

CREATING A MICRON BAR

This article describes how to create a micron bar using Adobe Photoshop 6.0 and place it on the image of the microstructure. The micron bar will be black with a white shadow or white with a black shadow if so desired. (Micron bars with drop shadows are easy to see in micrographs which contain both light and dark areas.) The final image will be saved as a tiff file, the preferred image file format of the microscopy community. An example image is shown at the end of this article.

Capture the Images

- C Capture images of the micrograph and the stage micrometer (1 mm, 0.01 mm per division) using exactly the same magnification, image format, etc.

Prepare the Images

- C Get the image of the microstructure ready. It should be sized and rotated and ready for final output.
- C Get the image of the stage micrometer is ready. Resize using the exactly procedure used for the micrograph. Rotate it so that the graduations are vertical.

Draw the Bar

- C Working with the image of the stage micrometer, create a new layer.
- C Select the pencil tool and use a hard-edged brush of the desired size.
- C On this new layer draw the bar, holding shift to force horizontal-only drawing.

Add the Text

- C Select the text tool and, click the image under the center of the bar. (A new layer will be automatically created.)
- C Set the type and size of the font. The recommended font is Ariel, style is bold, and justification is centered.
- C Type the text, for instance, 100 : m. (Hint: the quickest way to enter the : character to type ALT-230 where the numbers are typed in using the numeric keypad.)
- C Move text if required. It should be centered under the bar.
- C Merge the text layer down so that the bar and the text are on the same layer.

Create Shadow Bar and Text

- C Duplicate text/bar layer.
- C Invert text/bar layer, turning the black bar and text white.
- C Change the order of the layers to place the white layer behind the black layer if black text with white shadow is desired.
- C Move the shadow layer down and to the right by $\frac{1}{2}$ thickness of the text/bar.
- C Merge the text/bar layers to create a single layer containing the final micron bar.
- C Crop the image.

Place the Micron Bar on Image

- C Copy the micron bar layer to the clipboard.
- C Paste contents of the clipboard into the image of the microstructure. Photoshop will place this

in a new layer.

- C Move the micron bar to the desired place on the image, i.e, bottom right corner.
- C Flatten the image.
- C Save the image as a tiff file.

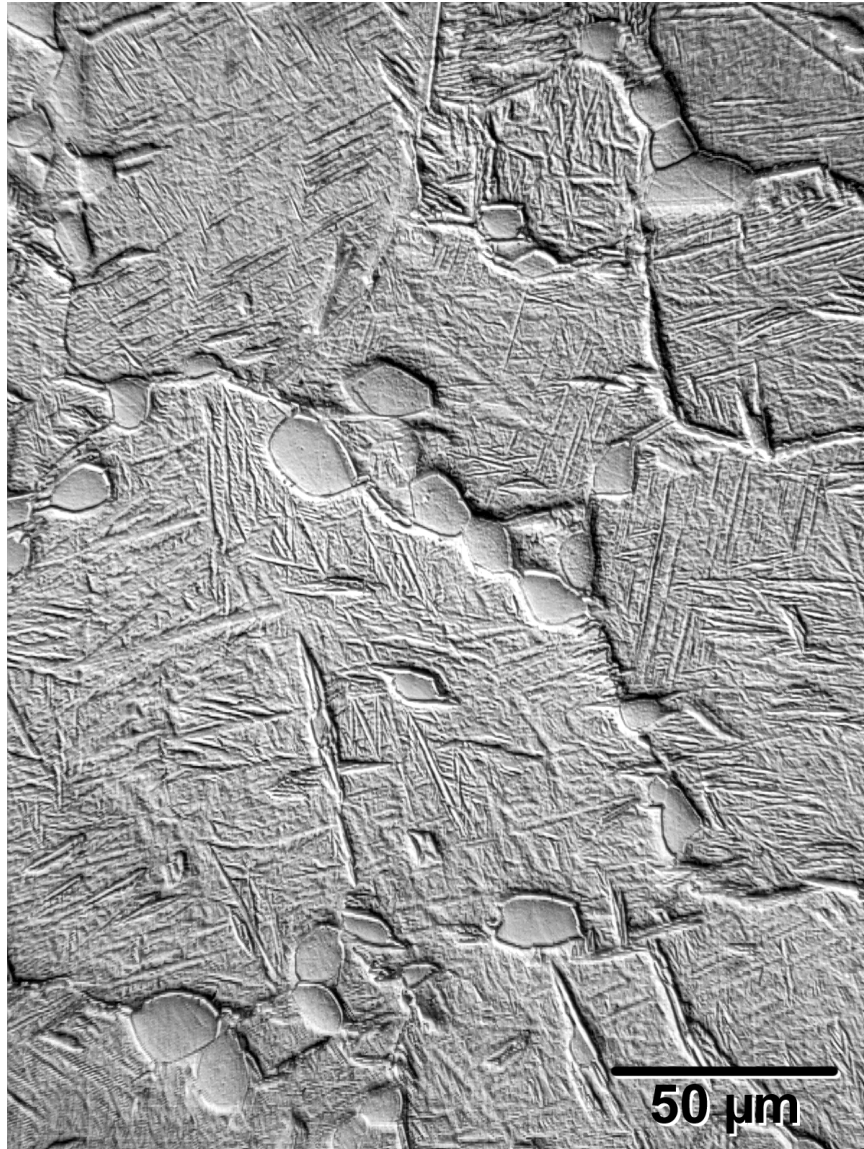


Figure 1 Microstructure of iron-modified Ti-6Al-4V, annealed at 975°C for 100 hours then water quenched. Primary " is a the prior \$ grain boundaries. The \$ phase has transformed to " '.