**Steel Prep Pitfalls: How to Avoid Costly Priming Mistakes**

When steel components are delivered to construction projects, many contractors find out too late that the steel fabricator didn’t prime the steel up to spec. This is especially true if the steel was manufactured hundreds of miles, or an ocean, away. Ensuring proper steel surface preparation and priming is crucial for the longevity of the job.

Unfortunately, the subpar steel priming that arrives on many jobsites leads to significant issues during the finishing process. The problem becomes very costly when the steel requires finish coats applied on-site, and that coating later fails.

**Common Issues with Steel Preparation**  
There are three main issues to consider when working with steel:

1. Inadequate Surface Preparation – Often, steel is cleaned using power tools instead of the specified SSPC-SP 6 Commercial Blast Cleaning.
2. Use of Incorrect Primers – Fabricators might substitute fast-dry shop primers for the required anti-corrosive primers. These fast-dry primers are not designed to withstand long-term exposure or be top-coated. They are very likely to fail once coated.
3. Combined Issues – Frequently, both the surface prep and primer fall short of specifications, compounding the problem.

**Consequences of Poor Preparation**  
When steel isn’t properly prepared and primed by the steel fabricator, costly mistakes can occur, including:

* Premature Coating Failure: Inadequately prepped and primed steel is likely to experience premature coating failure, leading to expensive and time-consuming repainting efforts.
* Difficult Corrections: Once the steel is installed, correcting the issue may involve disassembling the steel for re-blasting and priming or extensive on-site preparation and repainting.
* Environmental concerns: Environmental regulations can complicate remedies by restricting the use of solvent-based primers, necessitating waterborne alternatives that may increase costs and delays.

To avoid these issues, it is essential to ensure there is continuity between project specifications for surface preparation and finish painting. Conflicts between specifications can lead to mismatched requirements, resulting in poorly primed steel. To avoid conflicts, ensure there is clear communication between fabricators, contractors, and inspectors to make sure the steel meets project standards before it arrives.

**Preventative Measures**  
An essential part of making sure steel is up to spec is defining and communicating expectations. This includes:

* Aligning Specifications: Ensure continuity between surface preparation (Section 05500) and finish painting (Section 09900) specifications.
* Engaging Inspectors Early: Engage a paint inspector early in the process to review and verify steel preparation before it arrives on-site.
* Inspector Presence During Fabrication: Consider having the inspector present at the fabricator’s shop during prep and priming to ensure adherence to specifications.

**Benefits of Early Inspection**  
It may seem like an unnecessary extra step, but engaging an inspector early in the process can help prevent expensive coating failures. Having an inspector on board before the steel arrives:

* **Reduces the Risk of Off-Spec Steel**. Early inspection helps prevent the arrival of off-spec steel at the job site.
* **Avoids Costly Delays**. Proactive inspection reduces the risk of delays and compliance issues, ensuring the project stays on track.
* **Assures Quality**. Early inspector involvement ensures the steel will meet the project’s durability and aesthetic requirements.

Involving a paint inspector early in the process can prevent expensive problems down the line. While this might incur additional costs up front, it is a worthwhile investment to avoid the costly and complex issues that arise from bad priming. By taking these preventative measures, project owners and contractors can be confident that the steel arrives at the job site in proper condition, which leads to a long-lasting and durable finish.

**Professional Tip**

*Fast-dry shop primers are only intended to provide temporary protection during shipping. It is typically applied to a dry film thickness (DFT) of ½ mil on steel that will be buried in concrete. These primers are not intended to withstand extended exposure, so they should not be relied upon for corrosion protection.*