

Environmental Protection Agency

§ 60.265

(v) *Calcium silicon* means that alloy as defined by ASTM Designation A495-76 or 94 (incorporated by reference—see §60.17).

(w) *Ferrosilicon* means that alloy as defined by ASTM Designation A100-69, 74, or 93 (incorporated by reference—see §60.17) grades A, B, C, D, and E, which contains 50 or more percent by weight silicon.

(x) *Silicon metal* means any silicon alloy containing more than 96 percent silicon by weight.

(y) *Ferromanganese silicon* means that alloy containing 63 to 66 percent by weight manganese, 28 to 32 percent by weight silicon, and a maximum of 0.08 percent by weight carbon.

[41 FR 18501, May 4, 1976; 41 FR 20659, May 20, 1976, as amended at 48 FR 3738, Jan. 27, 1983; 65 FR 61758, Oct. 17, 2000]

§ 60.262 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any electric submerged arc furnace any gases which:

(1) Exit from a control device and contain particulate matter in excess of 0.45 kg/MW-hr (0.99 lb/MW-hr) while silicon metal, ferrosilicon, calcium silicon, or silicomanganese zirconium is being produced.

(2) Exit from a control device and contain particulate matter in excess of 0.23 kg/MW-hr (0.51 lb/MW-hr) while highcarbon ferrochrome, charge chrome, standard ferromanganese, silicomanganese, calcium carbide, ferrochrome silicon, ferromanganese silicon, or silvery iron is being produced.

(3) Exit from a control device and exhibit 15 percent opacity or greater.

(4) Exit from an electric submerged arc furnace and escape the capture system and are visible without the aid of instruments. The requirements under this subparagraph apply only during periods when flow rates are being established under §60.265(d).

(5) Escape the capture system at the tapping station and are visible without the aid of instruments for more than 40 percent of each tapping period. There

are no limitations on visible emissions under this subparagraph when a blowing tap occurs. The requirements under this subparagraph apply only during periods when flow rates are being established under §60.265(d).

(b) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any dust-handling equipment any gases which exhibit 10 percent opacity or greater.

§ 60.263 Standard for carbon monoxide.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any electric submerged arc furnace any gases which contain, on a dry basis, 20 or greater volume percent of carbon monoxide. Combustion of such gases under conditions acceptable to the Administrator constitutes compliance with this section. Acceptable conditions include, but are not limited to, flaring of gases or use of gases as fuel for other processes.

§ 60.264 Emission monitoring.

(a) The owner or operator subject to the provisions of this subpart shall install, calibrate, maintain and operate a continuous monitoring system for measurement of the opacity of emissions discharged into the atmosphere from the control device(s).

(b) For the purpose of reports required under §60.7(c), the owner or operator shall report as excess emissions all six-minute periods in which the average opacity is 15 percent or greater.

(c) The owner or operator subject to the provisions of this subpart shall submit a written report of any product change to the Administrator. Reports of product changes must be post-marked not later than 30 days after implementation of the product change.

§ 60.265 Monitoring of operations.

(a) The owner or operator of any electric submerged arc furnace subject to

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the provisions of this subpart shall maintain daily records of the following information:

- (1) Product being produced.
- (2) Description of constituents of furnace charge, including the quantity, by weight.
- (3) Time and duration of each tapping period and the identification of material tapped (slag or product.)
- (4) All furnace power input data obtained under paragraph (b) of this section.
- (5) All flow rate data obtained under paragraph (c) of this section or all fan motor power consumption and pressure drop data obtained under paragraph (e) of this section.

(b) The owner or operator subject to the provisions of this subpart shall install, calibrate, maintain, and operate a device to measure and continuously record the furnace power input. The furnace power input may be measured at the output or input side of the transformer. The device must have an accuracy of ± 5 percent over its operating range.

(c) The owner or operator subject to the provisions of this subpart shall install, calibrate, and maintain a monitoring device that continuously measures and records the volumetric flow rate through each separately ducted hood of the capture system, except as provided under paragraph (e) of this section. The owner or operator of an electric submerged arc furnace that is equipped with a water cooled cover which is designed to contain and prevent escape of the generated gas and particulate matter shall monitor only the volumetric flow rate through the capture system for control of emissions from the tapping station. The owner or operator may install the monitoring device(s) in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device must have an accuracy of ± 10 percent over its normal operating range and must be calibrated according to the manufacturer's instructions. The Administrator may require the owner or operator to demonstrate the accuracy of the monitoring device relative to Methods 1 and 2 of appendix A to this part.

(d) When performance tests are conducted under the provisions of § 60.8 of this part to demonstrate compliance with the standards under §§ 60.262(a) (4) and (5), the volumetric flow rate through each separately ducted hood of the capture system must be determined using the monitoring device required under paragraph (c) of this section. The volumetric flow rates must be determined for furnace power input levels at 50 and 100 percent of the nominal rated capacity of the electric submerged arc furnace. At all times the electric submerged arc furnace is operated, the owner or operator shall maintain the volumetric flow rate at or above the appropriate levels for that furnace power input level determined during the most recent performance test. If emissions due to tapping are captured and ducted separately from emissions of the electric submerged arc furnace, during each tapping period the owner or operator shall maintain the exhaust flow rates through the capture system over the tapping station at or above the levels established during the most recent performance test. Operation at lower flow rates may be considered by the Administrator to be unacceptable operation and maintenance of the affected facility. The owner or operator may request that these flow rates be reestablished by conducting new performance tests under § 60.8 of this part.

(e) The owner or operator may as an alternative to paragraph (c) of this section determine the volumetric flow rate through each fan of the capture system from the fan power consumption, pressure drop across the fan and the fan performance curve. Only data specific to the operation of the affected electric submerged arc furnace are acceptable for demonstration of compliance with the requirements of this paragraph. The owner or operator shall maintain on file a permanent record of the fan performance curve (prepared for a specific temperature) and shall:

- (1) Install, calibrate, maintain, and operate a device to continuously measure and record the power consumption of the fan motor (measured in kilowatts), and
- (2) Install, calibrate, maintain, and operate a device to continuously measure and record the pressure drop across

the fan. The fan power consumption and pressure drop measurements must be synchronized to allow real time comparisons of the data. The monitoring devices must have an accuracy of ± 5 percent over their normal operating ranges.

(f) The volumetric flow rate through each fan of the capture system must be determined from the fan power consumption, fan pressure drop, and fan performance curve specified under paragraph (e) of this section, during any performance test required under § 60.8 to demonstrate compliance with the standards under §§ 60.262(a)(4) and (5). The owner or operator shall determine the volumetric flow rate at a representative temperature for furnace power input levels of 50 and 100 percent of the nominal rated capacity of the electric submerged arc furnace. At all times the electric submerged arc furnace is operated, the owner or operator shall maintain the fan power consumption and fan pressure drop at levels such that the volumetric flow rate is at or above the levels established during the most recent performance test for that furnace power input level. If emissions due to tapping are captured and ducted separately from emissions of the electric submerged arc furnace, during each tapping period the owner or operator shall maintain the fan power consumption and fan pressure drop at levels such that the volumetric flow rate is at or above the levels established during the most recent performance test. Operation at lower flow rates may be considered by the Administrator to be unacceptable operation and maintenance of the affected facility. The owner or operator may request that these flow rates be reestablished by conducting new performance tests under § 60.8. The Administrator may require the owner or operator to verify the fan performance curve by monitoring necessary fan operating parameters and determining the gas volume moved relative to Methods 1 and 2 of appendix A to this part.

(g) All monitoring devices required under paragraphs (c) and (e) of this section are to be checked for calibration annually in accordance with the procedures under § 60.13(b).

§ 60.266 Test methods and procedures.

(a) During any performance test required in § 60.8, the owner or operator shall not allow gaseous diluents to be added to the effluent gas stream after the fabric in an open pressurized fabric filter collector unless the total gas volume flow from the collector is accurately determined and considered in the determination of emissions.

(b) In conducting the performance tests required in § 60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(c) The owner or operator shall determine compliance with the particulate matter standards in § 60.262 as follows:

(1) The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E = \left[\left(\sum_{i=1}^N C_{si} Q_{sdi} \right) \right] / (PK)$$

where:

E=emission rate of particulate matter, kg/MW-hr (lb/MW-hr).

n=total number of exhaust streams at which emissions are quantified.

C_{si} =concentration of particulate matter from exhaust stream "i", g/dscm (gr/dscf).

Q_{sdi} =volumetric flow rate of effluent gas from exhaust stream "i", dscm/hr (dscf/hr).

P=average furnace power input, MW.

K=conversion factor, 1000 g/kg (7000 gr/lb).

(2) Method 5 shall be used to determine the particulate matter concentration (C_{si}) and volumetric flow rate (Q_{sdi}) of the effluent gas, except that the heating systems specified in sections 2.1.2 and 2.1.6 are not to be used when the carbon monoxide content of the gas stream exceeds 10 percent by volume, dry basis. If a flare is used to comply with § 60.263, the sampling site shall be upstream of the flare. The sampling time shall include an integral number of furnace cycles.

(i) When sampling emissions from open electric submerged arc furnaces with wet scrubber control devices, sealed electric submerged arc furnaces, or semienclosed electric arc furnaces, the sampling time and sample volume for each run shall be at least 60 minutes and 1.80 dscm (63.6 dscf).