



CorrosionCOPS

When it's Rust Call US! **Railings—Anodized Aluminum**

Corrosion Control on existing railings—Cortec VpCI-239

Aluminum railing in question is finished with an anodized finish which aids to a degree with corrosion control.

Anodizing does a great job on the surfaces that are exposed to the environment, but when this surface is interrupted, such as a cut area that is seen where the bottom of the rail enters the rail upright/vertical, the edge begins to corrode because there is zero anodizing where the cut was performed. This is the "hot" corrosion area where the electrons are working the hardest to do what you see....corrode.



NOTE: white deposits are not salt—do attempt to scratch off. Do not use any abrasives, such as an aluminum polish or anything that contains a grit in the compound or on paper such as sand paper on aluminum railing.



Additionally, the image seen where there is a perforation of the surface and the white particulate build up - that white build up is aluminum oxides - and is often confused with salt deposits.



The surface ding area looks to be from something that may have impacted the rail and wore through the anodizing.

These situation may be due to potentially these activities but not limited to: uneven anodization, highly acidic rainfall and fretting, which is a wear down (fretting) of the passivating oxides (passivating oxides help control the corrosion, but fretting - rubbing of the 2 parts due to vibration when the rail is used wears the anodizing and the passivating oxides away from the aluminum surface and allows an acceleration of corrosion to begin).

This highly localized attack is a galvanic corrosion issue, so there is a name to what you see.

In order to prevent this from getting worse....**DO NOT USE BRUSHES!** Especially STIFF brushes. Brushes will aid in wiping away corrosion protection - the very minute layer of oxides - the aluminum rust is similar to galvanized coated steel corrosion as both surfaces passivate. Again, that white powder is aluminum oxides, the by-product of elevated corrosion activity. Those oxides are the spent fuel from the corrosion activity that is starting to consume the rail.

continued page 2

Solutions for Rust and Corrosion

94-463 Alapine Street, Waipahu, Hawaii 96797 Phone (808) 676-1963 Fax (808) 678-1677 www.corrosioncops.com

Corrosion Control on existing railings—Cortec VpCI-239—continued

Solution

To prevent this from getting worse, use of CORTEC VpCI -239 ElectriCorr spray will aid in reducing the corrosion attack. CORTEC Electric Corr VpCI-239 should be applied at the first sign of white aluminum oxides. The rule of thumb here is once treated is to inspect the treated areas once a month or so, and note what is seen. Once the aluminum white oxide appears again, it is time to refresh the treatment.

I can't say when that would be, but inspecting what you expect to occur will give you a time line or heart beat for how long the corrosion protection lasts and this time line then can be assigned to refresh the corrosion prevention and control (CPAC) treatment.

Keep in mind, the aluminum will absorb the VpCI corrosion inhibitors, and with each application as the metal hydrates with the inhibitors, the time line may be extended. So it is important to know when to reapply. Your first sign of oxides is the time to do it...only the 1st time though!

The second time to reapply is a month to 2 months before exhaustion of the inhibitors. This will aid in uninterrupted corrosion prevention and aid in keeping the aluminum hydrated with the solution as well as the inhibitors used with CORTEC VpCI 239.

It is important with the application to inject the product with the small red tube the can comes with, into the areas where the rails intersect and run into the vertical uprights. This injection is done under can pressure and will aid in helping the product to migrate to the cut ends of the tubing where the corrosion protection is needed.

Recommend that this be done with the first application 2 times with a week break between the first and second application. **DO NOT WIPE AWAY THE RESIDUAL PRODUCT!** This will aid in better corrosion prevention. If you allow the excess to sit for several days, the better off the corrosion protection will be. The surface can be wiped free within a 2 week period, but if you can leave the product on the rail you'll allow the product to be absorbed for best CPAC procedure.

Corrosion won't disappear per say, but the product will halt the corrosion activity immediately. You may find the white oxide build up may lift and be removed when the surface is wiped of any excess inhibitor film after a 24 to 48 hour set time.

Best results would come with leaving the excess film on for as long as possible and if the film need not be wiped from treated surfaces, then don't remove that as better protection and longer protection will result.

Then monitor/record the results as described above.

Manufacturer tests have shown CORTEC VpCI 239 to last about 3 years, but as with this process inspection will reveal the true extent/efficacy/time frame of protection.

Note:

Go to Products Link on our site for details on Cortec VpCI-239.

Go to Contact Link on our site for VpCI-239 industrial sales and questions.



Solutions for Rust and Corrosion

94-463 Alapine Street, Waipahu, Hawaii 96797 Phone (808) 676-1963 Fax (808) 678-1677 www.corrosioncops.com