PHORGOTTEN PHENOMENA

Importance of the ‘Little Things’ in a Good Coating Job

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Many years ago, early in my career, I was reminded that it’s the little things that make a standard paint job a good paint job. Coatings are too often thought of as something that must be done, but it’s not necessary to spend much time on surface preparation or application. After all, “paint is paint and anybody can apply paint.” While this statement may be somewhat true, it takes a certain skill level and knowledge of coatings to apply them properly. Coatings are only as good as their application and cannot be expected to perform properly if they are not properly applied (Figures 1 through 3).

Surface Preparation Concerns

Many specifications do not require testing for the presence of soluble salts on surfaces prior to coating. If you are applying paint over salts, the applied coating will not provide protection for its intended service life. Test kits are available to determine whether or not soluble salts are present on surfaces to be coated. Soluble salts may be present because of overseas shipment, from road salt picked up enroute from the northern U.S. states or, most commonly, from diesel engine exhaust emitted from compressors, welding machines, forklifts, etc. Detecting soluble salts prior to surface preparation and coating can be a “little thing” that goes a long way. It is important to include salt testing as a standard practice, even if it is not specified.

Regarding abrasive blasting for surface preparation, it is important to know that abrasives come in many forms and sizes. How often have you ordered abrasives to find out during inspection that your profile is too deep or too shallow for the applied coating? A few methods of measuring blasted surfaces for proper depth are available. When I am inspecting, I will ask the contractor to measure the anchor profile a short time after blasting begins to ensure that the profile has the correct depth before the entire surface is finished. This can be an expensive mistake for some, because most often a relast will be required to reduce or deepen the profile with a different-sized abrasive. Checking the anchor profile is a “little thing” that can make all the difference.

Maintenance of Equipment

“A painter is only as good as his equipment.” This adage rings true wherever you are and whatever you are painting. How much time does it take to clean your air cap, needle, and fluid tip? I can do it in 10 minutes. How much time does it take to ensure that the agitator and regulators on your paint pot are working? I can check them in five minutes. The time it takes to check these “little things” to ensure they are working correctly can make the difference between an acceptable paint job and a rejectable one.

Mixing Paint

I can discuss mixing paint for days, but it is quite simple. When you mix paint, you should use a clean mixing blade and clean buckets, and you should not ever “eyeball” the mix to determine readiness. Many times in the field, I am confronted
by an angry contractor complaining that the paint on the mixer is dry and it is okay. The paint on the mixer may be dry, but when it is submerged inside a new material containing thinner, it may be softened and contaminate the good stuff, which causes a coating failure. This is one of the most common problems that I see as an inspector in the field. Blasting the mixer to remove all old paint is a “little thing” that can prevent costly repairs.

“Eyeballing” the mix is another practice that bothers me. We have all done it, but we all know it is wrong and will eventually lead to the point one day when an inspector will find soft, tacky coatings that require removal. Too often, paint is ordered in large kits, and mixing the whole kit does not make any sense in order to paint a tiny area, because so much material is wasted. If you are ordering paint, order extra amounts in small kits to accommodate these circumstances. If mixing partial kits is absolutely necessary, then use a measuring cup to ensure that the proper ratios are added and mixed. A measuring cup is a “little thing” that can save a lot of money.

**Coating Application**

Do you use your agitator when you are applying zinc coatings? How many times have you applied inorganic zinc, only to see yellowing on the surface from the separation of the powder and the resin? The excuse may be, “Well, I can finish this in 10 minutes and I don’t need the agitator on.” It takes two seconds to reach over to the “little” knob and turn on the agitator. Agitation is always necessary when applying zinc coatings. Keeping agitated pots working requires a “little” maintenance now and then.

The application of primer and intermediate coats by brush is another “little thing” that can go a long way. Most breakdowns in the offshore environment occur on edges, welds, and corners. Coatings tend to pull back from sharp edges as they cure, which allows contamination to reach the substrate. Edges, welds, and corners will not be adequately covered by simply spraying coating over them. These areas must be brushed to ensure proper coverage over the entire surface and at every angle present. Bolt holes should also be included in this method of application. Most paint yards do not include this as standard practice in their procedures, but every specification I review and write does. It takes more time
and labor to perform this “little” act, but the rewards well exceed the sacrifice for the end-user.

A wet film thickness (WFT) gauge is a crucial tool when applying coatings. Too often, the WFT gauge is used once or twice at the start and then simply placed in our pockets because we think we have got the number of passes down. Too often, inspections will reveal low or excessive film build-up after cure, and costly repairs that require sanding, blasting, and possibly adding more material will be the outcome. This “little thing”—a WFT gauge—and the proper use of it might have prevented these costly repairs.

How many times have you checked the dry film thickness (DFT) of a coating to find that your thickness is less or greater than desirable? Did you check your DFT gauge against a standard before using it? You may in fact have applied the coating according to the specification and caused a lot of trouble for yourself because you did not check the gauge against a standard before using it. I see this all the time. I check my gauge every day before each use and require all my contractors to do the same while I witness them doing it. Checking your DFT gauge every day before each use is a “little thing” that can prevent a big mistake.

In closing, many other “little things” could be discussed. Every contractor in business for any length of time should be responsible enough to discuss these issues with their applicators and understand that if you don’t produce good paint jobs at your shop, there is another contractor down the road who may be doing the “little things” that make the difference to the end-user. Satisfaction on the part of the inspector and the end user will always foster good reputations and return business.

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