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TO SET UP A MINI CHROME PLATING PLANT
IN THE MATERIAL SCIENCE
LABORATORY

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SYNOPSIS

Before setting up a chromium plating plant, it is necessary to study and analyse thoroughly the various process stages involved, for which each stage has different operating conditions to be employed.

The important factors in setting up the plant are D.C. power sources available, tank material, tank capacity, current density and operating temperature limitations, and the cost. Close attention should be put on each process stage because various problems may arise if the operating procedures and conditions are not as established.

Analysis has been made in details for setting up the plant as well as the processes and conditions involved during operation. Methods of stripping of defective electro-deposits and procedures in preparing the baths or solutions have been outlined.

There are seven tanks made of perspex or acrylic sheet, each 3 mm. in thickness and 20 by 20 by 65 cm. in dimensions used in the plant. Each tank contains three sections for which one section (20 by 20 by 25 cm.) used for baths or solutions while the other two for rinsing purposes.

A 10V, 0-10A rectifier has been used in the plant as D.C. power source. A 1 kW electric immersion heater sheathed in fused quartz is used for heating the baths. Temperature control of the baths is done manually with the aids of thermometer. The chemical compounds used are of laboratory grade.

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