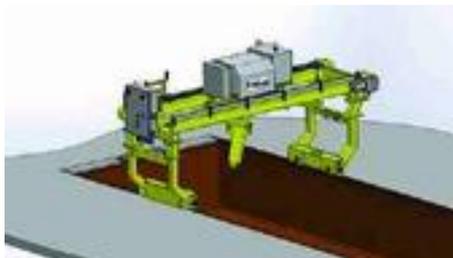


# Simplifying cell lining

The next generation multipurpose machine for electrolysis cell lining was introduced by Equibras of Canada to the market in 2012 and three machines are currently in operation.



- Remote controlled
- Fully assembled from workshop
- Noise level below 75 dB
- Data box with full process monitoring
- Reduction of the handling material
- Safety of movements.

To complement the above machine, the suite of accessories includes:

**Lifting Beam:** Cathode blocks (capacity 4 t). Allows the transportation of the cathode block from the potshell end to the final position.

**Vacuum Device:** Sidewall blocks (capacity 300 kg). Allows the positioning of the side block from potshell end to the side wall of the potshell.

**Bricks Lifter:** Up to 50 standard bricks at a time. Allows transportation of the bricks from potshell end to the final position.

**Paste Compacting Module:** Cathode and perimeter joints. Allows the ramming of paste on the cathode joints and perimeter joints.

Almeq wheels or standard vibrating blade ramming is used for compaction of paste (joints between cathode and perimeter). The compaction tools could be either wheels or a standard vibrating blade featuring:

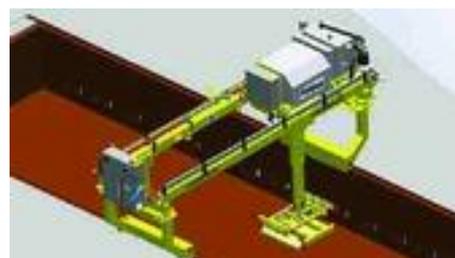
- Self-vacuum cleaner
- Light tools
- Data-box
- Noise level below 75 dB.

The machine is compatible with the Equibras paste heating box and cathode heating system. The heating box is used to transport and keep the lining paste at the installation temperature (prior to the ramming process). Over 150 Equibras cathode heating systems are currently in operation. The system allows the heating of cathodes during the potlining process, and the warm up of the small joint and the large joint in the same time. The safe, light and easy-to-use Equibras system preheats the complete potshell homogeneously at reduced current levels and requires less maintenance than conventional methods.

## Successful potlining

Equibras and its teams are available on demand to participate in the evaluation of potential cost reduction with a given client. The firm has supplied potlining equipment for 15 years and ALMEQ Norway AS and Equibras have cooperated during the past 10 years for the development of potlining equipment. The following services in the field of potshells lining for the aluminium industry are offered:

- Research and development
- Design and fabrication of specialised



Progress of brickwork stages.



Equibras multipurpose machine for electrolysis cell lining.

Potlining technology is based on many kinds of refractory materials which are heavy and most of the time are manipulated by hand. This Equibras multipurpose machine allows the safe manipulation of most of these materials by vacuum from the transportation pallets to the final lining location. The electrolysis cell lining machine is able to handle all steps involving materials within the potlining process, starting from bricks to the final ramming paste compaction step.

The new machine is composed of three main components: a motorised structure on a wheel able to roll on the potshell deck plate, a removable lifting module, and a removable compaction module. This new multipurpose machine optimises the application of pot technology and reduces the potlining time frame. The machine can handle up to 300 kg materials and consequently save potentially 40% of worktime within the pot. The percentage would vary depending on the pot technology.

## Benefits

Key advantages of the Equibras cell lining machine include:

- Wheel on pot shell deck plate
- Slim design and easy to store (5 metres long)
- Economical in comparison with a full size machine
- Easily adapted to any pre-bake technology
- Easily handled by forklift or overhead crane



Heating box for lining paste.

equipment and tools

- Engineering assistance during FEED, execution, commissioning and start-up phases.

Reduction technologies suggest a list of standard equipment for the execution of potshells lining. These equipments require adaptation to specific applications. This is where Equibras plays an important role through R&D and in designing and supplying proper equipment and tools. For cathode heating applications in potlining, Equibras has supplied over 150 units to date. In total, Equibras has developed over 100 different systems, some of which are patented.

[www.equibras.ca](http://www.equibras.ca)