

X11 - HARD CHROME / ANODIZING ELECTROPLATING, WET SCRUBBER CONTROLLED

CALCULATION METHODS

$E_a = U_a \times EF$

$E_h = U_h \times EF$

NOTES:

- U_a = Annual electrical usage, ampere-hour/year

- U_h = Maximum hourly electrical usage, ampere-hour/ hour

- Assume 75% control efficiency for wet scrubber. See ARB Tech. Support Doc. to Proposed ATCM for Emissions of Cr+6 from Chrome Plating & Chromic Acid Anodizing Operations (Jan. 1988), Table III-2 and

ARB Tech. Guidance Doc. to the Criteria & Guidelines Reg. for AB2588 (Aug. 1989), page 44.

- Assume TSP = PM-10.

- C_i = Weight percent of other listed substance in solution, %.

- C_{Cr+6} = Weight percent of Cr+6 in solution, %.

- "OTHER" pollutants and their corresponding emission factors are to be manually entered.

- Assume 100% capture efficiency.

| POLLUTANT | Emission Factor | REFERENCE | ARB | (UNITS) | COMMENTS |
|---------------------|---|---|--------|---------|----------|
| | (lbs/amp-hr) | DOCUMENT | FACTOR | | |
| NOX | | | | | |
| CO | | | | | |
| SOX | | | | | |
| TOG | | | | | |
| ROG | | | | | |
| TSP | 8.93E-06 | AP-42 (July 1996), Table 12.20-1 = 0.25 grains/amp-hr | | | |
| PM10 | 8.93E-06 | | | | |
| ALUMINUM | | | | | |
| BERYLLIUM | | | | | |
| CADMIUM | | | | | |
| CHLORINE | | | | | |
| CHROMIUM HEXAVALENT | 3.58E-06 | Average of ARB's Tech. Support Doc. to Proposed ATCM for Emissions of Cr+6 from Chrome Plating & Chromic Acid Anodizing Ops. (Aug. 1989) = 5.2 mg Cr+6/amp-hr (1.146E-5 lbs Cr+6/amp-hr) and AP-42 (July 1996), Table 12.20-1 = 0.12 grains Cr+6/amp-hr (1.715E-5 lbs Cr+6/amp-hr). | | | |
| OTHER | 3.58E-6 x C _i /C _{Cr+6} | | | | |