

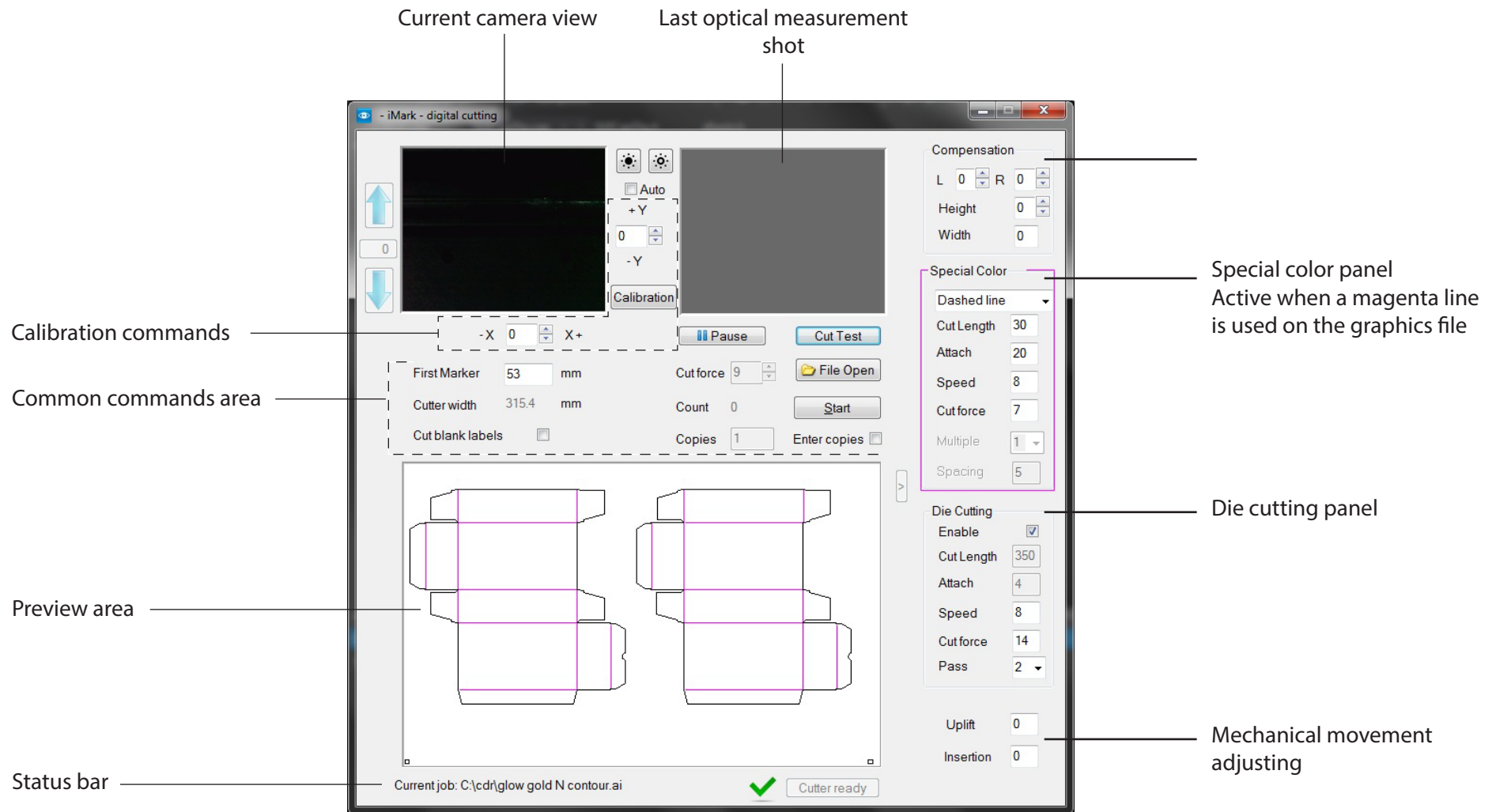
iMark software panel layout

The iMark software allows to handle all the functions for the automation of the digital cutting process.

It may import files saved in AI format from Adobe Illustrator and EPS format from CorelDraw.

Several options are available to set the proper cutting parameters.

Specific parts of the software panel are dedicated to the optical camera and the mechanical movement of the feeder.



Graphics file design

It is advisable to organize the graphic design in different layers.

One or more layers for the main graphics.

One layer for the contour.

One layer for the markers.

Before sending the file for printing you have to enable the graphics layer and the marker layer.

Before you save the file for cutting you have to enable the contour layer and the marker layer.

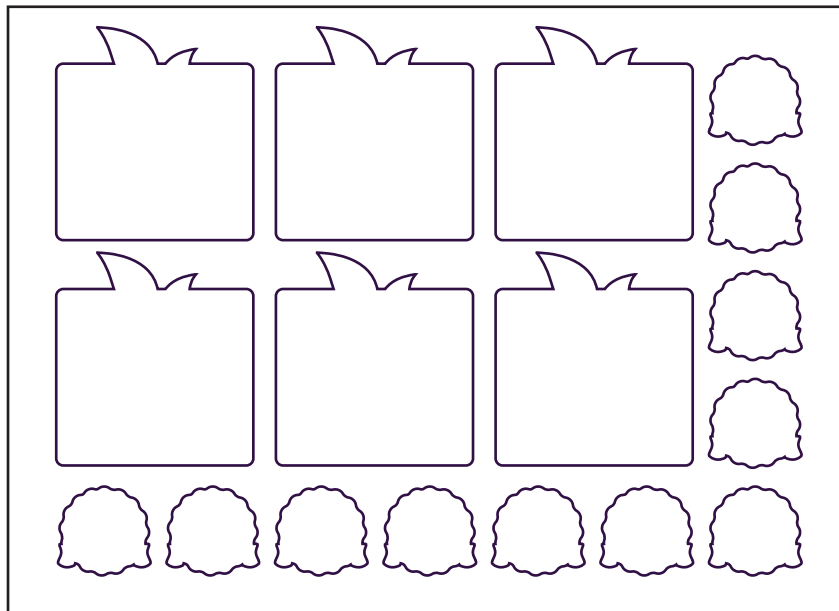
The most common error is to print all the layers including the contour layer that make the prints unusable in most of cases.

Similar commands are available in Adobe Illustrator and Corel Draw to enable and disable the layers.

On the pictures in this page there is an external frame that shows the border of the sheet, the frame has not to be designed and saved.

When you open in Illustrator or CorelDraw a file in PDF format, very often you find an external frame on the graphics, you have to delete it to operate correctly with the iMark software.

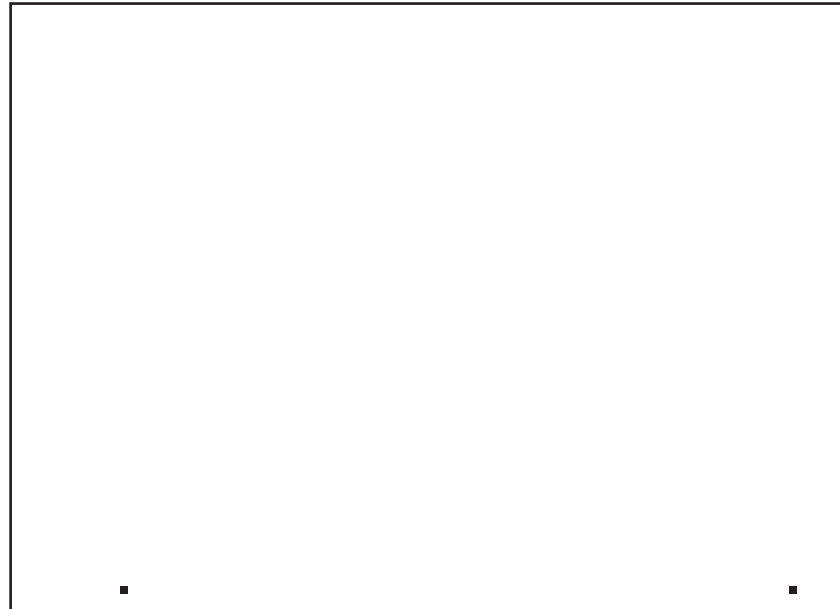
Cut contour layer



Graphics layer

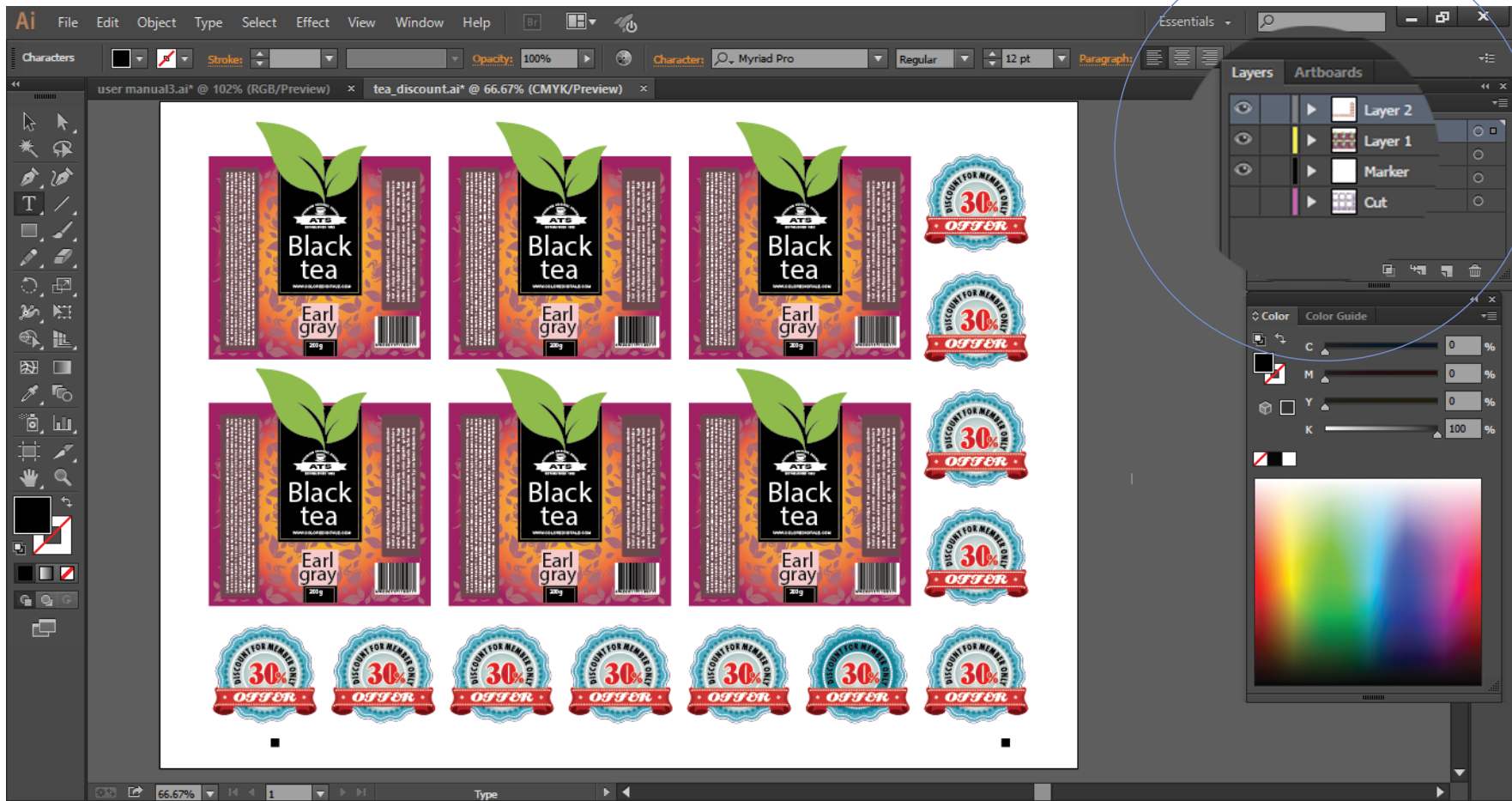


Markers layer



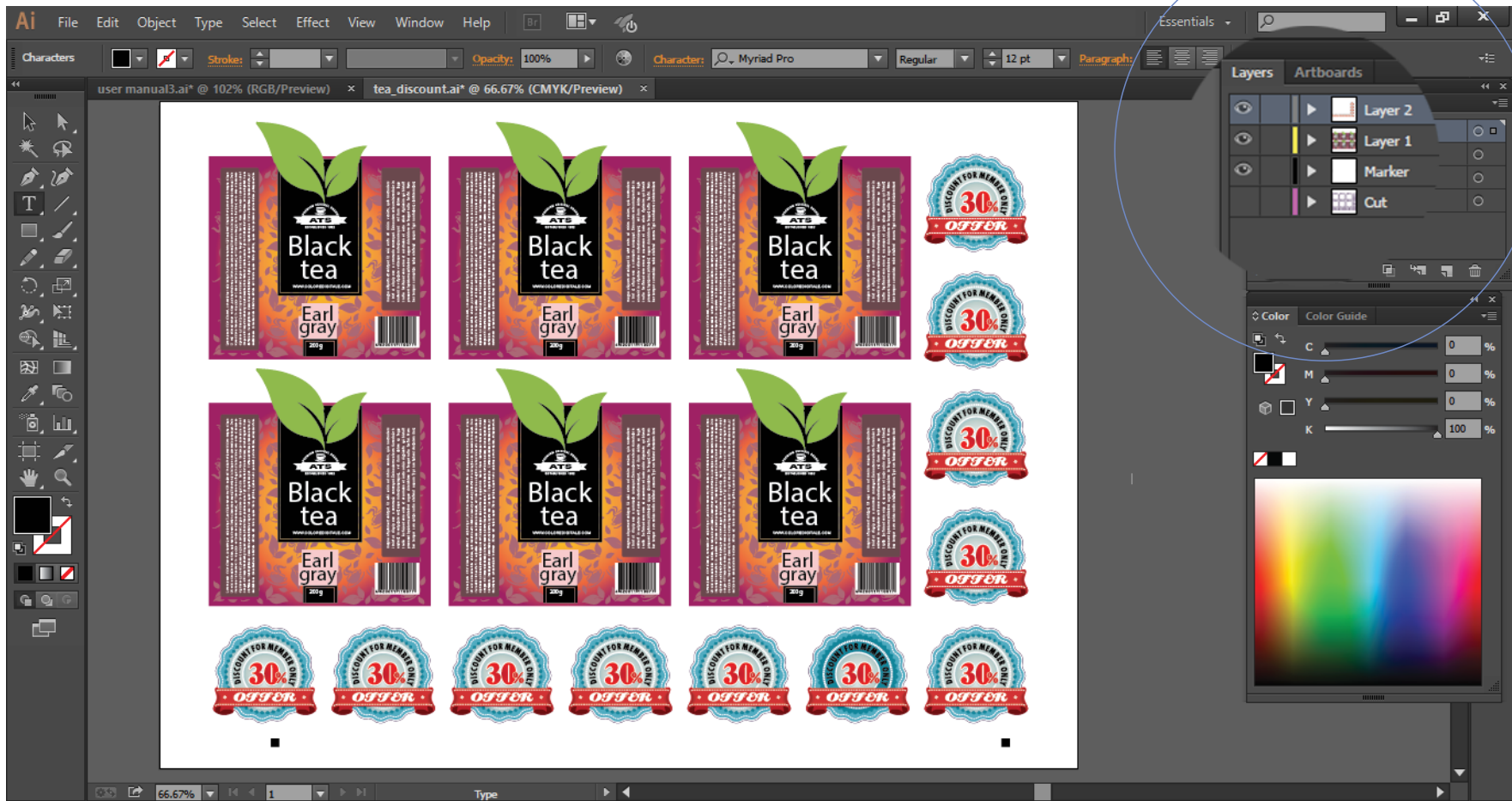
Layers for printing

In this example, the main graphics layers and the markers layer are active.
The cut contour layer is disabled.
This drawing is ready for printing.



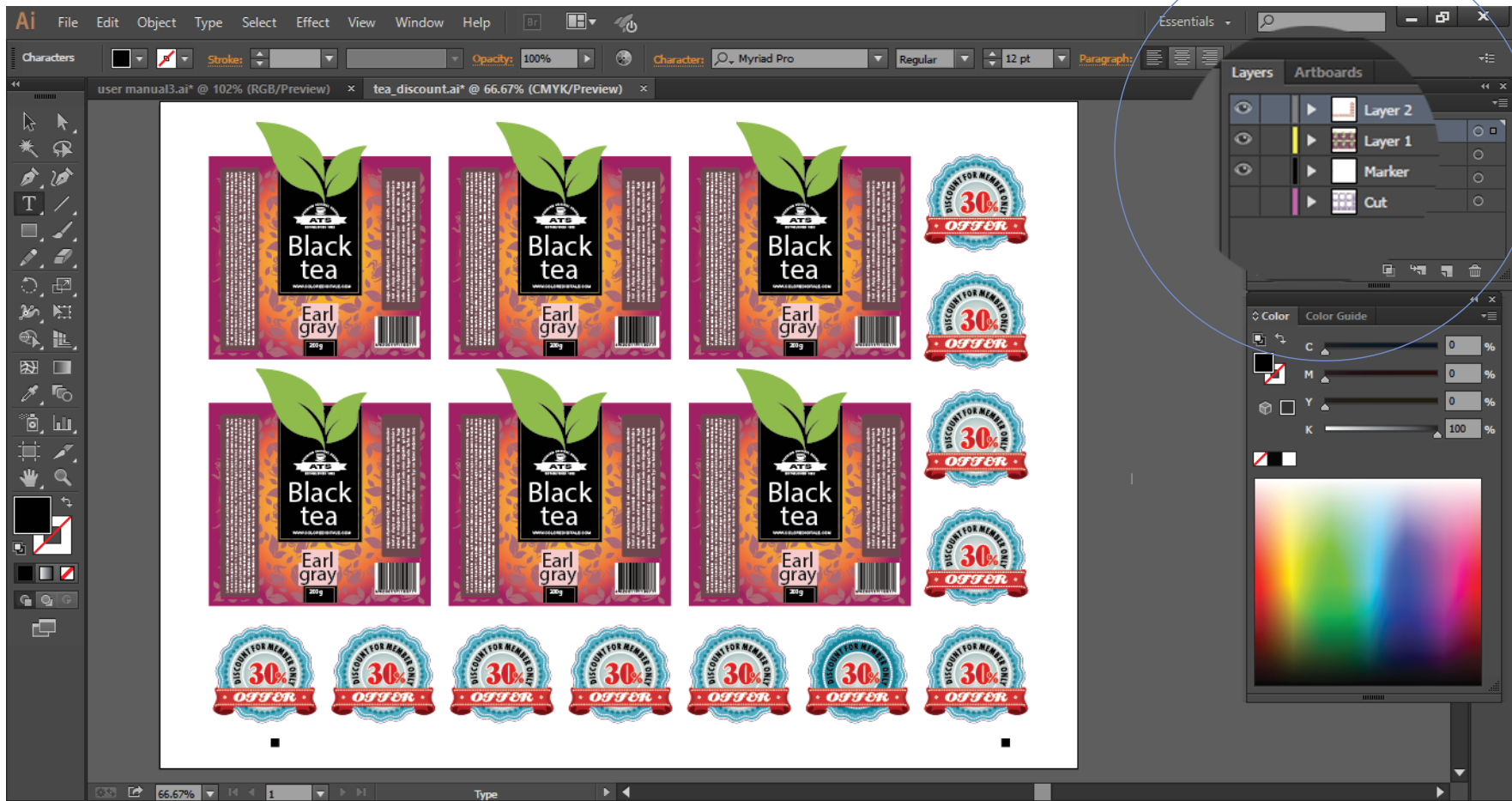
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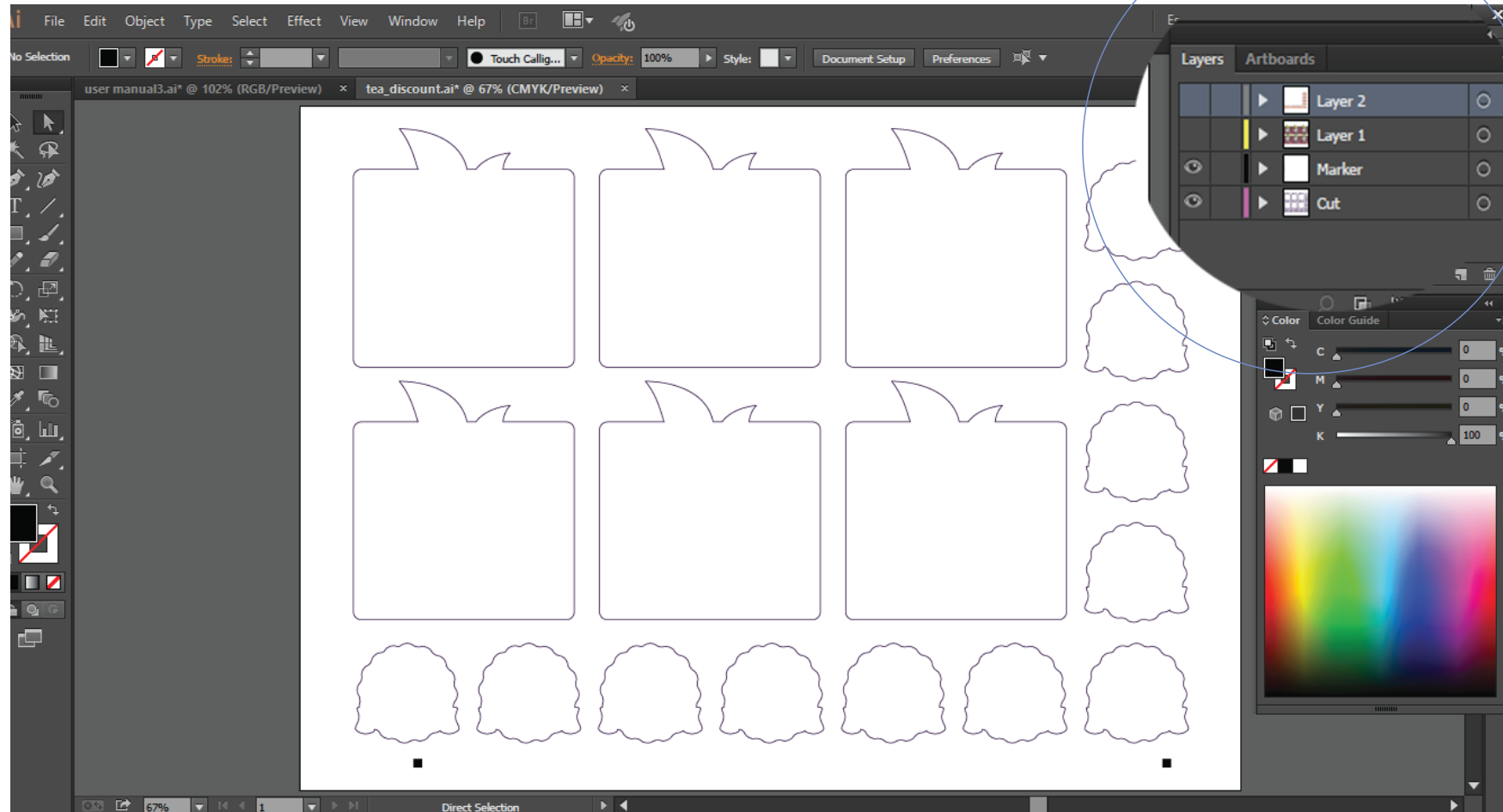
Layers for cutting

In this example, the main graphics layers are disabled.

The cut contour layer and the markers layer are active.

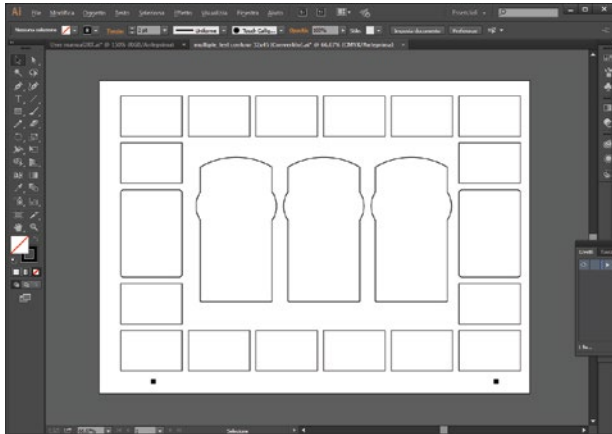
This drawing is ready for cutting.

If you used the guidelines, remember to hide or remove them before saving.



Save file for cutting

The graphics must be saved in horizontal (landscape) view.



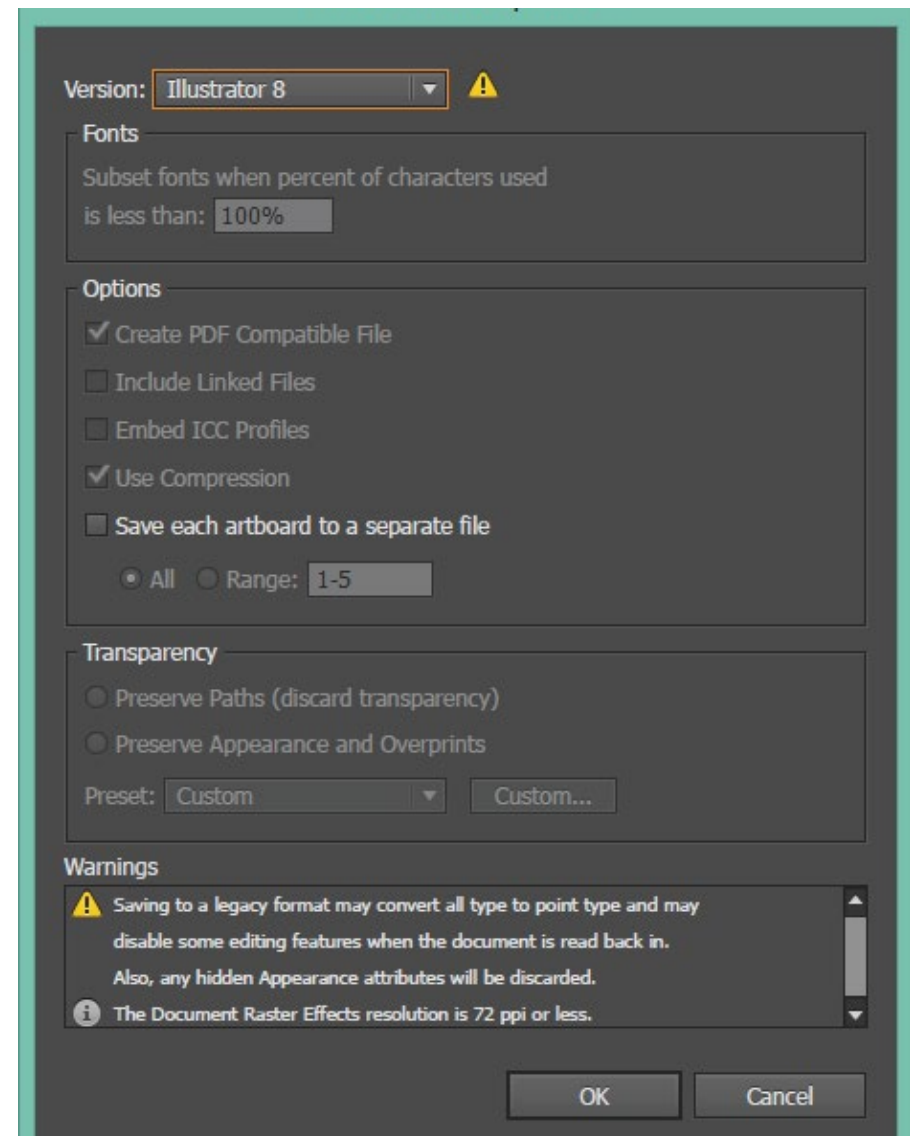
You do not have to use a particular thickness or color for the cut profile. The lines in magenta color are treated separately on iMark software. The black marks must be objects at the bottom of the graphics. You can use every version of both Adobe Illustrator and CorelDraw.

Adobe illustrator export

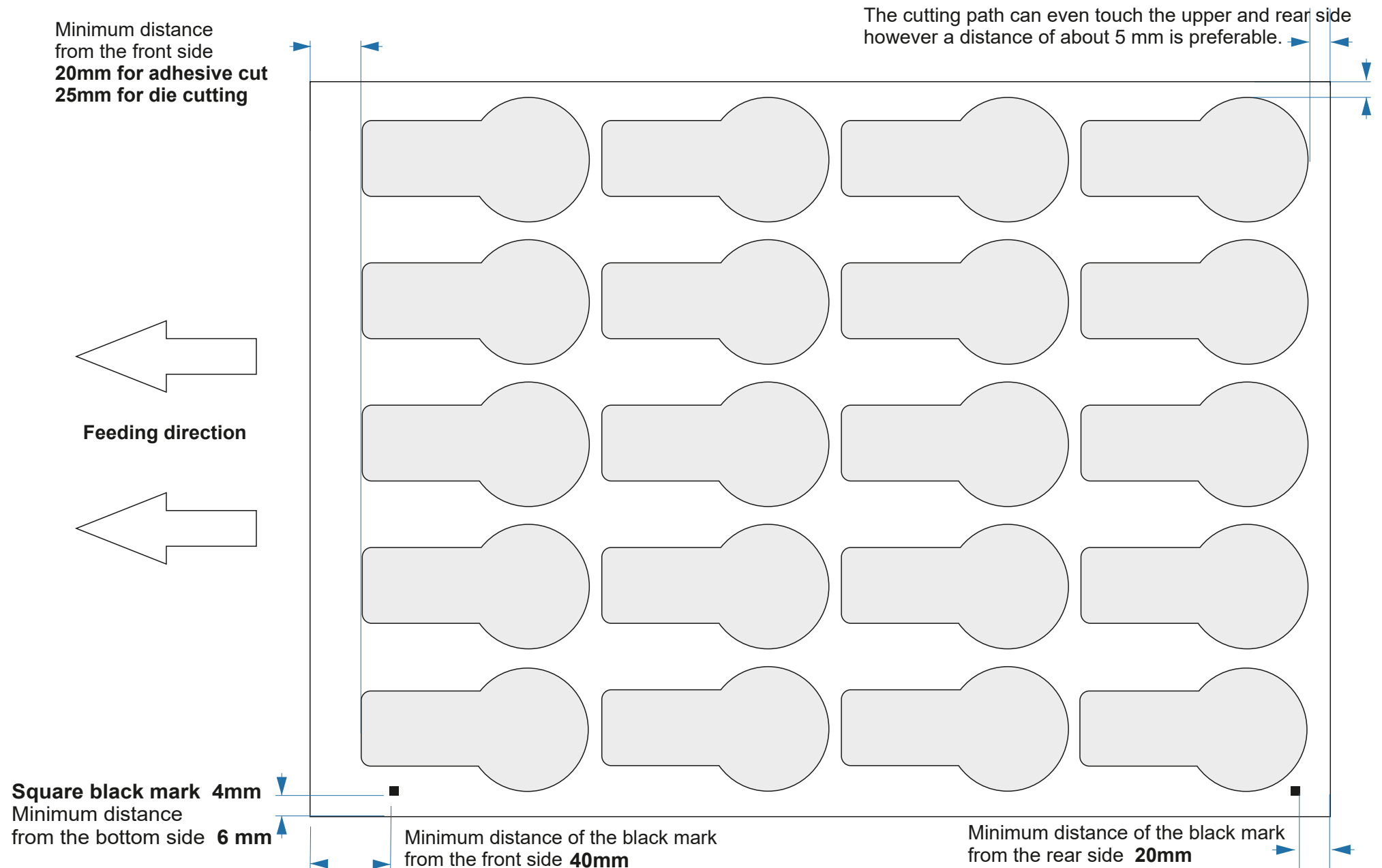
In Adobe Illustrator, you have to save the cut path and the black marks in **illustrator 8 format**. This file is for cut contour only, save it with a different name to the main file containing the full graphics.
e.g. complete graphic file: acme_labels.ai
cut file: acme_labels_contour.ai

Corel Draw Export

From CorelDraw you have to export in EPS format. You can export by using the option 'Selection only' to save the contour and markers only



Black marks position and cutting area



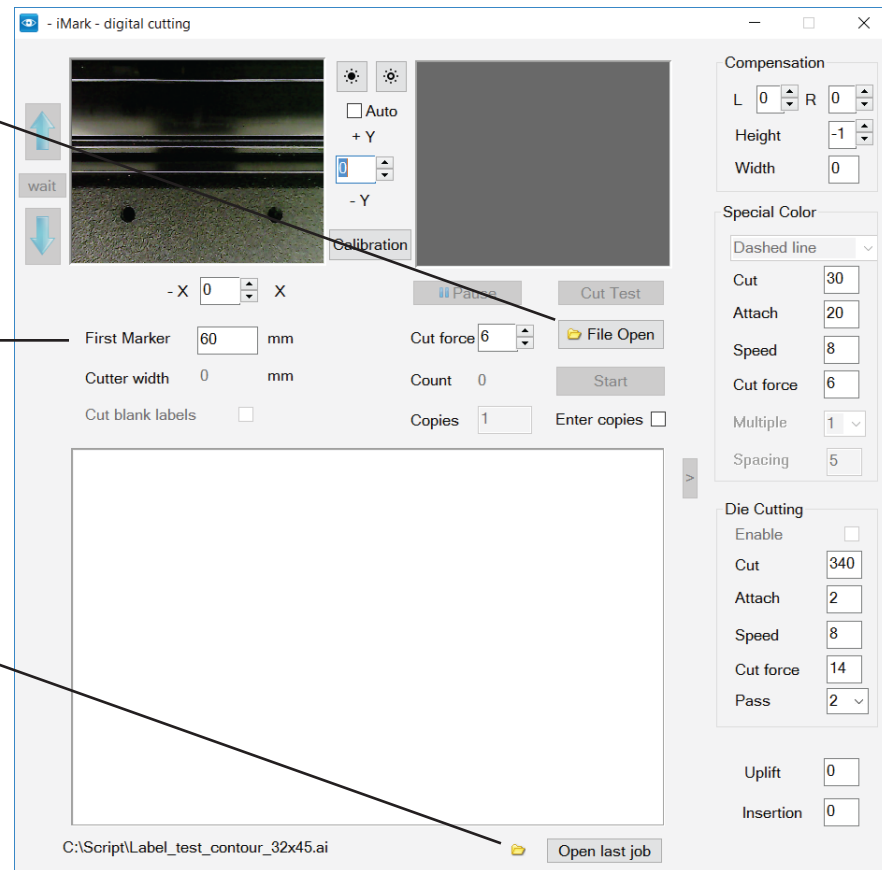
Open a file for cutting

The 'File Open' button is placed centrally on the software panel

If a file in AI format has not been saved in Illustrator 8 format you get the message:
'Graphic file not saved correctly'

The 'First Marker' value is the distance between the side of the left marker to the border of the sheet.
This setting accepts a tolerance of about 5 mm, if the value is completely wrong the first marker does not stop in a central position under the camera.
In that case you get the error:
'Marker not found'

The button 'Open last jobs' is a shortcut to open the last file used in a previous session.
The name of the last file, when available, is reported beside.

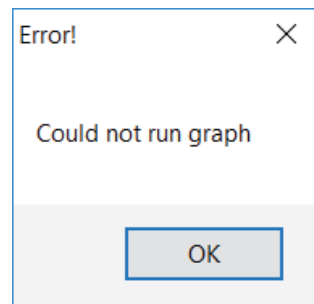
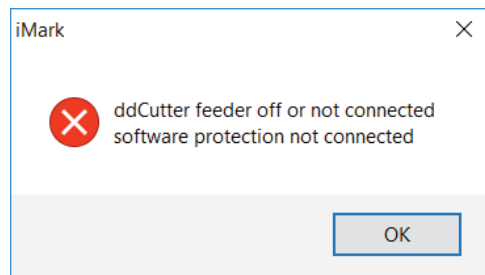
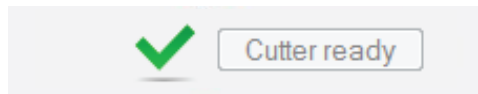
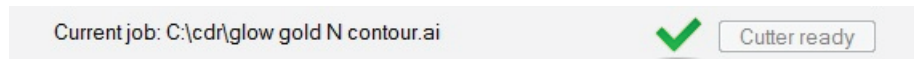


The minimum distance between the black mark and the printed graphics is 5 mm. If the graphics is too close to the black mark you can get the error:
'Marker not found'

Most of digital printer can print up to 5 mm from the border of the sheet, we suggest a minimum distance of 6mm between the black mark and the bottom border of the sheet.



Status and error messages



After you have loaded a file for cutting, on the status bar changes and there you find the name of the current job and the status of the cutting plotter.

If you get the message 'Cutter off line !' it means that the cutting plotter is not available at all.

Then turn on the plotter and make sure that the USB cable is connected to proceed.

If you get the message 'Load Media' it means that the cutting plotter is connected but it is not ready to use, there is the message 'Load media' on the display of the plotter.

You have to raise the media lever and press button #2 on the cutting plotter panel.

When 'Cutter ready' is displayed the 'Cut Test' and 'Start' buttons are enabled.

When you press the button 'Cut test' or 'Start' and you get the message error: ddcutter not connected...

You have to turn on the switch of the feeder, and check that the green light on the switch is on.

If you continue to have this message check the USB connection.

The error message 'Could not run Graph' is possible if the camera is not connected to the computer. You get the same error if you try to run more sessions of the software.

When you check the USB connection you have to verify that the camera is connected to the USB hub and the USB cable is properly connected on the computer and on the hub side.

The same error is possible if you try to open multiple sessions of the software.

Basic operations and settings

The camera brightness adjustments may be useful when operating on critical luminosity condition.

Fine adjustment of the cut position, the values are in tenth of millimeters.

This is the maximum cutting width it depends on the position of the push rollers on the cutting plotter.

The 'Cut blank labels' option allows to cut without reading the black marks. You have to put the black marks on the graphics even though they are not read.

The 'Pause' button stops temporarily the job you can press the same button that become 'Resume' to continue the job.

The 'Cut Test' button allows to cut a single sheet for test, allows you to adjust the cut force and the alignment between the graphic and the cut path before you execute the work.

The 'Cut force' value sets the pressure of the blade on the cutting plotter.

The 'start' button launches the work and counts the labels cut on the 'Count' box.

If you select the 'Enter copies' option you can enter the number of copies to execute on the 'Copies' box.

It is strongly recommended to use the 'Cut test' button before the automatic execution of the work. You may check the cut alignment and the cutting force.

Since the blades is consumed gradually during the work, you have to set a cut force for a neat cut of the adhesive media.

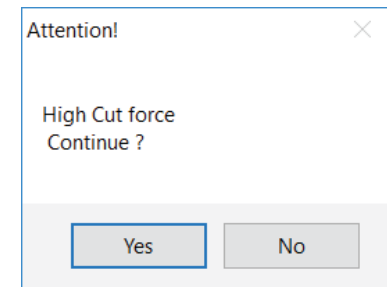
You should verify that the label peel off perfectly and that the blade have slightly marked the liner. When you are cutting hundreds or thousands of sheets, remember check the cut quality when you put a new load of sheets on the feeder.

When the blade is new the cut force setting for an adhesive media may vary from 6 to 9.

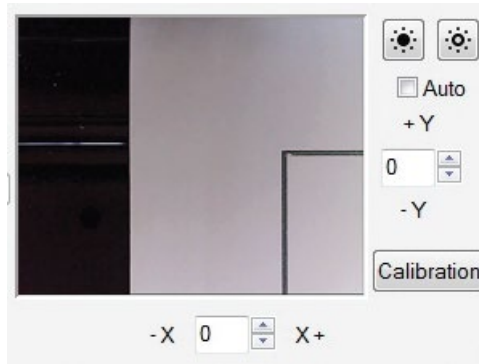
If you set a force higher than 14 you get an message warning when you press 'Cut test' or 'Start':
Cut force too high - Continue ?

It is an informative message, you can press 'OK' to continue.

If you are using a standard adhesive media, when you exceed a cut force of 14, it is time to replace the blade or at least to check if you have a spare one to replace soon.



Print and cut alignment



The **Y** adjustment next to the preview allows you to set the vertical position of the cut line

By increasing the Y you move the cutting upwards.

By decreasing the Y you move the cutting downwards.

The **X** adjustment allows you to set up the horizontal position of the cut line

By increasing the X you move the cutting rightwards.

By decreasing the X you move the cutting leftwards.

The change of position is in tenths of a millimeter.

The adjustment is necessary the first time you install the cutter.

When you press the 'Start' button the values are memorized and the following adjustments start from a 'zero' value.

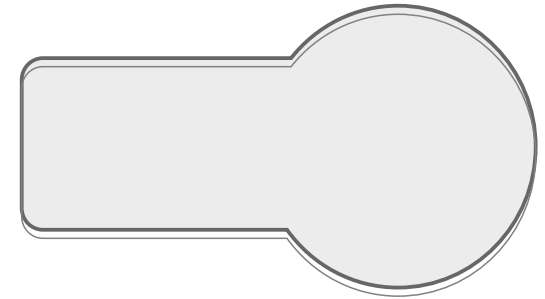
Small variation can be inserted also during the processing;
every variation will be effective from the next sheet.

The 'Calibration' button allow a cut-peel-measure procedure to find the proper alignment between printed graphics and cut path.

You have to insert manually one of the black adhesive sheets provided.

Lower the media lever, insert manually the sheet, rise the lever and press the key #2 on the panel.

in this case the cut line is 0.5mm too low
set 5 on the Y value to move it higher.

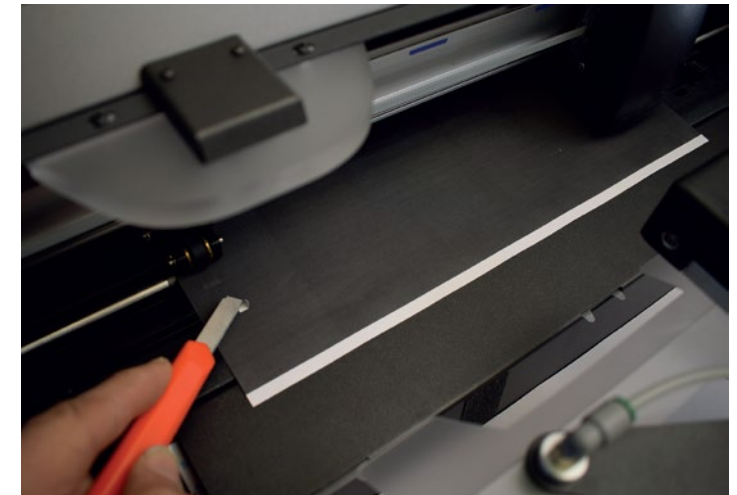
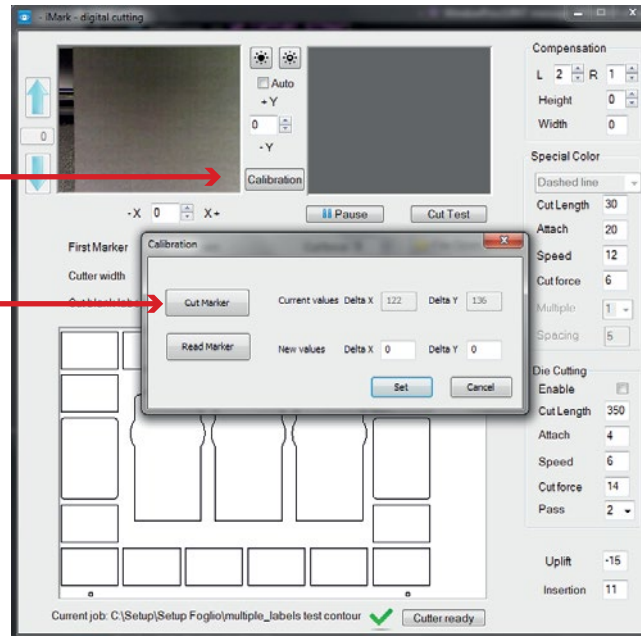


If the black adhesive sheets for the calibration procedure were not available you can print the file caliblack.pdf available among the sample files.

The sheet must be in a central position between the push rollers
You can align it with the edge of the feeder to keep it straight.

Press the 'Calibration' button

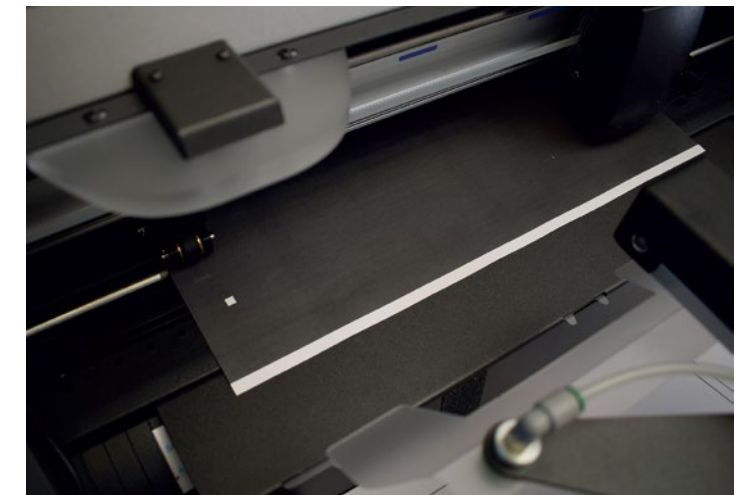
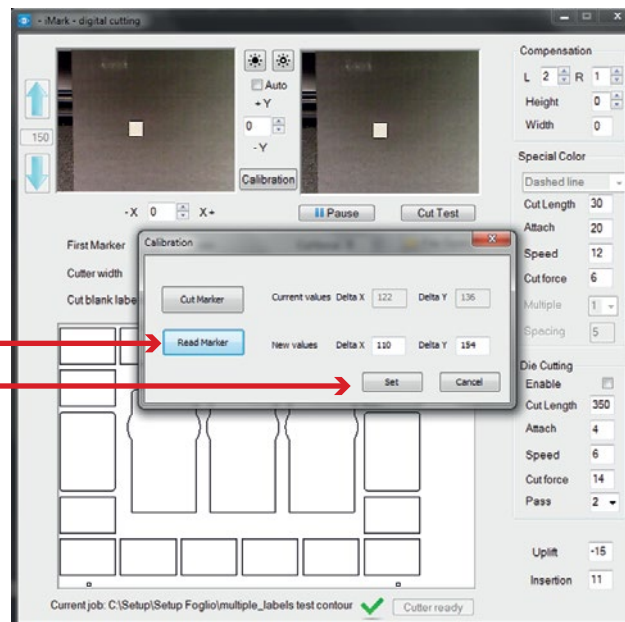
When you press 'Cut Marker' the plotter cuts a small square.



Remove the small square adhesive to expose the white liner

Press the 'Read Marker' button to read the calibration values

When you press 'Set' you store the values that are specific for the camera installed on your plotter.



When you have finished you can remove the calibration sheet you have to rise the media lever, press the key #2 on the panel then you can cut a sample sheet to check the alignment.

Compensation

With the XY adjustment, you can reach the maximum precision on the bottom part of the print.

The digital prints are in most cases affected by some distortions, the optical detection of two black marks, on our system allows an high precision near the black marks, while some supplemental setting is useful to compensate other distortion on the print. The distortions are often constant for each printer.

The L parameter sets the cut position in the **upper left** area.

The R parameter sets the cut position in the **upper right** area.

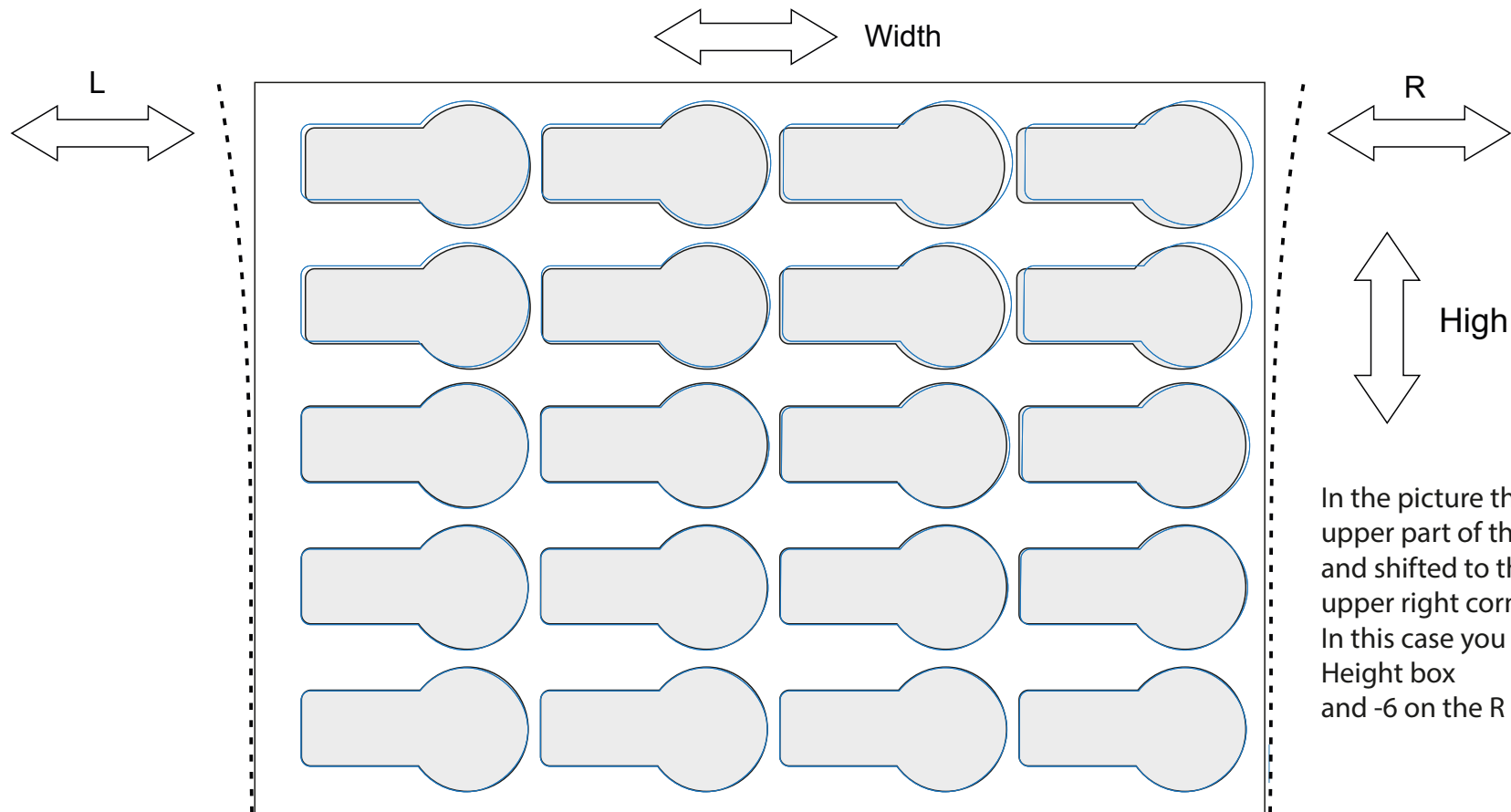
The Height parameter expands the cut path on the height.

The measurer are in tenths of a millimeter.

You have to cut a test sheet and check the distance between the cut and print on the upper part.

The parameter Width expands the cut path on the width and is used when you cut without the detection of the black marks.

Compensation			
L	0	R	0
Height	0		
Width	0		



In the picture the cut path on the upper part of the print is too low and shifted to the right on the upper right corner.
In this case you have to set 2 on the Height box and -6 on the R box

Die Cutting

You can make the die cutting on cardboard. Indicatively the usable paperweight goes from 120 to 350 grams (35 to 80 lbs). Thinner or thicker papers can be tested to verify the usability.

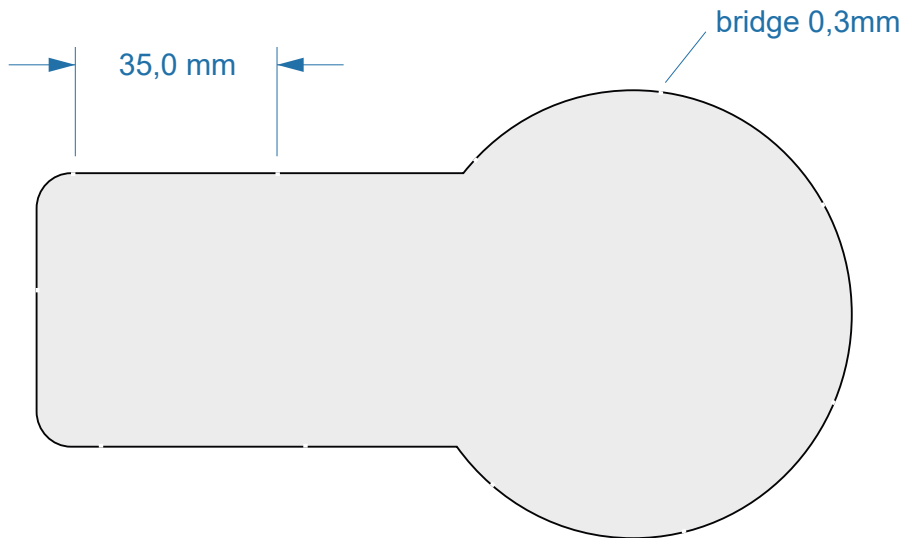
To use the die cutting you have to move the blade holder in the outermost position

In this way, the blade works over the specific groove when it perforates the sheet.

The 'Cut Length' parameter identifies the measure where the blade perforates completely the paper.

The 'Attach' parameter is the part where the blade rises without cutting.

The values are expressed in tenths of a millimeter, in the following example, the stretch of the die cutting is 35.0 mm, and the bridge attach is 0.3 mm.



Die Cutting	
Enable	<input checked="" type="checkbox"/>
Cut	350
Attach	3
Speed	8
Cut force	14
Pass	2 ▾

Select the 'Enable' check box for die cutting.

To modify the parameters you have to disable the die cut then make the modifications.

Select 'Enable' again to confirm.

The speed has to be set on a low value range, from 5 to 15, so you do not stress the blade too much, it will not influence the speed of use with the adhesive cut, that remains unchanged.

It is preferable to use **two passes**, it allows you to use a lower cut force (below 20); you get a cleaner cut and less blade wear.

After any changes you have to press 'Cut Test' for the first sheet, it allows you to check the cut quality and it sets all the parameter on the plotter.

If you have to cut thin cardboard, leave 3 or more centimeters between the push roller and the cut path so the remaining paper is strong enough to transmit the movement of the sheet.

Special color panel

The 'Special Color' panel allows a separate management for the lines in magenta color on the graphics file.

When you use the pure magenta outline in your graphic it is recognized by the iMark software and the 'Special color' panel is enabled, on the preview it is drawn in magenta on the whilst all the other colors are drawn in black.

The magenta color is cut **before** the rest of the graphics, Speed and Cut force are settled separately.

The special color can be processed in different modes:

Dashed line

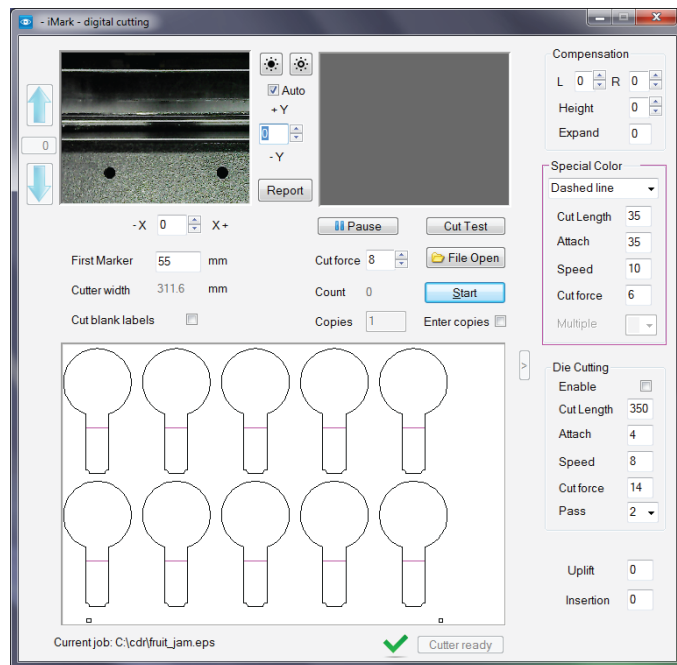
Plain cut

Blade creasing

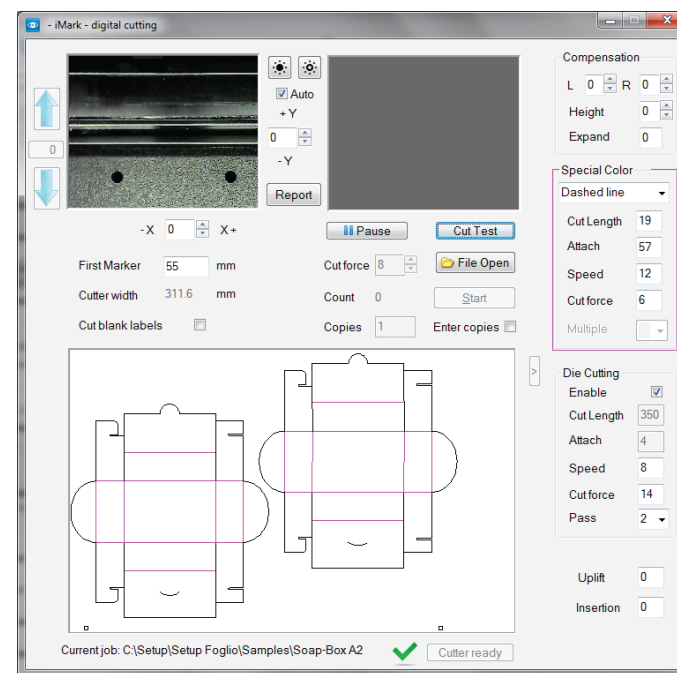
If used as **Dashed** line you can define the spacing.

Cut Length is the section of the line cut by the blade.

Gap is the part of the line where the blade rise up.



In this sample a dashed line is cut on a label for a fruit jam jar. It allows to rip easily the label when opening.



The dashed line is used as folding line in a couple of boxes. It is cut before of the die cut.

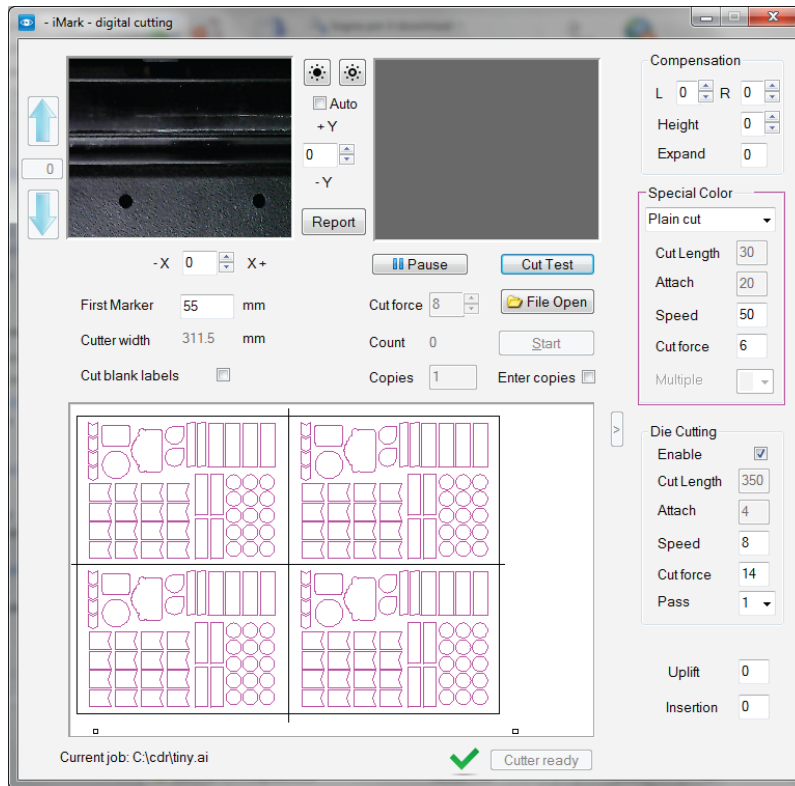
For this job enable the Die cutting option and place the blade holder on the outermost position so you can avoid to damage the cutting mat.

Special color 'Plain Cut'

When the 'Special color' is used as 'Plain Cut' you cut adhesive paper the blade works along the cutting mat you have to fine adjust the cut force to avoid to damage the cutting mat.

This kind of job could be otherwise worked in two phases:

First cut the label contour,
then reinsert the sheets on the feeder,
move the blade holder on the die cut position



The small labels with magenta contour are cut first. Then the die cutting pass allows to separate the sheets.



Special color 'Blade Creasing' patent pending

Using this technique you can simulate the creasing using multiple parallel passes of the blade at reduced force.

The blade creasing is carried **on the back of the print**, that means that the camera does not read the black marks but it detects the border and the corner of the sheet.

For this reason you have to get the distance of the black mark from the border with a ruler.

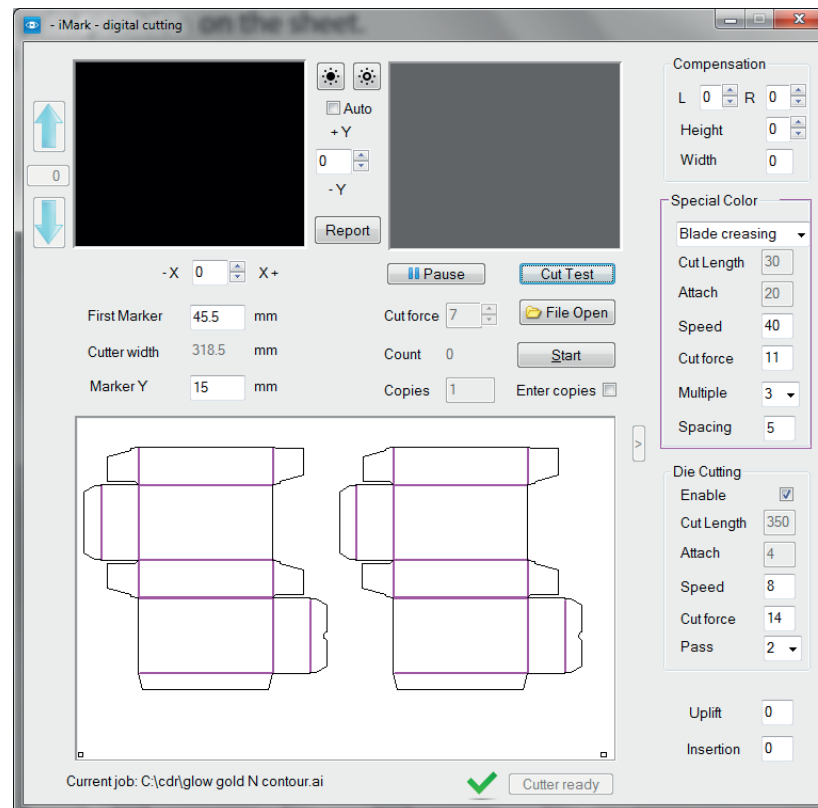
You have to measure only once the distance, this system works well only with last generation of digital printer, very accurate for the print position on the sheet.

The accuracy depends on the repeatability of the position of the print on the sheets, you can reach a value around 1 mm then the graphics have to be designed accordingly.



distance of the marker
from left border

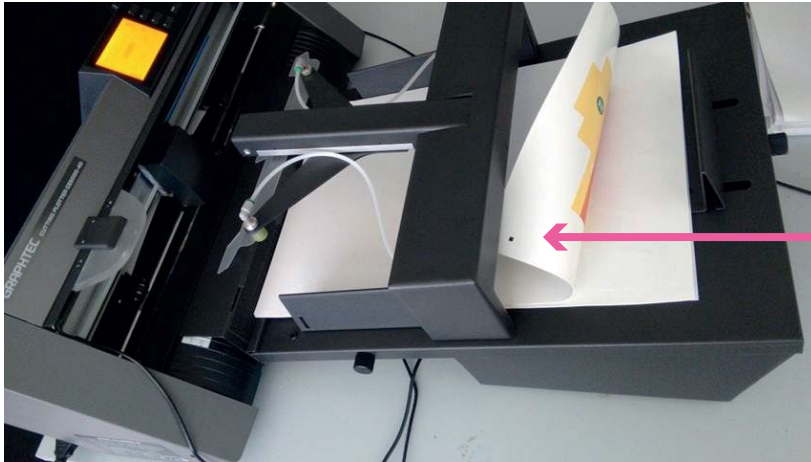
distance of the marker
from bottom



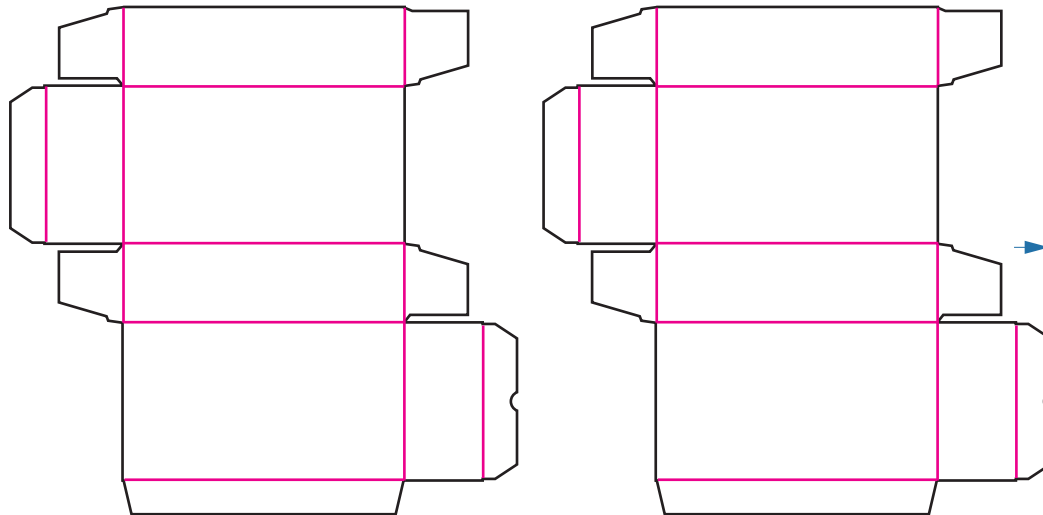
Number and spacing of the parallel
lines on 'Blade creasing mode.'

The spacing is in tenth of millimeters.





You have to load the sheet with the print face down.
Pay attention to place the side with the black marks
on the camera side.



Since the sheets are loaded upside-down the
specifications of the cutting area and black marks
are different to those used on the front-side mode.

The minimum distance of the cut path from the
right border is **25mm**

The distance of the black mark to the
right border **must be 20mm** or less

Mechanical movements

On the right bottom corner of the software window there are two settings for controlling the movement of the insertion arm.

Uplift controls the height of the arm when inserting the sheet.

Insertion control how much the suction cups have to push the sheet into the plotter.

If the insertion is too short the sheet is not pinched by the rollers.

If insertion is too deep the sheet may bend during the insertion resulting not flat during the cutting process.

The values are expressed in tenth of millimeter.

Some small variations may be useful to adapt the movements to the quality of the paper.

Thick paper may require to add some insertion.

Adhesive media curled downward may need a positive Uplift value.

Uplift	<input type="text" value="0"/>
Insertion	<input type="text" value="10"/>

