

2.16 New Primary Aluminum Reduction Plants

2.16.1 Applicability and Designation of Affected Facility

- (a) The affected facilities in primary aluminum reduction plants to which this source category applies are potroom groups and anode bake plants.
- (b) Any facility under paragraph (a) of this section that commences construction or modification after October 23, 1974 is subject to the requirements of this source category.

2.16.2 Test Methods and Procedures

- (a) In conducting the performance tests required in Section 1.2, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of this text or other methods and procedures as specified in this section, except as provided in §1.2(b).
- (b) The owner or operator shall determine compliance with the total fluorides and visible emission standards as follows:

- (1) The emission rate (E_p) of total fluorides from potroom groups shall be computed for each run using the following equation:

$$E_p = [(C_s Q_{sd})_1 + (C_s Q_{sd})_2] / (P K)$$

Where:

- E_p = emission rate of total fluorides from a potroom group, kg/Mg (lb/ton).
- C_s = concentration of total fluorides, mg/dscm (mg/dscf).
- Q_{sd} = volumetric flow rate of effluent gas, dscm/hr (dscf/hr).
- P = aluminum production rate, Mg/hr (ton/hr).
- K = conversion factor, 10^6 mg/kg (453,600 mg/lb).
- 1 = subscript for primary control system effluent gas.
- 2 = subscript for secondary control system or roof monitor effluent gas.

- (2) The emission rate (E_b) of total fluorides from anode bake plants shall be computed for each run using the following equation:

$$E_b = (C_s Q_{sd}) / (P_e K)$$

Where:

- E_b = emission rate of total fluorides, kg/Mg (lb/ton) of aluminum equivalent.
- C_s = concentration of total fluorides, mg/dscm (mg/dscf).
- Q_{sd} = volumetric flow rate of effluent gas, dscm/hr (dscf/hr).
- P_e = aluminum equivalent for anode production rate, Mg/hr (ton/hr).
- K = conversion factor, 10^6 mg/kg (453,600 mg/lb).

- (3) Methods 13A or 13B shall be used for ducts or stacks, and Method 14 for roof monitors not employing stacks or pollutant collection systems, to determine the total fluorides concentration (C_s) and volumetric flow rate (Q_{sd}) of the effluent gas. The sampling time and sample volume for each run shall be at least 8 hours and 6.80 dscm (240 dscf) for potroom groups and at least 4 hours and 3.40 dscm (120 dscf) for anode bake plants.

- (4) The monitoring devices of 2.16.3 shall be used to determine the daily weight of aluminum and anode produced.
 - (i) The aluminum production rate (P) shall be determined by dividing 720 hours into the weight of aluminum tapped from the affected facility during a period of 30 days before and including the final run of a performance test.
 - (ii) The aluminum equivalent production rate (P_e) for anodes shall be determined as 2 times the average weight of anode produced during a representative oven cycle divided by the cycle time. An owner or operator may establish a multiplication factor other than 2 by submitting production records of the amount of aluminum produced and the concurrent weight of anodes consumed by the potrooms.
- (5) Method 9 and the procedures in Section 1.3 shall be used to determine opacity.

2.16.3

Monitoring of Operations

- (a) The owner or operator of any affected facility subject to the provisions of this subpart shall install, calibrate, maintain, and operate monitoring devices which can be used to determine daily the weight of aluminum and anode produced. The weighing devices shall have an accuracy of ± 5 percent over their operating range.
- (b) The owner or operator of any affected facility shall maintain a record of daily production rates of aluminum and anodes, raw material feed rates, and cell or potline voltages.