

Towards a sludgeless heavy metal finishing industry for a cleaner environment

ABSTRACT

The treatment of heavy metals is based primarily on chemical coagulation and precipitation where substantial amounts of toxic sludge are normally generated. A study using an electrolytic processes has been carried out to recover heavy metals from a mixed plating bath in a metal finishing factory. The unit uses a RETEC system consisting of a high surface area cell based on a simple theory of electrolysis and produces a very large surface area about 106 15 times the geometrical surface area of the cathode. This paper presents cases where 95% tin, lead, and 98% copper, nickel, and zinc were successfully recovered, and discusses economic considerations.

Keyword: Heavy metal; Sludgeless; Electrolysis; High surface area cathode