Product Bulletin

Product Name: Bond Guard ZRC-222
Product Code: 2204902
Revision Date: February 12, 2024

Bond Guard ZRC-222 (Wand/Soak)

NON-PHOSPHATED SURFACE TREAT & CLEAN. ZRC-222 Non-phosphated cleaner and conversion treatment for bonding and providing corrosion resistance for paint coatings on steel and non ferrous metals. Provides Low temperature operation and a greener pretreatment process.

ZRC-222 promotes coatings on difficult surfaces of both ferrous and non-ferrous metals. ZRC is highly effective on weldment areas and high alloy surfaces which can typically be a problem with conventional pretreatments. For extremely difficult aluminum alloys, may consider the addition of Toner ABF-25, for extra surface activation (0.3%)

ZRC-222 ZIRCONIUM TECHNOLOGY enhances finished product quality by providing a wider window of process capability and repeatable performance under paints and coatings.

Features & Benefits

Phosphate Free
Low Temperature Energy Savings
High Performance NCS # Z-3, Final Rinse
Very low use cost.
Reduced Maintenance
Lower Sludging
Concentrated liquid which easily mixes in water.
Provides equivalent or improved performance over conventional phosphate treatments prior to paints and coatings

Physical Data

Specific gravity	1.05
Product Type	Liquid
PH	5.0
LBs/Gal	8.76
Foam, 0=Low 9=High	0
Shelf Life Years	10 Years
Freeze Information	Not Damaged by Freezing

Product Bulletin

Product Name: Bond Guard ZRC-222
Product Code: 2204902
Revision Date: February 12, 2024

Operating Conditions/Typical Processing

SPRAY WAND APPLICATIONS:

1) Clean & Prep: ZRC-222 (2-4%, 100-140 F., 45-90 SEC., PH 4.5 - 5.6
2) Rinse (**PH CONTROL: STEEL TARGET PH RANGE OF 5.2-6.0**, NON FERROUS 4.5-6.0.
3) DI or RO Rinse, or Final Seal Rinse (NCS # Z-3) for maximum quality.
4) Hot Air Dry off
**Optional NO Rinse Process is available if required. Dry in Place.

SOAK TANK APPLICATIONS:

1) Clean & Prep: ZRC-222 (4-6%, 120-140 F., 2-4 MIN., PH 4.5 - 5.6
2) Rinse
3) DI or RO Rinse, or Final Seal Rinse (NCS # Z-3) for maximum quality

Packaging

Container Type	POLY
Net Units	481
Tare Wt.	25
Gross Wt.	506
DOT_NAME	UN 3264, Corrosive Liquid, Acidic, inorganic, N.O.S., (Fluorozirconic Acid),8, PG II
DOT Hazard	Corrosive
Tariff ID	2826.19.90

Use Parameters

Concentration Range	2-5% by volume
Temperature Range	90-140 F.
Time Range	30-120 sec
Agitation	Per system

Waste Disposal

NEUTRALIZE, REMOVE METALS IF PRESENT

Holding Tank Materials of Construction:

ACID RESISTANT, STAINLESS OR POLY

Product Bulletin

Product Name: Bond Guard ZRC-222
Product Code: 2204902
Revision Date: February 12, 2024

Testing, Operating, & Trouble Shooting Data

Maintain Ph Of 4.5-6.0

To Lower The Ph: Use Bond Guard Zrc-222
To Raise The Ph: Use Ph Conditioner #4, Ammonia Hydroxide,
(Liquid Ammonium Bicarbonate) , Or Ammonium Bicarbonate.
(ph Control: Steel Target Ph Range Of 5.2-6.0, Non Ferrous 4.5-6.0

Titration Procedure (target 2-4 %)- (ph Must Be In Operating Range)

1) Take A 10ml Sample
2) Add 3-5 Drops Of Indicator #1, Phenolphthalein
3) Titrate With Test Solution #10, 0.1n Naoh, Until A Permanent Pink Appears.
4) The Number Of Mls Required = % By Volume

Dropper Titration- (ph Must Be In Operating Range)

1) Take A 10ml Sample
2) Add 3-5 Drops Of Indicator #1, Phenolphthalein
3) Add Drop By Drop (count The Drops) Of Test Solution #100, 1.0n Naoh, Until A Permanent Pink Appears.
4) The Number Of Drops Required Multiplied By A Factor Of 0.35 = % By Volume

Consumed Acid: (target 0-1.0) -(ph Must Be In Operating Range)

1) Take A 10ml Sample
2) Add 3-5 Drops Of Indicator #120, Bromophenol Blue
3) If Blue (consumed Acid): Titrate With Test Solution #8, 0.1n Acid
If Yellow (free Acid): Titrate With Test Solution #10, 0.1n Naoh (do Not Operate With Free Acid, Use
Adjustments)

Adjustments

Add Bond Guard Zrc-222 To Lower The Consumed Acid And Lower The Ph
Add Ph Conditioner #4 To Lower Free Acid, Raise Consumed Acid And Raise The Ph.

Product Bulletin

Product Name: Bond Guard ZRC-222
Product Code: 2204902
Revision Date: February 12, 2024

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 Microscpic (500x) Evaluation Of The Coatings Is Typical

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.

WARRANTY: HUBBARD-HALL INC. IS NOT RESPONSIBLE FOR THE MISUSE, MISAPPLICATION, OR MISHANDLING OF THIS PRODUCT. SEE THE TERMS AND CONDITIONS OF SALE ON OUR WEBSITE FOR ADDITIONAL TERMS AND CONDITIONS CONCERNING OUR PRODUCTS, INCLUDING BUT NOT LIMITED TO, LIMITATIONS AND DISCLAIMERS OF WARRANTIES AND LIABILITIES.

Our People. Your Problem Solvers.

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

Hubbard-Hall holds certifications for **ISO 9001:2015**, Responsible Distribution, as accredited by the **ACD** (Alliance for Chemical Distributors) and as a **Women-Owned Small Business**, as well as maintaining an association with **Omni-Chem**[136].