

Micron RB - 050

Zinc Phosphate Bonding Process

RB-050 is a Calcium Modified micro crystalline zinc phosphate compound used for rust protection, bonding rubber, plastisol and paint coatings to steel in immersion tanks. A tightly bonded micro-crystalline coating is achieved. Micron crystal size is typically 2-5 microns. Ease of use and bath controls are superior properties.

RB-050 is a spray or immersion type product which provides coatings of 150 up to 500 mg/ft². Coatings are applied over steel and subsequently coated with paints, lubricants, oil, rubber, elastic or rubber sealant or adhesives.

RB-050 provides a dense coating which resists corrosion and is the highly suitable for bonding rubber (which can be very challenging at times) and all other top coatings. Premium quality performance and results are achieved with this system. Meets the U.S. military specification of TTC490 Type I.

Features & Benefits

- High resistance to sludging, Providing low sludge and dusting.
- Internally accelerated for ease of control.
- Activated for use on resistant alloys
- Micro smooth coatings, providing a functional advantage.
- Meets various automotive, government and military specifications.
- Coating weights are easily controlled by simple acid ratio adjustments if needed.
- Can also be used for lubrication applications.
- The coatings prevent galling of metal and assists in deep drawing and extruding of metals.

Physical Data

pH	1
Product Type	Liquid
Spec. Gravity	1.43
lbs./gal.	11.93
Foam, 0 = Low, 9 = High	0
Shelf-Life Years	10 years
Freeze Information	Not damaged by freezing.

Typical Processing

1. Pre-clean, Alkaline #LS-150 8% B.V, 8 min., 170 deg. F, or dyna soak 100 L.
2. Rinse (Or alkaline descaler #345 L 399- L).
3. Rinse.
4. Preferred 2nd Rinse
5. R B-050 Zinc, 165- 175 deg. F., 8 Min, 25-35 points acid (re:4%) Ratio 6.5-10 (immersion), 10-15 (Spray systems).
6. Rinse.
7. Dry to touch “pre-paint option” #2018, 3-5%, 125 deg F. 30-60 sec.
8. Lubrication option: Loc-Lube #5, 8 oz./gal., 175 deg. F, 4-10 min.

Packaging

Container Type	Poly
Net Units	655
Tare Wt.	25 lb.
Gross Wt.	680
DOT_Name	UN 3264, Corrosive Liquid, Acidic, inorganic, N.O.S., (Phosphoric & Nitric Acids), 8, PG II.
DOT Hazard	Corrosive
Tarriff ID	2835.29

Use Parameters

Concentration Range	4 – 6% by volume.
Temperature Range	170 – 190 deg. F.
Time Range	4 – 20 minutes.
Agitation	Recommended.

Waste Disposal

Neutralize pH, remove fats, oils, grease, sludge, mud, metal solids.

Holding Tank Materials of Construction

Acid resistant, stainless, or poly.

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

Total Acid Points: Target Range = 25 - 35

- 1) Take A 10 MI Sample of The Bath.
- (2) Add 5-10 Drops Of Phenol Indicator
- (3) Titrate With 0.1n Sodium Hydroxide Until Pink Color Stays.
- (4) Number Of Mls Used = Total Acid.

***if Titrating Via Ph:** Omit The Indicator, Add 100 Mls Di Water, add 0.1n Naoh Until A Ph Of 8.2 Is Achieved On A Standardized Meter.

Target Range = 25 - 35 Total Acid Points (**Note: 4% Bath = 20-25 Points**)

To Raise Total Acid, Add Rb-050 Concentrate As Needed (1% Add Will Raise Total Acid By 6 Points)

Free Acid Points: Target Acid Ratio Of Ta/ Fa 6.5 - 10 (immersion) Or 10-15 (spray Systems)

- 1) Take A 10 MI Sample Of The Bath.
- (2) Add 5-10 Drops Of Bromo Blue Indicator (omit The Indicator If Titrating Via Ph Meter)
- (3) Titrate With 0.1n Sodium Hydroxide Until Blueish Color Stays.
- (4) Number Of Mls Used = Free Acid.

***if Titrating Via Ph:** Omit The Indicator, Add 100 Mls Di Water, Add 0.1n Naoh Until A Ph Of 4.0 Is Achieved On A Standardized Meter.

Free Acid Points Target Range = Target Sufficient "free Acid" To Maintain The Total Acid/free Acid Ratio Range Below.

Acid Ratio:

Maintain An Acid Ratio Of Ta/fa Of 6.5 - 10 (immersion) Or 10-15 (spray Systems)

To Lower Acid Ratio Add Rb-050

To Raise Acid Ratio Add Z A C, Highly Dilute Caustic Soda , Diluted Soda Ash (Carbonate).

1/2 Gallon Per 1000 Gallons Will Raise the Ratio By 1.0

Note: On A New Bath The Ratio Will Be Low: ~4.5-5.0, This Will Naturally Rise with Processing.

Iron Test: (Typical Range 1- 15, (Maintain <4.5 Points For Rubber Bond And < 5 Micron Crystal Size & <400mg/ft2)

- 1) Take A 10 MI Sample
- 2) Add 5-10 Mls Of 50% Sulfuric Acid
- 3) Titrate With 0.2 N Potassium Permanganate (obtain A Permanent Pink Endpoint)
- 4) Number Of Mls Used = Points of Iron

A 1/4% Add Of Acc. Sc-10 Will Lower The Iron Points By 0.5 Points



Calcium Titration: Typical Range 10-25 Points (Maintain 22-25 Points For Rubber Bond < 5 Micron Crystal Size)

Take A 5 MI Sample (you May **Use A 1ml Sample And Multiply Results By 5**, If Iron Interferes With The Color Change)

Add 50 Mls Di Water

Add 10 Mls Of Reagent #1

Add 5 Mls Of Reagent #8

Add 0.5-1.0 Grams Of Reagent #3

Add A Few Flecks Of Indicator #10

Titrate With Test Solution 575 Until The Color Changes From Purple To A Permanent Blue. (must Last 30 Seconds) # Of Mls = Calcium Points

A 1/4% Add Of Cn-100 Will Raise The Calcium Points By 3.5-4.0 Points

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