



TECHNICAL BULLETIN

DATE: February 9, 2007

RE: **Using Copper Plated Brackets on Galvanized Steel Studs**

Sioux Chief Manufacturing produces a wide variety of hangers, fasteners and bracketing products for the professional plumbing contractor. Our metal brackets are made with a copper plated or galvanized plated finish. Most of our bracketing products are designed for use inside a structure where they are not subjected to continuous environmental exposure.

We are often asked about whether or not electrolysis occurs when a copper plated steel bracket is fastened to a galvanized metal stud. Electrolysis or galvanic corrosion is not due to the contact of dissimilar metals in itself, but requires the presence of certain other chemicals, which may act as electrolytes when in high concentration, such as salts and some acid compounds. Water is an electrolyte, however, usually a fairly weak one. Normally, because of the differences in the metals compositions (copper and steel), the electrolysis affects the *least noble* materials.

In order for the electrolysis or galvanic corrosion to occur, an electrolyte must be in frequent or continuous contact in the area between the dissimilar metals. Electrolysis or galvanic corrosion is not common when the electrolytic solution is not present.

Sioux Chief copper plated bracketing systems hold the outside of the copper tube and never come in contact with the fluids inside the tube. Hence, it would be most uncommon to have any electrolysis or galvanic corrosion occur where the tube is soldered to the bracket. Good solder beads between copper tube and copper plated brackets further act to seal the contact area between the tube and bracket.

Normal condensation is considered a poor electrolyte and should not give cause for concern. We strongly suggest contractors exercise thorough cleaning of the flux from the solder joint. This will reduce the potential for the leftover flux to mix with any number of electrolytes the joint may come in contact with in the future. Additionally, some recommends protecting the bracketing and tubing from stray electrical currents.

If this bulletin does not satisfy your concerns regarding installations of our copper plated brackets on galvanized metal studs, please know that we have a wide variety of galvanized brackets with plastic isolating clamps that are designed to be installed in both wood or metal stud projects.

Sincerely,

A handwritten signature in black ink that reads "Carol Flanagan". The signature is written in a cursive style with a long, sweeping tail on the letter "g".

Carol Flanagan
Product Group Director – Support Products Division

