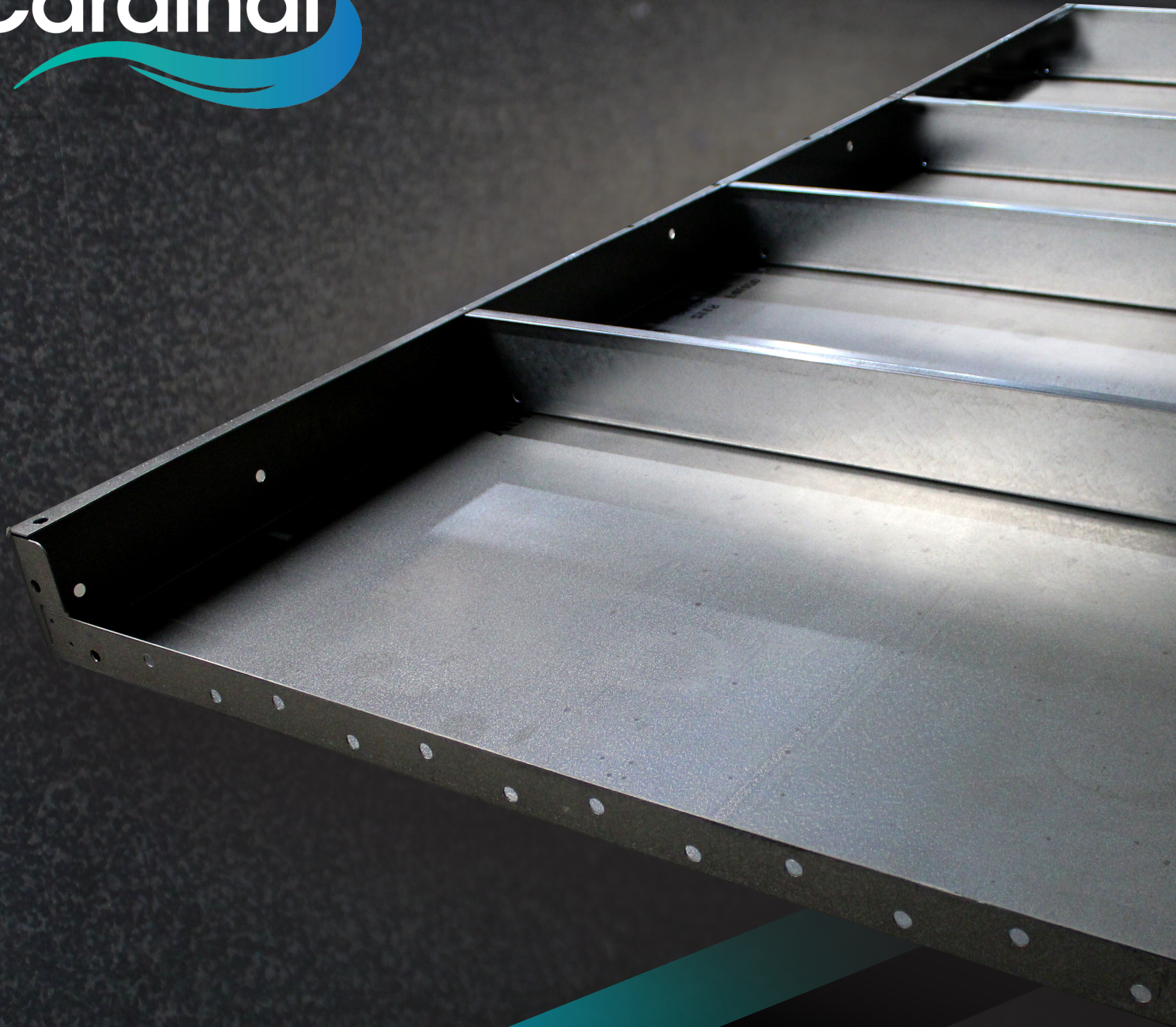


Cardinal

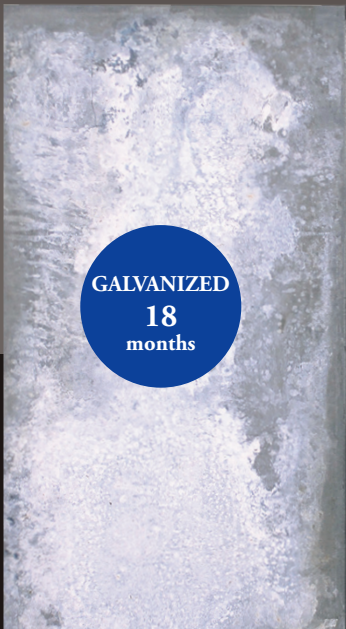


ZAM[®]

CORROSION RESISTANT

Steel Pool Walls

WHAT IS ZAM®?



GALVANIZED
18
months



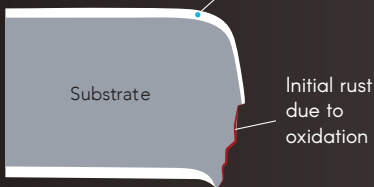
ZAM
28
months

Cardinal is proud to offer ZAM®— the most effective non-corrosive coating for steel panels & steps in the industry. ZAM® is a hot-dip coated steel sheet that has a layer of **Zinc, 6% Aluminum, and 2% Magnesium**. The effects of magnesium and aluminum together allow our ZAM® coated steps to have excellent corrosion resistance, scratch resistance, and formability.

Mechanism of corrosion resistance on cut edge

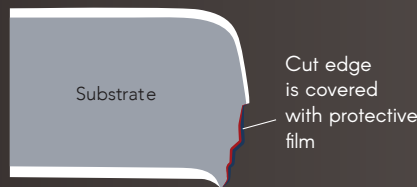
Corrosion resistance is achieved on cut edge parts by covering the ends with a zinc-based protective film that contains Al and Mg from the coating layer.

Initial exposure period
(up to several weeks)

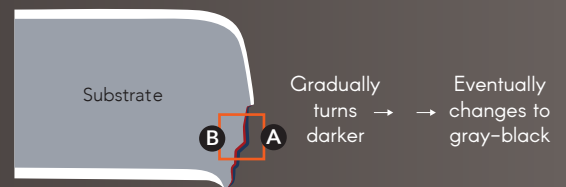


The exposed cut edge of substrate is oxidized due to rain, condensation, etc.

Initial exposure period
(several weeks to several years)

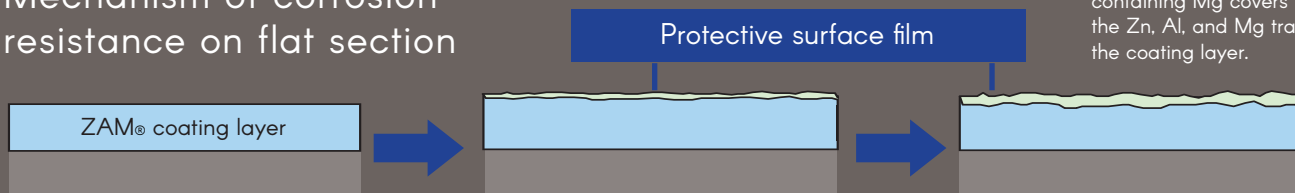


Long exposure period



HOW DOES IT WORK?

Mechanism of corrosion resistance on flat section



The fine zinc-based protective film containing Mg covers the cut edge as the Zn, Al, and Mg transfers out from the coating layer.

Progress of ZAM® Corrosion

Al and Mg in the coating layer of ZAM® combine to form a fine, **tightly adhered zinc-based protective film** on its surface as time passes. This protective film suppresses corrosion of the ZAM® coating.

WHY IS IT IMPORTANT?

ZAM® offers superior protection against corrosion on Salt Generator Pools, **up to 5x's more effective than standard galvanization**. It also offers increased protection when servicing areas with a high water table or acidic ground conditions.

Customization of steps is still achievable, as the steel can be bent and formed without the coating cracking on the edges. **Cardinal ZAM®-coated steel is covered by a lifetime, 1-time transferable warranty.**



Superior to other like products

ZAM's unique chemical composition of Zn, Al and Mg combines to form a firm coating layer. This unique coating develops thin film byproducts unlike that of competitors, that are remarkably corrosion resistant—even over cut edges.



Eco-friendly

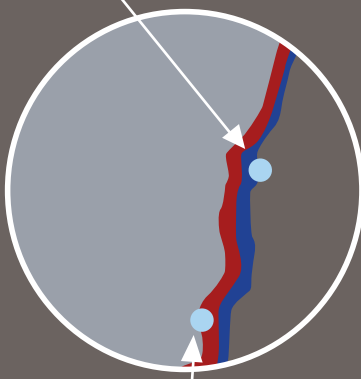
ZAM's corrosion resistance will allow customers to significantly reduce coating thickness which benefits the environment. Specifically, reducing coating thickness effectively decreases the amount of minerals mined from the earth, reduces harmful runoff dispersed into the soil, and reduces coating residue at steel recycling plants.



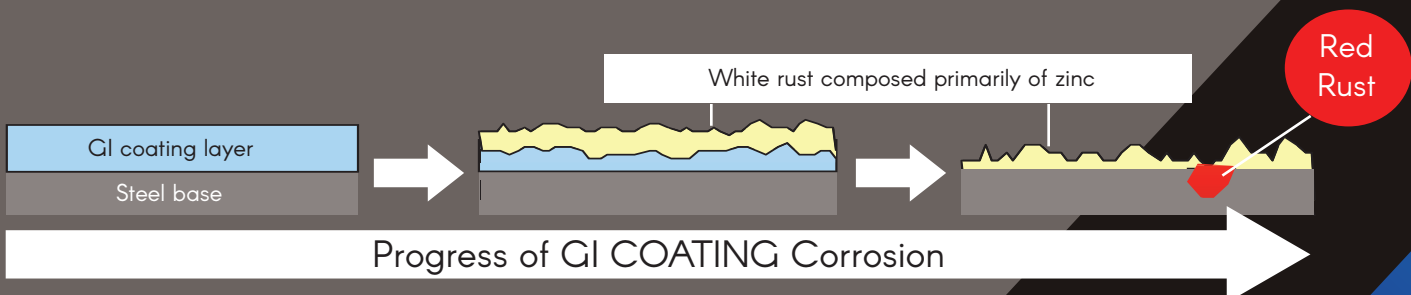
Protection on cut edges

When the ZAM® coating layer corrodes in the rain, Zn and Mg flow over the cut edge. These elements form a fine zinc-based protective film that helps ensure a long product life even against harsh elements.

A. Fine zinc-based Mg film flows over cut edge















B. Protective film gradually changes to gray, then gray-black



SEEING *IS BELIEVING*

Superior Corrosion Resistance of ZAM®

TIME	100h	1000h	5,000h
ZAM			
55% Al-Zn Alloy coated steel	 Red rust occurs		 Red rust occurs
Zn-5% Al Alloy coated steel			
Galvanized steel		 Red rust occurs	

* Appearances of cut edge sections after salt spray test
(Thickness 0.126", coating weight 0.40/0.40 oz/ft², no chem treat)

* ZAM® produced to ASTM A1046 specifications

FOR MORE ON

ZAM®

Please contact your Cardinal Representative or Customer Service.

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