

Procedure For Removal Of Chrome Plate

The method best suited for removal of chrome deposits depends on the thickness of deposit, and the base metal material. Under normal circumstances, that is, starting with a new tool or part thoroughly cleaned as recommended, chrome plate removal after using the Caswell Hard Chrome System, is seldom necessary because of the close control obtainable over the deposit. In those instances where a poor finish caused by improper cleaning etc., it is essential that all the chrome be removed and that the work be re-cleaned before re-plating. In addition, if the work received by the Chrome operator has been previously plated with conventional industrial chrome or has been returned after use for re-plating with Chrome, the work should be processed to remove all traces of chrome before replating. Subsequent paragraphs will deal with removal of heavy and light deposits from ferrous and nonferrous metals.

Removal of Chrome Plate from Industrial Steel

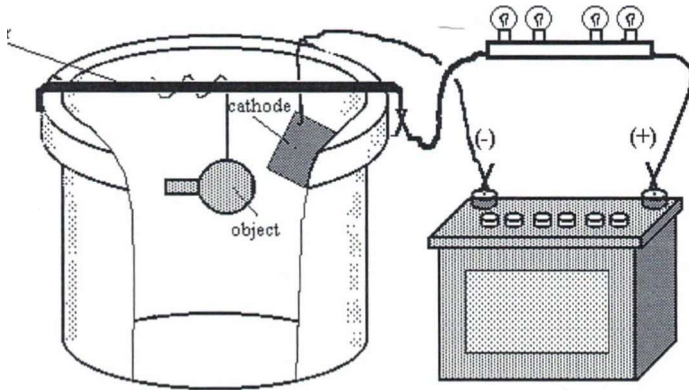
Light Deposits. Light deposits of Chrome Plate (up to .002") can be removed by stripping in Chrome solution. This may be accomplished by following Steps 1 to 4 under Operating Instructions (Page 60), except, maintain the stripping current of 1 amp. per sq. in. At the first signs of a constant bubbling action at the work surface or when an abrupt drop is observed in the reading of the ammeter, stripping should be terminated. The work should then be removed from the solution for examination. If after inspecting the work surface and the chrome is not removed, the work should be re-immersed and stripped until all signs of chrome have disappeared. Because Chrome plate is removed by stripping at a rate considerably faster than it is deposited, extreme caution should be exercised when stripping chrome.

Heavy Deposits. Heavy deposits of Chrome plate (.002" or more) are stripped conveniently using electrolysis. Some acids will remove chrome deposits, but the user is cautioned against application of acids for chrome removal from industrial steels, because of the harmful effect time may have on the base metal. The Chrome unit's direct current output is used as a source of power when using alkaline cleaners.

A good alkaline cleaning solution is prepared with 5-6 oz. ANODIZE & CHROME STRIPPER added to one gallon of water. This solution may be used at room temperature but, the stripping time is slower. Heating the alkaline solution to a Temperature of 1600 F, considerably increases the rate of chrome removal. The brush plating technique is ideal for use with this solution, especially for decorative chrome plate removal.

DE-PLATING TANK SETUP A typical set-up for stripping Chrome plate electrolytically using ANODIZE & CHROME

A typical set-up for stripping Chrome plate electrolytically using ANODIZE & CHROME



A typical set-up for stripping Chrome plate electrolytically using ANODIZE & CHROME STRIPPER solution is shown here. The recommended procedure is as follows:

1. Connect the piece to be stripped to anode (positive) connection of your power unit, and immerse work in Anodize & Chrome Stripper Solution.
2. Connect the GP Plates to the negative terminal of your power supply.
3. Adjust current until a current density of 1/2 to 1 amp. Per. sq. in. is obtained. Maintain this current density for approximately five minutes.
4. Remove work and inspect to see if all chrome has been removed. If not, repeat cycle as outlined previously.
5. Water rinse work and clean work according to recommended cleaning instructions prior to plating. The part is then ready for plating.

Note: The above procedure is recommended for the removal of heavy Chrome deposits (.002" or over), which have been deposited over nickel. CAUTION: EXCESSIVE STRIPPING ON THE BASE METAL AFTER CHROME HAS BEEN REMOVED IS NOT RECOMMENDED. THIS APPLIES PARTICULARLY TO HIGH CARBON STEELS. A PERIODIC FIVE MINUTE INSPECTION OF THE WORK SURFACE IS HIGHLY RECOMMENDED. It is usually better to leave the nickel plate intact, and plate over it with copper.)

Removal of Chrome Plate from Non-Ferrous Metals (Brass, Bronze, Copper or Nickel)

Light and Heavy Deposits -- Either concentrated or diluted hydrochloric acid can be used for removal of Chrome plate from brass, copper or nickel. In this case, no electrical current is necessary, only immersion in the acid is required.

Concentrated Hydrochloric Acid is recommended for the removal of Chrome plate from brass, bronze, copper and nickel.

Concentrated Hydrochloric Acid is always used at room temperature, the work being immersed in the solution for sufficient time to remove all the chrome deposit.

Diluted Hydrochloric Acid Solution, consisting of 1 pint of Hydrochloric Acid, slowly and carefully added to 1 gallon of water, can also be used if desired. The rate of chrome removal using the diluted solution may be increased by increasing the temperature of the solution. Usually, Hydrochloric Acid solutions are heated to approximately 125 deg F. Use acid-resistant containers and keep them covered.

CAUTION: Extreme care should be exercised in the mixing of the Hydrochloric Acid Solution. ALWAYS ADD THE ACID TO THE WATER SLOWLY AND CAREFULLY.