

Primary Lead Production

FLUBOR[®] Process and LEADBOR[®] Process

Title: A New Approach to the Lead Recovery from Spent Lead Acid Batteries

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Abstract: The CX breaker for the separation of components of spent lead acid batteries and the thermal recovery of metallic lead is well known all over the world and it is considered the “State of the art” in this field. The increasing environmental pressure exercised during the last 20 years, on both primary and secondary lead facilities, has stimulated the research of new and more environmentally friendly technologies, such as hydrometallurgy and electrochemistry, as alternative to pyrometallurgy. This new way to approach the problem led to the CX-EWS Technology that is an improvement introducing, besides the battery paste electrowinning, the direct electrorefining of metallic lead (grids and poles) obtained from the CX breaker.

The introduction of the Fluoborate Technology, in primary and secondary lead operation can eliminate all the drawbacks present in lead production.

After about ten years of intensive research from bench to pilot demonstration plants performed by Engitec in cooperation with the most important world Lead Producers, this technology is ready for commercialisation.

The paper will describe:

- The traditional CX plant with paste desulphurisation and thermal lead recovery
- The CX-EWS Technology that through the Fluoborate Technology allows the lead recovery in an electrochemical way.

Have to be also mentioned that the Fluoborate Technology can be applied also to other different lead bearing materials like primary lead concentrate and high impurity lead bullion.