Products for Label Applications
The Dow Chemical Company (Dow) has a distinguished history in the adhesives marketplace. Covering a broad spectrum of applications ranging from packaging to labels to release liners to formulation additives, Dow’s expertise is founded on a depth of experience and analytical support unlike others in the industry.

Because Dow participates heavily in supplying materials to the packaging industry, the Company has a deep understanding of food contact matters, and specifically U.S. FDA compliance issues. When the health and safety of your customers’ customers depends on the appropriate packaging or labeling components compliant with FDA regulations, having a supplier that can – and will – effectively navigate the often challenging bureaucratic jungles is more than just a competitive advantage.

Over the following pages, you’ll discover other advantages for choosing Dow – not only as an adhesive supplier, but as a true team player committed to helping you make the most out of your adhesive applications.

**Functions First**

When you specify products, nice logos are not a factor in the decision. It’s all about functionality – products with excellent performance in the application. And while we are proud of our logos, Dow has also developed sets of “functionality icons” to go with them – at-a-glance visuals to identify what characteristics each product brings to the mix.

Throughout this document (and other Dow literature), look for these icons and consider them your first filter for finding the functionalities your applications require.

**From Basics to Breakthroughs**

The Dow product portfolio reads like a veritable history lesson, filled with landmark innovations, proven premium brands, and well-trusted workhorses used throughout the plastics, packaging, and adhesives industries. Specific to Dow’s adhesive products, several comprehensive product families stand prepared to fulfill the required functional performances of your applications.
Products that Match Features with Functions

**Pressure Sensitive Adhesives**

Dow is a recognized world leader in Pressure Sensitive Adhesives (PSA) knowledge, innovation, customer service, reliable supply, and value. We know your business and help create exacting PSA solutions for your specific applications, customers, and budgets.

Dow offers both aqueous and solvent-borne PSAs for a wide variety of labeling applications, and they are available for both paper and film label constructions. Many are suitable for challenging applications such as drum labeling, beverage containers, vinyl graphics, and squeezable home care products to name just a few. Full product family lines include:

- MOR-STIK™ Pressure Sensitive Adhesives (solvent based)
- RHOPLEX™ Aqueous Pressure Sensitive Adhesives
- ROBOND™ Waterborne Adhesives

To learn more about Pressure Sensitive Adhesives from Dow, please visit our website: [www.dowpackaging.com](http://www.dowpackaging.com).

**Packaging Adhesives**

Dow Performance Packaging offers an expansive assortment of laminating adhesives and coatings for the flexible packaging industry. These cover a wide range of performance functionalities for applications from snack food packaging through retort pouch packaging.

- ADCOTE™ Adhesives & Coatings
- LAMAL™ Laminating Adhesives (solvent borne)
- MOR-FREE™ Solventless Adhesives
- ROBOND™ Waterborne Adhesives

All these laminating adhesives have years of proven performance and exhibit excellent machinability and product resistance. They are also FDA compliant verified for the levels of packaging for which they are used.

If you need to add barrier, printability or heat seal qualities to your structure via coatings, Dow has many applicable products within these families of products:

- ADCOTE™ Adhesives & Coatings
- COSEAL™ Cold-Seal Adhesives
- SERFENE™ Barrier Coatings
- ROBOND™ Waterborne Adhesives

For more detailed information concerning Dow laminating adhesives or coatings for flexible packaging, go to [www.dowpackaging.com](http://www.dowpackaging.com) for direct access to online resources.
Here’s an added bonus: If you would like to try a coating or laminating structure without committing line time to it, Dow’s pilot coating equipment in Ringwood, Illinois, is available to customers. Together with Dow technicians, you can make a variety of prototype structures for your testing and evaluation without sacrificing your own valuable production resources.

**Vehicles for Inks and Overprint Varnishes**

What is a good label without good printing? Dow offers many polymers used in finished formulations designed to be used as inks and overprint varnishes. These polymers, all part of the RHOPLEX™ product family, offer good adhesion, resistance properties, scuff resistance, gloss, and other desirable properties.

More about Dow products for graphic arts can be found online at [www.dowpackaging.com](http://www.dowpackaging.com).

**Primers and Topcoats**

Dow offers product lines containing several varieties of primers and topcoats applicable for end-use on many different substrates, including films, foils, and papers. These products are all designed for adhesion properties, resistance or barrier properties, gloss/matte finishes, and other end-use characteristics.

- ADCOTE™ Adhesives & Coatings
- PARALOID™ Acrylic Polymers
- RHOPLEX™ Aqueous Adhesives & Coatings
- SERFENE™ Barrier Coatings

**Polyethylene for Release Liners**

Dow Performance Packaging offers polyethylene polymers for preparation of substrates used in labels and release liners, and we have polymers for extrusion coating of papers that are used in the release liner marketplace. These include low density polyethylene (LDPE) and high density polyethylene (HDPE). These polymers have good processability, lot-to-lot consistency, and they have been proven to work with a variety of silicone catalyst systems.

The extrusion coating offers bulk and dimensional stability improvements over non-extrusion coated papers (some label applications require this type of release liner). The HDPE extrusion coating grade is noted to have excellent melt strength resulting in minimal edge bead and trim waste.

For more information about these and other polyethylene products, visit [www.dowpackaging.com](http://www.dowpackaging.com).

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**Formulation Ingredients**

In addition to supplying aqueous acrylic polymers for a variety of applications, Dow also offers a variety of formulation ingredients that can be used with these polymers to more fully optimize your products:

- ACRYSOL™ Thickeners
- ROPAQUE™ Hollow Sphere Pigments
- TAMOL™ Dispersants
- TERGYTOL™ Surfactants

To discover more, visit [www.dow.com](http://www.dow.com).

**Label Films**

The family of OPTICITE™ Films was created for pressure-sensitive label stock. Produced in matte white, translucent, and clear stock, OPTICITE Films offer an excellent assortment of labeling options. SQZ products are an alternative to flexible vinyl. Polystyrene-based products have excellent stiffness. Translucent and clear versions can give your product a no-label look – they offer excellent clarity for product or container show-through with matte or high gloss finish.

All OPTICITE Films can be metalized – glossy films give a shiny, chrome look, while metalized matte films give a classic, pewter look.

Processability is also a key advantage. OPTICITE Films can be run on equipment designed for paper labels offering consistent, high-speed dispensing with minimal misfeeds and downtime.

There’s more information available regarding OPTICITE Films online at [www.dowpackaging.com](http://www.dowpackaging.com).

**Label Sleeves**

ELITE™ AT Enhanced Polyethylene and other polyethylene resins from Dow have been incorporated into stretch label films. These stretch label films have been shown to expand 55-60% with elastic recovery of 95% offering tight film coverage without snagging.

DOW™ HDPE Resins are also used in making in-mold label (IML) substrates.

Dow offers customers fabrication and evaluation capability with our extrusion coating line located at the Film Application Development Center (FADC), part of our expansive Pack Studios venue in Freeport, Texas. The Center also includes blown film, cast film, injection molding, blow molding, pipe extrusion, and pouch making capabilities with a form-fill-seal machine.
Understanding U.S. FDA Food Packaging Regulations and Compliance

Protecting the public as well as your brand

Regulations are critical for ensuring the safety of the food we eat and, therefore, for companies converting and utilizing multi-layer structures for food packaging. From its first industry guidance in 1949 on evaluating chemical toxicity in food, the FDA has clearly stated its position and helped underscore a primary food industry challenge: that inappropriate food contact poses serious harm to food supplies and the public.

By the Numbers. To the Letter.

Dow is proactive and vigilant in its understanding of and compliance with FDA regulations. We recognize the complications of a global supply chain; for example, imported pouches or laminates may meet the regulations for the country of origin, but how do they comply with U.S. FDA regulations (e.g., adhesives used in imported pouches may meet the rigorous performance requirements of retort packaging, but do they comply with FDA’s regulation 177.1390 for retort packaging)? Such questions are critical, and Dow routinely asks them.

Another example: It’s much more difficult to build a compositionally compliant package for a food that is fatty and will be packaged at elevated temperatures. Many materials and processes suited for such applications aren’t addressed in FDA regulations. If they are listed under FDA 21 CFR 177.1390, then converters must follow instructions to the letter; they must not “mix and match” adhesive components that are listed under separate subparagraphs. Again, Dow understands these situations and upholds the letter of the law to help safeguard our customers as well as the public at large.

Peace of Mind

Choosing a supplier with strong regulatory knowledge (like Dow) helps converters and end-users make the best decisions about selecting and handling food contact materials. FDA regulations can be quite complex, and Dow carefully evaluates our adhesives for compliance with the various regulations for adhesives used in food packaging. Our technical service “Experts with Answers” are well equipped to help customers solve such problems.

Understanding FDA regulations may not be at the top of the check list for companies choosing their suppliers, but it is a component that should not be dismissed, and Dow is confident in our ability to consistently offer valuable regulatory information and compliant materials as well as peace of mind to our customers.

Collaboration

Dow scientists and technicians, our “Experts with Answers,” have many years of experience in the adhesives, coatings, and label industries and have a wide knowledge base of the technologies used in these fields. Dow technical personnel are tasked with fully understanding the end-use processes and requirements, while Dow’s researchers stay on the cutting edge of technological improvements.

While we believe Dow has some of the best and brightest people in the industry, we know that collaboration is key and bringing other experts to the table is the best way to discover the ideal solution.

Nowhere is the collaborative spirit greater than when working side-by-side with one or more of Dow’s adhesives and packaging professionals. Together, whether at customers’ facilities, or at one of Dow’s state-of-the-art technical centers, there are opportunities for teamwork, hands-on support, and sharing that can rapidly advance the creation of new products that succeed in the marketplace.

Now, the opportunities are even greater, as Dow’s existing facilities – like the Film Application Development Center (FADC) in Texas, the Pilot Coating and Lamination facility in Illinois, and a small scale PSA coater in Pennsylvania – are enhanced through a global network of resources to create Pack Studios.
Pack Studios

Pack Studios is the next generation of cooperative solution development for packaging and is designed to leverage Dow’s broad product portfolio, technical knowledge, and innovative culture.

Pack Studios brings together existing and new packaging fabrication and testing capabilities into Dow’s regional technology centers around the world. Each center will be enhanced with collaboration rooms to inspire innovative thinking and expanded laboratory facilities for material development.

Development teams will also be able to tap into a global network of industry and packaging experts to leverage materials and marketplace expertise.

Additionally, new virtual collaboration tools will enable connectivity between all of the regional centers and global networks, further enabling and accelerating the delivery of solutions for better packaging. Plus, existing tools, such as Dow’s PSA calculator (http://www.DowPSACalc.com), and the Simplified Environmental Impact Calculator,* are available to customers.

Ready Whenever and Wherever You Are

Products, technologies, global resources, and a dedicated team of willing and knowledgeable collaborators committed to helping you succeed… all await your next project.

Contact a Dow sales or Technical Service & Development professional, or use the options listed on the back cover of this document to start the innovative and inventive process that could lead to your “next big thing.”

*Developed exclusively for Dow by Allied Development Corp. Available via the Developmental Support@Dow (DS@D) extranet site; ask your Dow sales or TS&D representative for access.
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- a. long-term or permanent contact with internal bodily fluids or tissues. "Long-term" is contact which exceeds 72 continuous hours;
- b. use in cardiac prosthetic devices regardless of the length of time involved ("cardiac prosthetic devices" include, but are not limited to, pacemaker leads and devices, artificial hearts, heart valves, intra-aortic balloons and control systems, and ventricular bypass-assisted devices);
- c. use as a critical component in medical devices that support or sustain human life; or
- d. use specifically by pregnant women or in applications designed specifically to promote or interfere with human reproduction.

Dow requests that customers considering use of Dow products in medical applications notify Dow so that appropriate assessments may be conducted.

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