

## ASK DR. GALV

- Q:** Is there a difference with protection in hot-dip galvanized steel that has significant wet-storage stain?
- A:** **No. All galvanized steel will eventually attain its matte-gray appearance; its corrosion-fighting ability is not at all affected by wet-storage stain.**

### A Real Life Experiment

View the photo on the right . . . The dull-gray section of the galvanized guardrail on the left side of the picture was exposed to moisture (humidity or rain) during storage, but not exposed to freely-flowing air. As a result, this section of guardrail formed a zinc corrosion products film (wet-storage stain) over a period of one week.



The shiny section of guardrail on the right side of the above photo was hot-dip galvanized and then stored under cover while exposed to freely-flowing air.

Both pieces of guardrail — both matte and shiny — were attached to the concrete barrier on the same day.

### Fast Forward

The photo on the right depicts the same guardrail sections, 3½ months after installation. The left guardrail section now matches the right.



The section on the right progressed in a normal fashion to the zinc carbonate stage. The corrosion protection provided by each section is identical.

When hot-dip galvanized steel with light-to-moderate wet-storage stain is ultimately exposed to freely flowing air, the zinc corrosion products react with carbon dioxide. The matte gray zinc carbonate film that is formed — which is recognized as the stable patina — is what gives hot-dip galvanized steel its incredible resistance to corrosion.

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