



American Building Components® has been providing metal roofing since 1908, and we are committed to offering quality metal roofing, paint systems and service. That's why we manufacture and distribute Galvalume®/ Galvalume Plus® metal panels, which last longer and perform better over the life of your building than Galvanized metal panels.

Galvalume®/Galvalume Plus® vs. Galvanized Steel

Galvalume® is a specialized combination of aluminum, silicon and zinc applied to a steel substrate through a patented hot-dip process. The result is a highly corrosion-resistant sheet steel that delivers the optimum features of both aluminum and zinc:

- The barrier protection and long-term durability of aluminum
- The sacrificial (galvanic) protection of sheared edges that is characteristic of zinc

Galvalume®/Galvalume Plus® have an aluminum-rich dendritic structure which helps to inhibit the corrosion rate up to four times better than Galvanized.

Galvalume® Coated Steel

COMPOSITION

• 55 percent Aluminum • 43.5 percent Zinc • 1.5 percent Silicon

ALUMINUM & ZINC

Coating microstructure contains aluminum-rich primary phase and zinc-rich regions.

SILICON

Has a very small impact on the overall nature of the coating microstructure yet has a major impact on the alloy layer.

Product Performance and Warranty

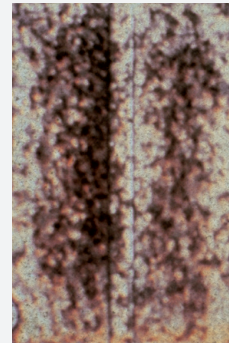
The exposure examples at right demonstrate the superior performance Galvalume® panels as compared to Galvanized. Additionally, primer and paint adhere better to Galvalume®-coated panels and they carry a 20-year limited warranty while galvanized panels do not. These factors combine to make Galvalume®-coated panels a smarter long-term investment for homes, agricultural buildings or commercial properties.

We have simplified our warranty so you can compare, evaluate and purchase a metal roof that provides the highest level of satisfaction and value.

20-YEAR LIMITED WARRANTY

Galvalume Plus® offers superior protection as compared to Galvanized steel.

15 Years Exposure at Severe Marine Site

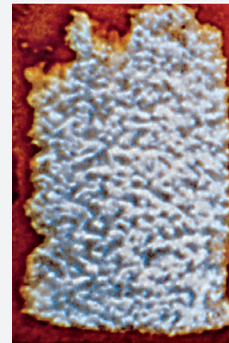


Galvanized

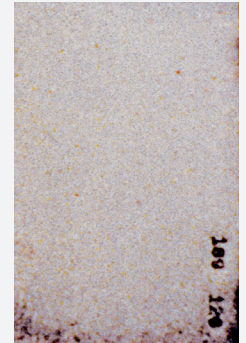


Galvalume®

17 Years of Rural Exposure



Galvanized



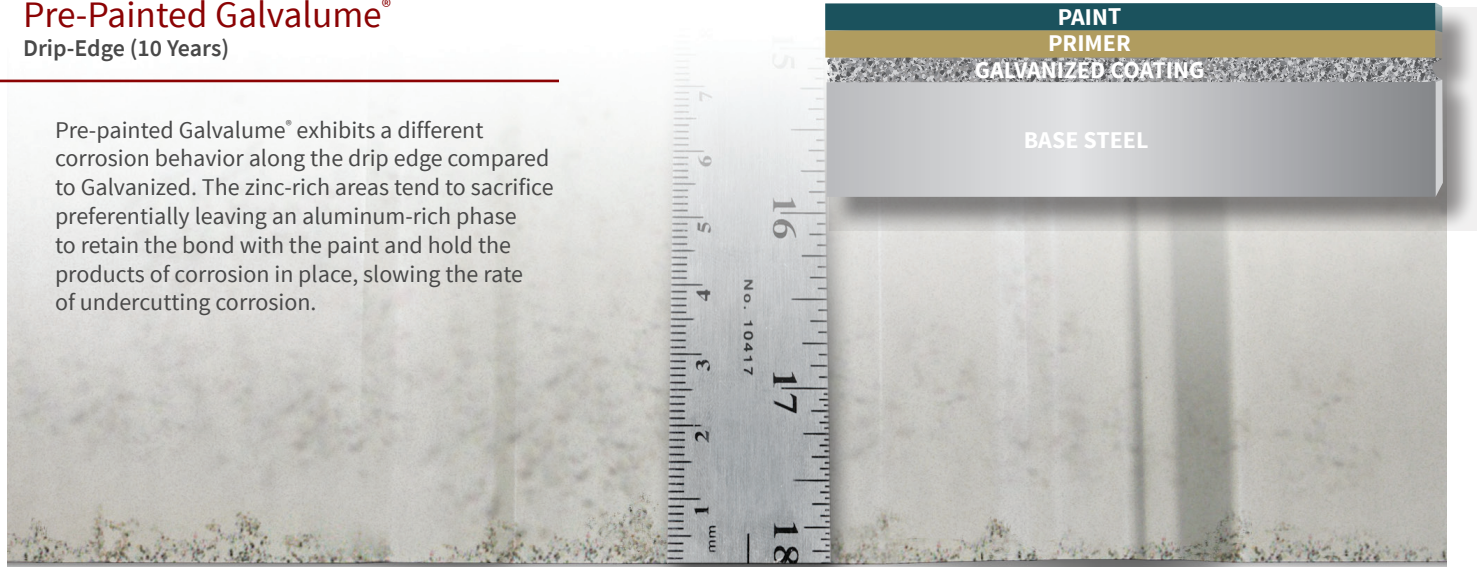
Galvalume®

Pre-Painted Galvalume® vs. Pre-Painted Galvanized

Pre-Painted Galvalume®

Drip-Edge (10 Years)

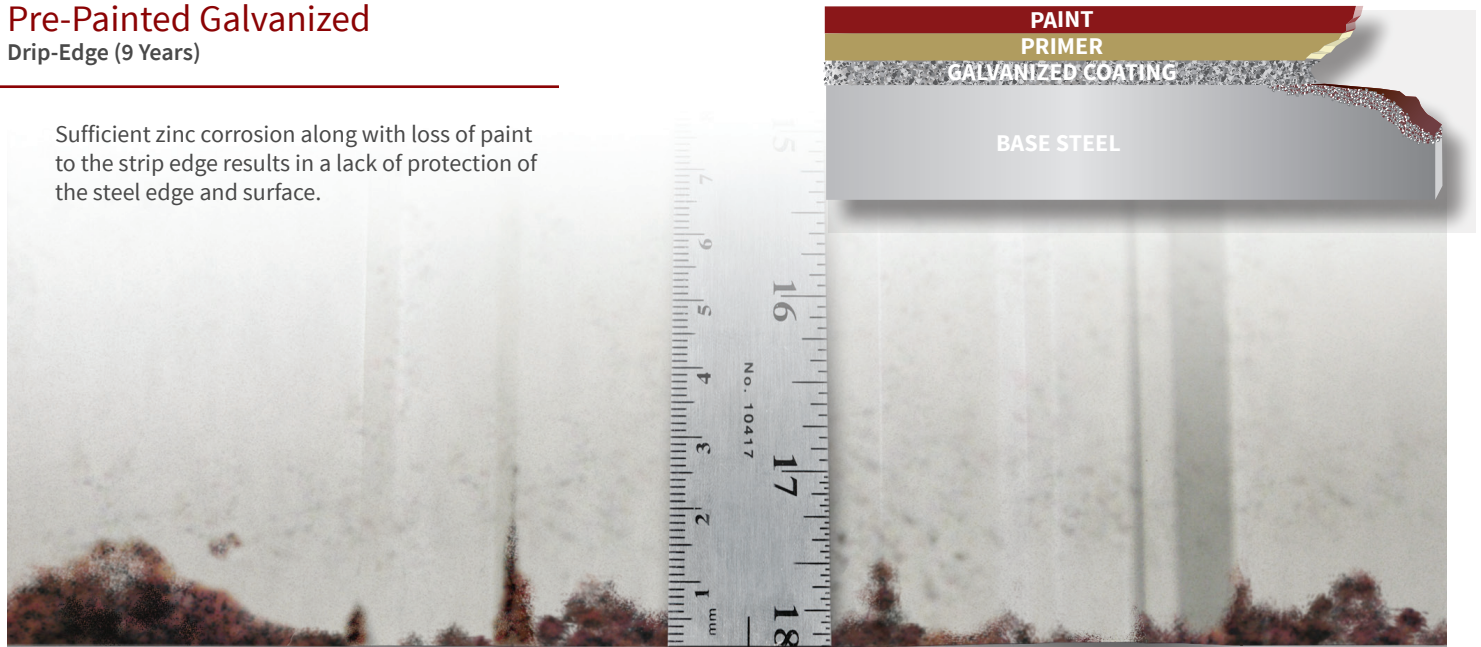
Pre-painted Galvalume® exhibits a different corrosion behavior along the drip edge compared to Galvanized. The zinc-rich areas tend to sacrifice preferentially leaving an aluminum-rich phase to retain the bond with the paint and hold the products of corrosion in place, slowing the rate of undercutting corrosion.



Pre-Painted Galvanized

Drip-Edge (9 Years)

Sufficient zinc corrosion along with loss of paint to the strip edge results in a lack of protection of the steel edge and surface.



The engineering data contained herein is for the expressed use of customers and design professionals. Along with this data, it is recommended that the design professional have a copy of the most current version of the North American Specification for the Design of Cold-Formed Steel Structural Members published by the American Iron and Steel Institute to facilitate design. This Specification contains the design criteria for cold-formed steel components. Along with the Specification, the designer should reference the most current building code applicable to the project jobsite in order to determine environmental loads. If further information or guidance regarding cold-formed design practices is desired, please contact the manufacturer.

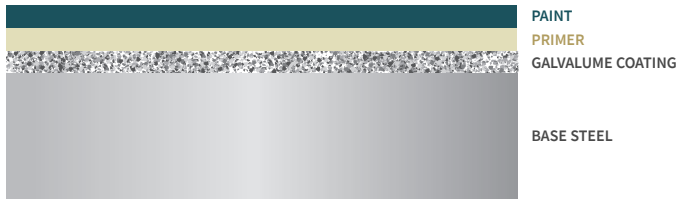
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Evolution of Corrosion from a Scratch

Corrosion of a scratch through Pre-Painted Galvalume®

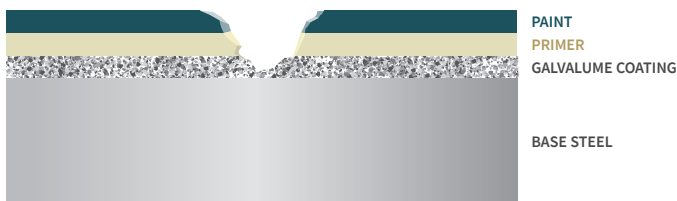
Pre-painted Galvalume before scratch is applied



Pre-painted Galvalume as scratch is applied



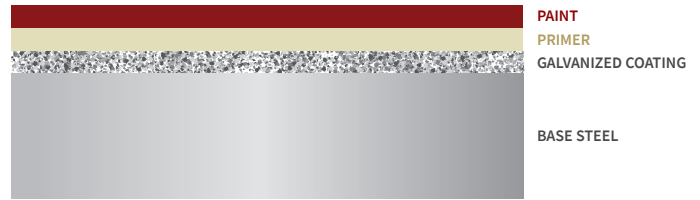
Scratch is applied through all three layers: paint, primer and Galvalume coating



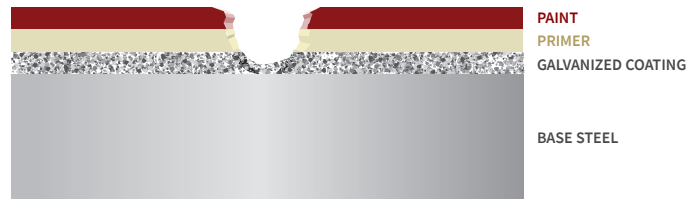
On the pre-painted Galvalume panel, the exposed zinc-rich areas react sacrificially to protect the base steel. The Aluminum-rich areas retain the bond with the paint to provide barrier protection, inhibiting the corrosion rate up to four times better than galvanized.

Corrosion of a scratch through Pre-Painted Galvanized

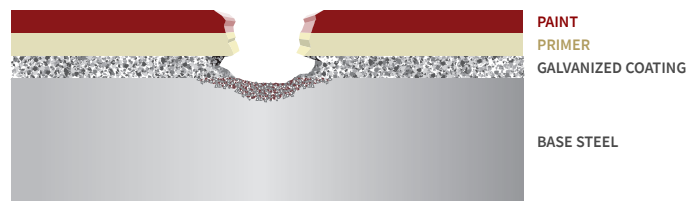
Pre-painted Galvanized before scratch is applied



Pre-painted Galvanized as scratch is applied



Scratch is applied through all three layers: paint, primer and Galvanized coating



On the Galvanized panel, the zinc begins to corrode beneath the paint and primer resulting in a loss of protection for the base steel and a loss of adhesion for the paint and primer.

Appearance of Materials Painted with Epoxy Primers and Acrylic Topcoats and Exposed Eight Years in a Rural Environment

With Galvalume®, the zinc is consumed through a galvanic reaction similar to other sacrificial coatings, but aluminum-rich primary dendrites will remain. This dendritic structure helps to inhibit the corrosion rate up to four times better than galvanized steel. The Galvalume® sheet provides a superior cut edge protection compared to the G-90 galvanized sheet. The 55 percent aluminum/zinc coating remains on the steel sheet providing sacrificial protection for a much longer time period—two to four times that of a pure zinc coating! (Performance comparisons are based upon similar coating thickness.)

