Contact Information for Studio Toolkit for Shrink Sleeves

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Esko

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Studio

Technology Information

Market price for the technology

[redacted] for the complete solution as described. Less expensive configurations are also available.

First year the product was commercially available

2010

Technology significance and/or innovation

There is nothing else like Studio Toolkit for Shrink Sleeves available in the industry. Previous shrink sleeve warping tools were designed for horizontal distortions from revolving shapes. However, asymmetrical shapes and multi-packs are growing increasingly popular. These produce much more complex shrink distortions: combinations of horizontal and vertical distortions and sleeves that make only partial contact with the container(s). To address these issues, Esko started from the ground up. By simulating the shrink process in 3D with software, it is no longer necessary to manually shrink test films in a heated chamber and measure distortions from a grid. It required a certain amount of guesswork, and typically took a number of iterations — sometimes requiring production of plates and some press time — before an acceptable design was created.

The design of shrink sleeve packaging presents a number of challenges. Artwork designers struggle to express ideas for a curved surface on a flat canvas. The result can be ambiguous artwork that leaves prepress professionals guessing about the designer's intent. The inevitable result is numerous iterations between the designer and the converter, causing long lead times and increased costs. Instant 3D feedback gives the designer the necessary insight into the artwork behavior on the curved shape.

Consider the mathematics and physics involved in the development of this software to correctly understand the 3D challenges and the distortion: The software has to be able to accept 3D CAD drawings of the package. It must be able to understand the elastic and thermal properties of shrink film — both vertically and horizontally — and run this simulation within a reasonable time. For pre-distortion, the artwork must be translated from 2D to 3D (including the distortions), optically corrected in 3D, and then translated back from 3D to 2D for a ready-to-print layout.

All of this had to be implemented in the comfort zone of packaging artwork professionals. Other 3D tools can be complicated. It can take hours to model and render an image. Studio is fast and easy, because it integrates with popular tools (like Adobe® Illustrator®), it works with designer's data and speaks the language of packaging.

Efficiencies and/or return on investment of the technology

The global $3 billion shrink sleeve market is growing at about 7% a year. Brand owners favor shrink sleeves because they offer a larger area of “real estate” for branding with more room for colors and images, and design freedom. And now, shrink sleeves are used on much more unusually shaped containers.

The way many people still create shrink sleeves is very tedious. They create grids on the shrink sleeve material, wrap it around the container, run it through a shrink sleeve tunnel, measure the distortion, and try to anamorphically size graphic elements based upon these measurements. The design is tested — often requiring plates and press time — and usually rerun many times. It’s a very difficult trial and error effort, taking considerable time.

Designers risk the real potential of damaging brand integrity if the process is not handled correctly. They struggle to express ideas for a curved surface on a flat canvas. Using Studio Toolkit for Shrink Sleeves, they’re no longer working blind, nor constrained. The algorithmic pre-distortion can handle much more complex cases of distortions, resulting in more creative designs on more sophisticated containers, offering greater shelf appeal —and stronger sales.

Ambiguous artwork leaves prepress professionals guessing about the designer’s intent. Packaging color and transparency can be altered because the hue and density of screened areas can shift in areas of extreme shrinking. If barcodes are distorted, they cannot be scanned consistently. And, different materials shrink differently—even between vertical and horizontal directions. The process is complex and labor intensive, involving a number of trial and error steps to get the design right, resulting in longer lead times — as much as six months. Now, the repro department can avoid several sets of test prints and measurements, saving operator time. The intelligent tools and 3D feedback make it much easier to understand the process. 3D images accurately predicting the end-result can be used to approve designs faster and cheaper than making and shipping mock-ups to every stakeholder — eliminating plates and tying up a press. Brand owners can better understand design limitations. Less experienced trade-shops or converters can enter the sleeve label market more easily.

Studio toolkit for Shrink Sleeves fits into existing design and prepress workflows, saving hours of operator time and weeks of design lead time. This can generate the brand owner significant revenues if a product can be launched earlier, and save the trade shop thousands in costs.

Studio

Technology Description

Esko's Studio Toolkit for Shrink Sleeves creates artwork for shrink sleeves (labels that are placed around a package or packages and shrunk around them during production). Designers and prepress professionals can quickly create, test, analyze, communicate and produce designs with 3D visuals, without the need to conduct physical test runs.

The global $3 billion shrink sleeve market is growing at about 7% a year. Shrink sleeves offer a larger area for branding, and more design freedom. Meanwhile, asymmetrical shapes and multi-packs are growing increasingly popular, producing much more complex designs: combinations of horizontal and vertical distortions and sleeves that make only partial contact with the container(s).

Designing and printing shrinksleeves is difficult. It's complex and labor intensive, involving a number of trial and error steps to get the design right, resulting in much longer lead times. Designers create grids on the shrink sleeve material, wrap it around the container, run it through a shrink sleeve tunnel, measure the distortion, and try to anamorphically size graphic elements based upon these measurements. The design is tested — often requiring plates and press time — and usually rerun many times. There's the real potential of damaging brand integrity if the process is not handled correctly.

Studio Toolkit for Shrink Sleeves accommodates asymmetrical shapes and multipacks, and works in 3D from start to finish:

- The process starts in a virtual shrink tunnel. The converter creates, scans or imports (CAD file) the container shape into the software, enters the shrink film material characteristics, and the software digitally shrinks the sleeve around the container.
- Studio Designer designs the new artwork (or applies existing artwork) directly on the digital shrink sleeve model. With 3D visuals, the artwork will shrink and distort in the same way as it would in the shrink tunnel. These 3D visuals can be shared as 3D PDFs, images of package shots or movies.
- With a separate tool for Adobe® Illustrator®, the operator can see in quantitative terms how much each artwork element is distorted.

Studio Toolkit for Shrink Sleeves is unique in the industry. It is no longer necessary to manually create test films. Designers aren't working blind in 2D, nor constrained. The pre-distortion can handle

much more complex cases, resulting in more creative designs on more sophisticated containers, offering greater shelf appeal — and stronger sales.

The 3D images accurately predicting the end-result can be used to approve designs faster and cheaper than making and shipping mock-ups. Less experienced printers can enter the sleeve label market.

Studio toolkit for Shrink Sleeves fits into existing design and prepress workflows, saving hours of operator time and weeks of design lead time. This can generate the brand owner significant revenues if a product can be launched earlier, and save the trade shop thousands in costs.

ABC INDUSTRIES

May 31, 2011

2011 InterTech Award Judging Committee
Printing Industries of America
200 Deer Run Road
Sewickley, PA 15143

Dear InterTech Judges,

One of the biggest challenges in packaging, for designers and converters, is shrink sleeve production. Traditionally, to create the correct amount of distortion for shrink sleeves requires a lot of math, guesswork, and back and forth between the designer and converter. It's an incredibly time-consuming process, and if the distortion isn't correct, it's not only costing time, but money as well. In today's economy, that's not acceptable.

ABC Industries is a high quality producer of labels and packaging products. We are a supplier of superior heat shrinkable film products for a wide variety of markets, including beverage, food, health and beauty, pharmaceutical, household products, automotive, petroleum, and many more. Our full line of shrink products includes full body sleeves, multi-pack bands, and neckbands. Our capabilities include flexographic printing in up to 10 colors, four-color process, custom die-cuts, as well as metallic, overprint, UV, and water based inks. We also provide laminate or UV Coating.

We are constantly looking for ways to improve the production process – to streamline operations, boost quality, and hold costs down. Last year we installed Studio Toolkit for Shrink Sleeves from Esko. Our immediate goal was to streamline the shrink sleeve process, trying to eliminate some of the steps and get products out the door faster.

The biggest challenge with shrink sleeves is during prepress, when you're trying to assess just how much distortion you'll need – where you'll need the most and the least – to make sure that the graphics are positioned correctly and in the right alignment on the package bottle. The Studio Toolkit for Shrink Sleeves has helped us to do it right the first time.

Before we had Studio Toolkit for Shrink Sleeves, we would take a sample of the material and create a grid on film, shrink it on to the product, and then measure the distortion of the sleeve off the grid. Sometimes we got it right, and sometimes we didn't.

When the distortion didn't work, we would have to redo the art and almost start from scratch. Test runs consisted of burning plates, going on press, and seeing how close we came to getting the right distortion so the graphics would look good.

It wasn't unusual to do 2-to-3 test runs to get it right. Each test run cost us $300-$400 for plates, plus an hour of press time. Each time we were wrong could cost between $500 & $600.

With Studio Toolkit for Shrink Sleeves, preparing art for shrink sleeves is not any more time consuming than preparing art for any other job. Shrink sleeve jobs now take us 2-3 hours, instead of 15-20 hours – which could spread out over 2-3 days.

ABC INDUSTRIES

One of the biggest advantages with Studio Toolkit for Shrink Sleeves is the viewer, which shows a virtual 3D image of how the shrink sleeve will look on the bottle of package. If we don't like the positioning of certain graphics on the label, we can see it ahead of time, before we make a plate. We can manipulate the art to ensure it is a nice looking piece, and then show it to the customer.

Our entire shrink sleeve process has been streamline. Studio Toolkit for Shrink Sleeves has helped us immensely in the production process. We typically have only one go-around. We're not making plates and going to press to see if the pre-distortion is correct. We might have to make changes in the artwork and work on the design after the customer has previewed it, but we don't have to remake plates. Also, our designers are not spending all that time on math. We don't have to make grids to figure out the distortion. Its point and click

Customers really like the viewer, and we do too.

Using Studio Toolkit for Shrink Sleeves saves a lot of frustration. Some artwork is really easy for shrinking, for example you can let it slide if stars are awry. However, a lot of the work we do is more difficult. You think it is right, but you may have missed something.

Recently, we worked on a honey bear that had a lot of detail – nose, eyes, feet, legs – everything had to line up over the bottle, so it was a pretty complex deal. Using Studio Toolkit for Shrink Sleeves, we actually nailed it the first time. We ran it through the software and looked at the viewer, tweaked it in a couple spots, but none of the art moved more than 1/16th of an inch. When we rendered it again, it lined up very nicely. If we had to do it with a grid using math, it would have been at least 3 or 4 trail run-throughs.

I highly recommend Studio Toolkit for Shrink Sleeves for any shop doing shrink sleeve production. I also highly endorse Esko's Studio Toolkit for Shrink Sleeves for a 2011 InterTech™ Technology Award.

Sincerely,

Ben Franks
Production Manager
ABC Industries