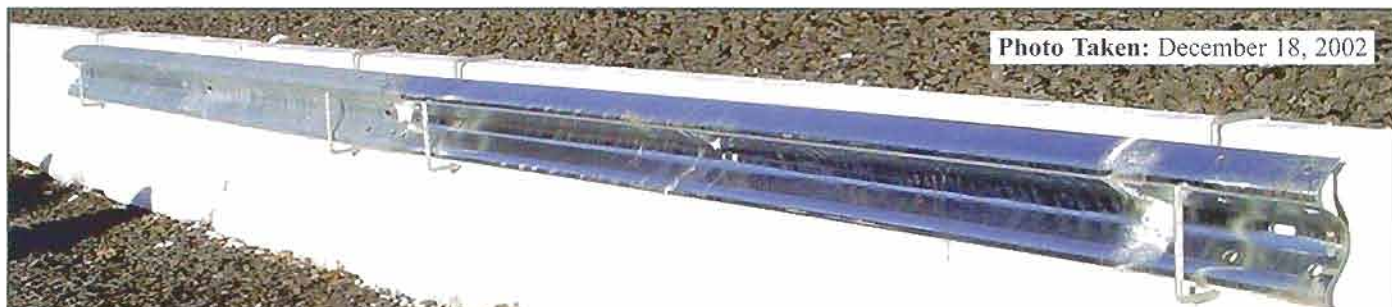


# WET STORAGE STAIN

## A Pictorial Explanation



The two guardrail sections depicted above were hot-dip galvanized on the same day.

- The dull-gray section of guardrail on the left side of the picture was taken from the interior of a stack of hot-dip galvanized guardrail that was exposed to moisture (humidity or rain) but not exposed to freely-flowing air. As a result, these sections of guardrail formed a zinc corrosion product film (wet storage stain) over a period of one week.
- The shiny section of guardrail on the right side of the above picture was galvanized and stored under cover while exposed to freely-flowing air.

Both sections were attached to the posts of the concrete barrier on the same day (December 18, 2002).

The photo below depicts the same guardrail sections 3½ months after they were first attached to the concrete barrier.

- The left section of the guardrail — which was already dull-gray in appearance due to the rapid formation of wet storage stain from damp, unventilated storage conditions — now matches the right piece of guardrail that was originally bright and shiny.
- 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 to form the matte gray zinc carbonate film that we recognize as the stable patina that gives hot-dip galvanized steel its incredible resistance to corrosion.
- The section on the right progressed in a normal fashion to the zinc carbonate stage, and the corrosion protection provided by each section is identical.



Photos courtesy of Connecticut Galvanizing