



MANUAL METAL ARC BASIC ELECTRODES

When welding takes place hydrogen diffuses out of the weld metal to escape to atmosphere, this hydrogen when collected and measured tells us how much diffusible hydrogen weld metal contains. Hydrogen content within weld metal is measured in millilitres per 100 grams of weld metal or 'ml/100g'.



FIGURE 1. HYDROGEN ESCAPING FROM A WELDMENT.

Basic coated electrodes are designed to deposit low levels of hydrogen content within the weld metal, if they are handled correctly. This will typically involve baking the electrodes in an oven to remove as much moisture as possible. Baking should take place in line with the electrode manufacturer's instructions but will typically involve temperatures between 350 and 450 degrees for between 1 and 4 hours.

FIGURE 2. SIFDRY PORTABLE OVEN

Electrodes exposed to the atmosphere will very quickly start to absorb moisture again

so as a welder you should only remove electrodes from the portable oven as and when you need them. Hydrogen can cause welds and parent metals to crack so always ensure you follow the correct procedures for handling and storing welding electrodes.



As an alternative to baking electrodes manufacturers are producing electrodes pre-baked and stored in vacuum packs that protect them from the atmosphere. These hermetically sealed packs are ideal for managing electrode waste with differing sized packs available from 1kg to 3 Kgs ensuring the welder only takes what they need. When these special packs are opened they should typically be used within 4-6 hours although this will be specified by the manufacturer.

FIGURE 3. SIFDRY ELECTRODE BAKING OVEN

Once electrodes have been baked they should then be stored in a portable electrode oven (often called a 'quiver') for transportation to



sif tips



Technical advice in the original SifTips style was started in 1932. 'Sifbronzing' is an almost universally recognised way of describing the low temperature bronze welding of sheet steel, cast iron and other metals. This explains why Sifbronze, the company which first developed and promoted the technique, is generally considered to be a supplier of high quality welding rods, wires, fluxes and equipment.

'Will the Welder' was a SifTips magazine that was produced in the early 1930s. The aim was to provide users with ideas and tips on how to get the most out of their welding equipment.

Sif is renowned for its UK manufacturing heritage as well as its complete range of quality welding consumables for MIG/GMAW, TIG/GTAW, Arc/SMAW, Oxy/Fuel Welding and Brazing which have been used globally for almost a century.

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the work place. The portable oven is then plugged in to ensure the electrodes remain heated whilst work continues.