

Qi, Xiaoning, Christopher Vetter, **Alice C. Harper**, and Victoria Johnston Gelling.  
“Electrochemical Investigations into Polypyrrole/aluminum Flake Pigmented Coatings.”  
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**Abstract.** In this study polypyrrole was synthesized in the presence of aluminum flake to produce polypyrrole/aluminum flake hybrids. The resulting flakes were incorporated into a standard epoxy coating at relatively high pigment volume concentrations with the end goal of producing a conducting film capable of providing corrosion inhibition to an aluminum alloy. To further investigate the coatings, electrochemical impedance spectroscopy (EIS) was used to characterize the effects of the pigment volume concentration (PVC) on the impedances of the coatings. Additionally, the nature of the polypyrrole, chemical composition, and surface morphology of the hybrid were characterized by a density test and scanning electron microscopy (SEM).