



*FOIL
CHEAT
SHEET*

While conventional foil stamping is the most common way to add incredible metallic shine to your work, there are several cool alternatives on the market today. Use them to run foil in-line with your color printing, or even for short-run, personalized and variable-data projects.





HOT FOIL STAMPING

While the paper runs through the foil stamping press (clamshell or letterpress for small to medium-size runs), a heated metal die presses your design on top of the foil, which frees it from its backing. The pressing of the die into the paper's surface leaves a slight impression in the paper, an extra tactile element.

PROVIDER Many PSPs, including letterpress studios

COLORS Hundreds, from solids to translucents, and from metallic to holographic and pearlescent – the sky's the limit.

RUN LENGTH Medium to large

PAPER OPTIONS Coated or uncoated works equally well with foil stamping - while soft, uncoated sheets allow for a deeper impression. If you choose an opaque foil you can achieve beautiful, clean results, especially on colored, uncoated stock, without the color of the paper showing through.

ADVANTAGES Most versatile foil process, as it can foil and emboss in the same press run. It also has the ability to press refractive (micro-etched) patterns into the surface of the foil.

DISADVANTAGES Special dies or plates are needed, which adds to the turnaround time and is more costly for smaller jobs.



COLD FOIL TRANSFER

Ideal for folding cartons, labels, magazine covers and POP displays, Cold Foil Transfer is mostly applied in-line during an offset printing process.

On a 6- (or more) color press, the first 2 units are used to apply an adhesive and then foil to the sheet, respectively. The foil only sticks to the adhesive areas.

The CMYK stations of the press allow you to print on top of the foil in-line, thus creating any color in the rainbow. Software from companies like Color Logic provides the ability to proof metallic overprinted colors before the final production is run.

PROVIDER Many PSPs specializing in labels and packaging

COLORS Metallic Gold, Silver and Holographic, which allow for unlimited metallic hues when overprinted with CMYK.

RUN LENGTH Medium to large

PAPER OPTIONS Most systems will run with coated papers (uncoated ones tend to absorb the adhesive). Coated papers will provide the best foil shine. However, new technologies are now available that provide the option to print cold foil on uncoated papers, which will allow us more flexibility in the future.

ADVANTAGES Ability to run in-line on the printing press and create unlimited metallic colors by overprinting CMYK. Excellent choice for projects that include significant foil coverage.

DISADVANTAGES Mostly limited to applications on coated stocks. More feasible for larger-size runs.



DIGITAL FOILING

Digital foiling encompasses offline processes that can enhance your offset and/or digitally printed piece with that extra-super shine. As these processes are digital, this means:

- No die, plate or film is required
- There is no pressure used, thus no deep impression on the paper
- They are ideal for short to medium print runs
- They offer the opportunity to use variable-data foiling.

Digital foiling is done in one of two ways: using either toner or varnish (polymer) as the base adhesive to ensure the foil adheres to the paper.



TONER BASED DIGITAL FOILING

This is a simple 2- to 3-step process. The artwork you want to be foiled is first printed in a rich black on a toner or HP ElectroInk digital press (depending on the foiling system your printer uses).

The sheet is then run through the sleeker and, with the help of a touch of heat, the foil is adhered to the black ink.

The sheet can now be run through the digital color press again to add CMYK alongside your foil or – in most cases – even on top of it, allowing you to keep your foil look classic (Gold or Silver), or to go for unlimited metallic effects.

PROVIDER Many PSPs. This is still considered a new technology and the number of providers is growing. [See chart]

COLORS All toner based digital foiling systems offer basic Metallic Gold and Silver. Some can utilize hundreds of readily available foils, and most of them allow you to overprint the foil, thus providing unlimited color options.

RUN LENGTH Short to medium

PAPER OPTIONS These systems work best with coated papers. Uncoated ones work well, but the foil does not appear quite as shiny.

ADVANTAGES No dies, plates or film required so feasible option for shorter runs or prototypes; ability to use foil for personalization. Being able to overprint the basic foil allows for thousands of metallic hues and can enhance images as well.

DISADVANTAGES Multiple passes needed to apply toner, foil, and CMYK overprinting. Limited to short to medium runs.



VARNISH BASED DIGITAL FOILING

Print your project offset or digital first and then, in a separate pass, run them through a digital enhancement press to add super-shiny foil. The press lays down a clear polymer adhesive of your artwork first, which the foil will then adhere to.

Adding a thicker layer of adhesive allows for the foil to be raised above paper level providing an embossed look to the foiled image.

For certain applications, the printed and foiled sheet can be run back through the digital enhancement press where a clear spot coating can be applied on top of the foil (and printing for that matter), giving it an extra textured feel.

PROVIDER Several PSPs. This is still considered a new technology and the number of providers is growing. [See chart]

COLORS Gold, Silver, Holographic and dozens more

RUN LENGTH Short to medium

PAPER OPTIONS Mostly coated – uncoated with extra care

ADVANTAGES No dies, plates or film required so a good option for shorter runs; and the ability to use foil for personalization. Adding clear polymer on top of the foil gives that extra tactile (embossed like) feel.

DISADVANTAGES Not as feasible for larger-size foil areas, and limitations on paper stocks and foil colors. Polymer based foiling is not commonly overprinted – the foil color you choose is the color you get.



FOIL SUBSTRATES

For large foil areas, foiled substrates (aka “metalized laminates”) are a wonderful option.

Using paper or board as the basis, the foil is laminated to the substrate giving you one shiny and one white side for your creative outlet. (Or just one shiny side if you are printing labels or folding cartons.)

Beyond offset printing, many foil substrates are now also available for digital presses.

And while the foil colors available might seem limited (mostly Silver and Gold), remember you are printing on top of the foil so your metallic shine options are unlimited. Yes, you can even recreate Gold on a Silver sheet. And if you want to keep some areas of your artwork true to color, underprint White before adding CMYK.

PAPER SUPPLIERS Mohawk, Zanders, Legion Paper, GPA, CTI Paper, Hazen, Wausau Coated (labels)

COLORS Classic Gold, Silver, and Holographic, in some cases brushed options are available as well

RUN LENGTH Short to Large

PAPER OPTIONS C1S and labels

ADVANTAGES Achieve metallic effects without a secondary process – meaning only one pass on press is needed. A great option for large runs with full metallic coverage.

DISADVANTAGES High cost for metallic paper/board stock, limited variety. White ink needs to be underprinted where true colors are desired.

Process	Foil Colors	Overprintable	Coated Papers	Uncoated Papers	Print Runs	Providers
Hot Foil Stamping						
Many presses - sheet-fed and web	Many colors and types	Technically possible (with extra care)	Yes	Yes	Medium to Large	Many
Cold Foil Transfer						
Many presses - sheet-fed and web	Gold, Silver, Holographic, some colors	Yes (in-line with printing)	Yes	Yes (with extra care)	Medium to Large	Many
Digital Foiling - Toner Adhesive						
Nobelus Sleeking	Gold, Silver, Holographic and dozens more	Yes	Yes	Yes (with extra care)	Short to Medium	Several
Kurz Digital Metal	Many colors and types	Yes	Yes	Yes (with extra care)	Short to Medium	Few
MGI Meteor Unlimited Color with iFOIL	Gold, Silver, Holographic and dozens more	Yes (in-line with printing)	Yes	Yes (with extra care)	Short to Medium	Several
Duplo DFL-500	Gold, Silver, Holographic and dozens more	Yes	Yes	Yes (with extra care)	Short to Medium	Few
Therm-O-Type Automatic Foil Tech	Gold, Silver, Holographic and dozens more	No	Yes	Yes (with extra care)	Short to Medium	Several
Digital Foiling - Varnish Adhesive						
MGI JETvarnish 3D with iFOIL	Gold, Silver, Holographic and dozens more	No	Yes	Yes (with extra care)	Short to Medium	Several
Scodix Ultra Pro with Foil	Gold, Silver, and dozens more	No	Yes	Yes (with extra care)	Short to Medium	Several
Foil Substrate						
Many presses - sheet-fed and web	Gold, Silver, Holographic	Yes (in-line with printing)	C1S board and Labels	N/A	Short to Large	Many

While every effort has been made to ensure the accuracy of the chart above, foiling technology itself is constantly evolving. For the absolute latest foiling specs, be sure to check out our continuously updated, members-only Foil Guide. Not a PaperSpecs PRO member? **Begin your 7-day free trial today!**

The ultimate Foil Cheat Sheet is brought to you by PaperSpecs in collaboration with the Foil & Specialty Effects Association.



PaperSpecs.com is an innovative online hub for graphic designers who are in love with the tactile experience provided by paper and print.

Through their acclaimed Paper Inspiration video series, webinars, blog posts and more PaperSpecs provides inspiration, insights and access to crucial, hands-on tools and resources to help creatives craft printed pieces that WOW.



Since 1992, the Foil & Specialty Effects Association (FSEA) has been the leading voice in the decorating technologies industry. Through educational programs, conferences and more it's encouraged the use of everything from foil and embossing to laser cutting, laminates and specialty coatings.