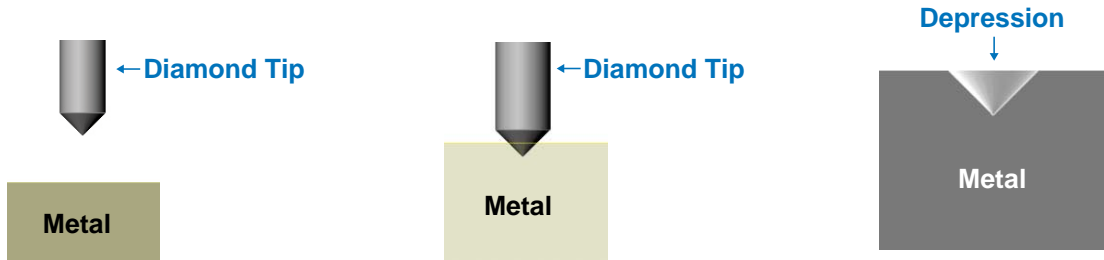


METAZA Mechanical Operation

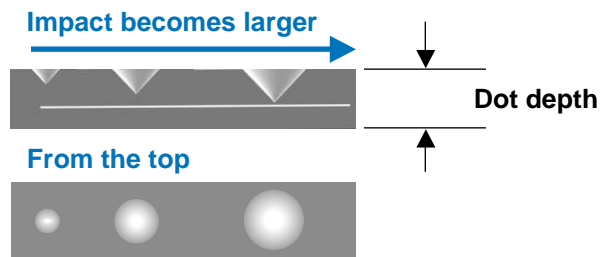
How METAZA marks dots on metal

METAZA impacts a conical diamond-tipped stylus onto a metallic surface to make a depression. The areas with depressions look lighter than where there are none. These differences form an image. (A depression = a dot.)

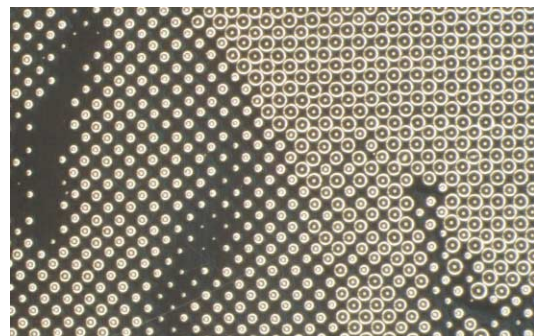


How METAZA creates tone

METAZA changes the size of a dot to create the tone of an image. (The stronger the impact, the larger and deeper the depression will be.) METAZA varies the impact with a diamond tip so that the image consists of smaller dots for darker areas and larger dots for brighter areas. METAZA driver automatically controls the size of the impact. You can also change the size by adjusting the settings as you wish.



Each dot in the image below was impacted with the diamond-tipped stylus. You can see larger dots in brighter areas and smaller dots in the darker area. (The black area with no dot is the surface color of the metal reflecting darker.)



Magnification

Settings for the METAZA driver

Properties of the METAZA driver

Adjust the Brightness

Adjust the Contrast

Adjust the relationship between image and impact. (Refer to "The relationship between image and impact" below.)

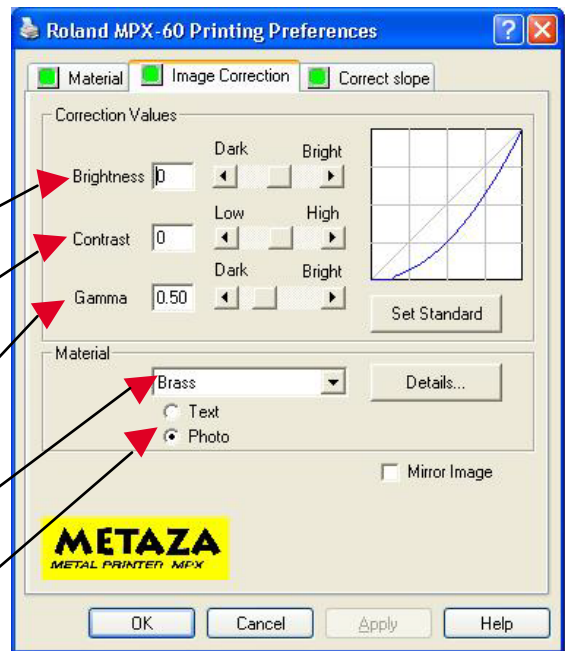
Select the type of material (Default is brass)

Select the type of image:

Photo (default) – images like photos and illustrations having shades

Text – Images without having shades such as plain letters and logos whose contours you wish to be clear.

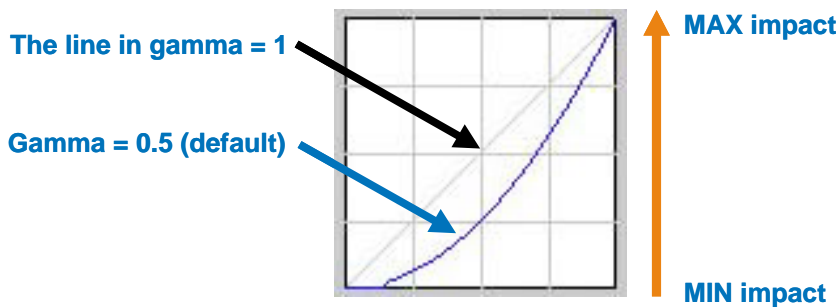
*If your image has both, choose either mode for more important part.



The relationship between image and impact

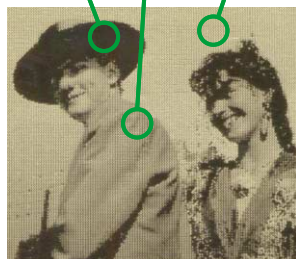
Impact is the force used to depress metal with the diamond tip. Click the "Details" of the Material to change the values. The darkest point of the image is reproduced according to the value of MIN impact. The whitest point of the image is reproduced according to the value of MAX impact. As the value of the impact increases, the entire image will be whiter. As the value of gamma is changed, METAZA marks much darker (or much lighter) parts of the image with the same impact. You can see the relationship between impact and the shading of the image in the following graph.

Graph Explanation



Black

White



At the upper range the blue line, the contrast between darker and lighter parts of the image becomes stronger and the entire image will be lighter (whitish).

The blue curve shows the relationship of impact strength and the dark (light) point in the image.

e.g.

Gentle curve: natural tone

Sharp curve: strong contrast and the entire image will be dark (white), etc.

For Best Imprinting Results - Part 1

Loading a material

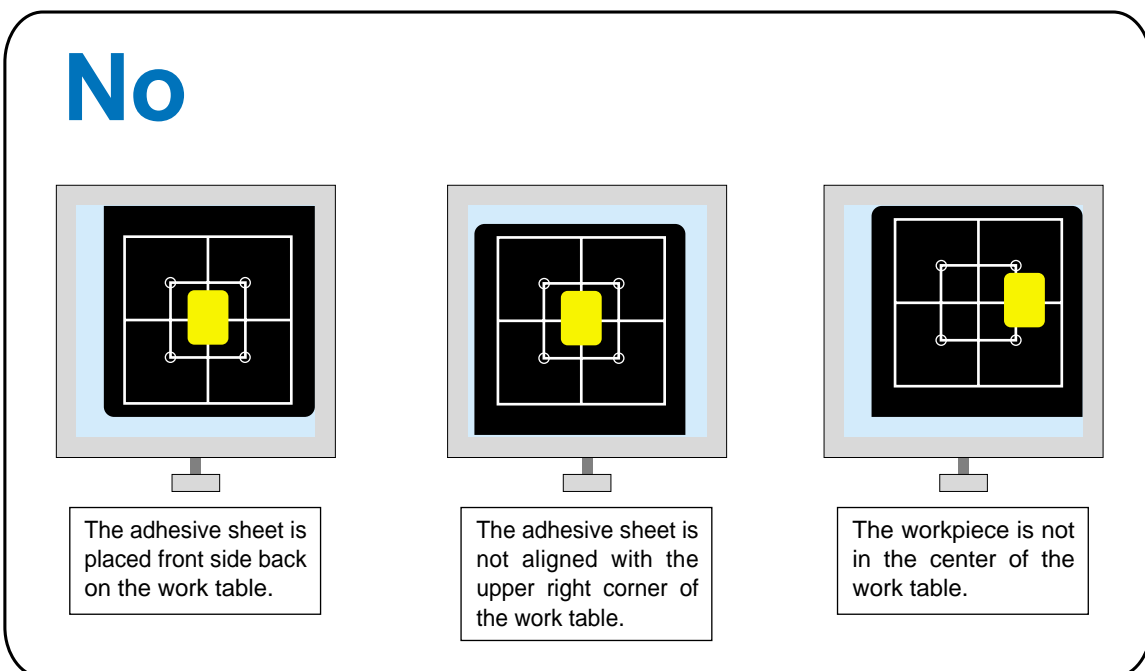
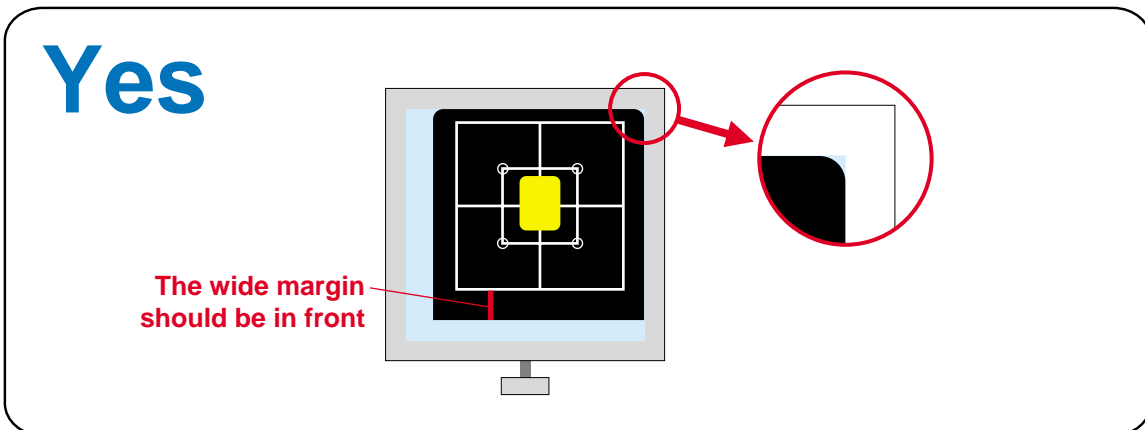
METAZA is a precision instrument. To obtain the best imprinting results, loading the workpiece with care is very IMPORTANT. See User's manual "Part 2 Performing Marking" for instructions on how to mark materials.

1. Place the adhesive sheet and the material in the correct position

- 1) Align the upper right corner of the adhesive sheet with the corner of the work table and set in place.
- 2) Place the adhesive sheet on the work table so that the widest margin is in front (which is the screw side).
- 3) Place the workpiece at the center of the work table where the grid lines cross in the middle.

*If the adhesive sheet is in the wrong position, you will not get a good result.

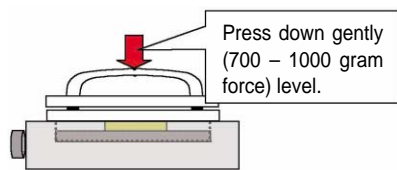
*If you are a first time user of the METAZA, try using the trial material included in the package first. Should the METAZA impact where it is not desired, refer to the User's manual Part 5 "The marked position isn't where desired" for details.



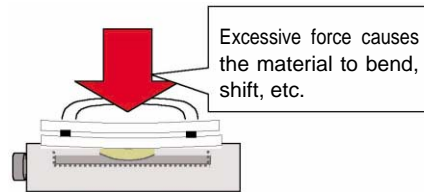
Leveling the material

Press the material down with the Leveler very GENTLY. Great force is NOT necessary.

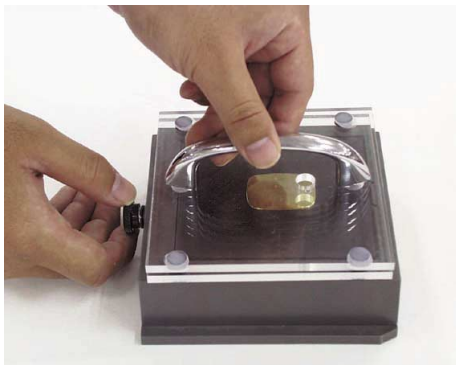
*Only about 1 kg maximum force is necessary to press down the leveler. Excessive force will have a negative influence on the workpiece and the quality of imprinting.



Yes

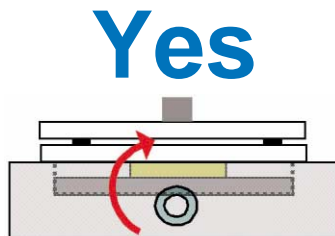


No

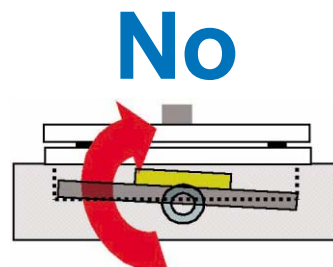


Adjusting the base

Turn the knob slowly and gently. No excessive force is necessary.



Appropriate force
Base holds the workpiece level.



Excessive force
Base tilts and cannot hold the workpiece level.

The Adhesive Sheet

The adhesive sheet collects dust easily. Should the adhesive power become decreased, wash it gently (don't use a sponge or scrubbing brush) and dry naturally. The sheet will hold the workpiece strongly again. (See the User's manual Part 4, Maintenance.)

For Best Imprinting Results - Part 2

Adjusting the image

To obtain the best imprinting quality, adjust gamma, brightness and contrast while looking at the on-screen preview.

The on-screen preview displays an image for reference purposes only. The image in the preview and your actual results may vary. If you are using METAZA for the first time, try the trial material included in the package first.

How to adjust gamma, brightness and contrast

1. Open print preview from the File menu of Dr. METAZA. The preview will appear.
2. Use the control bar to adjust the image until you obtain the desired image. *If not familiar with this operation, adjust the amount a little at a time while leaving the material loaded on the work table.

Adjust one unit at a time: Gamma by 0.1 to 0.2, Brightness and Contrast by 1 to 2

Basic adjustments: Adjust gamma

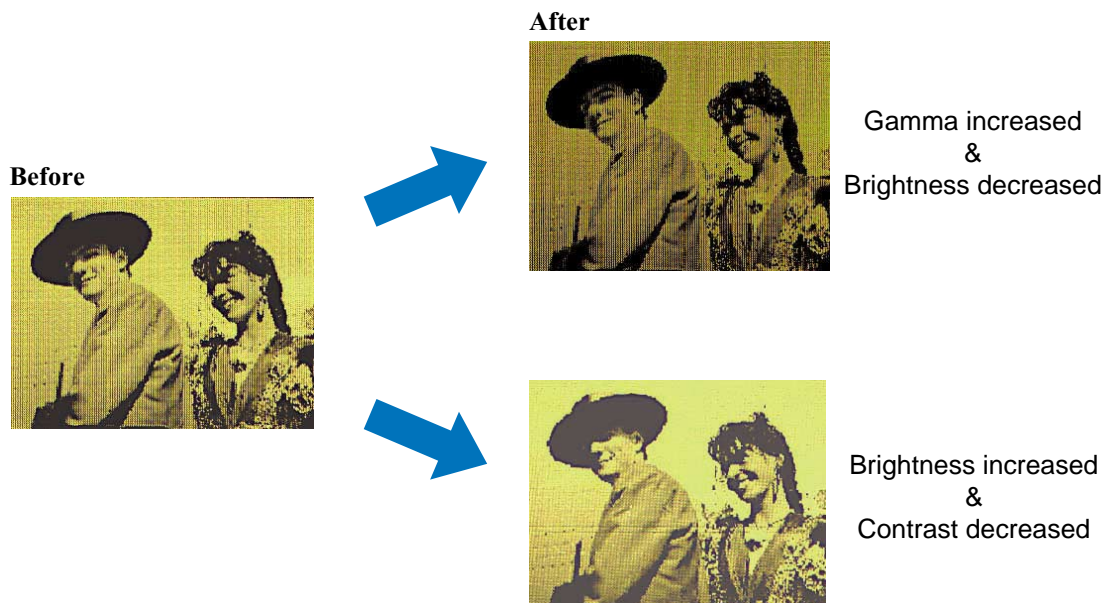
Increase or decrease gamma by 0.1~0.2 units.



Advanced adjustments: Combine adjusting gamma, brightness and contrast.

There are various combinations available depending on the original photo image.

The brightness and contrast should be adjusted 1~2 units at a time.



Customizing Impact Values

Harder or softer materials

You can customize the impact values and register an item as a new material when the material is harder or softer than the default values of Dr. METAZA2. Try your own settings if you are not satisfied with the results even after adjusting the gamma, brightness and/or contrast values.

*Customized values are not reflected in the on-screen preview.

How to customize impact values

- 1) Open "Print Set Up" from the File menu.
- 2) Click "Properties" and then "Image Correction".
- 3) Select Set-a to -e and click "Details" of Material.
- 4) Increase or decrease the impact value by 10 units.
(Default impact value is MIN. 380, MAX. 540 for brass at Photo mode.)
- 5) Enter a name to register and click OK.
- 6) Return to the tag, Material and click on "Save settings". Enter a file name (*.txt) and save the setting.
- 7) Click on the "Load Settings" of the Material tag when using this saved setting the next time.

Basic Adjustments: Change both MIN and MAX values

1. If the entire image is dark, the material may be too hard. Increase both MIN and MAX values by 10 units while leaving the material loaded on the work table and impact it over again.



MIN600
MAX950



MIN 610, 620, 630. . .
MAX 960, 970, 980. . .

2. If the entire image is too light (whitish), replace the material, and then decrease both MIN and MAX values.

Advanced adjustments: Change either MIN or MAX values to improve the image impression.

If grayscale is too dark, increase MIN value only.



MIN600
MAX950



MIN 610, 620, 630. . .
MAX 950

Imprinting with the METAZA Driver when using commercially available Drawing/Photo software:

Software	Place to imprint
CorelDRAW® 9	Center
Adobe® Illustrator® 8.0	0.8mm upper left from the center
Adobe® Photoshop® LE 5.0	Center

*Imprinting results may vary depending on the application software used.

*Adjust data in application software while referring to the following illustrations.

