

Three Steps to Improved Filtration Performance and Reduced Cost in Times of Limited Capital

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Abstract

The optimization of the existing filters in an alumina refinery is a very economically attractive alternative to investment in new equipment, particularly in times of where available capital is limited. With the BOKELA filter revamping program, insufficient filter performance, excessive maintenance and the high operating costs of existing filters can be corrected quickly and at a reasonable price. The benefits of filter revamping include: increased filtration capacity by between 30 % to 135 % (as per assessment), improved cake moistures, improved filter operation, reduced maintenance, and a typical cost range between 20% to 40% of the cost of a new filter. The BOKELA filter revamping program comprises three steps: Diagnostic, Engineering and Realization. The program starts with laboratory and/or plant trials performed by BOKELA to assess the potential to increase filter capacity and to make proposals for modifications to the filter design. If the test results and the proposed design modifications are suitably attractive, the revamping project typically starts with the upgrading of a first filter in a step by step collaborative process involving BOKELA and the equipment owner.

Keywords: disc filter; pan filter; drum filter; filter revamping; filter capacity, filter cost reduction.