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WHITE PAPER

## Coatings and the Customer's Experience

### About Curtis 1000

Curtis 1000 is a business communications company that strengthens customer experience, enhances business efficiency and increases profitability. Our investment in world-class technologies, capabilities and production facilities ensures a seamless solution for all of your business communications needs.



# Why use coatings?

*Companies continue to seek new methods to maximize value, brand identification and end-user experience for their print and packaging. Knowing what options exist and the impact they make can take your print product to the next level of presentation and customer engagement.*

Design and marketing firms along with retail and Internet manufacturing are looking for new options to create brand separation, elevate the perceived value of their products, and enhance the customer experience. Coatings are a great way to create this differentiation.

Once you have decided to use coatings to differentiate your packaging, there are two primary areas to understand and consider when planning and executing coating applications in print production:

## 1. Terminology

- Registration
- Spot coating
- Flood coating

## 2. Coating types

- Varnish
- Aqueous coating
- Ultraviolet (UV) coating

**There are also three key considerations when selecting coatings:**

- Cost
- Visual impact
- Durability



*The top image shows the separation of the specific area where spot coating will be applied to the bottom image.*

## Terminology Defined

Understanding the following terminology is critical to selecting and applying coatings during the print manufacturing process: registration, spot coating and flood coating.

### Registration

This term is used to describe the alignment of images or artwork on a print project. Precise registration is when the alignment occurs in the exact position it is intended.

Registration is affected by either the setting on production equipment and/or the movement of the paper as it runs through the equipment. When positioning is not precise, the common phrase “the registration is off” is used. Some coatings allow for precise registration with printed art and thus are useful for spot coating within a printed product. Other coatings are more difficult and expensive to register and better lend themselves to flood coating.

### Spot Coating

This term is used to describe the process of applying coating to a certain area(s) within a print product. Spot coating typically requires precise registration to ensure the coating aligns with the printed art. To see finish options for spot coating, refer to the Coatings Guide on page 5.

### Flood Coating

This term is used to describe the process of applying coating to an entire sheet of paper so that all artwork is coated. In this case, the whole sheet and all the images get the same coating finish. To see finish options for flood coating, refer to the Coatings Guide on page 5.



## Coating Types

There are three industry standard coating applications used in print production: varnish, aqueous coating and ultraviolet (UV) coating.

### Varnish

A varnish coating is basically an ink, just without the color pigment. Varnish is typically petroleum or vegetable-based (just like ink) and available in the following finishes: gloss, satin or dull. Multiple varnish types such as dull and gloss can be combined in different areas of a piece to create a more dramatic effect. It is fairly inexpensive and since it is applied with a printing plate, like printed artwork, varnish coatings can be applied in flood or a spot coating with precise registration. All varnish finishes can be used on coated paper. For uncoated paper, only use satin or dull varnishes because gloss varnish tends to mottle.

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**When using uncoated paper, adding varnish can add protection to your print project but the visual impact will be minimal.**

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Varnish offers less protection to images than aqueous or UV coatings. In addition, the visual effect created by varnish is subtle compared to other coating options. Using varnish over dark inks/artwork (i.e., black) can deliver attractive results when a piece is moved around under light. Using this coating can slow the drying process and requires a bit more time to complete the project. It is important to note that varnish on white paper tends to yellow quickly. Be aware, varnishes should not be used on items that are expected to have a long shelf life because of its yellowing properties.

### Aqueous Coating

Aqueous coatings are water-based coatings. This makes them environmentally friendly, omitting few Volatile Organic

**You can use a soft touch aqueous coating to elevate your design and enhance the customer's experience with its soft velvety texture.**

Compounds (VOCs), as compared to petroleum products like varnish. These coatings are applied with rubber blankets in a coating tower after all the ink is printed. Aqueous coating is available in the following finishes: gloss, satin, matte and soft touch. All finishes can be used on coated paper but only matte, satin, and soft touch are recommended for uncoated paper as gloss aqueous can tend to mottle. The coating offers excellent protection to printed images and prevent fingerprints from showing on dark images. Soft touch aqueous coating offers an exquisitely soft velvety feel.

Brands like Apple™ have made soft touch aqueous a go-to for marketers — this luxurious coating creates a high-end brand



See how the gloss UV coating on the right pops vs. no coating on the left.

appeal. Unlike varnishes, aqueous coating dries immediately causing no delay in the production cycle. Although possible, aqueous coating is both difficult and expensive to use for spot coating but is a strong cost-effective alternative to varnish when applied as a flood coating.

**Ultraviolet (UV) Coating**

UV coatings are dried using intense UV light. The UV light creates a molecular reaction that hardens the coating much like an egg changes from a liquid to a solid when heat is applied. UV coatings omit no VOCs and are very environmentally friendly. Although the most expensive, UV coating offers the most dramatic effect and the highest level of protection of any coating. It can also be used as a flood or spot coating with precise registration.

**Draw attention to a portion of a design by using spot UV coating.**

Due to the thickness, UV coating has the highest gloss level of any coating and can also be used to create textured 3D effects. It is a clear coating and does not yellow over time, like varnish. UV coatings are available in gloss, satin, dull as well as special effects such as high rise, glitter and textured.

**Summary**

Coatings can elevate even the most creative design to a higher level of beauty and impact. They have the ability to create a customer experience that can increase the perceived value of a product and create brand separation.

It is well known that packaging and printed materials need to be functional to deliver a product or message. They also need to have attractive graphics to entice the customer to stop and look at the packaging or print product. What is

that next step? Encouraging the customer to engage with and pick up your product — this is where coatings are key. Invoking a customer's sense of sight and touch increases their engagement and perceived product value.

Companies that have competing brands of similar products often look for ways to segment them in the marketplace. Coating applications can be used to differentiate the packaging and create brand separation amongst a set of products. For example: marketing could use aqueous coating

on all of their packaging and apply added spots of UV coating to create a premium appearance on their high-end products.

Consumers of print and packaging continue to seek out new methods of designing and producing materials to maximize value, brand identification and end user experience. Take your print product to the next level of presentation and customer engagement by exploring coating options. Use the guide below to get started!

**COATINGS GUIDE**

Coatings	Visual Impact	Ability to Apply As Spot Coating	Ability to Apply As Flood Coating	Finishes
Varnish	Low to Moderate	Excellent	Excellent	Available in: Gloss, Satin, Dull
Aqueous	High	Difficult	Excellent	Available in: Gloss, Satin, Matte, Soft Touch
UV Coating	Very High	Excellent	Excellent	Available in: Gloss, Satin, Dull, High Rise, Textured, Glitter



**On the cover:**

*This direct mail carrier is on 15 pt. stock utilizing spot dull soft touch coating on white areas contrasted by spot UV coating on the colored swirls. It's also been augmented by multiple levels of embossing on the logo and artwork to accentuate the contrasting coating methods. As a result, it brings a much more tactile presence to this mail piece as compared to the others it arrives with in the mailbox that day!*



**WRITTEN BY THOMAS J. PIETRZAK**

Thomas J. Pietrzak has over 25 years of experience both as a professor in Graphic Arts Management at the University of Wisconsin Stout and as a leader in the printing industry. Tom is currently a sales manager for Curtis 1000, A Taylor Company, with expertise in folding carton packaging solutions.