

Finding a Cost-Effective Poly Replacement for Packaging

The Move to Eco-Friendly Packaging

Over the past several years, businesses across multiple industries have taken a growing interest in environmental sustainability. The packaging industry plays a critical role in this movement, as packaging is often the first thing a customer notices about a product. As such, companies are tasked with reconciling environmentally-conscious material selections with cost-effective production.

Petroleum-based plastics, though affordable and easily sourced, are nearly impossible to recycle, [The Guardian recently explained](#); they litter the Earth and pollute oceans forever without biodegrading. Instead, packaging companies must seek out alternatives to create more sustainable solutions. Even [candy manufacturers are now looking for eco-friendly wrappers](#), using wood-based materials and non-toxic ink to create a compostable solution.

Replacing PVC and Plastics in Packaging

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Recognizing this shift toward sustainability, Sierra is seeing a growing opportunity to replace polyvinyl chloride (PVC) and other harmful plastics with greener, biodegradable package made with paper. This is especially relevant to blister packaging; because it cannot be recycled due to mixed material limitations, the packaging tends to wind up in landfills.



PVC and low-density polyethylene (LDPE) resins, found in many of today's packages, are neither recyclable nor biodegradable due to their use in a package design. When exposed to high temperatures, these wrappers can also release toxic fumes and dangerous chemicals into the environment.

Plastics, which for many years held the advantage over paper for being heat sealable, have finally met their match. Sierra has developed innovative paper-based blister pack technology to reduce or replace PVC, LDPE, and other harmful plastics commonly used in packaging structures.

These paper-based recyclable coatings provide protective features that can compete with traditional packaging — but without the negative side effects. Both environmentally friendly and affordable, Sierra's blister packs can be heat sealed while still allowing products to biodegrade much more easily. These state-of-the-art "green" coatings can be used to design packages that reduce PVC or replace poly coatings.

Creating a Cost-Effective Poly Replacement

Many companies are seeking affordable poly-replacement materials that will allow their packages to biodegrade, allowing them to position their products as environmentally friendly. For decades, this was a high-priced specialty order, but now Sierra is working on closing the gap on cost-effective poly replacements with paper-based packaging like blister packs.

Until recently, green packaging solutions only existed on a small scale due to relatively higher costs compared to polys. As more brand owners respond to customer desires for an environmental solution, innovation has created alternative options that are reducing costs. Sierra continues to source and test these innovative coatings to drive this technology into the mainstream.

To learn more about the benefits of blister packages, as well as what to consider when designing them, download our eBook, "[Critical Elements of Blister Packaging](#)."

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Download our
**Guide to Critical Elements
of Blister Packaging**

Rising Trends in the Blister Packaging Industry

The U.S. packaging market has seen its share of difficulties in recent years—including high raw material costs and negative environmental impact—but trends on the horizon predict a brighter future for manufacturers, vendors, and consumers alike.

The market is evolving rapidly, largely due to the increased usage of blister packaging throughout the country. Blister packs are highly versatile products that offer several advantages to various consumer goods. The efficiency and

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popularity of blister packaging has sparked several nota



- *Enhanced protective features.* To provide added protection for consumer goods, vendors are utilizing higher-quality plastics and raw materials when producing blister packs. With the use of plastics, blister packs can safeguard any products from possible contamination—particularly in regards to medicine and medical devices. Thermoform plastics can instill blister packs with chemical and wear resistances as well as increased durability.
- *Product and technological innovations.* Manufacturers are constantly on the lookout for high performing solutions with low production costs—blister packaging offers both. Blister packs can be manufactured to provide products with longer shelf lives thanks to their anti-microbial qualities. Nanotechnology is also playing a larger

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role in blister packaging. The use of nanotechnology affords blister packs enhanced barrier protection and reduced weight of the package. This technology is in high demand by pharmaceutical companies requiring improved protection against moisture, oxygen, and other gases for their products; demand for nanotechnology-based packaging is expected to increase by 15% compound annual growth rate during the forecast period.

- *Demand for child safety.* There is a growing demand for blister packs that are safer for children, such as child-resistant and tamper evident products. Child-resistant products are a direct result of numerous poison-related injuries befalling children; non-secure packaging can lead to accidental ingestion of medicines. Tamper evident products also have a positive effect on the packaging market, since they can an early warning sign for avoiding questionable products.
- *Sustainability.* Certain packaging materials can adversely affect the environment. To combat this issue, packaging and manufacturing companies have been encouraged to develop more sustainable products and solutions. Current environmental regulations are forcing vendors to cultivate blister packs that are more eco-friendly; vendors are designing bio-degradable blister packs, which will be expensive to produce and will necessitate increased research to offset added costs.

These rising trends are expected to continue driving growth within the U.S. market, as manufacturers, vendors, and consumers strive for reliable packaging solutions.