

Left: normal Cuma wire.

Right: Nickel plated Cuma wire.

Nowadays the method of electrical oxidation is mostly used to produce the red oxide. The drawing below illustrates the set-up.

The Copperclad wire is heated to approximately 900°C by Direct Current Heating.

During the heating the wire is passing through a tube in which hydrogen and dry air is blown.

The hydrogen is cleaning the wire and the oxygen of the air will react with the copper according formula (1) to get a layer red oxide. Immediately after the red oxide is made the wire is passing through cold water. The result is that the structure is "frozen in" and that we have the desired red oxide on the copper at room temperature.

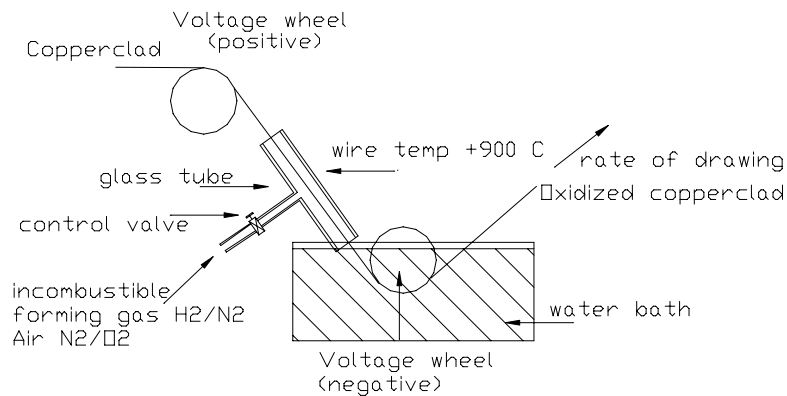


Fig. 7. Oxidising the Copperclad wire.

The thickness of the oxide layer can be influenced by:

- % of dry air
- temperature of the wire
- speed of the wire

The thickness can be checked with the so-called "Munsell Plates". By comparing the colour of the wire with this standard one can get an indication of the thickness of the oxide layer.