

Rust Removal from Iron & Steel (& Die-Cast Models)

Rust can be removed from iron and steel by electrolytic means.

The electrolyte can be sodium carbonate (washing soda); sodium bi-carbonate can be used but is more expensive. You don't need a strong solution, just enough to conduct electricity, say a tablespoon of crystals to a pint of water. For the positive electrode use lead and the negative is the object to be treated. Use iron wire or a steel clamp for support and negative connection. (Avoid copper wires in the solution!)

The source of current can be a battery charger and the amperage can be in the range 2 to 10 amps depending upon the size of the rusty object. As this is continuous current care must be taken to avoid overloading the supply equipment. Car bulbs are a suitable limiter if other methods are not to hand, e.g. a 21 watt bulb will not pass more than 1.75 amps at 12 volts.

The rust is changed to a mud of black iron which can be brushed off with an old toothbrush, etc.

I have found that the easiest method of current control is by adjusting the amount of lead sheet exposed within the solution and/or the adjusting the distance between the lead sheet and the rusty object. I also use wooden clothes pegs for securing the lead and the rusty object.

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