

## Technology

The Laboratory Argonne National dependent of the Department of Energy of United States has studied and developed in experimental phase four processes for the processing of the saline dross that would enable to obtain aluminum, you leave and aluminum oxide residues:

- Process base: dissolution of the dross with water to 25°C and subsequent evaporation with crystallization of them you leave.
- Process to high temperature: dissolution to 250°C with fast crystallization of them you leave.
- Process solvent/antisolvente: dissolution in water to 25°C, concentration by evaporation and reaction with acetone to precipitate you leave them.
- Process by electrodiálisis: Dissolution in water to 25°C and concentration by evaporation of them you leave for electrodiálisis.

Of the economic studies carried out, all these processes do not turn out to be economically viable in the current state of the energy balance. The reasons by the ones that the processes studied are not economically viable are:

- The high investment required: since 1,500 to 2,500 MPts for plants that were capable to recycle 30,000 T/YEAR with an operating capacity of the 90% (330 days, 24 h/d).
- The low sale price of them you leave recycled that besides, in some cases, they cannot be utilized to the 100% but they should be mixed with chlorides done not recycle.
- The difficulty to find utility for the oxides of aluminum owed, among others reasons, to their content in chlorides, which do not they manage to eliminate themselves in their totality.

So that the aluminum recovered of the dross could come to be sold instead of being carried to deposit of security, would be necessary that had an uniformity in its purity.

The saline dross produced by the new ovens rotary dumpers, they turn out to be much less viable economically of to be recycled. And it is thus by the following reasons:

1. The amount of incomes is reduced considerably upon being minimized of important form the saline dross generated.
2. The contained aluminum in the saline dross originating in the ovens rotary dumpers is smaller that the content in the saline dross produced in the rotary ovens of fixed axis, and consistently lower the income originating in the recovery of the aluminum in the process of separation and grinding.
3. The saline dross, produced in rotary ovens dumpers, they contain a lot smaller percentage of you leave recoverable, that leave them contents in the saline dross produced in rotary oven of fixed axis. Consistently of a same unfeasible process, with a high cost, they recover a lot of smaller quantity of you leave, that is the fraction that only can have recycling.