too Long Adjust Per Parameters.	Test Chemistry Too Low!	

Process Hints And Notes:

- A) It Is Preferred Not to Overheat Zinc Phosphate Bath When Processing Black for Best Results Maintain Temperature < 178 F.
- B) Pre-cleaning And Rinsing Are Critical with Black Conversion Coatings. Maintain Very Clean Rinses. Oils Cause Voids.
Note: The Addition of A (Re: # Cp-150) Nonionic Wetter to The Pre-rinse at .01 - .05 % Can Eliminate Voids
If Related to Dirty Rinses or Floating Oils in the Baths. Also In the Black Bath, Test Prior
- C) Make Very Small Periodic Additions to The Bath Rather Than Large Volume Additions. (lab Confirm Prior To "slug" Adds)
- D) Barrel Rotation at The Very Slowest Level Possible Is Preferred. Rotation Scrubs the Coating Off the Parts.
1/2 Rpm or Periodic Slow Rotation Is Best.
- E) High Alloy Steels Can Be Sensitive to Over Acid Cleaning. Avoid Pickling Whenever Possible with Black Treatments and Others.F) Special Note: Optionally, Black Coated Parts Can Go Directly into The Zinc Bath Without Rinsing. This Minimizes Scratching
And Rub Off.
- G) Remove Fallen Parts from Tank Bottom to Assure Of Best Quality.

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