

A successful die press project is based on proper planning. Consider the following when planning your project.

Assessment

The first consideration involves a general assessment of the project. Review the following questions prior to beginning your die press project.

- **Usage** - How will the piece be used? Will it be used immediately or will it be further processed in a printer or copier?
- **Handling** - Will the pieces be packaged flat or will they be shipped fully assembled? Will standard corrugated cartons work for shipping or will a special package need to be ordered or manufactured?
- **Printer Compatibility** - Will the sheets be used in a laser or inkjet printer? Some foils are laser-receptive but require testing in the exact printer to ensure compatibility.

Design and Layout

The second consideration involves making design and layout decisions based on the processes and capabilities of the finishing equipment. Review the following questions prior to beginning your die press project.

- **Bindery Processing Size (Run-size)** - What is the run-size range that can be processed using automated or semi-automated equipment? Can the layout of the piece be changed to fall within this range? What run-size limitations exist when manual processing becomes necessary? Review the Die Press Equipment Specifications table for answers to these questions.
- **Trimmed Finished-Size** - Have all finishing services been considered and designed into the trimmed, finished-size dimensions? Have all trim marks been added and double-checked for accuracy? Review the Die Press Equipment Specifications table to ensure that the trimmed finished-size of your piece can be processed.
- **Gutter Spacing** - How much space is required on the binding edge of document covers to avoid punching through foil stamped or embossed graphics? Review the Binding System Specifications table in the Document Finishing section to ensure that proper binding-gutter spacing is available for the type of binding system you will use.
- **Foil Colors** - Do you need a quick turnaround using inventoried house foil or do you want a custom foil color shipped in that matches a specific color? Review the Element Colors section on our website to determine if the color you have chosen is available with the binding system you plan to use.

Artwork and Dies

The third consideration involves making artwork and die decisions. The quality of your finished project is directly related to the quality of your artwork and dies. Review the following options when supplying your artwork and dies.

- **Artwork Types** - There are generally three types of artwork used to create a die. Each type is detailed below.
 - **Digital Artwork Files** - Digital artwork is the best artwork type because it can be repurposed for a variety of projects and printed to a multitude of output devices. It can be used to create every die type as detailed below.

- **Film Positives** - Film positives can be used to create steel rule dies, as well as, copper and magnesium foil dies.
- **Film Negatives** - Film negatives can be used to copper and magnesium embossing/debossing dies.
- **Reflective Copy** - Reflective copy has limited use as artwork due to the need to capture and digitize the copy. Scanning is the most common method to digitally capture reflective copy, but the resulting rasterized image file is not the best file type to use.

- **Digital File Types** - Two options exist to create digital images used to manufacture cutting and stamping dies. Each type is detailed below.
 - **Vector Illustration Files**
 - a) Are created from scratch with illustration software such as Adobe Illustrator.
 - b) Generate an image that consists of stroke (outline of image) and fill (color that fills inside of outlines) components.
 - c) Can be reduced or enlarged without loss of resolution.
 - d) Can be used without much manipulation or programming in computer-based, steel-rule bending and CNC machining equipment.
 - e) Create the most accurate steel-rule dies and the most detailed stamping dies.
 - **Rasterized Image Files**
 - a) Are digitally captured with a scanner or camera.
 - b) Generate an image that consists of millions of dots.
 - c) Can only be reduced without loss of resolution. Enlargement can create pixilated or rough final images.
 - d) Are used to create film negatives for chemically etched copper or magnesium dies. These files may be used in CNC machining equipment, but require additional programming. Additionally, these files cannot be used in steel-rule bending equipment.
 - e) Create stamping dies with moderate to low detail.

- **Die Types** - There are five die types used with die press projects. Quite often, you will have multiple die options with just one being the best. The following details provide the pros and cons of each die.
 - **Steel Rule Die**
 - a) Best used for cutting, kiss cutting, creasing and perforating
 - b) Best kiss cutting die choice when cutting shapes that have straight lines or smooth curves
 - c) Made of hardened and sharpened steel
 - d) Created by computer-based laser-cutting and bending equipment from a digital file.
 - e) Will become dull over time depending on the number of impressions cut and the type of material being cut. If this happens, we will determine if the die can be re-knifed or if a new one must be ordered
 - **Brass Die**
 - a) Best used for foil stamping, embossing and debossing. Can be also be used for kiss cutting and creasing.
 - b) Best kiss cutting die choice when cutting shapes that have tight curves and fine detail
 - c) Mechanically engraved with CNC equipment from a digital file.
 - d) Best choice when fine detail is required.
 - e) Can be used when hand sculpting is necessary to create a die.
 - g) Used for long run stamping lengths between 200,000 and 1,000,000 impressions. Kiss cutting run lengths are much shorter.
 - g) Bevels are crisp and accurate
 - h) Highest price with highest quality of all stamping dies

- **Copper Die**
 - a) Best used for foil stamping, embossing and debossing.
 - b) Chemically etched with a caustic solution using film.
 - c) Shows better fine detail than magnesium, but not as good as brass.
 - d) Used for medium stamping run lengths between 100,000 and 200,000 impressions.
 - e) Bevels have a better appearance than magnesium, but not as good as brass.
 - f) Medium price with medium quality of all stamping dies
- **Magnesium (Mag) Die**
 - a) Best used for foil stamping. Can be used for embossing and debossing.
 - b) Chemically etched with a caustic solution using film.
 - c) Most economical of all die materials.
 - d) Poor choice when fine detail is required. Fuzzy, rather than crisp, foil edges are the common.
 - e) Used for short stamping run lengths up to 25,000 impressions.
 - f) Bevels have more of a rounded appearance due to softness of metal
 - g) Lowest price with lowest quality of all stamping dies
- **Counter Die**
 - a) Acts as the mate to the embossing die to provide equal pressure on the back of the sheet being pressed
 - b) Can be CNC machined when used with brass or copper dies or etched when used with magnesium dies. If an existing die set has a damaged or missing counter, we can cast a new one from a material similar to dental epoxy. This "cast" counter die can be used with bronze, copper and magnesium dies.
- **Die Sources** - There are four die sources for dies used with die press projects. Guidelines for each are listed below.
 - **House** - Your custom artwork can be added to one of over 100 house die templates downloadable from www.flexfinishing.com.
 - **New** - You can create a custom die line, if one of our house dies will not meet your project goals.
 - **Customer Supplied** - You can supply an existing die or one you had created specifically for the project. The following details apply to customer supplied dies.
 - a) Steel rule dies supplied by the customer may require die modifications (ie. notching steel rules or trimming die boards) to ensure compatibility with our equipment.
 - a) Brass, copper and bronze stamping dies may also need to be trimmed to work with our equipment.
 - **Inventoried (On-File)** - You can keep your dies on file at our facility and eliminate filing and transportation headaches.

Proofing and Dummies

The fourth consideration involves the die press proof and dummy. Review the following questions prior to beginning your document.

- **Proof** - Is the text complete and have all graphics been included? Has the text been spell checked? Do the margins provide enough space for die cutting and any additional punching/drilling? Have all borders or graphics that bleed been oversized to ensure that they actually will bleed? Have you confirmed the accuracy of your layout by creating a dummy?
- **Dummy** - Is the layout correct based on cutting the dummy to its final size? Have die cuts, stamped areas and finished trim size details been communicated? Does the dummy match your purchase order exactly?

Stock

The fifth consideration involves making stock decisions. Review the following questions prior to beginning your die press project.

- **Weight** - Is the stock an appropriate weight for the project? Will the weight create splitting or cracking problems during creasing, folding or embossing operations? Is the stock too "spongy" to properly foil stamp, as text and detailed images may "fill-in" (thicken to the point that letters or graphics touch each other)?
- **Finish/Texture** - How well will the foil adhere to the sheet? Will foil "pick" (not adhere) if the sheet is too textured? Will the finish become marred or scratched during any finishing processes? How will the finish and texture of the sheet affect the reflective properties of the foil. Remember, the more calendered the stock, the better the reflective properties will be. Cast coated stocks are the best when high reflection is required.
- **Color** - Because the underlying stock color affects the color of translucent foils, will you need to select a different translucent foil.

Printing

The sixth consideration involves making printing process decisions. This decision is most often based on economics, but must also include a review of finishing requirements. Review the following questions prior to beginning your die press project.

- **Offset Printing** - Will your run length make economic sense to run on offset equipment?
- **Digital Printing** - Will you get the image quality you need with digital printing? Can you run the stock specified for the job or will you need to substitute a different stock due to the printer? Will the printed material stand up to bindery processing or will it need to be coated to eliminate marks or scratches? Will the printed images stand up to folding and creasing without flaking or cracking? Will the digital printer hold sheet-to-sheet register well enough to correctly finish your project?

Packaging and Transportation

The last consideration involves making packaging and transportation decisions. Review the following questions prior to beginning your your die press project.

- **Packaging Method** - Will documents with digitally printed covers require a paper or foam separator sheet be placed between each set? Should I use standard corrugated cartons and pallets or will I need to purchase custom packaging?
- **Transportation Method** - What one best method will ensure that the material is delivered to the correct location, on time, without damage and at a reasonable cost?