



Stripper Talk

Q Joe,
Hello! I hope that this message reaches you well. Our powder qualification effort for the United States Air Force is moving forward at a steady pace. We are starting to focus on how to effectively remove powder coating layers since the field often needs to conduct non-destructive inspections. Do you recommend chemical agents, media blasting, or a third option? There are concerns regarding the burn-off method and fluidized sand bed because of the potential of losing temper/alloy properties. With respect to chemical agents, do you know of any type of (non-methylene chloride) chemical agents that work well? Which blast media types work well? Any information would be greatly appreciated!

Regards,

Nicholas T.
Dayton, OH

A Nicholas,
Nice to hear from you. Sounds like the program is going well. I would check out what these two companies have to offer: SolventKleene (www.solventkleene.com) and Hubbard-Hall (www.hubbardhall.com/applications/paint-stripping). Both companies have developed strippers that do not contain methylene chloride and emit no HAPs (hazardous air pollutants). I have used products successfully from both companies. In fact, I recently stripped the paint from the spinner (nosecone) of my wife's 1973 Grumman Traveler airplane. The stripper worked perfectly at room temperature and I was able

to get away with the process in my basement due to the lack of malodorous solvents in the stripper.

Media stripping is good if you use the proper medium—something aggressive enough to strip, but gentle enough to avoid damaging the surface. I have had success using glass beads to gently remove a coating.

High temperature stripping can be problematic with heat sensitive substrates and can change the temper of some alloys. I would steer away from this unless you are removing a coating from heavy cast metal parts.

Hope that this helps.

Best regards,

— Joe Powder

Communication Breakdown

Q Hi Joe,
An architect and the general contractor on a project both specified the use of RAL 8022 on some exterior metalwork. They were surprised to see a glossy finish when the parts were delivered. Another subcontractor they had worked with had delivered matte finish samples and finished parts early on.

I am under the impression that RALs are pretty much gloss by default, although I realize that some limited amount of the spectrum is available by some manufacturers as semi-gloss or flat. While I think a few powder companies offer an RAL 8022 in matte, most of them only supply it as a gloss.

Is there a "standard" so that I can advise the architect and contractor how to specify in the future and avoid this issue?

Thanks,

Patrick D.
W. Alexandria, OH

A Hi Patrick,
This is an interesting question and a bit of a dilemma. In this case it all boils down to communication. The RAL Classic Color System can be represented as either glossy, RAL 841-GL or matte, RAL 841-HR. As you know, being a coating applicator, the appearance of a gloss finish is significantly different than a matte finish. My feeling is that an architect should know the difference and even if he/she didn't, they should specify gloss level nevertheless.

Gloss is measured per ASTM D-523 (ISO 2813) with a glossmeter (surprise) that compares the reflectance of a coated surface to a specific grade of

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black glass. The result is expressed in GU (gloss units), and not as a percent, as is often quoted.

As for suppliers of various gloss grades of RAL shade powders—some have them as off-the-shelf items and others will produce them as a custom order. RAL 8022 may not be popular enough to warrant multiple gloss products off-the-shelf.

I hope that this helps you with your customer, the architect and contractor.

Best regards,

— Joe Powder

The Waiting Game

Q Hi Joe,

I hope you're doing well. I had a quick question I was hoping you could help me with. How long after spraying the powder coating do you wait to take thickness, gloss, L*a*b* (color), etc. readings? I've heard some industries wait upwards of a month before they do any measurements on their panels.

Let me know what you think.

Thanks,

Frankie B.
Akron, OH

A Hi Frankie,

This is a good question. I usually wait until the test panels or parts have cooled after removing them from the curing oven. The only dodgy property that I have observed is impact resistance of certain chemistries. Some polymeric matrices relax, whereas others may somewhat crystallize. I wouldn't worry about that in your work. However, if impact or chip resistance is critical, I recommend testing those properties soon after the coated part cools to room temperature and then sometime practically later to determine if there is any difference.

Peace,

— Joe Powder

Hung Out to Dry

Q Hi Joe!

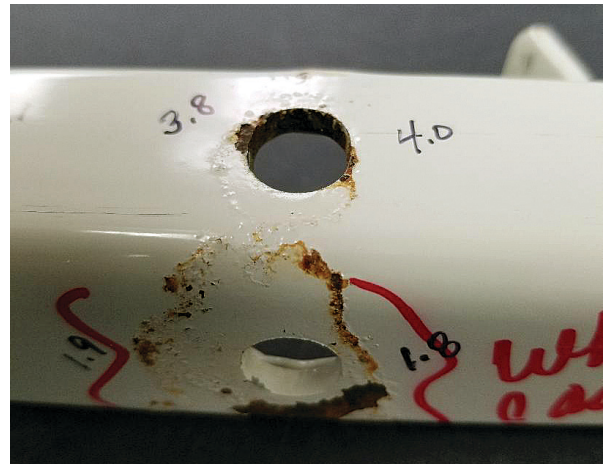
We are a medium-sized company from Bosnia and we have our powder coating line with phosphate chemistry. Our company produces metal cabinets for different industries. We have a specific problem these days with RAL 7016 fine structure, polyester. After we coat parts, below the coating we can see traces from the phosphate. These traces are very visible, and we have to recoat the part. Can you help us to solve this problem? Is the problem coating or phosphate?

Mit freundlichen Grüßen,

Dario M.
Bosna i Hercegovina

A Hi Dario,

Thanks for contacting me. I think you have a pretreatment problem. Specifically, an issue with rinsing. It could be exacerbated by the way your parts are hung. Maybe they do not allow the phosphate and subsequent rinse to completely drain off the part. This will leave a trail of a high concentration of phosphate that will interfere with the flow out of the powder coating while it is melting in the oven.



I have recently published an article concerning this and can forward a copy to you, if you wish. I have also attached a picture that was included in the publication. It demonstrates a problem where the phosphate pretreatment was not completely rinsed.

I hope that this helps and please let me know if you have any questions. By the way, someday I would really like to visit Bosnia.

Warm regards,

— Joe Powder

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Editor's Note: Letters to and responses from Joe Powder have been edited for space and style.

Not Your Average Joe...

Each issue, we take the padlock off the PCI® Test-Lab door for a few minutes so our favorite technical editor and "powder guru" Joe Powder can run in the yard. When he's not gnawing on a rawhide bone, he loves to answer readers' questions. Go ahead and send him one at askjoe powder@yahoo.com... he doesn't bite. Maybe it'll end up in the next issue!