

Folding Carton Manufacturer Eliminates Solvent Adhesive



Folding carton manufacturer [Evergo Packaging](#) prides itself on being environmentally conscious and ahead of the curve when it comes to its printing and packaging technologies.

The company is certified by the Forest Stewardship Council (FSC), the Programme for the Endorsement of Forest Certification (PEFC) and Sustainable Forestry Initiative (SFI). And 70% of the paper Evergo buys is made from 100% recycled material.

Evergo uses alternative inks such as soy and vegetable-based inks. It was at the forefront of using computer-to-plate technology (CtP), eliminating the use of chemicals. All of which has resonated with customers in such diverse markets as the toy industry, healthcare, food and courier services.

Evergo had one area it was looking to improve though, it wanted to find an alternative to the solvent-based adhesive it was using on its folder-gluer production line.

The solvent adhesive was applied to laminated glue flaps of a paperboard folding carton. The interior of the carton was laminated with PP to prevent seepage from the packaged product. This variable required an aggressive adhesive. While a solvent adhesive did the job in creating a strong bond, it also emitted harmful VOCs (volatile organic compounds), which was at odds with Evergo's environmental vision.

In the search for an alternative solution, Ringo Chow, Evergo director of operations, revisited the use of an atmospheric plasma surface treater from Enercon Industries he saw demonstrated at a tradeshow. He started by consigning Enercon's Blown-ion™ plasma surface treater from local Enercon representative Webconvert Ltd. Chow's goal was to substitute the solvent-based adhesive with a water-based adhesive after pre-treating the glue flaps.

"We tested for three days but knew immediately this was the right solution," says Chow.

Enercon's [Blown-ion](#)™ atmospheric plasma surface treater increases the bond strength of the PP by cleaning the surface of contaminants and micro-roughening, creating more bonding sites. The unit bombards the surface with a high-speed discharge of ions. Positive ion bombardment creates micro-etching or scrubbing effect to remove organic and inorganic contaminants from the surface.

Plant and profit friendly

The Blown-ion™ Series's compact size made it nearly effortless to integrate into an existing folding carton line. Evergo mounted the treating head above the conveyor and treat the glue flaps prior to gluing. It also integrated the system controls, so the surface treatment system's power is in sync with the rest of the folder-gluer line. "Installation was a breeze. It was plug-and-play ready," says Chow.

Switching to water-based adhesive benefited not only the environment. Evergo was able to reduce costs substantially. According to Chow, the water-based adhesive is much less expensive than the solvent. "The machine will pay for itself in no time," says Chow.

Benefits don't stop there. The wash-up of the machine is much easier and quicker, increasing overall productivity. And because employees don't have to wear protective masks and gloves to avoid toxic fumes, they can move more easily from one project to another.

Installing the carton-treatment system was just one more stride Evergo took to be in tune with its environmental philosophy. It was able to save some green in the process, while making its employees happy and more productive.

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