

The revolutionary non-BPA epoxy coating

Sherwin-Williams Packaging Coatings, one of the leading providers of metal packaging coating solutions in the industry, has created an epoxy coating without Bisphenol A. Its valPure V70 technology functions like a traditional BPA-based epoxy, protecting metal cans from their contents and vice versa.

Driven by demands from customers, and beverage and food brands, Sherwin-Williams Packaging Coatings challenged itself to develop an alternative epoxy coating that did not contain Bisphenol A (BPA), but provided a similar level of performance and similar benefits.

"Through its 'Safety by Design' development process, Sherwin-Williams identified a new epoxy platform that had the potential to deliver industry-standard performance across the spectrum of light-metal packaging applications," explains Jeff Niederst, global market director of beverage packaging. Safety by Design is a robust development and safety testing protocol modelled after the pharmaceutical process, and is more robust than required by international regulatory agencies. It emphasises food packaging safety, ensuring performance and international regulatory compliance while providing unparalleled coating solutions with market longevity.

After identifying the new epoxy platform, Sherwin-Williams enlisted the support of toxicologists, independent laboratories and scientists to evaluate the endocrine-activity and migration profile of the monomers that make up the valPure V70 technology. Extensive reviews and testing have shown that valPure V70 – and the ingredients used in it – does not demonstrate endocrine activity or detectable migration.

The technology has been reviewed and approved for use by North American and European international regulatory agencies charged with protecting public health, including the US FDA, US Environmental Protection Agency, European Food Safety Authority (EFSA), Dutch G4 and Health Canada.

Why is V70 needed?

Epoxy coatings are the most widely used technologies in light metal packaging. They have a proven track record for quality performance and manufacturability, as well as food integrity and safety. Until now, it has been a challenge to find next-generation coatings that deliver similar performance without the use of BPA. Although FDA, EFSA and regulatory agencies around the world continue to confirm the safety of BPA-based coatings, non-government organisations and consumer advocacy groups have led an effort to have BPA removed from food containers. As a result, food and beverage manufacturers have asked its can-maker and coatings suppliers to explore alternatives.

The perfect solution

This is where valPure V70 comes into play. In addition to its safety and performance characteristics, valPure V70 will work in water-based and solvent-based applications. Its formulations are currently being used on the interior of beverage cans and food D&I can exteriors, and is applied with the same existing coating equipment – it is a direct replacement for the existing epoxy coatings.

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A key supplier of spray equipment and nozzles used in the can manufacturing industry comments, "Our equipment has been used on the inside spray application of the V70 materials. Our tests have shown that the material can be successfully applied to aluminium beverage cans without significant equipment changes or modifications when following the recommended procedures provided by Sherwin-Williams. This is what can-makers are looking for when they change to different coating formulations."

"Sherwin-Williams estimates that more than seven billion beverage cans using valPure V70 are in the market as of the first quarter of 2018," says Niederst. "A number of global beverage brands have approved and commercialised valPure V70-based products, and several large food brands will begin commercial use in 2018."

Today, Sherwin-Williams has valPure V70-based finishes available in various phases from full commercialisation – beverage spray, beverage end, D&I food spray and clear exteriors – to test pack qualification – three-piece food-can interior, closure base coat and coil-fed steel for food ends.

Whatever the coating need, Sherwin-Williams can provide the solution, and as the market transitions to more non-BPA packaging, so too will its coating innovations. ■

Further information

Sherwin-Williams Packaging Coatings
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