

## HEAT TREATING BLADES FOR OTHERS

I have in the past few years been heat-treating knife blades for other makers and for others who request re harding factory production blades. I do not want to get into the heat-treating business but will do a few blades now and then especially if I can work them in with my own process. I want to provide some guidance on how to prepare your blades and what to expect if I end up doing the work.

Most of the requests I get are for the CPM high alloy steels. I use these steels in probably 90% of my own custom knife production so have over the years developed a process that gives a good balance between hardness and ductility (toughness). I do a subzero with liquid nitrogen and all blades will be hardness tested throughout the process. I will try to work to your hardness requirements.

Over all blade length is limited to about 14 inches due to the internal dimensions of my furnace.

I use high temp foil to protect the blade from de-carbonization. To get the maximum quench response it is crucial to get the blade out of the foil quickly As a result the blade will be subjected to air while it is still at very high temperature. Some light oxidation will be deposited on the surface of the blade. This can normally be removed with light belt finishing with 220/320 belt grinding. Factory folder blades can be cleaned up Scotchbrite or light hand sanding but depending on how much work you are willing to do some discoloration will still be present.

Avoid deep hollow grinds next to very thick flat surfaces. This causes very high stresses during the quench and most likely will result in warping.

I have found in my own work that it is best to leave at least 0.025 inch at the edge of the blade. I do the final grinding after heat treat on my own blades. This allows some adjustment if a little warpage occurs and removes any shallow de-carb at the edge. I also recommend a temper after the final grinding and polishing is done. This insures that all stresses introduced during this process are removed. It is best that you discuss this part of the process with me on the phone before you send the blade.

Turn around will be about 2 weeks. This allows me time to work your blades in with mine. I like to limit the work to 2 blades at a time. Again I don't want to get into the heat treating business.

I give you my word I will do my best effort, just as if it is my own blade but cannot guarantee the work.

I will do smaller blades (less than five inch overall) for \$60. If you send two then I will do them for \$50 each. Longer heavier blades will be \$80. I know this sounds high but if you are a knife maker you know that this takes me away from my own work and does entail some correspondence and handling. This all takes time.

I will pay the return postage. I normally send them back US Priority M