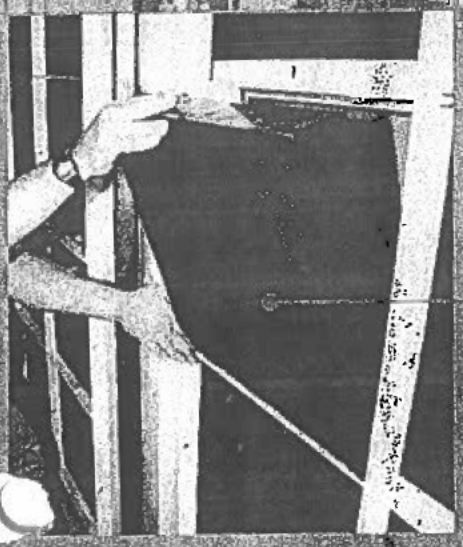
GLOBAL FINISHING SOLUTIONS

CARBON
ADSORPTION CELLS

CARBON ADSORPTION is an economical method of capturing volatile organic compounds, such as those emitted from spray painting operations. Carbon will capture any hydrocarbon compounds, even diesel fumes. Properly sized for good retention times it is 95% plus efficient allowing only for losses due to poor sealing of cells and promiscuous pass through.



- Figure illustrates Carbon Filters in an Exhaust Chamber of a paint spray booth.
- Figure demonstrates how to install the Carbon Filters.

Carbon cells are square or rectangular in shape. Typical sizes would be 20" x 20" x 3" and 24" x 24" x 3". These fit standard air handler filter frames and are easy to service and replace.

Carbon is 36 lb/cf in bulk density. A 24" square cell 3" thick will hold 36 lb of carbon granules. Approximately 12 lb. of carbon granules will hold 1 lb. of V.O.C. Cells are rated for velocity of 120 fpm through the cell.

This rating gives adequate residence time (0.125 sec.) to capture 100% of the hydrocarbons in the airstream. There is some variance in adsorption rates for various chemicals, but this residence time covers almost all chemicals known in paint compounds.

Carbon cells are sensitive to fouling and it is necessary to provide high efficiency filtration ahead of them to protect their surface. If carbon adsorption is to be used in humid climates it is recommended that the air be dehumidified prior to the carbon bed.