# Problem Solving Forum

July 15 - July 19, 2019

## What causes bubbling or cratering of an epoxy intermediate coat when applied over epoxy zinc-rich primer?

**Selected Answers**

*From James Prevatt of SPEC-GUARD on* July 25, 2019:
The chemist for my former industrial coatings company added that zinc was not only porous but would  temporarily hold solvent from the intermediate coat. The intermediate coat would see bubbling as solvent is released from the zinc. Most data sheets resolve the matter by recommending a "thin" application be allowed to get beyond tack free before applying the full thickness of the intermediate coat.

*From Qaisar Malik of ABC on* July 18, 2019:
There are three reasons. 1. Humidity is greater during application of zinc-rich epoxy and less time for curing. 2. Solvent not properly evaporated. 3. Surface preparation may be inadequate.

*From Nourhan Demirdjian of Waterproofing Technologies on* July 16, 2019:
It is due to the porous nature of the substrate. It is more of an issue over inorganic zinc-rich rather than over organic zinc-rich. To overcome, apply a mist coat first before applying a "wet" coat or reduce the epoxy 20-25% to fill the pores of the substrate then apply another coat next day.

*From Ricardo Márceles of Pintuco on* July 15, 2019:
The first layer of anti-corrosive paint, rich in zinc,  fills  the valleys left by cleaning with abrasive blasting (SSPC-Sp 5 / NACE 1 or SSPC-Sp 10 / NACE 2); however, that first layer does not offer a good leveling since it has metallic pigments and leaves a porous surface, which generates bubbles in the intermediate layer. To avoid this, it is recommended that when applying the intermediate layer, a high dilution is made with solvent, in such a way that a "fog layer" is applied to fill this porosity and then immediately paint the intermediate layer of paint that is needed, with the required elucidation and the wet film thickness that is needed to comply with the specifications.

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