efi *Productivity Suite*

EFI Metrix Tech Note:
Irregular Shape Products and Multiple Contour Lines

Version 2020.2

Table of Contents

Irregular Shape Products and Multiple Contour Lines

What It Is

Earlier versions of Metrix could identify only cut lines (previously called "dielines") in PDF files that contained them. In Metrix 2020.2, multiple contour lines, such as crease, fold, and perforation lines, can also be identified. The different types of lines are all referred to as "contour lines" in Metrix. Contour lines must be defined as spot colors in the PDF file. If the color name contains "cut" or "die," Metrix automatically assumes they are cut lines, but any spot color name can be identified as a contour line associated with a specific Cutter Operation.

How it Works

Irregular Shape Using Contour Line in Content File products are different from Die-cut Using Die-cutting Tool products in that no physical die is involved with the former. Irregular Shape Products must be cut with a Digital Cutting Machine. For information on configuring Digital Cutting Machines, including adding additional Cutter Operations, see *Tech Note: Digital Cutting Machines.*

Metrix determines the cutting costs by calculating the length of the Cutting contour line and the complexity of that contour, which affects the speed of the Digital Cutting Machine. In order to make those calculations, Metrix must first know which Contour Line to associate with which Cutter Operation. This is done at the product level, but if there are frequently used spot color names that are associated with specific Cutter Operations, you can add those patterns to the database.

Adding Spot Color Name Patterns to the Database

Spot Color Name Patterns are frequently used color names for different types of Contour Lines. For example, "Cut Line" might be used as the spot color name for the Cutting contour line in many products. These frequently used Spot Color Name Patterns are stored in the database. Metrix then uses these patterns to make a "best guess" as to which Contour Line names to associate with which Cutter Operations.

To add a Spot Color Name Pattern to the database:
1. In the database, open a Digital Cutting Machine for editing, or create a new or variation machine.

2. Click the **Cutter Operations** button. The Cutter Operations dialog opens and is pre-populated with a Cutter Operation named "Cutting"; the Spot Color Name Patterns for Cutting includes "die*". The asterisk (*) is basically a "wild card" placeholder, so any spot color name that includes "die," such as "dieline," will automatically be associated with the Cutter Operation "Cutting" when you create a new product, but you can change that if necessary.


3. To add a new spot color name to the list of patterns, type a comma after "die*"and then add a Spot Color Name Pattern such as "cut*." Any spot color names that include "cut" will be associated with the Cutter Operation "Cutting." Spot Color Name Patterns will be available for all digital cutting machines, not just the one you are currently editing.

Adding a New Product

In the New Product Wizard, the Product Type "Die-cut using Dieline in Content File" is now called "Irregular Shape Using Contour Line in Content File".
1. In the New Product wizard, in the Product Type screen, select **Irregular Shape Using Contour Line in Content File**.

2. In the Contour Line File screen, click the **Select…** button and then browse to the desired PDF content file. A preview of the selected file appears in the right side of the screen, and a list of spot colors contained in the PDF file appears on the left side.
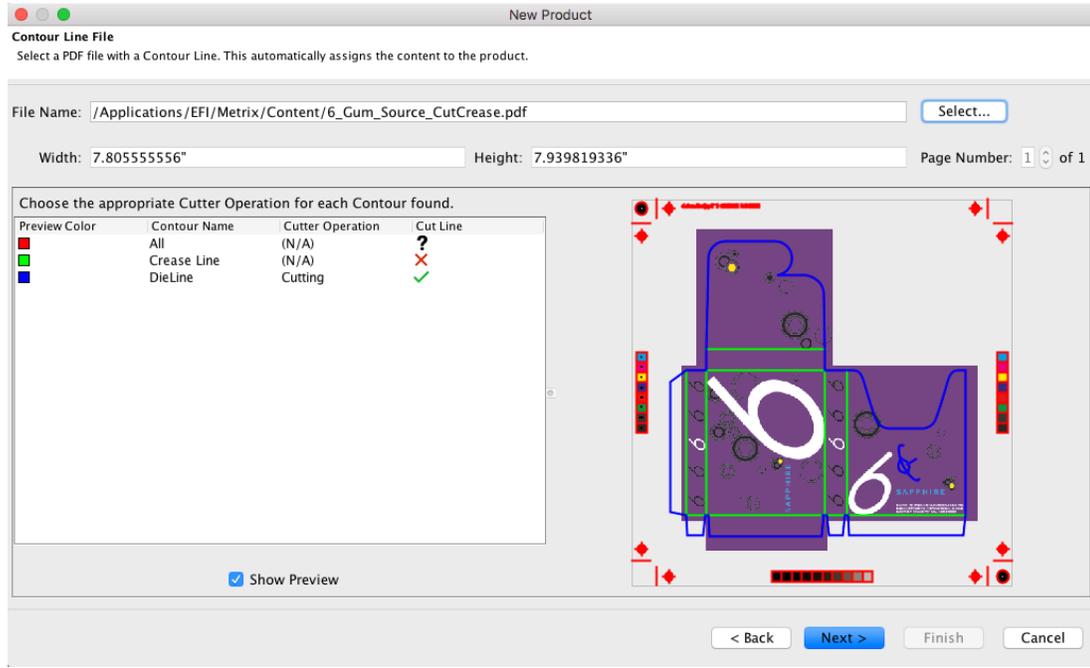
- The **File Name** and path, **Width**, and **Height** fields are automatically populated.
- The **Page Number** selector allows you to choose which page you want to use if the PDF file has multiple pages.
- The **Preview Color** column shows the color of the contour line as it appears in the preview. When the cursor hovers over a Preview Color, only that Contour Line displays in the preview so you can easily identify each Contour Line.
- The **Contour Name** column shows the name of the color as described in the PDF file.
- The **Cutter Operation** column shows the operation associated with the specific color. All Cutter Operations for all digital cutting machines in the database appear in the pull-down menu.
- The **Cut Line** column shows the status for each Contour Line.
  - A green checkmark indicates it is a valid cut line.
  - A red X indicates the Contour Line is not a valid cut line so it cannot be associated with the Cutting Cutter Operation.
  - A black question mark may appear temporarily; this indicates Metrix is validating the Contour Line. Complex Contour Lines may take several minutes to validate.

3. To reassign the color to a different Cutter Operation, such as Crease, Fold, etc., click on the Cutter Operation field for that color and select a different operation.
4. Click **Next** to finish creating the product as usual.

Notes:

- If the selected file contains multiple pages, one or more of which contain Contour Lines, you can view each page in the PDF by toggling through the Page Number list to find and select the one you want to use.
- Metrix will validate the Contour Lines to determine if it meets the criteria for being a Cut Line. Some Contour Lines may be very complex; Metrix may take some time to validate them, during which time a black question mark appears in the Cut Line column. Extremely complex Contour Lines may never be

validated. If a Contour Line has not been validated within several minutes, click Cancel and select a different file or edit the file to be less complex.

- The files used to create Irregular Shape products must contain at least one Contour Line in a spot color, and the Cut Line must be a closed path. If there is a gap of 5 points or less, Metrix will automatically fill in the gap. If the gap is greater than 5 points, the Cutting operation will not be available.

Editing Cutting Line Mapping

To edit the Cutting contour lines' cutter operation assignment:

1. Select the Product in the Project Explorer.
2. In the Properties, select **Cutting Line Color**.
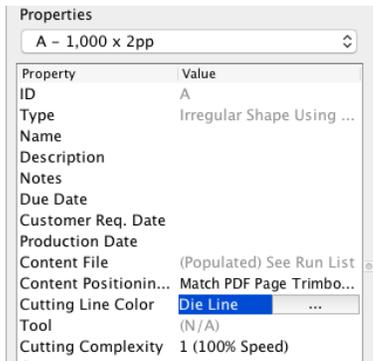
3. The Contour Line File dialog opens. To change a Contour Line's associated Cutter Operation, click in the Cutter Operation column. All available Cutter Operations are listed in the pull-down menu. If there is a red X in the Closed Path column, the Contour Line is not a closed path and it cannot use the Cutting Cutter Operation. A black question mark indicates Metrix is validating the Contour Line.
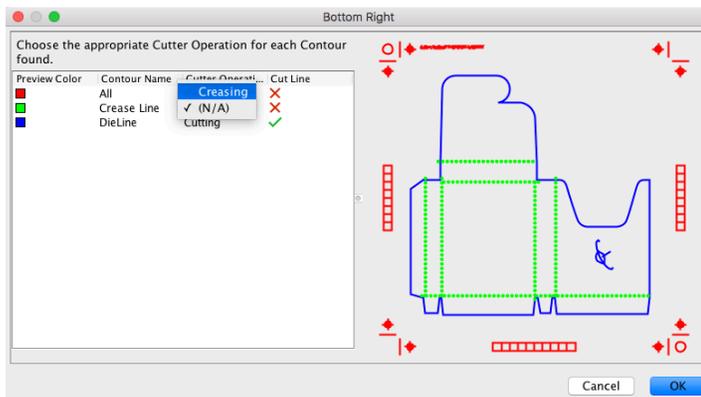
Cutting Complexity

Cutting Complexity is a user-defined Product Property that tells Metrix how difficult a product is to cut when a Digital Cutting Machine has been selected for the project. Cutting costs are based on the amount of time it takes to cut a product. The default Cutting Complexity for all products is "1 (100% speed)." This means the Digital Cutting Machine can operate at full speed when cutting this product. If the cutting contour line of a product is very complex, the Digital Cutting Machine may need to move at a slower pace, for example, "5 (60% speed)."
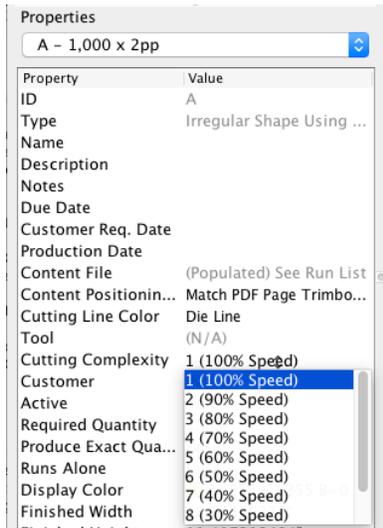
Limitations:

Cannot save standards for nested irregular shape products. This will be added in a future release. (Issue Reference: METRIX-14687)

Associated issues:

METRIX-14469
METRIX-14608