

POLLUTION SOLUTIONS

CHROMIUM MACT STANDARD COMPLIANCE



Reference No. 15279-00

MAPCO PRODUCTS

- FUME SCRUBBERS
- ENFORCER III™ (CMP)
MIST ELIMINATORS
- TERMINATOR™
- ULTRA-MACT™
- PREDATOR™
- FUME ARRESTOR™
- MISTMASTER™
- PVC DUCTWORK
- EXHAUST HOODS
- INSTALLATION
- SERVICE

FOIL COMPANY IMPROVES WET SCRUBBING PERFORMANCE WHILE REDUCING EFFLUENT FLOWS

A major supplier of copper foil operates several plants in the U.S. The production process includes plating a thin strip of copper onto a steel roller, coiling the foil and shipping it to the end user. The copper foil line utilizes large steel rollers which are regularly hard chrome plated for wear resistance and texture. Roll plating is done in-house, in three large hard chrome plating tanks at 10,000-plus amperes per tank. Each roll is plated with about 1/3 submersion and rotated during plating, similar to the method used for (much smaller) roto-gravure rolls. Gravure plating applications have proven to emit a smaller and more difficult chrome mist to control, but Mapco guaranteed compliance with .015 mg/dscm regardless, based on success at a different, similar facility. The exhaust system design includes tank covers that allow the large (68" X 132") plating tanks to be exhausted with less than 2,000 CFM per tank.

A closed-loop Enforcer III™ sized @ 7,000 CFM, with inline mist eliminator and fully automatic washdown controls and control panel, was installed in December of 1996.

A stack test performed shortly after found a total chrome concentration in the stack of 0.02 mg/dscm, placing the system "out of compliance." Determining factors in the performance failure seem to have been caused by:

- Extremely small micron sized chrome particulate
- Extremely high concentration of chrome mist loaded to the exhaust system (30,000-plus amperes / 7,000 CFM)

Several actions taken by Mapco to correct the performance failure resulted in relatively minor design changes and a final stack test, this time showing a total chrome emission rate of .00063 mg/dscm.

FUME ARRESTOR BENEFITS

- Scrubbing Equipment stays clean
- Creates a low-volume effluent
- Eliminates the malfunctions and high maintenance experienced with the older wet scrubbers.
- Provides far superior scrubbing performance.

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