

Wedge-Flow[®] Wire Filter Leaves



- STRONGER
- LONGER LASTING
- EASY TO RESCREEN
- BETTER THROUGHPUT

If you want to increase flow through your Pressure Filter Leaves, you should examine your process to determine where the restrictions are. The logical areas of restriction to flow are the filter cloth (wire cloth or fabric bag), the nozzle (outlet) and the chamber (internal structure).

As the pressure leaf filtration process starts a new or clean leaf offers little resistance to flow. During precoat, the precoat itself (diatomaceous earth or perlite) becomes the major resistance to flow. As the filtration cycle proceeds the filter cake becomes the major resistance to flow.

As long as the filter leaves remain clean and rigid, the above mentioned conditions will exist. However, as cycle after cycle is run on a filter, other restrictions begin to develop. This is because solid contaminants being removed and/or filter aid (D.E. or perlite) begin to accumulate in and on the leaf. If the solids accumulating restrict the filter cloth or the nozzle, this condition can be easily observed and corrective cleaning can take place. If however, the accumulation is in the chamber of the leaf, corrective cleaning is more difficult because the chamber is not easy to get at for cleaning. As one can imagine, as the chamber becomes more and more clogged, flow is reduced and filter cycles become shorter.

Chamber clogging is more likely and more severe if the internal structure of a leaf contains complex materials (such as various sizes of wire cloth and perforated metal) that provide places for contaminants and filter aid to accumulate. Also, twisting of the leaf will cause plugging and "blinding off" of areas of the leaf. We have observed this internal chamber clogging of many leaves (our own and those of other manufacturers) that we sent to us for rebuilding.

We then set out to develop a better chamber that would minimize accumulation of solids inside of the leaf. Our answer to the problem is the Wedge-Flow[®] chamber. Some examples of which follow.

We and our customers have been very pleased with the Wedge-Flow[®] chamber results. Customers have reported as much as 50% increase in flow in some of our leaves rebuilt with a Wedge-Flow[®] core. In addition the leaves are considerably more rigid. To date, we have designed Wedge-Flow[®] chamber filter leaves for over 50 companies, covering a period of several years, with excellent results.

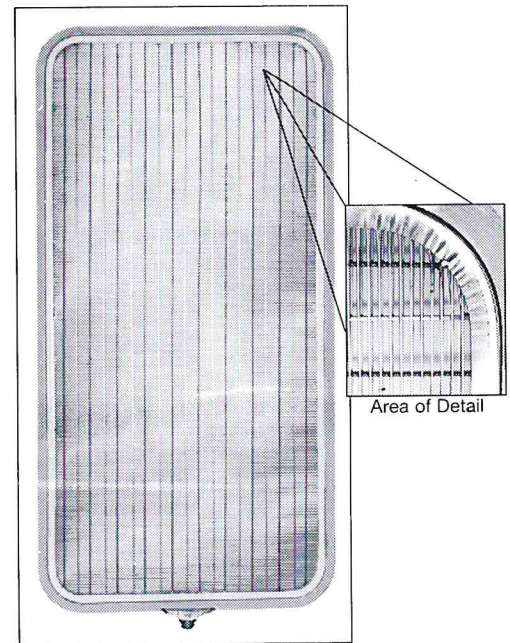


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Chemical Company

This company has several pressure leaf filters through which they filter sodium chlorate, manganese dioxide and weak sulphuric acid. Because of the corrosiveness of these solutions their filter leaves need to be recovered very often. After making several leaf design changes, we have optimized on the Wedge-Flow® core, bar frame leaf with capping channel shown. This gives the customer filter leaves with the best drainage member and the easiest recovering.

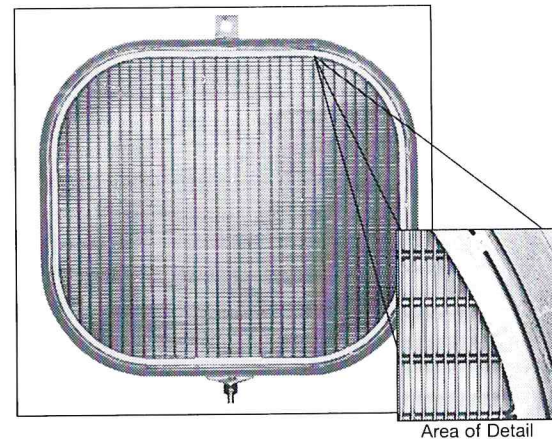


Sulphur Producer

These leaves are used for polishing molten sulphur which is a particularly difficult filter leaf application. The sulphur tends to solidify in the chamber. The leaves are exposed to temperature changes from ambient to 600 degrees F. and heavy rapping by the operators to remove the cake at the end of the run. Vibrators do not work here.

The present Wedge-Flow® core, caulked bar frame rim leaf evolved from a joint effort with the customer to achieve the optimum design for molten sulphur.

The Wedge-Flow® core gives both good drainage and a flat filter screen support. The bar frame will stand up to more abuse than any other filter frame.

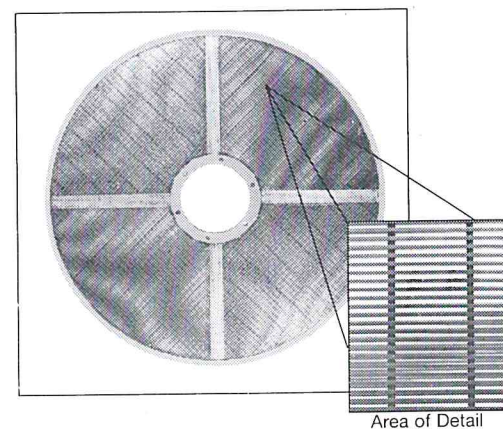


Solids build-up in the leaf has been greatly reduced. Flow through the filters was increased as much as 50% with this open, stronger leaf.

Chemical Company

This is our latest use of a Wedge-Flow® core to improve a center discharge pressure leaf design and allow it to withstand pressure differentials of 80 psi. By using a quad-cut Wedge-Flow® chamber with a bar frame we replaced a complex European radial rib/perforated plate chamber to give our customer the following advantages:

1. Better internal drainage
2. Lighter weight
3. A leaf that is more easily rescreened
4. A spot welded screen to frame closure that should outlast the present riveted design.
5. Longer filter runs due to a higher allowable differential pressure.



If you are disappointed with the flow you are getting through your filters and your filter output, then we would like to discuss your pressure leaf filtration with you. Please give us a call.