

Lower Carbon Footprint Coatings

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Surface coatings are designed to both protect and enhance the surfaces to which they are applied. Environmental pressures are increasingly driving coatings to become waterborne, even in some of the more demanding performance coating areas. For waterborne coatings, the polymeric binders as well as the pigments and are all in the form of colloidal particles and control of the stability, morphology and rheology of these mixed particulate systems is critical to achieving the required levels of performance.

Two examples will be discussed. The first is how understanding of the effect that the interactions between formulation and processing has on the morphology of composite polymer dispersions can be used to design high performance waterborne binders that offer comparable performance to solventborne coatings in an environmentally friendly one pack non toxic offering.

The second area relates to the how understanding of the colloidal forces between latex binder particles and particles of pigment and extender can enable the functionality of the coatings to be tailored to give specific effects, such as dirt shedding and enhanced opacity.