

(h) The owner or operator who uses a wet scrubbing control device to control formaldehyde emissions must install, calibrate, maintain, and operate monitoring devices that continuously monitor and record the gas pressure drop across each scrubber and scrubbing liquid flow rate to each scrubber according to the procedures in the operations, maintenance, and monitoring plan. The pressure drop monitor is to be certified by its manufacturer to be accurate within ± 250 pascals (± 1 inch water gauge) over its operating range, and the flow rate monitor is to be certified by its manufacturer to be accurate within ± 5 percent over its operating range. The owner or operator must also continuously monitor and record the feed rate of any chemical(s) added to the scrubbing liquid.

(i)(1) The owner or operator who uses process modifications to control formaldehyde emissions must establish a correlation between formaldehyde emissions and a process parameter(s) to be monitored.

(2) The owner or operator must monitor the established parameter(s) according to the procedures in the operations, maintenance, and monitoring plan.

(3) The owner or operator must include as part of their operations, maintenance, and monitoring plan the following information:

(i) Procedures for the proper operation and maintenance of the process;

(ii) Process parameter(s) to be monitored to demonstrate compliance with the applicable emission limits in § 63.1382. Examples of process parameters include LOI, binder solids content, and binder application rate;

(iii) Correlation(s) between process parameter(s) to be monitored and formaldehyde emissions;

(iv) A schedule for monitoring the process parameter(s); and

(v) Recordkeeping procedures, consistent with the recordkeeping requirements of § 63.1386, to show that the process parameter value(s) established during the performance test is not exceeded.

(j) The owner or operator must monitor and record the free-formaldehyde content of each resin shipment re-

ceived and used in the formulation of binder.

(k) The owner or operator must monitor and record the formulation of each batch of binder used.

(l) The owner or operator must monitor and record at least once every 8 hours, the product LOI and product density of each bonded wool fiberglass product manufactured.

(m) For all control device and process operating parameters measured during the initial performance tests, the owners or operators of glass-melting furnaces, rotary spin manufacturing lines or flame attenuation manufacturing lines subject to this subpart may change the limits established during the initial performance tests if additional performance testing is conducted to verify that, at the new control device or process parameter levels, they comply with the applicable emission limits in § 63.1382. The owner or operator shall conduct all additional performance tests according to the procedures in this part 63, subpart A and in § 63.1384.

§ 63.1384 Performance test requirements.

(a) The owner or operator subject to the provisions of this subpart shall conduct a performance test to demonstrate compliance with the applicable emission limits in § 63.1382. Compliance is demonstrated when the emission rate of the pollutant is equal to or less than each of the applicable emission limits in § 63.1382. The owner or operator shall conduct the performance test according to the procedures in 40 CFR part 63, subpart A and in this section.

(1) All monitoring systems and equipment must be installed, operational, and calibrated prior to the performance test.

(2) Unless a different frequency is specified in this section, the owner or operator must monitor and record process and/or add-on control device parameters at least every 15 minutes during the performance tests. The arithmetic average for each parameter must be calculated using all of the recorded measurements for the parameter.

(3) During each performance test, the owner or operator must monitor and record the glass pull rate for each glass-melting furnace and, if different, the glass pull rate for each rotary spin manufacturing line and flame attenuation manufacturing line. Record the glass pull rate every 15 minutes during any performance test required by this subpart and determine the arithmetic average of the recorded measurements for each test run and calculate the average of the three test runs.

(4) The owner or operator shall conduct a performance test for each existing and new glass-melting furnace.

(5) During the performance test, the owner or operator of a glass-melting furnace controlled by an ESP shall monitor and record the ESP parameter level(s), as specified in the operations, maintenance, and monitoring plan, and establish the minimum and/or maximum value(s) that will be used to demonstrate compliance after the initial performance test.

(6) During the performance test, the owner or operator of a cold top electric furnace that is not equipped with an add-on control device for PM emissions control, must monitor and record the temperature 46 to 61 centimeters (18 to 24 inches) above the molten glass surface to ensure that the maximum temperature does not exceed 120 °C (250 °F).

(7) During the performance test, the owner or operator of a glass melting furnace (other than a cold top electric furnace) that is not equipped with an add-on control device for PM emissions control, must monitor and record the furnace parameter level, and establish the minimum and/or maximum value(s) that will be used to demonstrate compliance after the initial performance test.

(8) The owner or operator must conduct a performance test for each rotary spin manufacturing line, subject to this subpart, while producing the building insulation with the highest LOI expected to be produced on that line; and for each flame attenuation manufacturing line, subject to this subpart, while producing the heavy-density product or pipe product with the highest LOI expected to be produced on the affected line.

(9) The owner or operator of each rotary spin manufacturing line and flame attenuation manufacturing line regulated by this subpart must conduct performance tests using the resin with the highest free-formaldehyde content. During the performance test of each rotary spin manufacturing line and flame attenuation manufacturing line regulated by this subpart, the owner or operator shall monitor and record the free-formaldehyde content of the resin, the binder formulation used, and the product LOI and density.

(10) During the performance test, the owner or operator of a rotary spin manufacturing line or flame attenuation manufacturing line who plans to use process modifications to comply with the emission limits in § 63.1382 must monitor and record the process parameter level(s), as specified in the operations, maintenance, and monitoring plan, which will be used to demonstrate compliance after the initial performance test.

(11) During the performance test, the owner or operator of a rotary spin manufacturing line or flame attenuation manufacturing line who plans to use a wet scrubbing control device to comply with the emission limits in § 63.1382 must continuously monitor and record the pressure drop across the scrubber, the scrubbing liquid flow rate, and addition of any chemical to the scrubber, including the chemical feed rate, and establish the minimum and/or maximum value(s) that will be used to determine compliance after the initial performance test.

(12) During the performance test, the owner or operator of a rotary spin manufacturing line or affected flame attenuation manufacturing line shall continuously record the operating temperature of each incinerator and record the average during each 1-hour test; the average operating temperature of the three 1-hour tests shall be used to monitor compliance.

(13) Unless disapproved by the Administrator, an owner or operator of a rotary spin or flame attenuation manufacturing line regulated by this subpart may conduct short-term experimental production runs using binder formulations or other process modifications where the process parameter values

would be outside those established during performance tests without first conducting performance tests. Such runs must not exceed 1 week in duration unless the Administrator approves a longer period. The owner or operator must notify the Administrator and postmark or deliver the notification at least 15 days prior to commencement of the short-term experimental production runs. The Administrator must inform the owner or operator of a decision to disapprove or must request additional information prior to the date of the short-term experimental production runs. Notification of intent to perform an experimental short-term production run shall include the following information:

- (i) The purpose of the experimental production run;
 - (ii) The affected line;
 - (iii) How the established process parameters will deviate from previously approved levels;
 - (iv) The duration of the experimental production run;
 - (v) The date and time of the experimental production run; and
 - (vi) A description of any emission testing to be performed during the experimental production run.
- (b) To determine compliance with the PM emission limit for glass-melting furnaces, use the following equation:

$$E = \frac{C \times Q \times K_1}{P} \quad (\text{Eq. 1})$$

Where:

- E = Emission rate of PM, kg/Mg (lb/ton) of glass pulled;
- C = Concentration of PM, g/dscm (gr/dscf);
- Q = Volumetric flow rate of exhaust gases, dscm/h (dscf/h);
- K₁ = Conversion factor, 1 kg/1,000 g (1 lb/7,000 gr); and
- P = Average glass pull rate, Mg/h (tons/h).

(c) To determine compliance with the emission limit for formaldehyde for rotary spin manufacturing lines and flame attenuation forming processes, use the following equation:

$$E = \frac{C \times MW \times Q \times K_1 \times K_2}{K_3 \times P \times 10^6} \quad (\text{Eq. 2})$$

Where:

- E = Emission rate of formaldehyde, kg/Mg (lb/ton) of glass pulled;

- C = Measured volume fraction of formaldehyde, ppm;
- MW = Molecular weight of formaldehyde, 30.03 g/g-mol;
- Q = Volumetric flow rate of exhaust gases, dscm/h (dscf/h);
- K₁ = Conversion factor, 1 kg/1,000 g (1 lb/453.6 g);
- K₂ = Conversion factor, 1,000 L/m³ (28.3 L/ft³);
- K₃ = Conversion factor, 24.45 L/g-mol; and
- P = Average glass pull rate, Mg/h (tons/h).

§ 63.1385 Test methods and procedures.

(a) The owner or operator shall use the following methods to determine compliance with the applicable emission limits:

- (1) Method 1 (40 CFR part 60, appendix A) for the selection of the sampling port location and number of sampling ports;
 - (2) Method 2 (40 CFR part 60, appendix A) for volumetric flow rate;
 - (3) Method 3 or 3A (40 CFR part 60, appendix A) for O₂ and CO₂ for diluent measurements needed to correct the concentration measurements to a standard basis;
 - (4) Method 4 (40 CFR part 60, appendix A) for moisture content of the stack gas;
 - (5) Method 5 (40 CFR part 60, appendix A) for the concentration of PM. Each run shall consist of a minimum run time of 2 hours and a minimum sample volume of 60 dry standard cubic feet (dscf). The probe and filter holder heating system may be set to provide a gas temperature no greater than 177 ±14 °C (350 ±25 °F);
 - (6) Method 316 or Method 318 (appendix A of this part) for the concentration of formaldehyde. Each run shall consist of a minimum run time of 1 hour;
 - (7) Method contained in appendix A of this subpart for the determination of product LOI;
 - (8) Method contained in appendix B of this subpart for the determination of the free-formaldehyde content of resin;
 - (9) Method contained in appendix C of this subpart for the determination of product density;
 - (10) An alternative method, subject to approval by the Administrator.
- (b) Each performance test shall consist of 3 runs. The owner or operator shall use the average of the three runs