

The SIFCO Process®

The SIFCO Process® is a portable method of electroplating localized areas without the use of an immersion tank. It is primarily used for enhancing surfaces on OEM components or for permanent repairs. Originally conceived and developed by George Ixci in Paris, France in 1938, the technique has been engineered and enhanced by continuous research and development at SIFCO Applied Surface Concepts.

Damage from wear, corrosion, or mis-machining can be repaired using SIFCO Process® plating. The SIFCO Process® deposits can also offer wear resistance, low electrical contact resistance, or corrosion protection. Numerous pure metals, alloys and applications are available using the selective plating process.

The SIFCO Process® equipment is portable, enabling technicians to plate parts in their functioning state, saving companies money and minimizing down time. In contrast to tank plating, the SIFCO Process® does not require extensive masking, special fixtures, or elaborate equipment. SIFCO ASC deposits have excellent adhesion and can be plated at rates that are 30 to 60 times faster than conventional tank plating.

APPROVALS

Meets numerous federal, military and commercial specifications

- ▶ AMS 2451
- ▶ MIL-STD 865 and 2197 (SH)
- ▶ Facilities meet MIL-I-45208
- ▶ FAA Approved Repair Stations
- ▶ ISO 9001:2015
- ▶ AS9100D Registered Quality Management System

INDUSTRIES WE SERVE

- ▶ Aerospace
- ▶ Power Generation
- ▶ Oil and Gas
- ▶ Marine
- ▶ Printing
- ▶ Petrochemical



SIFCO Process® of Selective Plating

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The SIFCO Process®

SUPPORT

- ▶ On-site contract service available worldwide
- ▶ Certified plating consultants
- ▶ Technical support staff, available by email, phone or fax
- ▶ Complete training for your personnel

APPLICATION

- ▶ Engineered deposits to enhance localized areas on OEM components
- ▶ Salvage mis-machined parts
- ▶ Refurbish worn parts such as journals, gears, bearings, ID's, OD's and flat surfaces

FOUR KEY ELEMENTS

POWER PACKS

The SIFCO Process® uses specially designed portable DC power packs with a variety of features to supply current. The negative lead (-) from the power pack is connected to the part (cathode) that is to be plated. The positive lead (+) is connected to a plating tool handle which holds a special plating anode. Power packs are available in sizes ranging from 15 amps to 500 amps depending on your application's requirements.

PLATING TOOLS

The plating tools (anodes) are typically made of graphite. The anode is shaped to fit the contour of the surface to be plated and is wrapped with an absorbent cover material saturated with plating solution. The solution-saturated anode is rubbed over the surface that is to be plated, either manually or mechanically. When the saturated anode cover contacts the metal surface, the electric current causes the positively charged metal ions in the plating solution to move toward the negatively charged metal part (the workpiece), where they are deposited and metallurgically bonded to form an electroplated deposit.

PREPARATORY & PLATING SOLUTIONS

The plating solutions used in the SIFCO Process® are special electrolytes with metal contents substantially higher than those of standard tank plating solutions. Plating solutions are selected to meet specific demands of the application. Deposits can be produced that are hard, fine grained, very low in porosity, low in stress, and low in hydrogen embrittlement. In addition to metal plating solution, SIFCO Process® solutions include preparing, activating, stripping, anodizing (type I, II and III), and electropolishing.

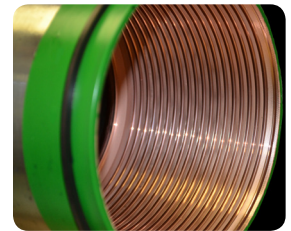
A TRAINED OPERATOR

A trained operator is needed to carry out the various procedures presented in the comprehensive, illustrated SIFCO Process® Instruction Manual. Training sessions are conducted on a regular basis at SIFCO ASC facilities. In-plant training is also available. Contact the Technical Department to learn more about training.



SIFCO PROCESS® ADVANTAGES

- ▶ Portable process for on-site repairs
- ▶ Minimal masking and disassembly
- ▶ Custom, engineered solutions
- ▶ More timely than other plating methods
- ▶ Increase service life of components and equipment
- ▶ Superior technical expertise
- ▶ Quality plating results



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