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# Ask Joe Powder

## Run, Forrest, Run!

**Q** Joe,  
I work for an overhead doors company and we powder coat the extruded aluminum rails for our full-view doors. We have had issues in the past when that department tried to change the window caulking to something with silicone in it, and now our management team is wanting to change caulking again. I'm needing your professional opinion and some documentation to confirm that what we experienced before is indeed true.

Thanks,  
Terry, Arthur, III.

**A** Hi Terry,  
Thank you for your question. You are wise to be cautious before making the switch to a silicone-based caulk. I read the article that you forwarded and it is a very good treatise on how adhesive failure can occur with silicone contamination. In this case, the adhesion involves adhesives and sealants and not a powder coating. You also mention that the operation had issues in the past with the use of silicone window caulk. Hmm, you weren't specific so I wonder what issues were encountered. I can assume (and we

all know what can happen when we make assumptions) and conjecture that the powder coating exhibited film defects such as craters and possibly "fish-eyes." These occur when a contaminant has a surface energy significantly lower than the resinous portion of a powder coating. Silicones and other oils, lubricants and greases all fall under that category. Indeed, other sources can include body lotions, cosmetics, textile finishes and even some fragrances.

The contaminant can emanate as a mist, a particulate or even on a molecular level as a fume. One thing is for sure—most, if not all, silicone-based materials will cause cratering in a powder coating finish. Cleaning to avoid contamination usually falls short of eliminating the incidence of defects. And as the article points out, most cleaning materials and methods do not successfully remove 100 percent of a silicone contaminant. Hence, run fast, as fast as you can, from introducing silicone caulk into your plant. You'll be glad that you did.

Readers can access the article referenced in this question with this link: [https://www.techsil.co.uk/media/wysiwyg/pdf/Addressing\\_Silicone\\_Contamination\\_Issues.pdf](https://www.techsil.co.uk/media/wysiwyg/pdf/Addressing_Silicone_Contamination_Issues.pdf).

Please let me know if you have any further questions.

— Joe Powder

*Joe Powder is our technical editor, Kevin Biller. Please send your questions and comments to Joe Powder at [askjoepowder@yahoo.com](mailto: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](mailto:askjoepowder@yahoo.com)... he doesn't bite. Maybe it'll end up in the next issue!

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