

# Cylinder Repair

## Repair Worn, Damaged, or Corroded Surfaces on Cylinders

Selective plating is a portable process that can be used both on-site or in the shop to apply engineered deposits onto localized areas with precise thickness control.

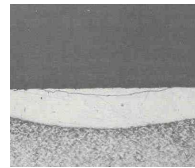
Mechanical damage ranging from pitting and minor dings and scratches to deep impressions can be permanently repaired with the SIFCO Process. Defects are typically filled with one or more layers of copper, each usually 0.015" thick, and then covered with a hard, wear resistant deposit that has good release or wetting characteristics.

Brush plated deposits are quickly and uniformly applied to damaged areas of cylinders without the use of an immersion tank. Cylinders can be repaired in-place, at scheduled down times, so that the production schedule is not affected.

Deposit	Use	Hardness	Compressive Yield Strength	Buildup Rate
Copper	To fill in defects from mechanical damage and corrosion.	141 Hv	70,500 psi	0.023"/hr
Nickel-Cobalt	To provide a hard wear resistant surface with good wetting properties.	483 Hv	n/a	0.027"/hr

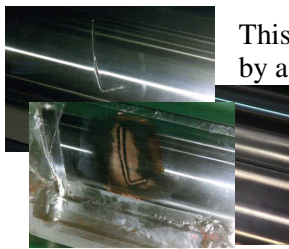


Nickel-Cobalt  
Magnification 200X



Two layers of Copper  
Magnification 50X

### In-Place Cylinder Repair



This series of photos shows the stages of an in-place repair to correct the damage caused by a dropped allen wrench. Repairs such as this are easily carried out on rolls made of carbon or stainless steel that have been plated with chrome or nickel. This repair was carried out during a normal shut down period with no lost production time.

The sharp edges of the depression were carefully removed with a small high-speed grinder to provide a smooth, gradual transition from the base of the defect to the outer roll surface. Three layers of copper were applied, then dressed a couple of thousandths below the roll surface. Finally a thin layer of nickel-cobalt was applied to a slightly larger area and then feathered and polished to match the texture of the roll surface.