

Material Choices for Pattern Welding

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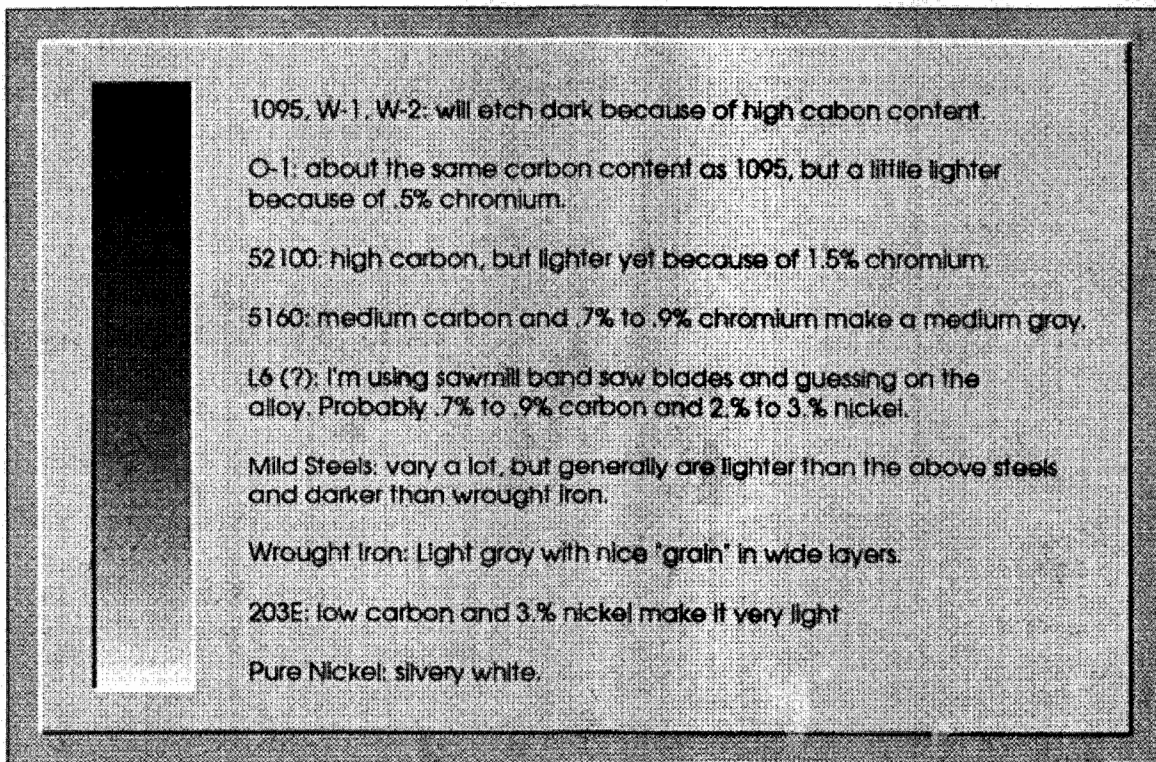
The choice of materials used in a pattern welded object will be a major factor in determining both its visual appearance and its physical characteristics. Being able to predict a material's lightness or darkness after the etch is a great help in planning a billet.

In my experience, the higher the carbon, the deeper (darker) a steel will etch. Conversely, the lower the carbon and higher the percentage of chromium or nickel the lighter an alloy will etch. The following is a list of the steels that I commonly use and their approximate place on the gray scale.

Notes:

Contrast is more important than position on the scale. The farther apart on the above scale the greater will be the contrast.

I usually etch in muriatic acid or ferric chloride. Ferric chloride seems to be better when the pattern contrasts depend on carbon differences. I use the muriatic acid as it comes out of the bottle and dilute the ferric chloride with about three parts water.



Ed Note. We thought this chart might help you understand some of the subtleties of Ray Rybar's demo. Armed with this info you should be able to get an idea of the materials Ray uses to get the various colors. Of course, since he makes some of his own metal it might not apply in all cases.