

AE GATE ASP 6/2010

Question of the Month: #2

Question:

ASTM A 780 states zinc-rich paint with zinc dust in the ranges of 65-69% or above 92% in the dried film are equally effective. Why is there a gap in the amount of zinc dust in the paints listed in ASTM A 780?

Answer:

This is a common question and the topic of zinc dust concentration in zinc-rich paint is commonly misunderstood, so let's start with the exact wording from Section 4.2.2 of ASTM A 780:

Paints containing zinc dust, with concentrations of zinc dust in the range of 65 to 69% or above 92% in the dried film, are considered equally effective for the repair of damaged galvanized coatings.

A common mistake when interpreting this information is the 65% to 69% zinc dust concentration and the 92% concentration are from the same sample of paint. This is not the case. Rather, the excerpt above gives two different concentrations of zinc dust in zinc-rich paint, which both performed equally well during testing. In other words, if you were to choose to make repairs on your galvanized steel with a zinc-rich paint, you could use a paint with a concentration of zinc dust in the range of 65 to 69% OR a zinc-rich paint with a zinc dust concentration of 92% or greater.

So why do zinc-rich paints with zinc dust concentrations outside the recommended ranges not work as well?

In several studies that looked at the efficacy of zinc-rich paints with various zinc dust concentrations, the data showed paints with concentrations in the range of above 69% to below 92% didn't perform as well as paints with zinc dust concentrations in the ranges of 65 to 69% or above 92%. In some cases this was because paints with zinc dust concentrations outside the recommended ranges didn't adhere to the steel. For more information you can request copies of the studies that tested the performance of paints with various zinc dust concentrations by sending an email to technical@galvanizeit.org and requesting the "zinc-rich paint loading studies."