

V-Fold Folding Belt Filter Press Case Study No. 4b - Metal Finishing (Electrocoat Facility - Clarifier)

THE PROCESS

A new paint line was installed in a factory manufacturing automotive parts. Parts are washed in alkaline cleaner, given a zinc phosphate coating, and then painted with an electrocoat system.

Wastewater is processed through an effluent treatment plant before discharge to sewer. This plant uses ferric salts, magnesium hydroxide and polyelectrolyte to precipitate impurities.

The effluent plant has a **V-FOLD™** model SS600 filter to convert the precipitate from slurry into filter cake for disposal.



General arrangement of
V-FOLD model SS600

PERFORMANCE¹

Feed slurry varies in composition and solid content depending on prevailing operating conditions. Typical slurry feedrate to the **V-FOLD™** is 200 – 300 litres/hour (containing about 6% dry solids) and typical filter cake contains more than 20% dry solids.

Treated effluent plant water is used for filter belt washing, and this is recycled back to the effluent plant.



Feed slurry (air mixing)

BENEFITS

- The **V-FOLD™** filter reduces the volume of precipitate for disposal to less than a third of the original slurry volume – a great saving in disposal cost. Also, liquid slurry is much more expensive to dispose of than solid filter cake. Overall, disposal costs are reduced by more than 85%.
- The **V-FOLD™** filter is able to operate continuously without the need for Operator intervention to open and close a “plate and frame” filter.



Filter cake

¹ NOTE: As with all filters, performance depends on prevailing conditions and data noted here is specific for this particular factory at the time of testing.