

Tech Talk Q&A

**Electroplating is NOT
Equal to Hot-Dip Galvanizing**

By Professor Zinc

Q: "Is electroplating per ASTM B633 equal to hot dip galvanizing per ASTM A385?"

A. No, they are not equal. Hot dip galvanizing creates a thicker and harder zinc coating with a service life as much as 20 times longer than a B633 coating.

B633 is the Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel. In general terms, the zinc coating is thin, up to a maximum thickness of 1 mil (25 μm), and mechanically bonded to the surface with a hardness of about a third to a half that of most steels. The specification, ASTM B633, lists four classes of zinc-plating: Fe/Zn 5, Fe/Zn 8, Fe/Zn 12 and Fe/Zn 25 where the number indicates the coating thickness in microns (μm). Most coatings are less than a half of a mil in thickness and are intended for indoor and/or non critical applications.

ASTM A385 is not actually a coating specification but the Standard Practice for Providing High-Quality Zinc Coatings (Hot-Dip), and is commonly referred to as the "design" spec for galvanizing. ASTM A123, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products and ASTM A153, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware, are more likely the specifications you want to compare.

Hot Dip News Summer 2016

Hot dip galvanized structural material will range from 45 μm to 100 μm as a minimum (1.8 to 3.9 mil) and hot dipped fasteners will range from 45 μm to 86 μm (1.7 to 3.4 mil), depending upon the type of material being coated.

Since zinc coating performance is linear and is based on coating thickness and conditions of exposure, a two mil coating will last twice as long as a one mil coating in the same environment. You can see from the relative coating thicknesses of electrogalvanizing and hot dip galvanizing that they are NOT equal. Hot dip galvanizing will have a service life that may be as much as 20 times the life of a B633 coating in the same application.

**Do you have a question for the Professor?
Submit it online at www.galvan-ize.com/mrzinc.asp.
You'll be glad you did!**

Contact Galvan Industries, Inc.
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[summer 2016]



Galvan Industries, Inc. Hot Dip News

Inside:

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OEMs Take A Shine To Galvan

While the primary reason for galvanizing steel is to protect it from corrosion, aesthetics are important, and particularly so for OEM products. In addition to being structurally sound, they have to look good! The finish of galvanized steel can vary from shiny to matte/dull to spangled. Steel chemistry and the thickness of the coating has a lot to do with these variations, but thinner materials that cool faster, like those often used by OEMs, tend to have a shinier finish.

In addition, at Galvan, we are continuously checking and improving our processes to ensure the best quality finish for all our customers. These adjustments often result in a brighter, more aesthetically pleasing finish, like on the parts shown above for a major antenna manufacturer and at left for a maker of solar energy products. Let us put our bright ideas to work for you!

Galvan Rust-Proofs Industrial Pipe Bridge

Pipe bridge or pipe racks are structures designed and built specifically to support pipes in industrial plants, arranging the process and service pipelines from one piece of equipment to another or to different units.

Pipe bridge is often multilevel and built at a height to allow people and machinery to pass safely underneath. The media in the piping might include anything from water, steam, condensate or air to hazardous chemicals, so pipe bridge must offer safe, dependable pipeline support for the life of the plant. Protection against corrosion damage is extremely important.

Hot-dip galvanized steel is uniquely and ideally suited to withstand the constant exposure to industrial environments, providing maintenance-free corrosion protection for decades. As one of the largest capacity galvanizers in the Southeast, Galvan provides corrosion protection for pipe bridges in major industrial projects throughout the region, like the ones below.



W.S. Lee Combined-Cycle Natural Gas Project Anderson County, S.C.

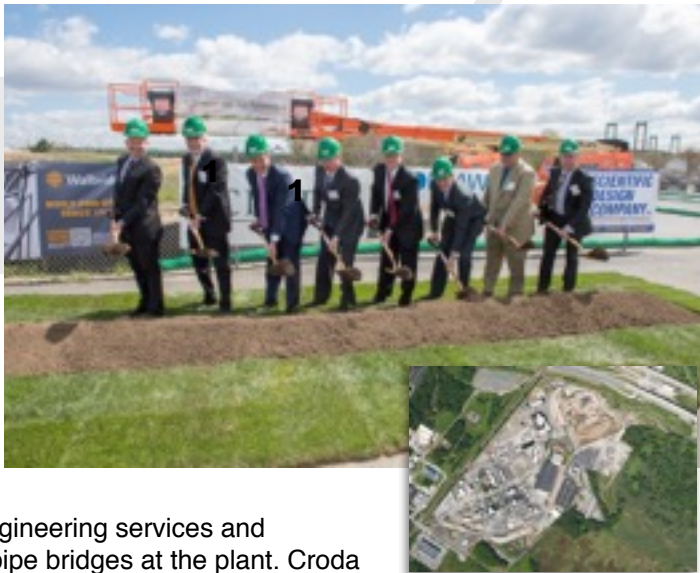
The W.S. Lee Steam Station was officially retired as a coal plant on Nov. 6, 2014. W.S. Lee was Duke Energy's last remaining coal-fired plant in South Carolina. One unit at the plant has been converted to burn natural gas. A separate 750-megawatt natural gas combined-cycle plant is now being built at the same site. Galvan Industries is providing hot-dip galvanizing for pipe bridges. The plant is expected to become operational by the end of 2017.



Croda International Plant Expansion New Castle, Del.

British-based Croda International, Plc is building a \$170 million environmentally sustainable expansion to its specialty chemicals production plant in New Castle, Del. When completed in about two years, the facility will be the first in North America to produce 100-percent sustainable non-ionic surfactants, active emulsifying agents used in a range of products from face cream to toothpaste to paint and laundry detergent.

Walbridge PE&C, of Greenville, SC, is construction manager. Middough Inc., headquartered in Cleveland, OH, has been selected as project engineer performing engineering services and procurement. Galvan is providing hot-dip galvanizing for pipe bridges at the plant. Croda broke ground on the project in April.



To find out how Galvan can bring a lifetime of corrosion protection to your next industrial project, contact Ben Kelly at Galvan today. Call 704-455-5102 or email sales@galvan-ize.com.



Galvan Expands Transportation Services

Did you know Galvan can provide transportation for your materials to our plant for galvanizing and then deliver them directly to a job site within a one day driving distance of our plant? It's true, and we recently added another vehicle to our fleet of semi and short trucks to expand our pick-up and delivery service capabilities.

If your facility or job site is beyond a one day drive, we are happy to handle or quote transportation of your materials using our network of carrier partners, saving you time and money.

Our customer service representatives will make sure your inbound and outbound shipping suits your project and your schedule, local or long distance. Galvan is committed to meeting all your service requirements.

Take Our Surveys...Please

We want to know what you think and, through September 22, **we'll give you 2% off the first truckload of your next order** to find out. If you're a customer, just visit our Web site, www.galvan-ize.com, and link to our Galvan Customer Satisfaction Survey. If you are not a customer, take our Hot Dip Galvanizing Usage Survey and get a 2% discount on your first order. Thank you!

EMPLOYEE SPOTLIGHT: Stephanie Klicpera, hot-dip customer service



When one of Galvan's hot-dip galvanizing customers needs to place an order, make a change or follow up on a job, they often contact customer service rep Stephanie Klicpera. Stephanie works with a growing list of steel fabricators, construction and manufacturing companies to ensure they receive the highest level of service in order processing, shipping, invoicing and customer relations.

"It's exciting to work with an industry leader like Galvan," says Stephanie. "I work on everything from order entry to credit to scheduling and shipping and I look forward to hearing from our customers every day. There's always a new challenge!"

Stephanie plays a major supporting role to Galvan hot-dip sales manager Ben Kelly, providing quotes for new customer opportunities and following up on the details that make for a better customer experience.

"The best part of the job for me is talking with people and making their jobs easier by doing my job well. I get a lot of satisfaction from that," Stephanie says. "I do everything I can to make sure our work meets our customers' expectations."

"So sometimes I ask a lot of questions. Even though we're just talking on the phone or through emails, I try to get to know our customers. I think one of the most important skills in my job is to be a good listener."

"It's important to me that our customers feel comfortable contacting me and knowing that I'll do my best for them."

Galvan President Laurens Willard agrees. "At Galvan, our focus is always on the customer," he says. "Stephanie's skills and experience definitely enhance our ability to meet customer needs."

In addition to a positive attitude, Stephanie brings more than 12 years experience in customer support and office administration to her job at Galvan. Prior to joining the company, she served five years as Customer Service Administrator at a plumbing brass fitting distributor in Holbrook, New York. She attended Adelphi University in Garden City, New York.

If you're a Galvan hot-dip customer, Stephanie is already working for you. Give her a call today.