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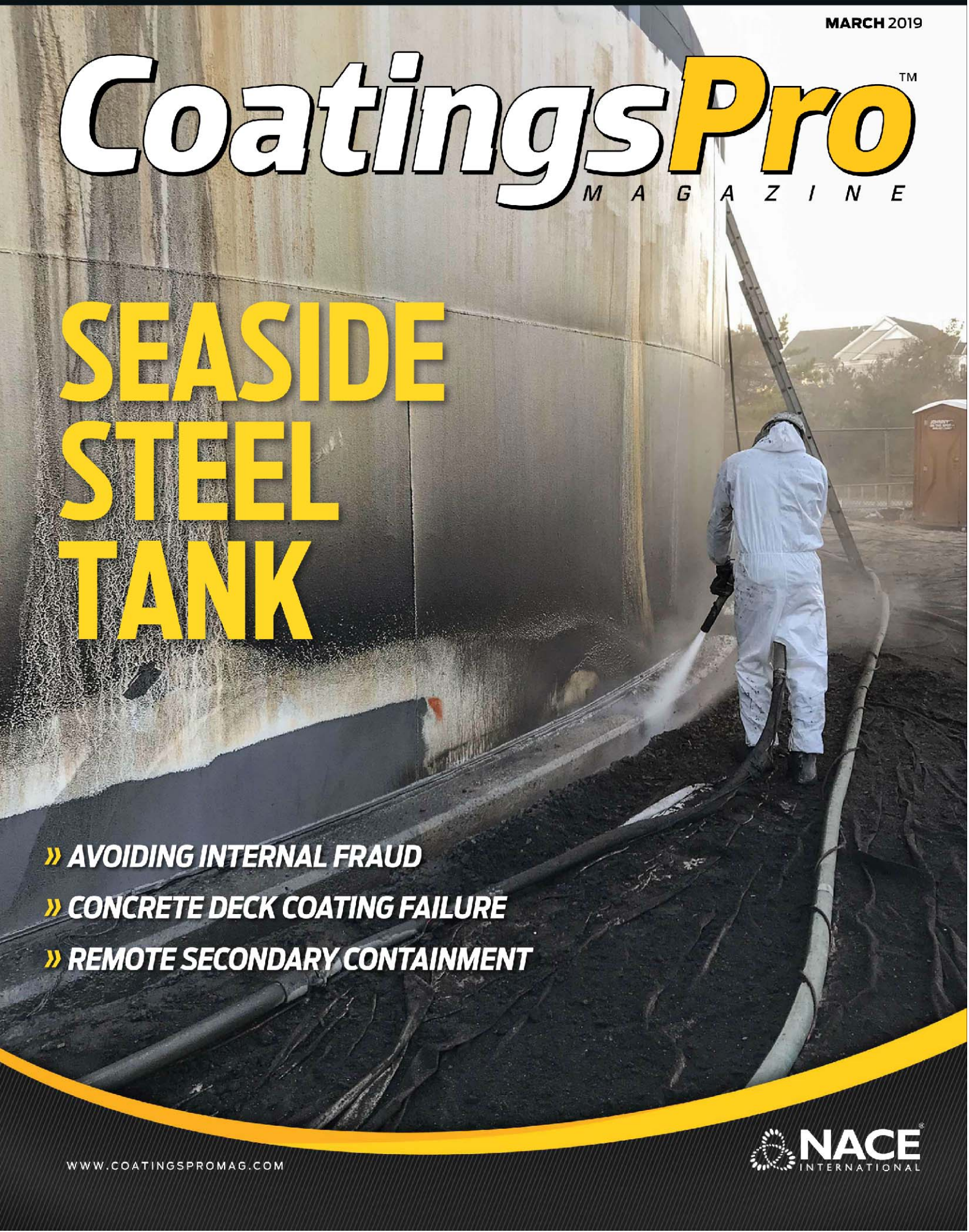

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Having an Effective Coating Pre-Installation Meeting

By ***Corey Zussman, Director of Quality Assurance for Pepper Construction Company***

As we push for higher performing buildings, advancements in materials, methods, and technologies present new challenges to those installing the work in the field. In construction, it's important that the team understand the intent behind how each component works and adjust the installation based on the materials and substrate that are selected for each project.

As a specifier, we might not get too involved in specifying the hands-on preparation of the substrate, in the discussions that take place in the field, or in the planning to help ensure that we have a successful coating in all seasons. But that mentality has caused frequent quality failures in exterior high-performance coatings.

Now, as a quality assurance professional on the general contractor's side, it is important to hold team discussions on preparation of the substrate and the process of installation with all parties involved. The specifier needs to take a leading roll in the process and facilitate the discussions about the entire process, from verification of the substrate to temperature and weather concerns.

The high-performance coating is one of the most significant components on any building's exterior. It's typically the front door or first impression of a built environment. As such, the installation process should reflect the importance of the system and its intricate installation, with the understanding that the surface preparation is integral to the entire process. The best outcomes are achieved when special consideration is given to planning and asking questions along the way.

Tips for a Pre-Installation Meeting

The meeting should be established when the initial review of the substrate and research for the proper high-performance coating has been completed, the painting contractor has been chosen, all submittals have been reviewed by the team, and it is a few weeks before the installation of the coating is to take place. This is time for the high-performance coating pre-installation meeting, when the entire team goes over the installation procedures of the exact product on the substrate with all parties involved in the process.

Participating parties might include the architect, specifier, and on-site observer; coatings manufacturer's rep; contractor foreman and project manager; owner or owner's testing team; project manager, superintendent/foreman, and quality team member from the general contractor; and adjacent subcontractors or substrate contractor. It is an opportunity for an open discussion regarding the substrate soundness verification, preparation, weather concerns, and verification of the coating detailing and all its complexities.

Establishing expectations is key to a successful project. The high-performance coating pre-installation meeting should be driven by the specifier with the following goals in mind:

- Review and confirm job-specific product data, shop drawings, and the job-specific quality plan.
- Review and confirm the job-specific procedures written by the coating contractor from initial inspection to final installation. Each step should be identified, along with testing protocols and what-if scenarios.
- Confirm expectations of the condition of the substrate and the preparations required to meet those expectations.
- Understand the area surrounding the work, such as pedestrians, cars, and sensitive mechanical equipment.
- Make sure that the general contractor understands its role in the substrate preparation.
- Review and verify installation sequencing, equipment to be used, logistics, and compatibility of the coatings with adjacent materials.
- Discuss the verification process needed to accept/reject the condition of the substrate, as well as the coating process.
- Review and confirm compatibility and adhesion of the coating on adjacent substrates.
- Review and confirm product warranty and warranty testing requirements with the coating manufacturer.
- Provide a clear understanding of expectations from the coating installer and the adjacent trades.
- Discuss weather concerns, exposure limits, and installation limitations.
- Provide and discuss lessons learned from previous projects and experiences.
- Create a mock-up description and timetable with all involved trades.
- Provide first work-in-place review guidelines.
- Plan for on-going jobsite review by the specifier. Discuss access timing and review overall expectations.

Lessons Learned

During the construction phase and before the coating installation, details

or conditions might have changed from the original contract documents or from the initially anticipated time of the year. Coating design or access may have also changed. Small but significant items identified in the product data might have been overlooked by the specifier but now have more consequence to the installer due to lessons learned from previous projects. That means that re-reviewing the requirements should be more in-depth with all parties present, even if some of the items discussed and reviewed might appear to be redundant, such as the submittal review.

Getting this group together to review the entire installation will identify concerns that might not have been considered when originally specifying the work. Lessons learned become an ongoing learning experience; they should be taken by the stakeholders to the next coating project. Having a meeting to confirm installation and set expectations with everyone present is important for the outcome of the project. Typically, a meeting will take two to three hours, depending on the complexity of the project.

I was once on a project that required coating new and existing cast iron. In between the cast iron we were installing sealant. The question at that time was whether to coat the sealant or color match. Eighteen months before the application, we initially decided to coat the sealant and specified the product. Reviewing the product data during our pre-installation meeting, we noticed that the sealant was a little different than what we had initially specified. The sealant movement was greater than the coating's ability to move and flex. The manufacturers and installers recommended that we revisit the color match option to avoid cracking in the coating. Having all parties at the meeting not only predicted a disappointing condition, but the decision to change the material and procedures were understood by the entire project team, therefore making a quick decision in real time bypassing the typical back and forth communications that could have held up the project schedule.

When going into a meeting such as this, it's important that everyone be open to listening to the exact product and installation procedure for the high-performance coating and adjacent installations, which are sometimes new to the installers. Having an open mind is imperative for a successful meeting.

Treat each meeting as though

it is the first time these products and adjacent components are being installed. Materials change over time, so installation instructions will be modified periodically by the manufacturer to include updated concerns, lessons learned, and information from the field on other projects. Even if it is a phase-two installation, having a new pre-installation meeting with the same intense scrutiny as the first will allow the team to learn from the first phase and ensure the manufacturer, specifier, and other trade partners have not changed the materials or procedures. For example, on a recent project, the team's discussion revolved around installing the high-performance coating with rollers. Even the mock-up was installed with a roller; however, when it was installed on the building, spray equipment was used, which created issues with the installation that were never discussed. The team learned the hard way to always make sure that the specific installation procedures are discussed, agreed upon, and followed.

Often, installers don't have experience with newer products, and pre-installation meetings can bring this to light before a potential mistake is made. It's a good idea to find out if installers have specific installation experience with the exact product or system on the exact type of construction and in the same weather conditions. The coating contractor could have a great deal of experience with the manufacturer and similar products, but they may not have experience with the specific installation. Also, generating lessons learned from the entire team and identifying the top concerns for the installation will help set the agenda and ensure all questions are identified and answered in the meeting.

Dive In and Document the Details

As we know, the devil is in the details. It is critical to review and verify the contract documents, necessary substrate conditions, weather-related concerns, and expected adjacent installations at the meeting. Reviewing these details with the contractors will confirm the installation procedures and sequencing of the installation before it starts. Create a cheat sheet of typical details to review, including connections to the coatings, as a guide for the meeting.

Typical job-specific details that

should be reviewed and considered when establishing a direction for coating include:

- Base of wall
- Parapet or top of wall
- Openings (head, sill, and jamb) for each opening system
- Penetrations, both before and after coating installation
- Soffits and overhangs
- Project reveals and projections
- Transitions to other components

Discussions about what will take place before and after the coating installation are critical, along with additional instructions needed for those installations.

Compatibility and potential adhesion concerns of adjacent non-system products should always be reviewed and confirmed. It's a good idea to keep a chart of compatibility on hand, as well as the manufacturer's technical bulletins on compatibility. These provide a good understanding and direction on what needs to be verified before the start of installation or the sequence of installation of materials.

Other items to include in the pre-installation meeting:

- Moisture content of substrate and equipment being used
- Chemicals used on the substrate before installation
- Verification of wood species and coating compatibilities
- Steel and concrete preparation – clarify definitions to assure understanding
- Existing crack repair/prep procedures
- Transitions between different coating colors
- Fastener coating
- Mil thickness concerns with regard to re-attachment of items
- Touch-up procedures and appearance concerns
- What is shop applied versus field applied and any aesthetic concerns

Finally, during the pre-installation meeting, be sure to capture all notes and details so that different parties can reference and follow them. A best practice is to create a responsibility matrix to ensure all outstanding items are properly answered in a timely manner.

After Installation

Once the coating application is complete, one or two items should be reviewed to maintain the coating's integrity. For example, signage and exterior lighting installation typically follow completion of the coating. Notes and procedures should be captured and given to the final trades, such as the signage contractor and the owner, so they understand the system installed behind the cladding and how to complete their work without compromising the integrity of the coating system.

And again, it's at this time that you can gather your new knowledge and experiences and take them with you to your next project. This will help us as an industry rise to the new challenges facing us each day. CP

Corey Zussman is a registered architect in several states, practicing for more than 28 years. He specializes in building envelope, restoration, preservation, life safety, and interior finishes. Zussman is currently the director of quality assurance for Pepper Construction Company in Chicago, where he has promoted a formal quality program for more than seven years and works on 50–75 projects a year, conducting constructability reviews, pre-installation meetings, comprehensive envelope meetings, and construction observations, in addition to providing educational opportunities throughout the industry. For more information, contact: Corey Zussman, CZussman@pepperconstruction.com