



EXPANDED PACKAGING FILM OPTIONS FROM LPS INDUSTRIES DELIVER SUPERIOR OXYGEN BARRIER PROPERTIES.

LPS Industries, a leading North American supplier of flexible packaging solutions, recently announced the availability of two new film families in their portfolio that offer outstanding oxygen barrier properties, are environmentally friendly and are compliant with regulatory guidelines on a worldwide basis.

While both are effective oxygen barriers, each has its own special attributes. One is Ethylene Vinyl Alcohol (EVOH), an environmentally friendly coex that delivers excellent oxygen barrier properties. The other is an ultrathin but also extremely effective oxygen barrier coating made of nanoparticles that can be applied to various substrates. Either of these films can be used as an alternative to PVDC (Saran® coated) films, a long time option in the flexible packaging industry. "We introduced these two new solutions to address our customers' needs and to position them to successfully address current and future cost and regulatory challenges in the food, snack, coffee, tea and pet markets, no matter where in the world market they are competing," commented Domenick Pasqualone, Vice President of LPS Industries.

The EVOH Option

While PVDC continues to be used extensively as an oxygen barrier layer in laminated and coextruded films, some markets have expressed concern about its environmental attributes, cost and performance.

"Our solution is a new film that combines PET with a coextruded Ethylene Vinyl Alcohol copolymer (EVOH)", noted Pasqualone. "Not only is it cost-effective for larger runs of commonly used gauges it is also crystal clear, odorless and safe for consumable product contact. It can also provide multiples of the oxygen barrier properties of PVDC-coated PET."

Coextrusion allows the creation of ultra-thin layers within a film, combining the desirable properties of different polymers within a single substrate. The new LPS Industries film, for example, combines the oxygen barrier properties and flexibility of EVOH with the sealability and moisture barrier properties of PET.

Introducing Nanotechnology

An even thinner film with significant oxygen barrier properties can be created by applying a layer of nanoparticles over one side of PET film. The coated side can be printed and laminated. "Nanoparticles, which are so small that individual particles are invisible to the human eye, are truly cutting edge technology," comments Pasqualone. "Our new nanoparticle-based film has a coating that is only a fraction of a micron thick, yet offers unsurpassed oxygen and moisture barrier properties."

A human hair is approximately 80 microns (1 micron equals 1 millionth of a meter) thick. By comparison, a nanoparticle film, consisting of 30 to 50 layers of particles, is only 0.2 to 0.4 microns thick. While one might assume that such a film would be extremely expensive to produce, exactly the opposite is true. An abundant, inexpensive material called vermiculite, often used as a gardening soil enhancer, is actually an ideal source of nanoparticle platelets, each approximately 1 to 3 nanometers (1 nanometer equals 1 billionth of a meter) thick and 10 to 30 microns in length and width.

Looking at current and projected future applications of nanotechnologies in packaging, the possibilities are almost endless. Building upon food packaging as the foundation, it's not hard to envision expanded applications such as incorporating the platelets into other materials (e.g., adhesives) to eliminate entire package layers, active oxygen scavenger coatings, UV protective coatings, antimicrobial protection, contaminant sensors and odor elimination to name a few.

"We're confident that this expansion to our film portfolio can translate into significant competitive, environmental and economic benefits to manufacturers in the food and pet industries, such as nuts, granola, dehydrated foods, snacks, drink mixes, spices and dry pet food and treats, to name a few," concludes Pasqualone. "Looking ahead, the technology also opens a new world of possibilities for a broad cross-section of our customer base as well as being more responsive to environmental concerns such as the US EPA's top objective of landfill issues. We couldn't be more excited about what I would call a revolutionary change in our business."

For more information on LPS Industries and its flexible packaging products and services, please visit: www.lpsind.com.



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About LPS Industries

LPS Industries was founded in 1959 by John M. Robinson as a converter of military specification barrier materials. Today, under the direction of Madeleine D. Robinson, CEO, LPS Industries is a diversified manufacturer and leader in the flexible packaging industry, providing packaging solutions for a diverse range of markets, including medical, food, transportation, electronics and agricultural. LPS Industries is an ISO 9001:2008 registered company and a woman owned and operated enterprise. For more information on the company's products and services, please visit www.lpsind.com.