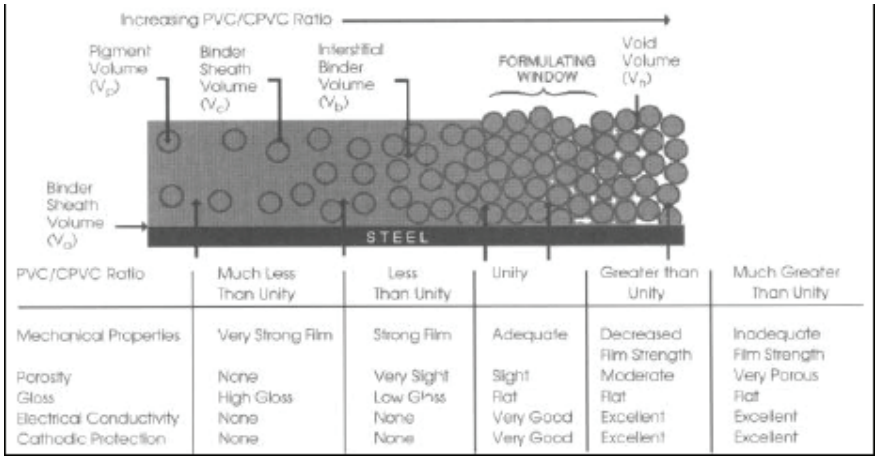
MIST + FULL COAT ON ZINGA

Information given in this document should be used in complement with technical specifications given in the technical data sheet of ZINGA.

PROBLEM - BUBBLING

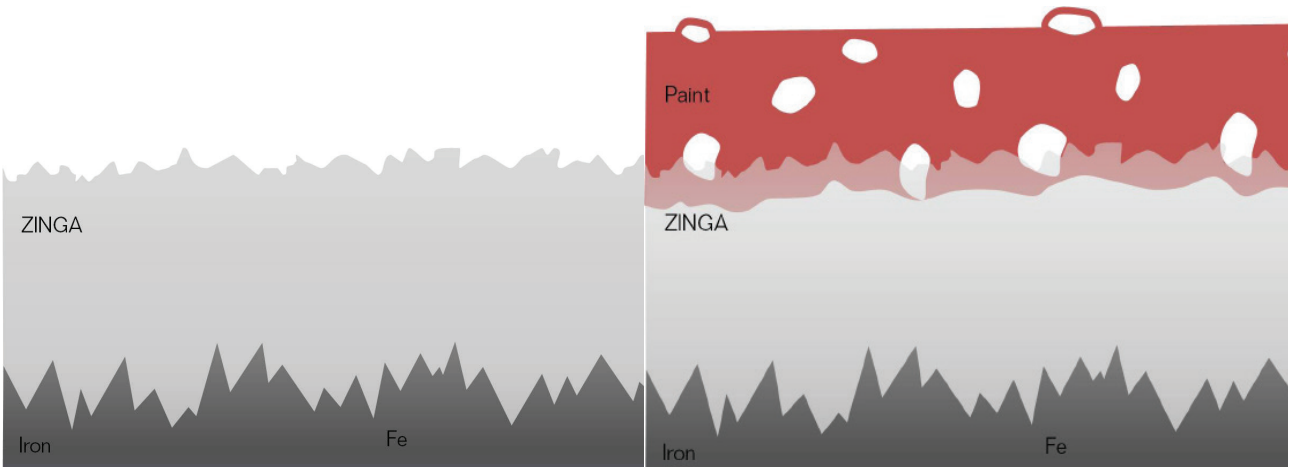
When applying topcoats directly on ZINGA, a problem of bubbling may occur. Where the finish coat is strong and flexible enough, some of these bubbles may not break as the finish coat dries. They remain in the dry film, perhaps collapsing against the primer in a crater-like defect. Where they do break, there may be insufficient flow left in the drying film to allow the sites to heal, and pinholes will remain in the film. In aggressive environments, the unprotected ZINGA at the base of such pinholes may become a weak spot of the system (though it will provide cathodic protection, the localised spot will deplete fast), although little effect will be encountered in less extreme environments.

Bubbling is directly related to ZINGA's morphology. ZINGA is very porous, due to its high PVC/CPVC ratio (Pigment Volume Concentration / Critical Pigment Volume Concentration).



PVC/CPVC Ratio	Much Less Than Unity	Less Than Unity	Unity	Greater than Unity	Much Greater Than Unity
Mechanical Properties	Very Strong Film	Strong Film	Adequate	Decreased Film Strength	Inadequate Film Strength
Porosity	None	Very Slight	Slight	Moderate	Very Porous
Gloss	High Gloss	Low Gloss	Flat	Flat	Flat
Electrical Conductivity	None	None	Very Good	Excellent	Excellent
Cathodic Protection	None	None	Very Good	Excellent	Excellent

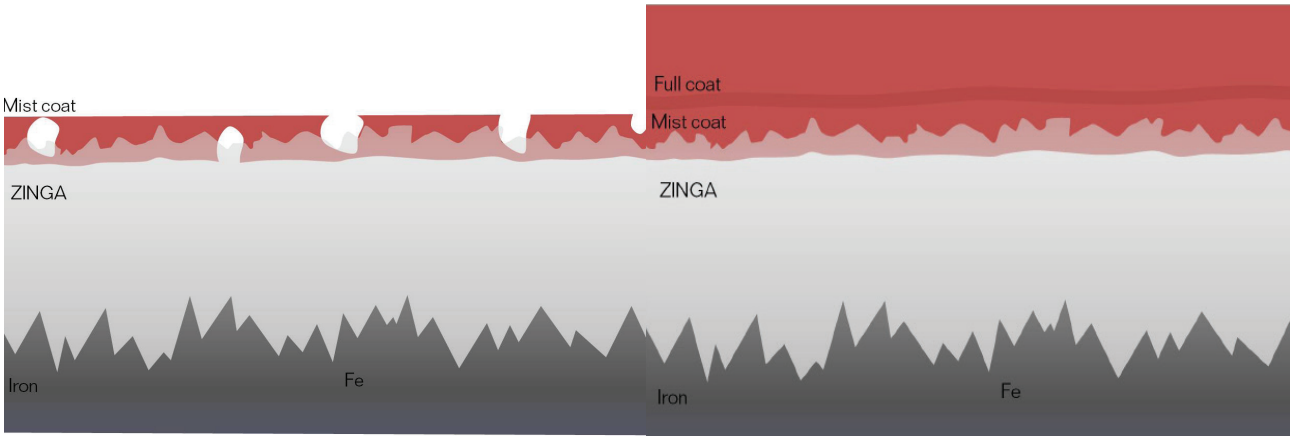
Initially, the interstitial voids in ZINGA are filled with air. As the newly applied finish is applied over ZINGA, the binder from the topcoat penetrates the ZINGA porosities and displaces air. This air must pass out through the topcoat into the environment. The release of air during the final stages of drying may be delayed by virtue of the high viscosity, fast drying process, skinning, or pigmentation of the finish. This occluded air may locally push the finish out from ZINGA in a dry blister or bubble as it tries to escape. In the early stages of drying, the blisters or bubbles may break, releasing the air. But when the critical balance between the rheological force and the surface tension force in the topcoat shift during drying in favour of the rheological force, such release may become impossible.



SOLUTION - MIST/FULL COAT TECHNIQUE

A thin coat of sealer or topcoat is applied over the surface of ZINGA before a full pass of the coating at the normal film thickness. This thin film penetrates only the surface layers of the ZINGA and seals its surface. Also relatively porous, the mist coat presents little obstacle to the passage of air from these upper layers.

First, a thin continuous layer is applied which gives air bubbles easy passage through the film. The first mist coat also provides a barrier for aggressive solvents in the topcoat.



Mist coat:

Application at least 6 hours after ZINGA is touch-dry.
25 to 30 µm DFT (**continuous** layer).
Normal dilution according to the technical data sheet.

Full coat:

Application at least 2 hours after the mist coat is touch-dry.
Specified layer thickness minus 25 to 30 µm DFT (of mist coat).
Normal dilution according to the technical data sheet.