Product Bulletin
Product Name: NCS # Z-1, Final Rinse
Product Code: 2204906
Revision Date: February 12, 2024

NCS # Z-1, Final Rinse

RINSE PASSIVATOR SEALER. Z-1 is a non chrome final seal rinse treatment for Iron, Zinc, Manganese phosphate and Zirconium conversion coating processes. Provides a material with ready to use ph stability minimizing ph shift due to over use. Superior performance for critical operations requiring maximum adhesion and corrosion resistance on all metals.

Z-1 provides a superior surface which is highly receptive to paints and coatings. Z-1 is capable of providing salt spray results equivalent to chrome. Provides enhanced bonding of all types of coatings.

Z-1 will provide improved bonding and corrosion resistance of applied coatings. Z-1 does not contain chrome, amines, sulfates or organic carboxylates. Meets Mil Spec 16232-G Type Z, when used with TCJ-100 Zinc Phosphate. 24 hours salt spray. Type M when used with Lube Coat MG Series.

Features & Benefits

Easy to control.
Non-Chromated.

Operates at a wide chemical use range.
Excellent performance when used with a final deionized water rinse.

Passivates zinc, aluminum and iron coatings.
Can be used in spray and immersion applications.

Physical Data

Specific gravity	1.04
Product Type	Liquid
PH	2.0
LBs/Gal	8.67
Foam, 0=Low 9=High	0
Shelf Life Years	10 Years
Freeze Information	Not Damaged by Freezing

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Operating Conditions/Typical Processing

3 STAGE CLEAN & COAT PROCESS:

1) Clean and Conversion Coating (Zirconium or conventional Phosphate)
2) Rinse
3) Z-1 treated rinse (D.I. water is superior or R.O.), .25 -1.0% by volume, ambient- 120-150 deg. F., 25 seconds up to 5 minutes., PH 4.5- 5.6
4) Rinse, Halo (optional)
5) Dry & To paint.

FOR 5 STAGE PROCESS ADD ALKALINE CLEANER 1023, 1033 May Also be used as a final seal rinse for Zinc Phosphate pretreatments.16232-G Type Z, Class 4: 1/2%, pH 4.5, 140 deg.F with TCJ-100 zinc phos

Packaging

Container Type	POLY
Net Units	477
Tare Wt.	25 Lb
Gross Wt.	502
DOT_NAME	UN 3264, Corrosive Liquid, Acidic, inorganic, N.O.S., (Fluorozirconic Acid),8, PG II,
DOT Hazard	Corrosive
Tariff ID:	3402.90.10

Use Parameters

Concentration Range	.25-1.0% by volume
Temperature Range	75-150 F.
Time Range	20 sec. min.
Agitation	Spray or dip

Waste Disposal

NEUTRALIZE

Holding Tank Materials of Construction:

ACID RESISTANT, STAINLESS OR POLY

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Testing, Operating, & Trouble Shooting Data

Maintain Ph Of 4.5-5.6 As Final Seal

To Lower The Ph: Use Ncs Z-1
To Raise The Ph: Use : Ph Conditioner 4 , Ammonium Hydroxide, Or Surfcon H-430 (Liquid Ammonium Bicarbonate) , Or Ammonium Bicarbonate.

Dropper Test Procedure:

1) Take A 10ml Sample.
2) Add 3-5 Drops Of Indicator #1, Phenolphthalein Indicator.
3) Add Drop By Drop (counting The Number Of Drops) Of Test Solution #10, 0.1n Sodium Hydroxide, Until The Color Changes From Clear To Pink.
4) The Number Of Drops Required Multiplied By A Factor Of .04 = % By Volume
   Ex) 25 Drops = ~1.0% By Volume

Titration Procedure: 3-2014 (target 1/2 - 1 1/2 %)

1) Take A 25ml Sample (must Be Within Ph Range)
2) Add 3-5 Drops Of Indicator #1 (phenolphthalein Indicator)
3) Titrate With 0.1n Naoh Until A Permanent Pink Appears.
4) The Number Of Mls Required Multiplied By A Factor Of .4 = % By Volume
   Example : 2.7 Mls X .4 = 1% By Volume

Coating Weight And Crystal Formation Procedures: (1-2018 / R O S)

Our Technical Service Lab Provides 500x Digital Photo Prints Of The Conversion Coating. Microscopes At 500x Show Complex Mixed Crystal Of Zirconium At Typically Less Then < 1-Micron In Size. It Is Known The Crystals Less Then < 1.0 Micron Are Providing The Active Sites For The Performance Of Corrosion Protection And Coating Adherence Of Paints And Other Top Coats. ***It Is Recognized That The Performance Of Zirconium Coatings On Metals Are Of Superior Performance***.

1) Technical Service Lab On Site Provides Digital Microscopic (500x) Evaluation Of The Coatings Is Typical And Provides Significant Quality Information To Confirm The Surface Conversion.

Alternate Methods Are:
S P M (Scanning Probe Microscopy)
S T M (Scanning Tunneling Microscopy) (Non Contact & Dynamic Contact) (Tapping & I R)
A F M (Atomic Force Microscopy) (First Used In 1989) & Most Popular Method For Measuring Nano.

S E M (Scanning Electro Microscopy) Used For Zinc, Iron And Manganese Phosphates Is Not Acceptable
To Research The Nano Size Crystals Of Zirconium.
Ref: P C I, Magazine October 2017

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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Our People. Your Problem Solvers.

For more information on this process,
please call us at 203.756.5521 or email: techservice@hubbardhall.com

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