

## Bond Guard ZRC

### Advanced Zirconium Coating for Superior Bonding and Corrosion Protection

Formulated to replace conventional Iron or Zinc phosphate products in pretreatment applications with outstanding performance. Bond Guard ZRC adds a nanocrystalline structure to metal surfaces which provides a longer-lasting bond for paints and powder-coat finishes.

The “nanocrystals” formed with Bond Guard increase the surface area of the substrate, thus enhancing paint adhesion, corrosion protection, and salt-spray results. Typical coating weights vary depending on the substrate, application temperatures, and method of application. Bond Guard ZRC operates at a comparable percentage volume to conventional iron phosphate products. It works best with a mild neutral pH type cleaner followed by one rinse stage, or an alkaline cleaner followed by two rinse stages.



### Key Features

Why Zirconium Conversion Coating?

- Effective at room temperature for energy savings
- Less sludge and no regulated heavy metals for reduced waste
- Increased corrosion protection
- Low foaming
- Short contact time needed: 15-30 seconds

“We’ve used Bond Guard ZRC for past seven plus years in powder and liquid paint operations. Cost of ownership, NSS results, and ease of use have been excellent.”

**William L. Blanchet**  
Surface Finishing/PWB Manager  
Seacole

Hubbard-Hall offers multiple Bond Guard formulations for the market, including:

## Bond Guard ZRC 111

A non-phosphate conversion treatment for bonding and providing corrosion resistance for paint coatings on steel and nonferrous metals. It is formulated for use in 4- to 7-stage spray washers. Provides low temperature operation and a greener pretreatment process. It can be used as the conversion coating and the final dry-in-place rinse sealer.

pH	4.0 - 4.6
Recommended Operating Temperature	90 - 140° F
Concentration	1/2 - 2% by volume
Soak Time	30 - 90 seconds
Phosphate Free	Yes
Spray wash application	Yes

## Bond Guard ZRC 222

Non-phosphate cleaner and conversion treatment for bonding and providing corrosion resistance for paint coatings on steel and nonferrous metals. Provides Low temperature operation and a greener pretreatment process. Enhances finished product quality by providing a wider window of process capability and repeatable performance under paints and coatings.

pH	5.0
Recommended Operating Temperature	90 - 140° F
Concentration	2 - 5% by volume
Soak Time	30 - 120 seconds
Phosphate Free	Yes
Spray wash application	N/A

### Hubbard-Hall's Bond Guard ZRC delivers several advantages over traditional phosphate coatings:

- Reduces chemistry cost due to extra-long bath life
- Delivers excellent corrosion resistance
- Reduces energy use and costs because it can be applied at room temperature
- Increases productivity with a contact time of only 15-30 seconds
- Produces less sludge, lowering waste management costs
- Prevents algae growth in nearby lakes due to non-phosphate formulations
- No regulated heavy metals in effluent
- Easy to handle and replenish

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