

Nickel Plating Brass Keys

I know that many amateur makers of early woodwinds have used brass sheet to fashion keys for their instruments. Brass is easy to work and looks quite nice when polished. But what about silver instead? —surely that would add a nice touch to the finished instrument. Trouble is, it's expensive.

Here's an interesting alternative that produces a semi-bright silvery finish without incurring great expense. I have recently obtained excellent results by electroplating brass keys with nickel using the following recipe:

Nickel sulphate.6H₂O 150 grams/litre
Nickel chloride. 6H₂O 60 grams/litre
Boric acid 40 grams/litre
Sodium saccharin 5 grams/litre (brightening agent)

The first three of these reagents, a pure nickel anode and 1.5mm titanium wire can be purchased cheaply from a company called YouPlate which sells its products on eBay. (see below) Sodium saccharin is found in the shops under the name 'Sweetex' – 600 tiny tablets, each weighing 0.02 grams.

The most important point to note is that the brass article must be extremely clean to obtain a good finish. Using rubber gloves I dissolved some sodium hydroxide in water (ASDA caustic soda drain cleaner - £1.98) to make a strong cleaning solution. Still with gloves, the key was immersed for five minutes then washed well with tap water.

My keys are quite small so my plating bath volume is normally 100ml. Each key has a 1.5mm pivot hole which conveniently accepts the titanium wire. A slight bend of the wire with needle-nose pliers keeps the key in place during the plating process. Titanium is used here because it is not affected by the electrolytic action of the current.

The bath temperature must be between 55 and 65 degrees centigrade. This is a bit tricky. I managed by heating the solution to 65 degrees in the microwave and then placing it in my wife's food warmer set on high. Over ten minutes the temperature stayed above 55 degrees. The bath should be stirred constantly while the nickel is deposited, which can be done by hand because a decent finish can be obtained in ten minutes. (about 20 microns)

The power source is provided by two 'D'-cells which can be tidily held in an appropriate holder (RS components) . Using connecting wires with crocodile clips (RS components), the positive terminal is attached to the nickel anode and the negative terminal to the titanium wire. The keys are completely immersed in the plating bath and the plating begins. The final product can be buffed to a semi-bright finish.

For those of you who want an easier approach, I noticed that YouPlate sells nickel-plating kits. I had more fun putting the bits together in order to keep costs down, but the choice is yours.

http://www.ebay.co.uk/sch/i.html?poi=&adpos=1s1&ul_noapp=true&geo_id=32251&MTID=10&crp=93816379874_807&keyword=bright+nickel+plating+kit&rls=target=k-wd-44787276029&nkw=bright+nickel+plating+kit&device=c&crdt=0&treatment_id=7&clk_rvr_id=978480704669