

Foil-Tech Q&A

What is foil fusing?

Foil fusing is a process where foil is bonded to a toner image area that was created using either a laser printer or a copy machine.

What types of foils are available for foil fusing?

Gold, silver and metallic colors, pigment colors, and special application foils like glitters, as well as, metallic and transparent decorative and security holographic patterns.

Is a die required to produce foil fusing?

No. Foil fusing does not require any type of die. Laser printer and/or copy machine toner is used to bond the foil to the paper.

Can a foil fuser be used to produce blind or foil embossing?

A foil fuser can only apply flat foil and be used to “ThermoFuse” sheets with a toner image area. While a blind emboss effect can not be created, a limited foil embossed effect can be created with certain papers using a process called “ThermoEmbossing”.

Are all laser printer and copy machine toners compatible for foil fusing?

No. Certain laser printers and copy machines, and certain toners are not suitable for foil fusing. If you have any questions about the suitability of your printer and/or toner, THERM-O-TYPE will be happy to run compatibility tests on your samples.

Does fusing foil only stick to black toner?

No. Foil will fuse to all toner image areas regardless of color.

Are any special skills required to produce high quality foil fusing?

No. There is no “makeready” or other special skills required to produce foil fusing. When using compatible papers, printers/toners and foils, operators are only required to set the appropriate speed and temperature for the type of foil and paper being run.

How much does it cost to foil fuse an 8 1/2” by 11” area with gold foil?

Foil costs vary but customers usually figure about \$.06 per 8 1/2” by 11” sheet for gold or silver metallic foil. Keep in mind that metallic colors, pigment and special application foils are typically more expensive than gold and silver.

Do I need a foil cutter?

Yes and no. Customers can purchase foil pre-cut to specific widths but this is often inconvenient and wasteful if you wind up being forced to run a job with a roll that is wider than necessary. Purchasing foil in 24”-25” wide rolls, then cutting the specific width required will minimize foil waste and cost.

Do you have to run a foil width that matches the paper width?

No. Foil fusing only requires that the foil width be slightly wider than the toner image area to be foil fused. Using foil cut slightly wider than the image area, plus the ability to run sheets portrait or landscape helps to minimize foil waste and expense.

What is the maximum paper thickness that can be foil fused?

Around 14 to 15 pt. maximum on the FT-10. You can run thicker papers on FT-15, Manual Foil-Tech and Automatic Foil-Tech models because they have more, and larger diameter, fusing rollers. Even so, maximum paper thickness is limited to around 18 pt..

Can the foil draw be controlled to match the length of the image area to minimize foil waste?

No. There is no foil draw control on a foil fuser. When paper is being fed through the machine and the impression is engaged, foil is drawn at the linear rate of the paper. Foil waste can be minimized using the proper foil roll width and by how the sheet is run through the fuser.

Can rewound foil or fusing film be reused?

No. Foil and fusing film that has been through the fusing mechanism and rewound is waste.

Can I foil fuse on both sides of a sheet in one pass through the Foil-Tech?

Yes. Latest generation Automatic and Manual Foil-Tech models can apply up to two rolls of foil to the top of the sheet and one color of foil to the bottom of the sheet in one pass. Foil-Tech models are sold with a single foil unwind/rewind. Additional unwind/rewind stations are optional.

What happens when toner is applied over offset ink?

The foil will only adhere to the toner image area and will not transfer to the offset ink.

Can I lay down two or more colors of foil within the same image area if the foil areas don't overlap?

Yes. Imprint toner and foil fuse the first color, then apply the second toner image area and foil fuse the second color. All foils have different "laser proof" characteristics, customers need to understand these and their laser printer/copy machine characteristics (see Important Notice on Foil-Tech page of this web site).

Can I produce tight registration, multicolor foil images by running the sheet through the laser printer/copy machine and fuser multiple times?

No. Laser printers and copy machines can not accurately register multiple images imprinted in multiple passes.

Can I fuse "foil on foil" by running the sheet through the laser printer/copy machine & Foil-Tech twice?

Yes and no. Foil can sometimes be fused on foil. However, the top layer of foil often doesn't bond aggressively to the bottom layer of foil. As a result, the top layer of foil may not adhere uniformly or may be scrapped off the lower layer if it is exposed to rough handling. Due to unpredictable results, we do not recommend this process.

Can I foil fuse stocks that are not perfectly smooth, like laid?

Some lightly textured papers can be foil fused. However, foil fusing will not crush the texture flat like traditional foil stamping. As a result, the paper surface texture will show through the fused foil. Foil fusing results on even lightly textured stocks can be unpredictable.

Do different papers affect the foil finish when foil fusing?

Yes. Compatible smooth or coated stocks will provide more of a mirror finish when fusing bright finish gold, silver and metallic colors. Compatible uncoated stocks will foil fuse well but with less of a mirror finish. Keep in mind, paper type and finish also affect the foil finish that can be achieved using traditional foil stamping.

How does paper thickness affect foil fusing?

Foil fusing is a heat process. As a result, thicker papers will require a higher fusing temperature and/or more dwell (slower throughput speed) than thinner papers.

How can I maximize foil fusing speed?

Foil fusing productivity is based on a linear fusing rate for a given type and thickness of paper. Running sheets landscape, whenever possible will maximize throughput.

What is the smallest type that can be used with foil fusing?

We recommend 6 pt. type as a minimum size that can be foil fused without letters plugging. Results may vary depending on the type of printer/toner, foil and paper used, and the fusing speed and temperature.

Can I combine large solid areas at the same time I am fusing small type?

Yes. One of the interesting characteristics of foil fusing is that you can fuse large solids at the same time you are fusing small, fine line type and graphics.

Can sheets be run through an offset press after they have been foil fused?

Yes. Offset printing and/or printing with a digital duplicator will not affect the foil fused image area.

Can sheets be thermographed after they have been foil fused?

Yes. During all our testing, foil fused sheets can be thermographed without damaging the finish on the fused foil.

Can foil image areas be embossed on a second machine after being foil fused?

No. Laser printers and copy machines do not apply the toner image area accurately enough on the sheet to allow the foil fused image to be accurately embossed in a second pass through a letterpress.

Can you foil fuse pre-printed greeting cards and other products that have embossed or foil embossed image areas on the sheet?

Pre-converted social stationery and/or greeting cards, that are to be run on a foil fuser, must be carefully selected for this process. First, these products must be able to run through a laser printer or copy machine to create the toner image. Embossed areas must not be too deep, too sharp edged or too close to the toner image area. Personalization of pre-converted social stationery and greeting cards is a popular foil fusing application with customers. The fusing mechanism does not seem to flatten or harm the embossed image areas.

Can you run pressure sensitive (crack and peel) stock through the Foil-Tech?

Many pressure sensitive papers are suitable for foil fusing. Plastic and synthetic pressure sensitive materials may not be suitable.

Can foil fusing be used for security applications?

Yes. Holographic security foils are available. These foils have micro text patterns. Some customers also use standard holographic pattern foils as a security enhancement.

What are transparent holographic pattern foils and how are they used?

Transparent holographic pattern foils are used to apply a clear holographic pattern effect over single, spot or full color text and graphics. These foils can be used to create a wide range of visual effects.

What is “ThermoEmbossing”?

ThermoEmbossing is a process that allows a foil embossed effect to be created while foil fusing. By applying varying amounts of toner within the image area, the image appears embossed after foil fusing. While this process can add an interesting visual effect, it can only be used on certain stocks.

Can I use white fusing foils on dark colored stocks?

Yes. White pigment foil can be fused on dark stocks, including black. White is currently a very popular fusing foil color.

Can “scratch off” foil products be produced with foil fusing?

Yes. Using the “Freedom Foil” process and special “scratch off” laminating film, scratch off products can be produced with foil fusing.

Can text and/or graphics be foil fused over complex toner backgrounds?

Yes. Using the “Freedom Foil” process and gloss or matte “PermaFoil” laminating films, foil text and/or graphics can be fused over toner background images. This process is used for book covers, tickets, etc.. This process has more recently become known as “Sleeking” which is a registered trademark of GMP Ltd.

Can foil fusing be applied to any clear plastic materials?

Yes. Clear acetate can be run through many laser printers and then foil fused. Please check to ensure your laser printer is suitable before running plastic materials.

Can I foil fuse envelopes?

Yes and no. Foil fusing envelopes presents some unique challenges. When using “lick and stick” adhesive envelopes, the envelope flap must be open when passing through the foil fuser. If the flap is closed, moisture in the envelope, reacting to the heat of the fuser, will usually seal the envelope. This isn’t an issue when running “peel and stick” style envelopes. Another potential issue, when running envelopes, is the variation in thickness over the surface of the envelope due to their die cut/folded/overlapped glued design. Customers who wish to foil fuse envelopes will need to experiment to get the best results.