



By Dan Jenkins

## **To Paint, or Not to Paint UST Sump Components?**

Since the changes in fuel properties brought on by the passing of the Clean Air and Energy Independence Acts of 2000's, tank owners and contractors have been faced with increased corrosion and component failure in UST Sumps. These problems lead to premature equipment failure and maintenance costs.

One of the first attempts to combat this problem by industry was to apply forms of paints or coating which are readily available Home Depot, Northern Tool or Grainger. The theory is that one can cover or smother the metal parts to cut off the oxygen, thus prevent rust. When the rust started to return, usually within a year, many contractors and station owners moved to either recoating with same material or move to an more aggressive / durable coating and more aggressive preparation. Unfortunately, the results were usually more of the same, more rust brewing under the coatings. This created two big problems. 1) Removing coatings in a confined spaces and 2) Covering up components to make maintenance and inspection more difficult. And, for those who used strong epoxies, the problems were compounded.



**Let's take a look at why corrosion occurs.**

- 1) It is a given than UST sumps contain lots or dissimilar metals, often which are porous. And these metals contain different amounts or iron and other properties to make some

parts weaker and susceptible than others. You add in a whole bunch of different fasteners and hardware and it becomes Italian Wedding Soup of corrosion.

- 2) Regardless of the best lids, vents, seals and gaskets, water and moisture are present in sumps.
- 3) Despite vapor tight sumps, some fuel vapors are present and excrete a bacteria that creates an acid. This acid, combined with the moisture land on components which begin the corrosion process.



#### Let's examine why Paints and Coating often do not work.

- 1) **Preparation is Difficult**.....particularly in a confined spaces. It is quite a lot to ask of technician to prep a surface by sanding, grinding, blasting or other means to get a perfectly clean surface. It also difficult for technicians to wipe down all the nooks and crannies to remove the shavings and debris etc.

Additionally, for those who try to use acid based rust removers, this process creates two other problems. 1) The acid removers must be rinsed thoroughly for if not, the acid left over on metal surfaces will create its own corrosion.

- 2) **Adhesion.** Since different metals have different porosities and surfaces are imperfect, the paints and coatings are not readily acceptable.
- 3) **Rust Expands.** The rust grows at a faster pace than paints and coatings, therefore blistering occurs and moisture is allowed back in.
- 4) **STP Component Vibrate.** Coupled with changes in temperature cause expansion and contraction. Paints and coatings are often rigid and the thee properties lead paint and coatings to crack and fail.





**What Sumps Are Supposed To Look Like:**



Sump components including fasteners, connectors, hardware, piping and leak detection equipment should be free of corrosion and material that interferes with inspection, maintenance and removal.

For additional information and alternative products to paint to slow down corrosion, contact Steel Camel at 813-877-4665 or [salesA@steelcamel.com](mailto:salesA@steelcamel.com)