

BOND GUARD ZRC-222 (Wand/Soak)

NON-PHOSPHATED SURFACE TREAT & CLEAN.

BOND GUARD 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.

BOND GUARD 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, consider the addition of Toner ABF-25 for extra surface activation (0.3%)

BOND GUARD 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 that 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%)	4.0 – 4.6
LBS/Gal	8.76
Foam, 0=Low 9=High	0
Shelf-Life Years	10 Years
Freeze Information	Not Damaged by Freezing

Typical Processing

SPRAY WAND APPLICATIONS:

- 1) BOND GUARD ZRC-222 (2-4%, 100-140 F., 45-90 SEC., pH 4.0 – 5.0)
 - a. (pH control: steel target pH range: 4.0 – 5.0, non-ferrous: 3.8 – 4.4)
- 2) Rinse
- 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) BOND GUARD ZRC-222 (4 –6%, 90-120° F., 2 – 4 MIN., pH 4.0 - 5.0)
- 2) Rinse
- 3) DI or RO Rinse, or Final Seal Rinse (NCS Z-3) for maximum quality

Operating Conditions

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

Maintain pH of 4.0 – 5.0

To Lower the pH: Use pH Adjuster ZRC

To raise the pH or lower free acid: Use pH Conditioner #4
 (pH Control: steel pH 4.4 – 5.0, nonferrous pH 3.8 – 4.4)

Titration Method

- 1) Take A 10ml Sample (pH Must Be in Operating Range)
- 2) Add 3-5 Drops of Phenolphthalein Indicator
- 3) Titrate with 0.1N NaOH until a permanent pink appears.
- 4) The Number of Mls Required = % By Volume

Test Kit Method

- 1) Take A 10ml Sample (pH Must Be in Operating Range)
- 2) Add 3-5 Drops of Phenolphthalein Indicator
- 3) Add Drop by Drop (count the drops) of 0.1N NaOH until a permanent pink appears
- 4) The Number of Drops Required Multiplied by a Factor of 0.35 = % by Volume



Product Bulletin

Product Name: Bond Guard ZRC-222

Product Code: 2204902

Revision Date: March 26, 2026

Waste Disposal

NEUTRALIZE, REMOVE METALS IF PRESENT

Holding Tank Materials of Construction:

ACID RESISTANT, STAINLESS OR POLY

Caution

BOND GUARD ZRC 222 is a mildly acidic solution. Wear protective clothing, gloves, and goggles when handling this product. Flush exposed areas immediately with clean, cold water. For the eyes, flush repeatedly with water and call a physician.

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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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