

CAT

Covered Anode Tray

How it works

Prebaked anodes used in electrolysis cells for the production of aluminium have to be replaced periodically. Once used anodes (butts) are removed from the cells, they are usually placed on anode trays for transportation and cooling, a process during which Hydrogen Fluoride (HF) is generated in large quantities. HF gas is particularly toxic for the environment and human beings as well, hence the need to reduce HF emissions.

In collaboration with Alcoa Canada, STAS has developed the CAT / Covered Anode Tray, a specifically designed container that permits to reduce contact between the anode butts and the ambient air by confining the anode butts in an enclosed container shortly after their removal from the cells. Such a system significantly reduces HF emissions when the anode butts are cooled down (50% reduction).

The panels of the closed container are automatically activated by the movement of the anodes when they are inserted or removed. A patented mechanism used to seal the gap around the anode rod ensures optimum confinement while minimising the maintenance costs. The geometry of the containers can be easily adapted for use with most of the anode trays.

Key features

PRODUCTIVITY IMPROVEMENT

- > Easily integrated to anode replacement cycle (no additional tasks required).
- > Automated mechanism resulting from anode movement sequence
- > Use of existing plant anode trays and transport vehicles.

SAFE OPERATING ENVIRONMENT

- > Reduces by 50% the HF generated by anode butts.
- > Improves significantly the quality of ambient air in the vicinity of the anode replacement areas.
- > Reduces heat radiation in the anode replacement areas.

« A simple and efficient way
to reduce HF emissions
from anode butts »

