Ideal laser marking on metal

For better readability of barcodes and text

Inhalt

1 Readability of barcodes and text on metal

1.1 General

→ Laser markings on bare metal can often be difficult to read. Depending on surface treatment and exposure to light, the markings may reflect very strongly, making them difficult for humans or optical readers to read.

→ In our example, we show how different a barcode laser marking on metal can appear in different exposures to light:

*Same object with different exposures to light*

2.1 Methods: Barcode laser marking with SpeedMark

→ We tested three methods for laser marking a metal plate with the SpeedMark marking software and present the different engraving or marking results.

→ The 3 process types shown are

- Engraving
- Polishing (QR code inverted)
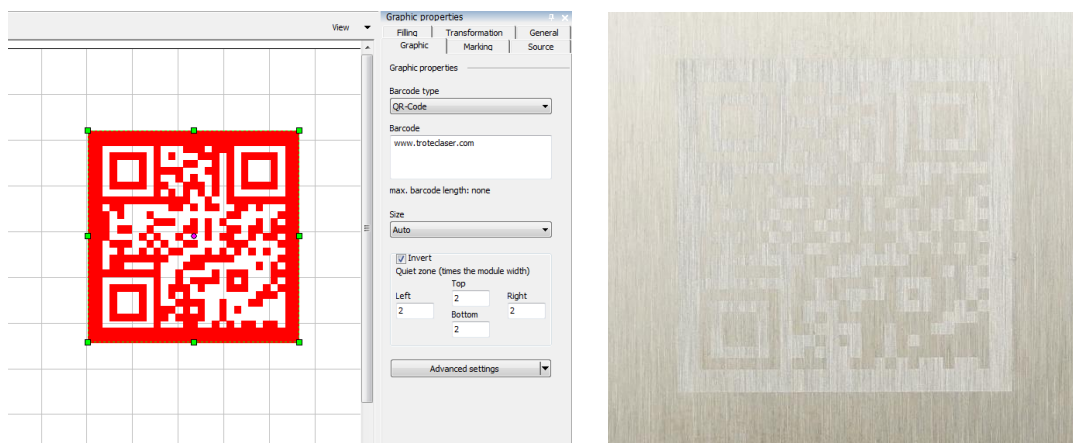- Engraving + Polishing (= cleaning)

1.1.1 Engraving:

With intensive engraving, there are often traces of smoke and the contours blur in part. Despite the dark marking, the background can often reflect too much, thus affecting the readability for an electronic reader.
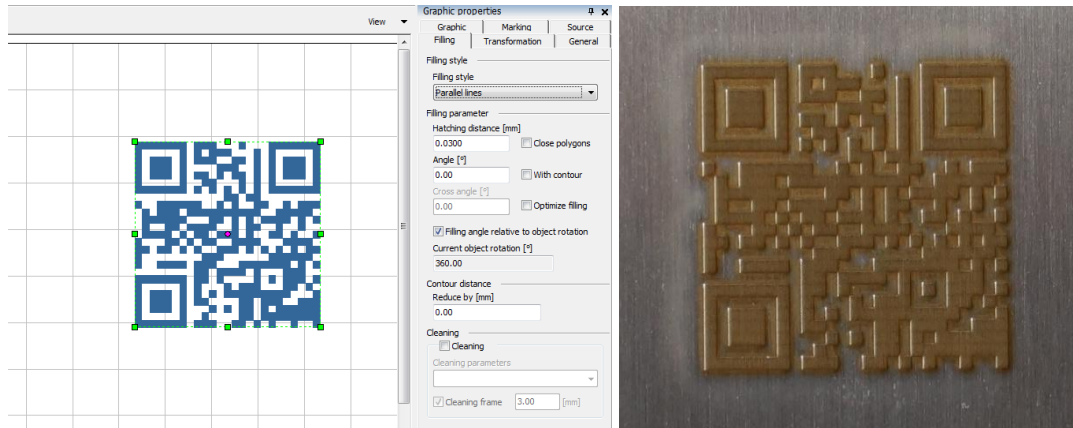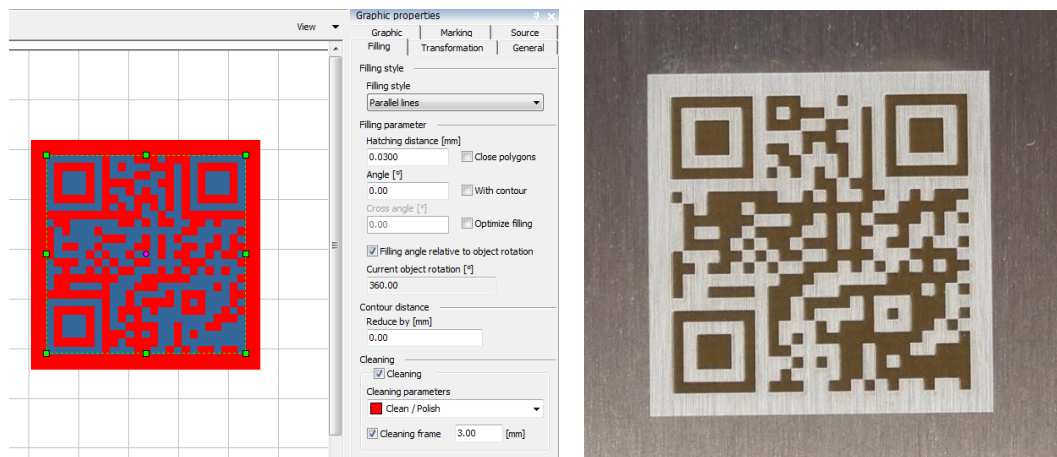

1.1.2 Polishing:

Polishing (or cleaning) is primarily suitable for materials that appear very dark. The polishing process is quick and only lightly abrades the metal. Thereby, the laser-marked area is much lighter than it is in normal engraving. Note: So that the marking stands out, and is thus readable, the QR code in the graphic must be inverted beforehand for this process (*with SpeedMark this is possible at the click of a mouse*)!

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1.1.3   Engraving + polishing:

The engraving and the cleaning is carried out in just one process. This process not only roughens and consequently brightens the area around the marking, but also cleans the edges of the engraved areas. This results in a reflection-free marking that does not necessarily need to be cleaned. For this, the cleaning function must be activated in SpeedMark when filling (*also at the click of a mouse*)!

Polishing (cleaning) after engraving