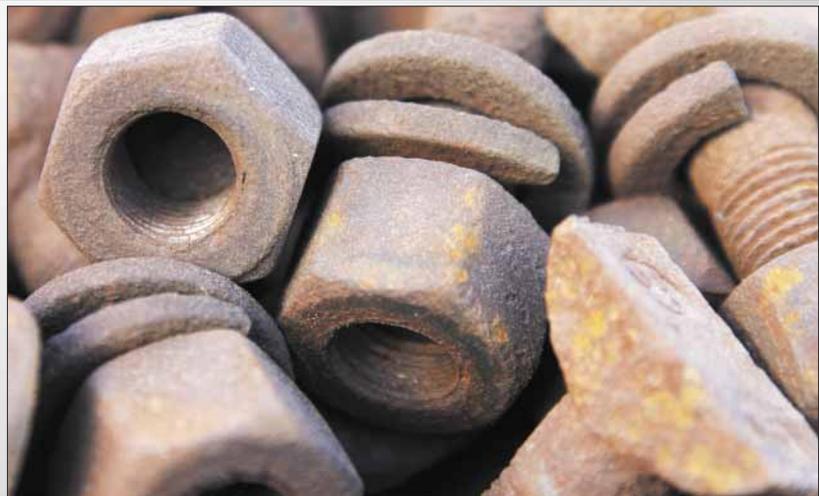


Zinc-Coated Versus Stainless Steel



Hello! This is my first article as an employee of the Kansas Rural Water Association. It is with great pleasure and some apprehension that I am putting words into this article. My history with the water and wastewater industry is that I am really a hands-on guy. I enjoy fixing things.

I worked for twelve years with the city of Minneapolis; the city has an iron and manganese water treatment plant and a three-cell lagoon system. My other municipal utility experience is that I worked at the city of Salina one year at the wastewater treatment plant and five years with wastewater distribution.

As a new KRWA staff member, my goal is to help as many systems as I can and try to get more younger people interested in becoming water or wastewater utility operators and managers. I also look forward to helping KRWA provide more training that is “hands-on” troubleshooting of equipment. People can study books but there’s no replacement for first-hand experience.

Starting off with a simple suggestion . . .

I have also had a question concerning what would seem to be a fairly elementary aspect of water and wastewater utility design and work. When a municipality or a rural water district is planning a new project or an improvement project, why don’t the consultants or reviewers specify stainless steel bolts for all flange connections?

I understand that zinc-coated bolts are less expensive than stainless bolts. That may be the initial cost but it is not so because of the amount of the time that the operator has to spend when the zinc-coated bolts need to be removed and are rusted in place. By “time”, I mean the time that is required to cut the bolts or heat them to get them to break loose. People who have painted the bolts to minimize the rusting have to deal with paint in the threads; that’s aggravating. Using stainless would have eliminated that.



The photo above shows two-year-old zinc-coated bolts that are already showing a lot of rust. It won’t be many years when the taps will corrode. By comparison, stainless bolts (left) will be removable decades after being in place.

I also understand stainless bolts are a little more expensive but the time the operator saves on changing a meter in a well houses or a broken pipe between two flange joints make the investment more than worth the cost. Stainless would also make more sense in an outdoor application on well houses or water treatment plants.

Doing some research on cost between zinc coated versus stainless steel there is about \$2.00 difference on a 5/8” 11 x 6” zinc-coated to 5/8” 11 x 6” stainless steel. The cost saving in time could be hours to minutes difference depending on how bad the zinc-coated bolts are rusted in place.

This question resulted from my recent help with an operator of a larger rural water district. A meter needed to be changed in a pump station. We fought five or six bolts that were rusted in good and tight. I recommended that this system replace all the bolts on the meter flange connection with stainless steel bolts so the next operator doesn’t have the aggravation that we went through. That operator may be there alone.

Brian Bowles joined the KRWA staff as a Circuit Rider in late November 2021. Brian has 30 years of work experience in a lead or supervisory role in construction, technical and management positions.

He most recently was the Public Works' Superintendent at the city of Minneapolis, Kan.



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