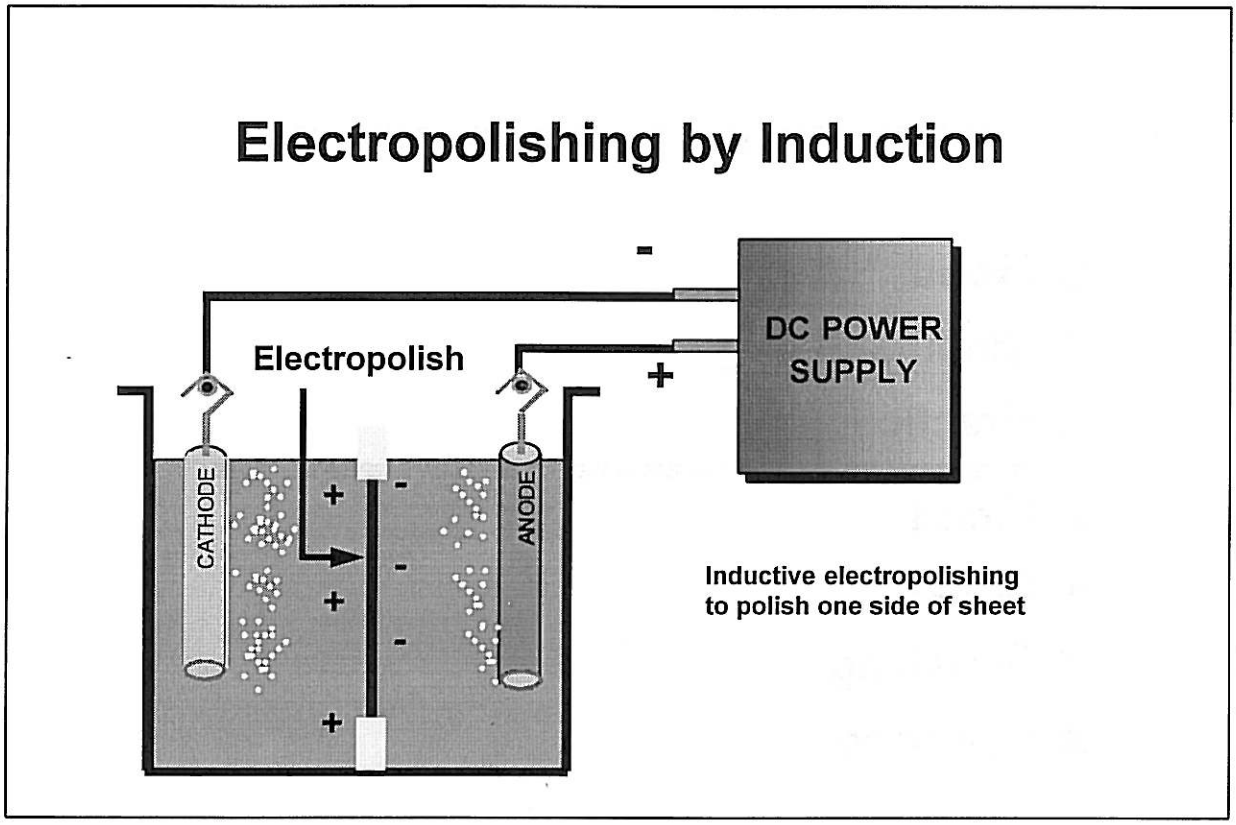
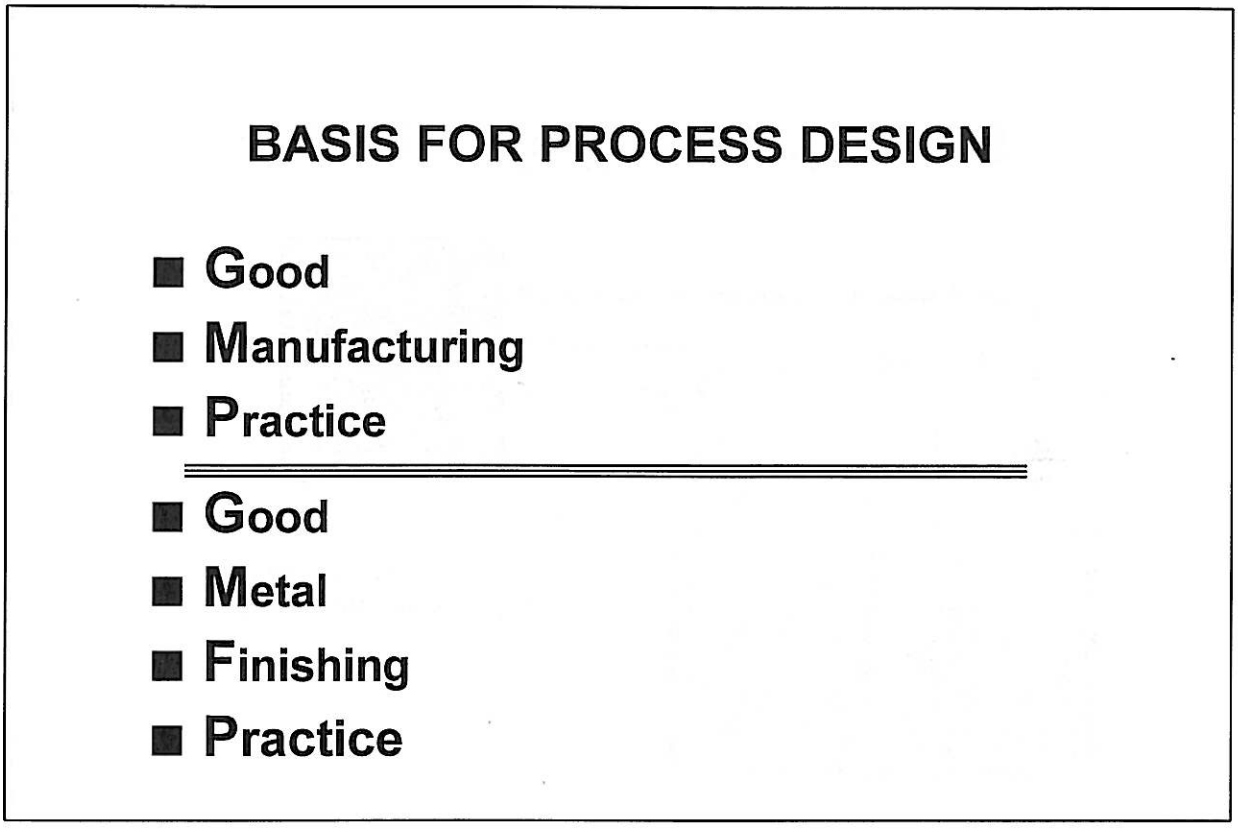


ELECTROPOLISHING BY INDUCTION

The inductive method of electropolishing is useful in finishing certain types of surfaces which require polishing on only one side. One typical example is the interior of tubing which is painted on the outside.

The case illustrated above shows how flat sheets are electropolished on one side. Note that there is no direct electrical connection between the part and the circuit. Current is induced in the sheet as the current flows. The side nearest the anode becomes relatively negative, and the side nearest the cathode, relatively positive. The positive side electropolishes, while the negative side does not. To be effective, the sheet being polished must essentially divide the bath into two cells.

Inductive polishing systems are said to produce more uniform current densities than standard arrangements.



BASIS FOR PROCESS DESIGN

Most manufacturing plants are familiar with the concept of GMP as a means of improving product quality. The MCP system of electropolishing simply adds the principles of "Good Metal Finishing Practice" to the quality scheme.

Good Metal Finishing Practice applies techniques commonly used in many metal finishing operations such as anodizing and plating. Although electropolishing has traditionally been considered a more forgiving process than any of the common plating processes, attention to minute detail is necessary to produce the highest quality finishing.

Most metal finishing systems incorporate proven techniques for cleaning, deoxidizing, and rinsing. Processes are designed to be fail-safe, on the theory that cleaning and rinsing are cheap insurance in the prevention of rejects.

Metal finishing systems which contain numerous shortcuts are usually difficult to control and are often impossible to trouble-shoot. Properly designed process lines are comparatively easy to control, as each chemical operation can be isolated and studied independently when trouble develops.