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Ask Joe Powder

What's in a Name?

Q Good Morning Joe,
I read your section in the *Powder Coated Tough* magazine and appreciate your knowledge and expertise. I have a couple questions about super-durables. I've talked with many of the leading suppliers of powder coatings and get the same answer from each one on this question. Are "true" super-durables (powder coatings to meet or exceed AAMA 2604 standards) available in all RAL colors? Each supplier tells me bright colors don't have the color pigments available to meet AAMA 2604. In our experience, over 20 years in the powder coating industry, some suppliers abuse the term "super-durable" in my opinion. When I order powders and use the term "super-durable" I would expect it to meet a certain standard. Seems the only standard to go by is AAMA. I guess my question to you is, what is a true super-durable in the powder coating industry? I look forward to your response and again I appreciate you taking the time and your expertise. I hope you have a great week!

Respectfully,
Chris D., Albuquerque, NM

A Hello Chris,
Your observations are right on the money.

Here's the long and short of it – AAMA specs trump the term "super-durable." Super-durable refers to the polyester resin used in the formula and not the overall powder coating. Super-durable resins are just what they sound like – really UV-durable polymers. Pigmentation, additives, and fillers affect the performance of a coating, especially outdoor durability, heat resistance, and chemical resistance.

Some powder manufacturers claim you can't do bright colors like reds, oranges and yellows in a "super-durable" or AAMA 2604 formulation platform. That's baloney. You can certainly formulate them, but you have to use expensive pigments; think automotive grade. A bright red Cadillac or BMW doesn't fade after a couple years. So the technology is there, but at a price. The reputable powder suppliers know this and formulate and charge their customers appropriately.

I hope you have a great week as well. By the way, I've visited cool places in NM. Places like Cimarron and Raton. We have friends that have a B&B not far from there.

Peace,

– Joe Powder

Agonizing Over Anodizing

Q Joe,
I run a medium-sized powder coating line at a metal fabrication facility. We have a 5-stage washer that utilizes an alkaline first stage and a zirconium-based fourth stage with stages 2, 3, and 5 being RO rinses. We have a partitioned drying/curing oven so adjusting one without impacting the other isn't possible.

We have a customer that wants us to powder coat their extruded anodized parts. I've read conflicting opinions on powder coating anodized parts. We powder coated some of their anodized parts in the past, several times, and each time we ran the anodized parts there were significant finish and coating adhesion issues – but only with

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their anodized parts. Since then we've stopped painting their anodized parts. We don't have the capability of acid etching or media blasting the parts and it isn't feasible to sand or scuff the parts.

Can we, without doing any of the above operations, powder coat anodized parts and have a reasonably high expectation of first run success?

Thank you,
Alan R., Santa Teresa, NM

A Alan,
We've done a ton of work with anodized parts in the Powder Coating Research Group lab in Columbus, OH. Nearly all of it has been with epoxy based powder coatings and we still have experienced sporadic adhesion problems. Our best results have been with a simple solvent wipe (acetone or isopropyl alcohol) on a part that has been pre-baked at 400 degrees F. We avoided the pretreatment system and had to do the pre-bake because these parts were cast aluminum.

We have seen the best performance over Type II anodizing that had been applied

to clean aluminum that was shot blasted with glass media prior to the anodizing step. A higher incidence of sporadic adhesion failure was observed over Type III anodizing, which is thicker than Type II.

If any of our readers have powder coated over anodizing, we would be glad to hear about your experiences.

Best regards,

- Joe Powder

Joe Powder is our technical editor, Kevin Biller. Please send your questions and comments to Joe Powder at askjoepowder@yahoo.com.

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 askjoepowder@yahoo.com... he doesn't bite. Maybe it'll end up in the next issue!



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