

INDUSTRY OVERVIEW ARTICLE



PS Films Can Help Build a Framework for Success in the Power Tool Market

Power tool OEMs are increasingly recognizing that their drills, circular saws, nail guns, or belt sanders must offer more than just reliable performance if they are to compete in a crowded global marketplace. Today, the product must also be a standout on the store shelf and in the toolbox in terms of distinctive design, long-term durability, and safety.

Distinctive design attracts the eye. Durability builds loyalty. And safety builds trust and holds legal liability at bay. Successful OEMs and their design engineers strive to build each of these three traits into their power



tool product while holding down costs.

FLEXcon, a leading global polymeric film coater and supplier of pressure-sensitive film products to OEMs and label converters, can be an important ally in managing this difficult juggling act.

By working closely with FLEXcon, the OEM can take full advantage of pressure-sensitive film's versatile problem-solving capabilities, with cost-effective solutions for nameplate/brand identification, warning/instructional labels, component tracking, and product performance. To facilitate the design engineer's processes, FLEXcon offers

detailed performance data on all of its products, including temperature parameters (both during application and in end-use) and bonding performance as tested on actual surfaces. In addition, FLEXcon can tailor a product to the design engineer's requirements.

Comprehensive Product Line and Custom Solutions for Your Applications.

For the power tool market, FLEXcon's offerings consist of its COMPUcal® EXCEL™, DPM®, BRUSHcal®, Classics Plus® and THERMLfilm® film product lines.

In addition to its base films, FLEXcon can provide film/adhesive solutions for protective overlamination of nameplates/branding ID labels, warning/instructional labels, and other power tool labels. FLEXcon's overlaminating films include polyester, acrylic, polycarbonate, and other options. Overlaminates are offered in clear gloss, clear matte, and textured finishes. They provide excellent clarity and can protect your label against environmental factors such as temperature extremes, abrasion, UV, and chemical exposure. Overlaminating films help assure your power tool label lasts as long as the power tool.

From this extensive selection of product options, FLEXcon can provide the OEM and label converter with the best choice of product in terms of your price, performance, and delivery requirements. In addition to readily available off-the-shelf products in its Value-Better-Supreme (VBS) product offering, FLEXcon specializes in creating one-of-a-kind Custom products to address your unique application challenges.

Most of FLEXcon's offerings for the power tool market are UL/cUL recognized and CSA accepted, saving you time in the design-to-market process. In addition, many FLEXcon products meet the requirements of the



American National Standards Institute (ANSI), the International Standards Organization (ISO), the European CE ("Conformité Européenne"), and other entities. Also offered are a range of products that are ideal for IUID labeling of goods supplied to the Department of Defense.

In addition to label stock solutions, FLEXcon offers standalone adhesive products for a variety of uses. FLEXmount® adhesives are offered in single-coated, double-coated, and transfer tape forms.

Let's take a look at specific FLEXcon product solutions.

Print Versatility Allows Purchasing Consolidation

For the power tool OEM, FLEXcon's COMPUcal® EXCEL™ line of UL-recognized polyester base films and overlaminates is an ideal choice for nameplates, brand identification, warning/instructional markings, and barcode labels, particularly those where a matte finish is desired. Among COMPUcal® EXCEL™'s important features is its cross-technology printability via thermal transfer, laser, impact, and ion deposition, and its compatibility with conventional inks. This print versatility allows you to consolidate your purchasing with one brand of film from one reliable source.

COMPUcal® EXCEL™ provides superior durability and resistance to the harshest chemicals and solvents, while its unique matte topcoat dramatically extends die life and improves image scannability. For barcode applications, COMPUcal® EXCEL™ matte topcoated films deliver far better ANSI scan reflectance profiles than gloss topcoated products. This enhances both contact and non-contact scannability, improves first-time scan accuracy, and provides consistent results no matter what type of scanner is used.

The matte topcoat provides greater than four times as many die revolutions before retooling than traditional matte topcoated label stocks. Cleaner, consistent matrix stripping improves diecutting efficiency, while allowing the option of using less expensive, standard film. Whether you or your label printer/supplier produces the labels, these characteristics of COMPUcal® EXCEL™ can reduce converting costs.

COMPUcal® EXCEL™ is available in white matte, silver matter, clear matte, and a clear matte overlaminate (which can also be used as a thin base film). It is available with a permanent acrylic adhesive that bonds well to low-and high-surface energy plastics, painted metal, and powder-coated paint.

Thermal Transfer Label Printing with a Gloss Finish

FLEXcon's THERMLfilm® line offers compatibility with wax and wax/resin thermal transfer ribbons. This line includes 2.0 mil clear and white gloss polyester products providing consistent surface smoothness, excellent dimensional stability, and the ability to endure varying temperatures, making it an effective solution for warning/instructional labels and product identification labels on power tools during the most demanding end-use application.

During label production, the topcoat resists smudging and abrasion when printed with resin and wax/resin thermal transfer ribbons, and is also compatible with conventional inks (we recommend evaluating the intended ribbon and ink system for compatibility with the product under application conditions.)

THERMLfilm's permanent pressure-sensitive acrylic adhesive bonds well to low- and high-surface energy plastics, metal, and powder coated paint.

Within this line are FLEXcon's THERMLfilm SELECT® products, the workhorse solution for variable printing applications. All products in this line are UL recognized and CSA accepted.

Durable Labels for Durable Products

Power tools and other durable products require labeling materials that will last the life of the product. FLEXcon's DPM® (Durable Product Marking) line offers high performance solutions with maximum durability for product identification and safety/hazard/instructional label applications. This line includes vinyl, polyester, and overlaminating films in gauges and colors (including bright brushed silver) to meet the vast majority of power tool labeling needs. DPM® products are UL recognized, CUL recognized, and CSA accepted. The film surface is compatible with most conventional and UV ink systems. We recommend evaluating the ink system for compatibility with this product under the application conditions.

The DPM® line includes permanent acrylic pressure-sensitive adhesives that bond well to low- and high-surface energy plastics, as well as painted metal, powder-coated paint, polycarbonate, and fiberglass. FLEXcon's DPM® cast vinyls provide a durable labeling solution with ink-receptive high gloss white or clear vinyls appropriate for power tools that are used extensively outdoors. These products are coated with an aggressive, high performance, permanent acrylic adhesive that provides high initial tack, shear, and ultimate bond to a wide variety of surfaces.



Among DPM®'s special offerings is our DPM® RTS product line for rough-textured surfaces. This series of clear, white and metalized polyesters and vinyls includes a higher coat weight of aggressive permanent acrylic adhesive that flows into the peaks and valleys of the application's rough surface, creating an optimum bond. The silver product adds a distinctive metallic look to the brand identification label or nameplate that will support your objective to set your power tool brand apart from the competition.

Within the DPM® line, FLEXcon also offers its DPM Aply® product, a cost-effective solution designed specifically for bubble-free graphics and labels on power tools and other equipment.

Other options for power tool nameplates and brand identification are FLEXcon's Classics Plus® SELECT™ and our Classics Plus® 1.0-mil clear matte polyester overlaminating film for protection from abrasion, chemicals, and other environmental stresses.

Within this line is our Classics *Plus*® SELECT™ 55206SL product, which is intended to be printed and die cut in sheets, hand-dispensed, and hand-applied to the application substrate. Its stiffness and thickness allow it to be easily handled through manual processing or with automatic processing equipment. The facestock offers high-temperature resistance and very high tensile strength.

The Classics *Plus*® SELECT™ adhesive is optimized for its processing properties. It avoids the tendency to ooze, so diecutting and guillotine operations may be run with minimal adhesive buildup. Classics *Plus*® SELECT™ adhesive also bonds to a variety of surfaces, including low-surface energy plastics.

The ink-receptive surface of Classis *Plus*® SELECT™ is compatible with most standard polyester and non-polyester-based screen process inks.



Achieve the Brushed Metal Look

Among FLEXcon's solutions for design engineers seeking a brushed metal, stainless steel look for their labels and nameplates is BRUSHcal®, a metalized polyester film product. It is ideal for label applications such as product identification and safety/hazard/instructional uses that require excellent durability and resistance to harsh environments. The topcoat on this UL-recognized, CUL-accepted film product optimizes ink-receptivity with most solvent and UV ink systems.

Enhance Your Manufacturing Process and Product Performance

FLEXcon offers not only film/adhesive combinations for labeling applications, but performance adhesives as well. These stand-alone adhesive products can play a critical supporting role in your manufacturing processes and your power tool's performance.

For bonding, laminating, or fabricating parts in manufacturing your power tools, FLEXcon offers a wide array of transfer tapes, single-coated, and double-coated adhesive products. Our adhesives are also designed to meet the needs of noise and vibration damping applications, employing the adhesive's viscoelastic properties to absorb vibration energy. Every mechanical device, including power tools, generates vibration, which can manifest itself as uneven mechanical wearing or distracting noise. FLEXmount® adhesive products from FLEXcon are designed for your most difficult noise and vibration challenges. The adhesives and double-faced pressure-sensitive products serve as part of a constraint layer sandwiched between rigid substrates, serving as an effective damping medium. Specific FLEXcon adhesives are available to withstand extreme environmental conditions such as high heat and chemical exposure. In addition, products can be tailored to counter a specific frequency range.

Among FLEXcon's newest adhesive offerings is the SA6000 series of tacky silicone adhesives. They offer the ease of use of acrylic adhesives but with silicone adhesive's performance in extreme temperatures. SA6000 adhesives are ideal for high and low temperature gasketing and sealing, vibration damping in a wide variety of temperatures, and applications calling for limited flammability. The products operate at temperatures from -300 degrees F to +500 degrees F, and have a tack level of 760 grams (ASTM 2979). Their tackiness allows for product assembly to be done more easily and efficiently. Silicone adhesives take up to 72 hours to cure, but FLEXcon's SA6000 tackiness will hold the bond until the adhesive cures, facilitating automated assembly. The product's adhesive qualities keep it on the release liner through the production process, while also allowing for diecutting without an unintended peel-off of the liner that could disrupt production. The SA6000 Series is offered as a transfer tape, a single-coated construction, and in a double-coated construction that may include a silicone adhesive on one side of a film or liner and an acrylic adhesive on the other.

Frequency, temperature, and application surface are some of the critical factors that will determine the best adhesive solution for your application. By having your design engineers work directly with FLEXcon experts, we can determine the best product for your specific product assembly or noise/vibration damping challenge.

Solutions for Component Tracking

OEMs, particularly those who supply products to the U.S. Department of Defense, are increasingly challenged by the need for precise, reliable identifying data for each item they manufacture. Whether the OEM manufactures power tools or other products, this challenge involves a sophisticated data management regimen, and labeling of each manufactured item with a barcode or Data Matrix symbol. The unique identifier is designed to help both the OEM and its customer track components or finished products during shipment, end use, and storage. Contracting officers and logistics personnel are finding challenges in the best way to mark their item with this identifying information. Among other stringent requirements, the label must be machine- or human-readable for the life of the item to meet the "cradle to grave" label requirement of DoD.



FLEXcon offers a wide selection of pressure-sensitive labeling materials for thermal transfer printing of labels that include barcodes or the Unique Item Identification (IUID) Data Matrix symbol. The products include our THERMLfilm SELECT® and COMPUCal® EXCEL™ lines.

As a member of the UID Supplier Alliance Committee of AIM North America, FLEXcon is involved in the latest developments in this area, and can serve as a resource to the OEM who supplies power tools to the U.S. Department of Defense and who must meet the rigid governmental regulations.

Early Collaboration Helps You Succeed

By having FLEXcon's technical personnel work closely with your design engineers and other product design professionals at the earliest stages of product development, we can help you bring your power tool product to market sooner and more successfully.

We can provide your design staff with technical performance data for each of our products on a variety of surfaces, and can provide you with a sample of the product solution for you to test in your application. For truly unique applications where no VBS product is appropriate, FLEXcon can develop a one-of-a-kind Custom product for you, drawing on our vast variety of films, adhesives, topcoats, and release liners.

Any of the products and product constructions mentioned in this article can be tweaked to meet the specific needs of your application. Customization is a FLEXcon specialty.



About the Author

Brian Ayers is a Business Development Manager for FLEXcon's Product Identification Business Team. Brian began his career at FLEXcon in May 1999 running a coater in one of FLEXcon's manufacturing facilities. From there, he worked in a variety of capacities, gaining a vast knowledge of FLEXcon's capabilities and expertise and leading him to his current role. Brian holds a degree in Business Administration from Becker College. To reach him, call 508-885-8465 or e-mail Brian at bayers@FLEXcon.com. You can also contact the Product Identification Business Team at 508-885-8300.

About FLEXcon

FLEXcon is an ISO 9001:2008 worldwide manufacturer of pressure-sensitive films and adhesives for applications including indoor and outdoor advertising, bonding/mounting, and product identification, safety, hazard, bar-coded, and primary labels. The company's Value-Better-Supreme (VBS) product offering is the most extensive standard product offering in the pressure-sensitive film industry. FLEXcon is also a leader in developing custom solutions to meet unique converting or application needs. FLEXcon's mission is to provide its customers the highest quality products with exceptional service. The company is headquartered in Spencer, Massachusetts, and has operations throughout North America and Europe, with distribution worldwide. For more information on FLEXcon, visit www.FLEXcon.com.



Let's Talk Solutions

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