Celanese
Emulsion Polymers

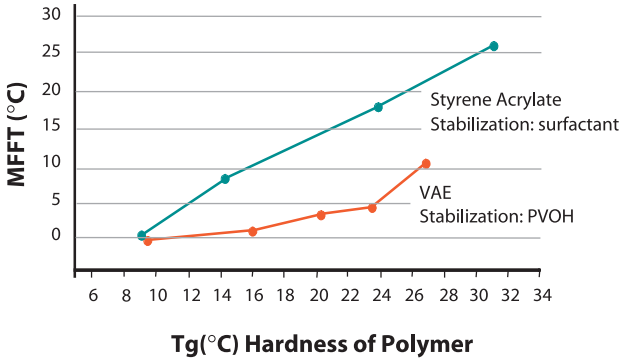
Think green. Think VAE.

VAE technology behind 'people-friendly' paints

The first action paint formulators take in order to create environmentally-friendly paints is to reduce the VOC (volatile organic compound) content. It is not as easy as simply removing the solvent or coalescing agents as the formulator needs to compensate for the loss of its main film former and the source of many performance properties such as washability.

Celanese introduced vinyl acetate/ethylene emulsions for low emission paints more than a decade ago. Through hydroplastification, the water in the paint actually becomes the solvent required for the film formation process.

Hydroplastification effect with VAE copolymers



This is possible because the VAE polymers have a wide delta between their MFFT and the Tg. This allows good film formation without the addition of solvents and plasticisers because of the inherently low MFFT.

Tg of VAE and S/A emulsions with MFFT 0°C

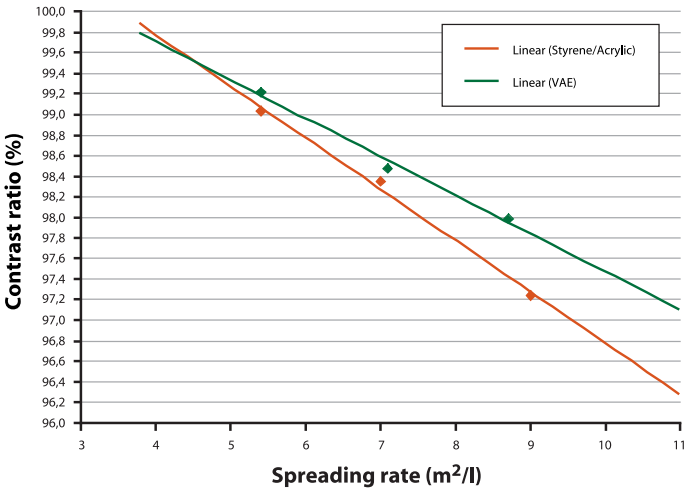
	VAE Emulsions	Styrene Acrylate Emulsions
MFFT	0°C	0°C
Tg	12-17°C	2-8°C

It also offers improved performance characteristics of the paint film, such as high wet scrub resistance, because of the higher Tg.

Further, paints based on VAE emulsions show a higher opacity or hiding power in high PVC paints in comparison to styrene acrylic emulsions.

"It is possible to make a solvent-free, very low VOC interior paint that meets the needs of the paint formulator, the painter and the homeowner: start with VAE emulsions from Celanese."

Opacity of interior paints based on different binder technologies measured according to ISO 6504-3



We encourage you to talk with your Celanese Emulsions technical expert for the full story on VAE and low emission paints.

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