

Hardening and tempering steel

Preparation

Find a metal container large enough to allow the object to be wholly immersed.

Fill the container with water or oil. The oil can be any type including vegetable oil, which is cheapest.

Note that if you want you can harden only a small part of the object such as the tip of a screwdriver.

Hardening

(This makes the steel hard and less flexible)

With a blow torch heat the object evenly to cherry red.

Immediately plunge the object into the water or oil.

When the bubbles or steam cease, remove the object and clean or dry it.

Tempering

(This makes the object less brittle)

Oven method:

You can do it with a food oven. Heat it to 190C. Put the object in, directly on the shelf wires, for three hours. Switch the oven off and leave it overnight without opening the door.

Blow torch method:

Polish the object to a bare metal shine.

Heat the object until the surface becomes blue.

Place the object on a metal surface to cool down.

Repeating

This process can be repeated as many times as you want. For instance you might want to heat the metal and reshape it, then harden and temper. Or you might just make a mistake and need to go back to square one.

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