Product Bulletin

Product Name: TCJ-100 Lo-Temp Phospahte
Product Code: 2202938
Revision Date: February 12, 2024

TCJ-100 Lo-Temp Phosphate

TCJ-100 is a "LO-TEMP" heavy coating zinc phosphate compound used for applying corrosion inhibiting and lube coatings to steel in immersion tanks. Operates as low as 140 deg.F. Ultra low sludging characteristics, 75% less. Automotive Approved (FIAT-Chrysler, GM, FMC ETC) FOR HEAVY COATING ZINC.

MEETING ALL SALT SPRAY, COATING WEIGHTS, CRYSTAL MORPHOLOGY, TORQUE/TENSION SPECS, ETC. TCJ-100 is an immersion type product which provides coatings of 2,000+ mg/ft2. Coatings are applied over steel & coated with an emulsion type oil, wax or lubricant. Ultra low sludging. Crystal size is typically 50 - 100 micron.

TCJ-100 provides a dark coating which resists up to 250 hours corrosion resistance in salt spray testing conditions. Premium quality performance. Does not contain EDTA type products. Meeting various industry specifications. PS-80, GMW 3179, GM4435, MIL DTL-16232G Type Z

Features & Benefits

Low-temperature processing:
1) Providing significant energy heating costs savings
2) Ultra low sludging for lowest cost & downtime
3) Extended bath life by 3-5 times lowering cost
4) Resistance to iron related problems. Up to 20 points iron
5) Provides dark dense coatings.
6) Provides improved corrosion resistance and bonding.
7) Eliminated "excess" heat related sludge on coils.
8) Effectively coats resistant alloys lube application

Physical Data

Specific gravity	1.60
Product Type	Liquid
PH	1
LBs/Gal	13.34
Foam, 0=Low 9=High	0
Shelf Life Years	10 Years
Freeze Information	Not Damaged by Freezing

Operating Conditions/Typical Processing

1) Pre-clean, Alkaline #ls-150, 8% B.v, 8 Min., 170 Deg. F.
2) Rinse (or Alkaline Descaler #345 Lr)(as Required By Process Spec)
3) Acid Pickle, (hydrochloric Or Sulfuric) 8 Mi
4) Rinse, 5) Preferred Rinse
6) TCJ-100 Zinc, 140-190 F., 8-15 Min, 32+ points acid (re:5%) Iron up to 20.
7) Rinse, 8) Rinse
9) Oil option: 10-20% by volume #240, 125 deg. F, 30-60 Sec. (OR #168)
10) Dry to touch “pre-paint option” #2018, 1-4%, 125 deg F. 30-60 sec.
11) Lubrication option: Polymer, Loc-Lube #5, 8 oz./gal., 175 deg. F, 4-10 min.

Packaging

Container Type	POLY
Net Units	734
Tare Wt.	25
Gross Wt.	759
DOT_NAME	UN 3264, Corrosive Liquid, Acidic, inorganic,N.O.S., (Phosphoric & Nitric Acids),8, PG II,
DOT Hazard	Corrosive
Tariff ID	2835.29

Use Parameters

Concentration Range	4-6% 35-95 points total acid
Temperature Range	145-190 Deg. F.
Time Range	8-20min
Agitation	n.a.

Waste Disposal

NEUTRALIZE PH, REMOVE FATS, OIL, GREASE AND HEAVY METALS

Holding Tank Materials of Construction:

ACID RESISTANT, STAINLESS OR POLY

Testing, Operating, & Trouble Shooting Data

New Tank Make-up:

Fill Tank With Water Leaving Enough Room For 5% By Volume Of Tcj-100. (5 Gallons Per 100 Gal). Place A Barrel Of Parts In Solution Prior To Heating The Tank, In Order To "seed" Iron Into The Bath. Allow The Parts To Sit In Solution Until The Tank Reaches Operating Temperature And The Solution Tests Positive For Iron. Process May Begin When The Operating Temperature Has Been Reached And Iron Is Positive.

Total Acid:(range 35-95)

1) Take A 10 Ml Sample
2) Add 5-10 Drops Total Acid Indicator (phenol Indicator).
3) Titrate With 0.1 N Naoh (caustic Soda) (Color Will Change From Clear To Pink)
4) Number Of Mls Used = Total Acid

*to Raise Total Acid- 1% Add Of TCJ-100 M2 Will Raise The Total Acid Points By 9

Free Acid: (range Per Ratio)

1) Take A 10 Ml Sample
2) Add 5-10 Drops Of Bromophenol Blue (or An Anternate Indicator Methyl Orange Or Modified Methyl Orange)
3) Titrate With 0.1 N Naoh (caustic Soda) (color Will Change From Yellow To Blue)
4) Number Of Mls Used = Free Acid

Acid Ratio:(range 4.5-9)

Ta/fa = 4.5 New Bath 9 Older Bath With Higher Iron

Iron Test: (range 1- 15)

1) Take A 10 Ml Sample
2) Add 5-10 Mls Of 50% Sulfuric Acid
3) Titrate With 0.2 N (A K A .189 N) Potassium Permanganate (obtain A Permanent Pink Endpoint)
4) Number Of Mls Used = Points Of Iron

Effective Total Acid: Target 35+ Points Of Eta
Eta= Total Acid (iron X 3.5)
Target = 35-45 Pts Of Effective Total Acid

Iron	Total Acid Target
1.0	35-45
2.0	42-52
3.0	45.5-55.5
4.0	49-59
5.0	52.5-62.5
6.0	56-66
7.0	59.5-69.5
8.0	63-73
9.0	66.5-76.5
10.0	70-80
11	73.5-83.5
12	77-87
13	80.5-90.5

Various Specifications: The Subject Product Meets The Operating Specifications Of Many Of The Processes

Listed: Gm6074m, Chrysler Ps7902, Ford M21p6, Gm4435m, Chrysler Ps80, Ford S-58 Dry, Gm6174m, Chrylser Ps1649, Ford S-32-46, Gm6074m, Chrysler Ps7902, Ford M21p6, Dana Shaes 196. (4-09

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.

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