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## Gold Plating from a Thiosulphate Bath

Sulphite electrolytes have gained considerable ground by comparison with the more established cyanide solutions for gold plating over the last few years, but another new type of electrolyte, based on a thiosulphate complex, has been developed for use in the gold plating of printed circuits in Poland. In a paper presented to the recent annual conference of the Institute of Metal Finishing in London, Professor Tadeusz Zak, Director of the Institute of Precision Mechanics in Warsaw, and two of his colleagues, Dr. Jan Socha and S. Safarzynski, gave details of this solution and of the cathodic and anodic processes occurring during deposition.

The bath finally formulated contained 20 g/l gold in the form of a thiosulphate complex, 50 g/l citric acid and 10 g/l sodium tetraborate as buffer. The effects of temperature, pH and concentration of both gold and the complexing agent were studied, and optimum operating conditions were established. An operating temperature of 20°C with a pH of 9.0 to 10.0 were found to be most suitable.

The bath is said to be highly stable, to give a deposit of greater hardness than is obtained with a sulphite electrolyte, and to permit of a speed of deposition some two to five times greater than that usually associated with an acid cyanide bath.