

Info Sheet – WHITE RUST Repair & Case Study

JANUARY 2022 | REV 07 | This version supersedes all previous issues

How to Repair White Rust

There are various methods to remove white rust and repair damage, depending on the severity of the oxide coating.

Often early onset staining can be removed or significantly reduced by wiping with a little Kerosene, or vinegar then rinsing with water and drying.



Figure 1: Early staining can be improved by wiping.

More Advanced White Rust can be Difficult to Remove

Two methods are shown: rubbing with a nylon scourer (scotch-brite) and vinegar; and mechanical buffing with a wire brush wheel. The effectiveness of each may be seen below.



Figure 2: White rust repair using Vinegar and nylon scourer

Figure 3: White rust repair using Wire brush wheel

After the white rust is removed, three coats of a zinc rich spray paint are applied, as per manufacturer's instructions (eg. Liquid ALLGAL® spray paint).

Figure 4: Zinc paint repaired (Vinegar/scourer)

Figure 5: Zinc paint repaired (wire brush wheel)

Both methods prove equally as effective, but the use of a mechanical wire buffing wheel (or a wire brush) is a lot faster and produces a cleaner surface for re-painting.



Case Study on White Rust

A steel reseller near Brisbane supplied one of their rural customers with two truckloads of zinc coated cattle rail.

The customer stored the product on his property in a paddock under a tarp and, after a period of around six months, started to break the packs open to erect his fencing.

He was alarmed to see the presence of white rust. Samples were provided and the presence of white rust was variable throughout the pack, some lengths were severely affected by wet storage stain. A particularly bad sample confirmed the presence of white rust that progressed to red-rust corrosion where the zinc has been consumed.

The pack tags obtained from the product clearly stated the need to store the product under cover and to keep it dry.

Examination of the production history of the steel in question indicated no anomalies or process issues occurred during production of these products.

Also, delivery of product to the customer was accepted as dry and free of damage.

The white rust was determined not to have occurred during the manufacturing process or delivery of this product.

Review identified significant rainfall in the customer's region over the previous six months the likely cause of moisture that was trapped under the tarp and was the main reason for the white rust formations.

Storage conditions at the customer's site did not follow recommended practices and was deemed the likely cause.

Further Guidelines

Guidelines for the expected durability of the various zinc coatings available on the market are published in various standards:

- ▶ AS4792 Hot-dip galvanised coatings on ferrous hollow sections.
- ▶ AS4750 Electro-galvanized coatings on ferrous hollow and open sections.
- ▶ AS2312: Guide to the protection of structural steel against corrosion by the use of protective coatings

About the Author

Orrcon Steel is a leading Australian distributor and manufacturer of steel, tube and pipe.

Their product range covers RHS, SHS & CHS structural tubular steel, hot rolled structural steel and a variety of fencing, roofing and building accessories.

They have a structural tubular mill in Brisbane and a precision tubing mill in Adelaide, distribution centres in five Australian states and a number of branches, stockists and resellers nationwide.

Contact us for more information about this product

1300 677 266
orrconsteel.com.au

[facebook.com/OrrconSteel](https://www.facebook.com/OrrconSteel)

[linkedin.com/company/orrcon-steel](https://www.linkedin.com/company/orrcon-steel)



Orrcon Steel
Ph: 1300 ORRCON (677 266) | www.orrconsteel.com.au

Refer to Orrcon Steel website for further information regarding the storage, safe handling & use of this product

WARNING
Product may have sharp edges
KEEP DRY
Store under cover in clean, dry and ventilated conditions

Customer: _____

Address: _____

Reference No: _____

Consignment No: _____

ALLGAL
PRECISION TUBING
SMART TUBE
ORRCON
EST. 1962