



George Porter

Plumb Confused?

Many years ago I worked on an oil tanker in the Atlantic Ocean. The ship was made of steel and was sitting in salt water all of its life. Guess what was the main job aboard for every deck hand there? Rust control! This tub of an oil can was launched 30 years before I got on board and had been chipped, scraped, and painted probably 50

times, all over the ship. There was not much metal left and it leaked a bunch. Why would anyone ever build a ship out of something that would rust? There were stronger materials and there were cheaper materials, but there was no other material that was both as strong and as cheap as steel. So that is why I worked on a rusty boat.

In the year I worked on the thing it blew up only once when the rusted tanks leaked Sonoco 260 gasoline into the engine bilge. It also sank only once; that was in Tampa harbor and it wasn't very deep, the bay was only about a few inches over the deck. We didn't even need the lifeboats. Best sinking I ever attended.

So with this water/steel experience I entered into the world of Manufactured Housing. (No, it wasn't called that then, but I don't want to have the terminology police on my case) I sold and installed homes with iron pipe trunk lines down the middle and copper tubing feeders branching off everywhere to the appliances that needed water. Thank Goodness these were before the days of the "eternal warranty" and free lawyers. Most of the homes went the whole year without too much reddish brown water. Usually it was just the first thing in the morning anyway so what the heck, It was iron; like Geritol, right? I asked the manufacturer of my homes why they didn't put copper all the way through the home and they said it cost too much. So.... When some customer got really upset about the rusty water they would do what is called a "flushing" with some kind of chemical. It never worked and about two months later they would send a guy to replace all the iron pipes with more iron pipes. To their credit when PVC came out they used it instead, except for the iron pipe fittings of course, duh!

One time I asked the service manager why? And he said everyone else used the same thing besides, galvanized pipe was the standard water pipe in the entire world. Let's see.... The water is in the inside and the galvanizing is on the outside; yeh, that works. Actually, if the galvanizing was on the inside we would have lead leaching into the water so I guess they had it right. I don't recall any galvanizing on any threads though and that is where I remember most of the rusting through occurred. In short our plumbing and anyone else's that used galv. pipe was a mess. The filters for every appliance would clog up and shut off the water, the clothes would come out of the washer with a slight orange tint. If by pure luck your water had the perfect PH and didn't violently react with the pipes then the gradual buildup of rust in the pipe would cause its diameter to shrink to that of the average soda straw causing the dreaded "spigot dribble."

Ah yes... the good ol' days. I don't miss the water pipe part of them a bit. No one would ever dream of using the galvanized pipes as a sales tool. Better that no one even knew they were there! Today is different. After galvanizing came several other products as I remember.

PVC, CPVC. and Polybutylene. The legal industry fondly remembers the polybutylene. It provided some of them with a nice retirement fund. The stuff worked great for me; I have never figured out what the problem was. Some said it was the fittings but the pipe manufacturer had all the money so they got the attention, don't know.

Then came PEX. We can and should brag about this stuff. This is arguably the finest plumbing product in the world. There is just not much wrong with this pipe. (Notice I said "not much") PEX stands for "cross-linked polyethylene." According to the Plastics Pipe Institute it is a polyethylene that has been chemically and/or physically modified to cause the individual molecules to link together permanently. Once polyethylene is cross-linked, it becomes a thermo-set plastic, meaning that it cannot be melted and reshaped. About 10 years ago I got a video from Upnor, a company that makes PEX in Sweden. They showed some of the uses for the pipe over there. One was piping hot sulfuric acid to different places in a manufacturing plant. They used PEX because it would never leak or get eat up by the acid and spray it on the workers. They used it for heating inside concrete floors and outside parking areas that needed to be ice free all winter.

PEX can bend around corners without fittings and is capable of some amazing recovery acts. When I first saw the pipe at a trade show the demonstration was impressive. I was handed a piece of pipe and asked to try and break it by twisting it or whatever else I wanted to do. I wrung its neck and bent it until it looked like a real mess but it just would not split, crack or tear. The guy in the booth took the pipe back and put a hairdryer on it and it magically "unwrung" it own neck and returned to exactly what it was before I brutalized it. He said it was so slick inside that it could be smaller than PVC and have the same flow rate. He showed me a fitting that was used when using the pipe inside concrete that would never leak. It was made of stainless steel and should last forever; it would never ever come loose. This was amazing! No rust, no leaks.... Forever!

He also said it wasn't very much more than regular plumbing and it worked perfectly for our homes. You know, a plumbing problem is usually never just a plumbing problem; it is usually a floor problem as well. So the savings here is more than just a pipe part. Wow I thought; no more leaks, this is great.

The industry started using the PEX and they seemed to like it pretty well but there were still some problems. Apparently when you drive a nail or screw through the pipe it leaks. Also, what were we going to do with all the crimping tools left over from the polybutylene days (remember the huge class action law suite?) Do you remember my mentioning the "bulletproof, forever fittings" available for PEX? 'Never saw another one after that day at the show. Probably cost too much. (again)

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