

Environmental Protection Agency

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Item of equipment	Control requirement ^a
3. Lift station	(a) TFSC; or (b) TFSC with a vent to either a process, or to a control device meeting the requirements of § 63.139(c); or (c) If the lift station is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter. The lift station shall be level controlled to minimize changes in the liquid level.
4. Trench	(a) TFSC; or (b) TFSC with a vent to either a process, or to a control device meeting the requirements of § 63.139(c); or (c) If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.
5. Pipe	Each pipe shall have no visible gaps in joints, seals, or other emission interfaces.
6. Oil/water separator	(a) Equip with a fixed roof and route vapors to a process, or equip with a closed-vent system that routes vapors to a control device meeting the requirements of § 63.139(c); or (b) Equip with a floating roof that meets the equipment specifications of § 60.693 (a)(1)(i), (a)(1)(ii), (a)(2), (a)(3), and (a)(4).
7. Tank	Maintain a fixed roof and consider vents as process vents. ^c

^a Where a tightly fitting solid cover is required, it shall be maintained with no visible gaps or openings, except during periods of sampling, inspection, or maintenance.
^b Manhole includes sumps and other points of access to a conveyance system.
^c A fixed roof may have openings necessary for proper venting of the tank, such as pressure/vacuum vent, j-pipe vent.

[67 FR 59355, Sept. 20, 2002]

Subpart NNN—National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing

SOURCE: 64 FR 31709, June 14, 1999, unless otherwise noted.

§ 63.1380 Applicability.

(a) Except as provided in paragraphs (b) and (c) of this section, the requirements of this subpart apply to the owner or operator of each wool fiberglass manufacturing facility that is a major source or is located at a facility that is a major source.

(b) The requirements of this subpart apply to emissions of hazardous air pollutants (HAPs), as measured according to the methods and procedures in this subpart, emitted from the following new and existing sources at a wool fiberglass manufacturing facility subject to this subpart:

(1) Each new and existing glass-melting furnace located at a wool fiberglass manufacturing facility;

(2) Each new and existing rotary spin wool fiberglass manufacturing line producing a bonded wool fiberglass building insulation product; and

(3) Each new and existing flame attenuation wool fiberglass manufacturing line producing a bonded product.

(c) The requirements of this subpart do not apply to a wool fiberglass manufacturing facility that the owner or operator demonstrates to the Administrator is not a major source as defined in § 63.2.

(d) The provisions of this part 63, subpart A that apply and those that do not apply to this subpart are specified in Table 1 of this subpart.

[64 FR 31709, June 14, 1999, as amended at 80 FR 45334, July 29, 2015]

§ 63.1381 Definitions.

Terms used in this subpart are defined in the Clean Air Act, in § 63.2, or in this section as follows:

Aerospace and air filtration products means bonded wool fiberglass insulation manufactured for the thermal and acoustical insulation of aircraft and/or the air filtration markets. For the purposes of this subpart, a production line that manufactures these types of products for 75 percent or more of the line's annual operating hours is considered to be an aerospace and air filtration products line.

Bag leak detection system means systems that include, but are not limited

to, devices using triboelectric, light scattering, and other effects to monitor relative or absolute particulate matter (PM) emissions.

Bonded means wool fiberglass to which a phenol-formaldehyde binder has been applied.

Building insulation means bonded wool fiberglass insulation, having a loss on ignition of less than 8 percent and a density of less than 32 kilograms per cubic meter (kg/m^3) (2 pounds per cubic foot [lb/ft^3]).

Cold top electric furnace means an all-electric glass-melting furnace that operates with a temperature of 120 °C (250 °F) or less as measured at a location 46 to 61 centimeters (18 to 24 inches) above the molten glass surface.

Flame attenuation means a process used to produce wool fiberglass where molten glass flows by gravity from melting furnaces, or pots, to form filaments that are drawn down and attenuated by passing in front of a high-velocity gas burner flame.

Gas-fired glass-melting furnace means a unit comprising a refractory vessel in which raw materials are charged, melted at high temperature using natural gas and other fuels, refined, and conditioned to produce molten glass. The unit includes foundations, superstructure and retaining walls, raw material charger systems, heat exchangers, exhaust system, refractory brick work, fuel supply and electrical boosting equipment, integral control systems and instrumentation, and appendages for conditioning and distributing molten glass to forming processes. The forming apparatus, including flow channels, is not considered part of the gas-fired glass-melting furnace. Cold-top electric furnaces as defined in this subpart are not gas-fired glass-melting furnaces.

Glass-melting furnace means a unit comprising a refractory vessel in which raw materials are charged, melted at high temperature, refined, and conditioned to produce molten glass. The unit includes foundations, superstructure and retaining walls, raw material charger systems, heat exchangers, melter cooling system, exhaust system, refractory brick work, fuel supply and electrical boosting equipment, integral control systems and in-

strumentation, and appendages for conditioning and distributing molten glass to forming processes. The forming apparatus, including flow channels, is not considered part of the glass-melting furnace.

Glass pull rate means the mass of molten glass that is produced by a single glass-melting furnace or that is used in the manufacture of wool fiberglass at a single manufacturing line in a specified time period.

Hazardous Air Pollutant (HAP) means any air pollutant listed in or pursuant to section 112(b) of the Clean Air Act.

Heating, ventilation, and air conditioning (HVAC) products means bonded wool fiberglass insulation manufactured for use in HVAC systems for the distribution of air or for thermal and acoustical insulation of HVAC distribution lines. For the purposes of this subpart, a production line that manufactures these types of products for 75 percent or more of the line's annual operating hours is considered to be an HVAC products line.

Heavy-density product means bonded wool fiberglass insulation manufactured on a flame attenuation manufacturing line and having a loss on ignition of 11 to 25 percent and a density of 8 to 48 kg/m^3 (0.5 to 3 lb/ft^3).

Incinerator means an enclosed air pollution control device that uses controlled flame combustion to convert combustible materials to noncombustible gases. For the purposes of this subpart, the term "incinerator" means "regenerative thermal oxidizer".

Loss on ignition (LOI) means the percent decrease in weight of wool fiberglass after it has been ignited. The LOI is used to monitor the weight percent of binder in wool fiberglass.

Manufacturing line means the manufacturing equipment for the production of wool fiberglass that consists of a forming section where molten glass is fiberized and a fiberglass mat is formed and which may include a curing section where binder resin in the mat is thermally set and a cooling section where the mat is cooled.

New source means any affected source that commences construction or reconstruction after March 31, 1997 for purposes of determining the applicability of the emission limits in rows 1, 2 and

7 through 11 in Table 2. New source means any affected source that commences construction or reconstruction after November 25, 2011 for purposes of determining the applicability of all other emissions limits.

Original equipment manufacturer (OEM) products means bonded wool fiberglass insulation manufactured for OEM entities that fabricate the insulation into parts used as thermal or acoustical insulation in products including, but not limited to, appliances, refrigeration units, and office interior equipment. For the purposes of this subpart, a production line that manufactures these types of products for 75 percent or more of the line's annual operating hours is considered to be an OEM products line.

Pipe product means bonded wool fiberglass insulation manufactured on a flame attenuation manufacturing line and having a loss on ignition of 8 to 14 percent and a density of 48 to 96 kg/m³ (3 to 6 lb/ft³). For the purposes of this subpart, a production line that manufactures these types of products for 75 percent or more of the line's annual operating hours is considered to be a pipe product line.

Rotary spin means a process used to produce wool fiberglass building insulation by forcing molten glass through numerous small orifices in the side wall of a spinner to form continuous glass fibers that are then broken into discrete lengths by high-velocity air flow. Any process used to produce bonded wool fiberglass building insulation by a process other than flame attenuation is considered rotary spin.

Wool fiberglass means insulation materials composed of glass fibers made from glass produced or melted at the same facility where the manufacturing line is located.

Wool fiberglass manufacturing facility means any facility manufacturing wool fiberglass on a rotary spin manufacturing line or on a flame attenuation manufacturing line.

[64 FR 31709, June 14, 1999, as amended at 80 FR 45334, July 29, 2015; 82 FR 60883, Dec. 26, 2017]

§ 63.1382 Emission standards.

(a) You must control emissions from each glass-melting furnace, rotary spin

manufacturing line, and flame attenuation manufacturing line as specified in Table 2 to this subpart.

(b) On or after July 29, 2015 to reduce emissions of hydrogen chloride and hydrogen fluoride from each existing, new, or reconstructed glass-melting furnace, you must either:

(1) Require cullet providers to provide records of their inspections showing that no glass from industrial (also known as continuous strand, or textile) fiberglass, cathode ray tubes (CRT), computer monitors that include CRT, and glass from microwave ovens, televisions or other electronics is included in the cullet; or

(2) Sample your raw materials and maintain records of your sampling showing that the cullet is free of glass from industrial fiberglass, cathode ray tubes, computer monitors that include cathode ray tubes, and glass from microwave ovens, televisions or other electronics.

(c) *Operating limits.* On and after the date on which the performance test required to be conducted by §§ 63.7 and 63.1384 is completed, the owner or operator must operate all affected control equipment and processes according to the following requirements.

(1)(i) The owner or operator must initiate corrective action within 1 hour of an alarm from a bag leak detection system and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) The owner or operator must implement a Quality Improvement Plan (QIP) consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the bag leak detection system alarm is sounded for more than 5 percent of the total operating time in a 6-month block reporting period.

(2)(i) The owner or operator must initiate corrective action within 1 hour when any 3-hour block average of the monitored electrostatic precipitator (ESP) parameter is outside the limit(s) established during the performance test as specified in § 63.1384 and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64 subpart D when the monitored ESP parameter is outside the limit(s) established during the performance test as specified in § 63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period.

(iii) The owner or operator must operate the ESP such that the monitored ESP parameter is not outside the limit(s) established during the performance test as specified in § 63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period.

(3)(i) The owner or operator must initiate corrective action within 1 hour when any 3-hour block average temperature of a cold top electric furnace as measured at a location 46 to 61 centimeters (18 to 24 inches) above the molten glass surface, exceeds 120 °C (250 °F) and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) The owner or operator of a cold top electric furnace must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the temperature, as measured at a location 46 to 61 centimeters (18 to 24 inches) above the molten glass surface, exceeds 120 °C (250 °F) for more than 5 percent of the total operating time in a 6-month block reporting period.

(iii) The owner or operator must operate the cold top electric furnace such that the temperature does not exceed 120 °C (250 °F) as measured at a location 46 to 61 centimeters (18 to 24 inches) above the molten glass surface, for more than 10 percent of the total operating time in a 6-month reporting period.

(4)(i) The owner or operator must initiate corrective action within 1 hour when any 3-hour block average value for the monitored parameter(s) for a glass-melting furnace, which uses no add-on controls and which is not a cold top electric furnace, is outside the limit(s) established during the performance test as specified in § 63.1384 and complete corrective actions in a

timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64 subpart D when the monitored parameter(s) is outside the limit(s) established during the performance test as specified in § 63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period.

(iii) The owner or operator must operate a glass-melting furnace, which uses no add-on controls and which is not a cold top electric furnace, such that the monitored parameter(s) is not outside the limit(s) established during the performance test as specified in § 63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period.

(5)(i) The owner or operator must initiate corrective action within 1 hour when the average glass pull rate of any 4-hour block period for glass melting furnaces equipped with continuous glass pull rate monitors, or daily glass pull rate for glass melting furnaces not so equipped, exceeds the average glass pull rate established during the performance test as specified in § 63.1384, by greater than 20 percent and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the glass pull rate exceeds, by more than 20 percent, the average glass pull rate established during the performance test as specified in § 63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period.

(iii) The owner or operator must operate each glass-melting furnace such that the glass pull rate does not exceed, by more than 20 percent, the average glass pull rate established during the performance test as specified in § 63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period.

(6) The owner or operator must operate each incinerator used to comply with the emission limits for rotary spin or flame attenuation lines specified in Table 2 to this subpart such that any 3-hour block average temperature in the firebox does not fall below the average established during the performance test as specified in § 63.1384.

(7)(i) The owner or operator must initiate corrective action within 1 hour when the average pressure drop, liquid flow rate, or chemical feed rate for any 3-hour block period is outside the limits established during the performance tests as specified in § 63.1384 for each wet scrubbing control device and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when any scrubber parameter is outside the limit(s) established during the performance test as specified in § 63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period.

(iii) The owner or operator must operate each scrubber such that each monitored parameter is not outside the limit(s) established during the performance test as specified in § 63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period.

(8)(i) The owner or operator must initiate corrective action within 1 hour when the monitored process parameter level(s) is outside the limit(s) established during the performance test as specified in § 63.1384 for the process modification(s) used to comply with the emission limits for rotary spin or flame attenuation lines specified in Table 2 to this subpart, and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

(ii) The owner or operator must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the process parameter(s) is outside the limit(s) established during the

performance test as specified in § 63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period.

(iii) The owner or operator must operate the process modifications such that the monitored process parameter(s) is not outside the limit(s) established during the performance test as specified in § 63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period.

(9) The owner or operator must use a resin in the formulation of binder such that the free-formaldehyde and free-phenol contents of the resin used do not exceed the respective ranges contained in the specification for the resin used during the performance test as specified in § 63.1384.

(10) The owner or operator must use a binder formulation that does not vary from the specification and operating range established and used during the performance test as specified in § 63.1384. For the purposes of this standard, adding or increasing the quantity of urea and/or lignin in the binder formulation does not constitute a change in the binder formulation.

(11) The owner or operator must maintain the percentage of cullet in the materials mix for each gas-fired glass-melting furnace at or below the level established during the performance test as specified in § 63.1384(a)(4).

[64 FR 31709, June 14, 1999, as amended at 80 FR 45334, July 29, 2015; 82 FR 60884, Dec. 26, 2017]

§ 63.1383 Monitoring requirements.

On and after the date on which the performance test required to be conducted by §§ 63.7 and 63.1384 is completed, the owner or operator must monitor all affected control equipment and processes according to the following requirements.

(a) The owner or operator of each wool fiberglass manufacturing facility must prepare for each glass-melting furnace, rotary spin manufacturing line, and flame attenuation manufacturing line subject to the provisions of this subpart, a written operations, maintenance, and monitoring plan. The plan must be submitted to the Administrator for review and approval as part of the application for a part 70 permit.

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The plan must include the following information:

(1) Procedures for the proper operation and maintenance of process modifications and add-on control devices used to meet the emission limits in § 63.1382;

(2) Procedures for the proper operation and maintenance of monitoring devices used to determine compliance, including quarterly calibration and certification of accuracy of each monitoring device according to the manufacturer's instructions; and

(3) Corrective actions to be taken when process parameters or add-on control device parameters deviate from the limit(s) established during initial performance tests.

(b)(1) Where a baghouse is used to control PM emissions from a glass-melting furnace, the owner or operator shall install, calibrate, maintain, and continuously operate a bag leak detection system.

(i) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor must produce output of relative PM emissions.

(iii) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. If a negative pressure or induced air baghouse is used, the bag leak detection system must be installed downstream of the baghouse. Where multiple bag leak detection systems are required (for either type of baghouse), the system instrumentation and alarm may be shared among the monitors.

(v) A triboelectric bag leak detection system shall be installed, operated, adjusted, and maintained in a manner consistent with the U.S. Environmental Protection Agency guidance,

“Fabric Filter Bag Leak Detection Guidance” (EPA-454/R-98-015, September 1997). Other bag leak detection systems shall be installed, operated, adjusted, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

(vi) Initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

(vii) Following the initial adjustment, the owner or operator shall not adjust the range, averaging period, alarm setpoints, or alarm delay time except as detailed in the approved operations, maintenance, and monitoring plan required under paragraph (a) of this section. In no event shall the range be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless a responsible official as defined in § 63.2 of the general provisions in subpart A of this part certifies that the baghouse has been inspected and found to be in good operating condition.

(2) The operations, maintenance, and monitoring plan required by paragraph (a) of this section must specify corrective actions to be followed in the event of a bag leak detection system alarm. Example corrective actions that may be included in the plan include the following:

(i) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in emissions.

(ii) Sealing off defective bags or filter media.

(iii) Replacing defective bags or filter media, or otherwise repairing the control device.

(iv) Sealing off a defective baghouse compartment.

(v) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system.

(vi) Shutting down the process producing the particulate emissions.

(c)(1) Where an ESP is used to control PM emissions from a glass-melting furnace, the owner or operator must

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monitor the ESP according to the procedures in the operations, maintenance, and monitoring plan. (2) The operations, maintenance, and monitoring plan for the ESP must contain the following information:

(i) The ESP operating parameter(s), such as secondary voltage of each electrical field, to be monitored and the minimum and/or maximum value(s) that will be used to identify any operational problems;

(ii) A schedule for monitoring the ESP operating parameter(s);

(iii) Recordkeeping procedures, consistent with the recordkeeping requirements of § 63.1386, to show that the ESP operating parameter(s) is within the limit(s) established during the performance test; and

(iv) Procedures for the proper operation and maintenance of the ESP.

(d) The owner or operator must measure and record at least once per shift the temperature 46 to 61 centimeters (18 to 24 inches) above the surface of the molten glass in a cold top electric furnace that does not use any add-on controls to control PM emissions.

(e)(1) Where a glass-melting furnace is operated without an add-on control device to control PM emissions, the owner or operator must monitor the glass-melting furnace according to the procedures in the operations, maintenance, and monitoring plan.

(2) The operations, maintenance, and monitoring plan for the glass-melting furnace must contain the following information:

(i) The operating parameter(s) to be monitored and the minimum and/or maximum value(s) that will be used to identify any operational problems;

(ii) A schedule for monitoring the operating parameter(s) of the glass-melting furnace;

(iii) Recordkeeping procedures, consistent with the recordkeeping requirements of § 63.1386, to show that the glass-melting furnace parameter(s) is within the limit(s) established during the performance test; and

(iv) Procedures for the proper operation and maintenance of the glass-melting furnace.

(f) If you use a control device to control HAP emissions from a glass-melting furnace, RS manufacturing line, or

FA manufacturing line, you must install, calibrate, maintain, and operate a monitoring device that continuously measures an appropriate parameter for the control device. You must establish the value of that parameter during the performance test conducted to demonstrate compliance with the applicable emission limit as specified in Table 2 to this subpart.

(g)(1) The owner or operator who uses an incinerator to comply with the emission limits for rotary spin or flame attenuation lines specified in Table 2 to this subpart must install, calibrate, maintain, and operate a monitoring device that continuously measures and records the operating temperature in the firebox of each incinerator.

(2) The owner or operator must inspect each incinerator at least once per year according to the procedures in the operations, maintenance, and monitoring plan. At a minimum, an inspection must include the following:

(i) Inspect all burners, pilot assemblies, and pilot sensing devices for proper operation and clean pilot sensor, as necessary;

(ii) Ensure proper adjustment of combustion air and adjust, as necessary;

(iii) Inspect, when possible, internal structures, for example, baffles, to ensure structural integrity per the design specifications;

(iv) Inspect dampers, fans, and blowers for proper operation;

(v) Inspect for proper sealing;

(vi) Inspect motors for proper operation;

(vii) Inspect combustion chamber refractory lining and clean and repair/replace lining, as necessary;

(viii) Inspect incinerator shell for corrosion and/or hot spots;

(ix) For the burn cycle that follows the inspection, document that the incinerator is operating properly and make any necessary adjustments; and

(x) Generally observe that the equipment is maintained in good operating condition.

(xi) Complete all necessary repairs as soon as practicable.

(h) The owner or operator who uses a wet scrubbing control device to comply with the emission limits for rotary

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spin or flame attenuation lines specified in Table 2 to this subpart must install, calibrate, maintain, and operate monitoring devices that continuously monitor and record the gas pressure drop across each scrubber and the scrubbing liquid flow rate to each scrubber according to the procedures in the operations, maintenance, and monitoring plan. The pressure drop monitor must be certified by its manufacturer to be accurate within ± 250 pascals (± 1 inch water gauge) over its operating range, and the flow rate monitor must 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.

(1) The owner or operator who uses process modifications to comply with the emission limits for rotary spin or flame attenuation lines specified in Table 2 to this subpart must establish a correlation between formaldehyde, methanol, and phenol emissions, as appropriate, and the 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

and free-phenol content of each resin shipment received and of each resin 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, including the materials mix used in the test, you may change the limits established during the initial performance tests if you conduct additional performance testing to verify that, at the new control device or process parameter levels, you comply with the applicable emission limits specified in Table 2 to this subpart. You must conduct all additional performance tests according to the procedures in this part 63, subpart A and in § 63.1384.

[64 FR 31709, June 14, 1999, as amended at 80 FR 45334, July 29, 2015; 82 FR 60884, Dec. 26, 2017]

§ 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. If the owner or operator conducted an emissions test in 2016 according to the procedures specified in § 63.1384(a)(9) and § 63.1385 in response to the EPA's Information Collection Request, the owner or operator can use the results of the emissions test to demonstrate initial compliance with the emission limits for rotary spin lines specified in Table 2 to this subpart.

(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. If a rotary spin or flame attenuation line shares one or more emissions points with another rotary spin or flame attenuation line(s), owners or operators can conduct the performance test while each of the process lines with the shared emissions point(s) is operating as specified in paragraph (a)(8) of this section, rather than testing each of the shared lines separately. In these cases, owners or operators must use the combined glass pull rate for the process lines with the shared emissions point(s) to demonstrate compliance with the emission limits specified in Table 2 to this subpart.

(4) The owner or operator shall conduct a performance test for each existing and new gas-fired glass-melting furnace. During the performance test of each gas-fired glass-melting furnace, the owner or operator must measure and record the materials mix, including the percentages of raw materials and cullet, melted in the furnace during the performance test.

(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 and free-phenol contents 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 limits specified in Table 2 to this subpart, for formaldehyde and methanol for rotary spin manufacturing lines; formaldehyde, phenol, and methanol for flame attenuation manufacturing lines; and chromium compounds for gas-fired glass-melting furnaces, 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, phenol, methanol, chromium compounds, kg/Mg (lb/ton) of glass pulled;

C = Measured volume fraction of formaldehyde, phenol, methanol, chromium compounds, ppm;

MW = Molecular weight of formaldehyde, 30.03 g/g-mol; molecular weight of phenol, 94.11 g/g-mol; molecular weight of methanol, 32.04 g/g-mol; molecular weight of chromium compounds tested in 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).

(d) Following the initial performance or compliance test conducted to demonstrate compliance with the chromium compounds emissions limit specified in Table 2 to this subpart, you must conduct an annual performance

test for chromium compounds emissions from each gas-fired glass-melting furnace (no later than 12 calendar months following the previous compliance test).

(e) Following the initial performance or compliance test to demonstrate compliance with the PM, formaldehyde, phenol, and methanol emissions limits specified in Table 2 to this subpart, you must conduct a performance test to demonstrate compliance with each of the applicable PM, formaldehyde, phenol, and methanol emissions limits in § 63.1382 at least once every five years.

[64 FR 31709, June 14, 1999, as amended at 80 FR 45334, July 29, 2015; 82 FR 60884, Dec. 26, 2017]

§ 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 or Method 29 (40 CFR part 60, appendix A-3) for the concentration of total PM. When using Method 5, each run must consist of a minimum sample volume of 2 dry standard cubic meters (dscm). When using Method 29, each run must consist of a minimum sample volume of 3 dscm. When measuring PM concentration using either Method 5 or 29, the probe and filter holder heating system must be set to provide a gas temperature no greater than 120±14 °C (248±25 °F).

(6) For measuring the concentration of formaldehyde, use one of the following test methods:

(i) Method 318 (appendix A of this part). Each test run must consist of a minimum of 10 spectra.

(ii) Method 316 (appendix A of this part). Each test run must consist of a minimum of 2 dry standard cubic meters (dscm) of sample volume.

(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. The owner or operator shall use vendor specifications to determine the free-phenol content of resin.

(9) Method contained in appendix C of this subpart for the determination of product density;

(10) For measuring the concentration of phenol, use Method 318 (appendix A of this part). Each test run must consist of a minimum of 10 spectra.

(11) For measuring the concentration of methanol, use one of the following test methods:

(i) Method 318 (appendix A of this part). Each test run must consist of a minimum of 10 spectra.

(ii) Method 308 (appendix A of this part). Each test run must consist of a minimum of 2 hours.

(12) Method 29 (40 CFR part 60, appendix A-8) for the concentration of chromium compounds. Each test run must consist of a minimum sample volume of 3 dscm.

(13) 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 in the applicable equation for determining compliance.

[64 FR 31709, June 14, 1999, as amended at 80 FR 45335, July 29, 2015; 82 FR 60885, Dec. 26, 2017]

§ 63.1386 Notification, recordkeeping, and reporting requirements.

(a) *Notifications.* As required by § 63.9(b) through (h) of this part, the owner or operator shall submit the following written initial notifications to the Administrator:

(1) Notification for an area source that subsequently increases its emissions such that the source is a major source subject to the standard;

(2) Notification that a source is subject to the standard, where the initial startup is before November 25, 2011.

(3) Notification that a source is subject to the standard, where the source is new or has been reconstructed the initial startup is after November 25, 2011, and for which an application for approval of construction or reconstruction is not required;

(4) Notification of intention to construct a new affected source or reconstruct an affected source; of the date construction or reconstruction commenced; of the anticipated date of startup; of the actual date of startup, where the initial startup of a new or reconstructed source occurs after November 25, 2011, and for which an application for approval or construction or reconstruction is required (See § 63.9(b)(4) and (5));

(5) Notification of special compliance obligations;

(6) Notification of performance test; and (7) Notification of compliance status.

(b) [Reserved]

(c) *Records and reports for a failure to meet a standard.* (1) In the event that an affected unit fails to meet a standard, record the number of failures since the prior notification of compliance status. For each failure record the date, time, and duration of each failure.

(2) For each failure to meet a standard record and retain a list of the affected source or equipment, an estimate of the volume of each regulated pollutant emitted over the standard for which the source failed to meet the standard, and a description of the method used to estimate the emissions.

(3) Record actions taken to minimize emissions in accordance with § 63.1382, including corrective actions to restore process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(4) If an affected unit fails to meet a standard, report such events in the notification of compliance status required by § 63.1386(a)(7). Report the number of failures to meet a standard since the prior notification. For each instance, report the date, time, and duration of each failure. For each failure the report must include a list of the affected units or equipment, an estimate

of the volume of each regulated pollutant emitted over the standard, and a description of the method used to estimate the emissions.

(d) *Recordkeeping.* (1) As required by § 63.10(b) of this part, the owner or operator shall maintain files of all information (including all reports and notifications) required by the general provisions and this subpart:

(i) The owner or operator must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site;

(ii) The owner or operator may retain records on microfilm, on a computer, on computer disks, on magnetic tape, or on microfiche; and

(iii) The owner or operator may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software.

(2) In addition to the general records required by § 63.10(b)(2) of this part, the owner or operator shall maintain records of the following information:

(i) Any bag leak detection system alarms, including the date and time of the alarm, when corrective actions were initiated, the cause of the alarm, an explanation of the corrective actions taken, and when the cause of the alarm was corrected;

(ii) ESP parameter value(s) used to monitor ESP performance, including any period when the value(s) deviated from the established limit(s), the date and time of the deviation, when corrective actions were initiated, the cause of the deviation, an explanation of the corrective actions taken, and when the cause of the deviation was corrected;

(iii) Air temperature above the molten glass in an uncontrolled cold top electric furnace, including any period when the temperature exceeded 120 °C (250 °F) at a location 46 to 61 centimeters (18 to 24 inches) above the molten glass surface, the date and time of the exceedance, when corrective actions were initiated, the cause of the

exceedance, an explanation of the corrective actions taken, and when the cause of the exceedance was corrected;

(iv) Uncontrolled glass-melting furnace (that is not a cold top electric furnace) parameter value(s) used to monitor furnace performance, including any period when the value(s) exceeded the established limit(s), the date and time of the exceedance, when corrective actions were initiated, the cause of the exceedance, an explanation of the corrective actions taken, and when the cause of the exceedance was corrected;

(v) The formulation of each binder batch and the LOI and density for each product manufactured on a rotary spin manufacturing line or flame attenuation manufacturing line subject to the provisions of this subpart, and the free-formaldehyde and free-phenol contents of each resin shipment received and of each resin used in the binder formulation;

(vi) Process parameter level(s) for RS and FA manufacturing lines that use process modifications to comply with the emission limits, including any period when the parameter level(s) deviated from the established limit(s), the date and time of the deviation, when corrective actions were initiated, the cause of the deviation, an explanation of the corrective actions taken, and when the cause of the deviation was corrected;

(vii) Scrubber pressure drop, scrubbing liquid flow rate, and any chemical additive (including chemical feed rate to the scrubber), including any period when a parameter level(s) deviated from the established limit(s), the date and time of the deviation, when corrective actions were initiated, the cause of the deviation, an explanation of the corrective actions taken, and when the cause of the deviation was corrected;

(viii) Incinerator operating temperature and results of periodic inspection of incinerator components, including any period when the temperature fell below the established average or the inspection identified problems with the incinerator, the date and time of the problem, when corrective actions were initiated, the cause of the problem, an explanation of the corrective actions taken, and when the cause of the problem was corrected;

(ix) Glass pull rate, including any period when the pull rate exceeded the average pull rate established during the performance test by more than 20 percent, the date and time of the exceedance, when corrective actions were initiated, the cause of the exceedance, an explanation of the corrective actions taken, and when the cause of the exceedance was corrected.

(x) Records of your cullet sampling or records of inspections from cullet providers.

(xi) For each gas-fired glass-melting furnace that uses cullet, records of the daily average cullet percentage, and the 30-day rolling average percent cullet in the materials mix charged to the furnace. The initial daily average should be recorded on the compliance date and the first 30-day rolling average should be calculated 30 days after the compliance date.

(e) *Excess emissions report.* As required by § 63.10(e)(3)(v) of this part, the owner or operator shall report semiannually if measured emissions are in excess of the applicable standard or a monitored parameter deviates from the levels established during the performance test. The report shall contain the information specified in § 63.10(c) of this part as well as the additional records required by the recordkeeping requirements of paragraph (d) of this section. When no deviations have occurred, the owner or operator shall submit a report stating that no excess emissions occurred during the reporting period.

(f) Within 60 days after the date of completing each performance test (as defined in § 63.2) required in this subpart, you must submit the results of the performance tests, including any associated fuel analyses, following the procedure specified in either paragraph (f)(1) or (2) of this section.

(1) For data collected using test methods supported by the EPA's Electronic Reporting Tool (ERT) as listed on the EPA's ERT Web site (<http://www.epa.gov/ttn/chief/ert/index.html>), you must submit the results of the performance test to the EPA via the Compliance and Emissions Data Reporting Interface (CEDRI). CEDRI can be accessed through the EPA's Central Data Exchange (CDX) (<http://>

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cdx.epa.gov/epa_home.asp). Performance test data must be submitted in a file format generated through the use of the EPA's ERT. Alternatively, you may submit performance test data in an electronic file format consistent with the extensible markup language (XML) schema listed on the EPA's ERT Web site, once the XML schema is available. If you claim that some of the performance test information being submitted is confidential business information (CBI), you must submit a complete file generated through the use of the EPA's ERT or an alternate electronic file consistent with the XML schema listed on the EPA's ERT Web site, including information claimed to be CBI, on a compact disc, flash drive or other commonly used electronic storage media to the EPA. The electronic media must be clearly marked as CBI and mailed to U.S. EPA/OAPQS/CORE CBI Office, Attention: Group Leader, Measurement Policy Group, C404-02, 4930 Old Page Rd., Durham, NC 27703. The same ERT or alternate file with the CBI omitted must be submitted to the EPA via the EPA's CDX as described earlier in this paragraph.

(2) For data collected using test methods that are not supported by the EPA's ERT as listed on the EPA's ERT Web site, you must submit the results of the performance test to the Administrator at the appropriate address listed in § 63.13.

(g) All reports required by this subpart not subject to the requirements in paragraph (f) of this section must be sent to the Administrator at the appropriate address listed in § 63.13. If acceptable to both the Administrator and the owner or operator of a source, these reports may be submitted on electronic media. The Administrator retains the right to require submittal of reports subject to paragraph (f) of this section in paper format.

[64 FR 31709, June 14, 1999, as amended at 71 FR 20460, Apr. 20, 2006; 80 FR 45335, July 29, 2015; 82 FR 60885, Dec. 26, 2017]

§ 63.1387 Compliance dates.

(a) *Compliance dates.* You must comply with the emissions limits by the dates specified in Table 2 to this subpart.

(b) *Compliance extension.* The owner or operator of an existing source subject to this subpart may request from the Administrator an extension of the compliance date for the emission standards for one additional year if such additional period is necessary for the installation of controls. The owner or operator shall submit a request for an extension according to the procedures in § 63.6(i)(3) of this part.

(c) At all times, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[64 FR 31709, June 14, 1999, as amended at 80 FR 45336, July 29, 2015]

§ 63.1388 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

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(1) Approval of alternatives to the requirements in §§ 63.1380, 63., and 63.1387.

(2) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f), as defined in § 63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under § 63.8(f), as defined in § 63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under § 63.10(f), as defined in § 63.90, and as required in this subpart.

[68 FR 37358, June 23, 2003]

§ 63.1389 Startups and shutdowns.

(a) The provisions set forth in this subpart apply at all times.

(b) You must not shut down items of equipment that are required or utilized for compliance with the provisions of this subpart during times when emissions are being, or are otherwise required to be, routed to such items of equipment.

(c) Startup begins when the wool fiberglass glass-melting furnace has any raw materials added and reaches 50 percent of its typical operating temperature. Startup ends when molten glass begins to flow from the wool fiberglass glass-melting furnace. For cold-top electric furnaces, startup ends when the batch cover is established and the temperature of the glass batch-cover surface is below 300 °F.

(d) Shutdown begins when the heat sources to the glass-melting furnace are reduced to begin the glass-melting furnace shut down process. Shutdown ends when the glass-melting furnace is empty or the contents are sufficiently viscous to preclude glass flow from the glass-melting furnace.

(e) During periods of startup and shutdown in a cold-top furnace that is routed to a baghouse during normal operation, you must establish the batch cover and operate your furnace accord-

ing to the following requirements during startup and shutdown:

(1) You must keep records showing that you used only natural gas or other clean fuels to heat each furnace; and

(2) Except after batch cover is established, you must keep records showing that you used only cullet as a raw material during the startup of each cold-top furnace; and

(3) Once a batch cover is established and a control device can be safely operated, you must keep records showing that furnace emissions were controlled using air pollution control devices operated at the parameters established by the most recent performance test that showed compliance with the standard.

(4) During periods of shutdown in a cold-top furnace, until the conditions above the glass reach a point at which the control device may be damaged if it continues to operate, you must keep records showing furnace emissions were controlled using air pollution control devices operated at the parameters established by the most recent performance test that showed compliance with the standard.

(f) During both periods of startups and shutdowns for all furnace types other than cold-top furnaces, you must operate each furnace according to the following requirements:

(1) You must record the type of fuel used to heat the furnace during startup and shutdown to demonstrate that you used only natural gas or other clean fuels; and

(2) You must keep records showing that furnace emissions were controlled using air pollution control devices operated at the parameters established by the most recent performance test that showed compliance with the standard.

[80 FR 45336, July 29, 2015]

§§ 63.1390–63.1399 [Reserved]

TABLE 1 TO SUBPART NNN OF PART 63—APPLICABILITY OF GENERAL PROVISIONS (40 CFR PART 63, SUBPART A) TO SUBPART NNN

General provisions citation	Requirement	Applies to subpart NNN?	Explanation
§ 63.1(a)(1)–(5)	Applicability	Yes.	
§ 63.1(a)(6)	Yes.	

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General provisions citation	Requirement	Applies to subpart NNN?	Explanation
§ 63.1(a)(7)–(9) .....	.....	No	[Reserved].
§ 63.1(a)(10)–(12) .....	.....	Yes.	
§ 63.1(b)(1)	Initial Applicability Determination	Yes.	
§ 63.1(b)(2) .....	.....	No	[Reserved].
§ 63.1(b)(3) .....	.....	Yes.	
§ 63.1(c)(1)–(2) .....	.....	Yes.	
§ 63.1(c)(3)–(4) .....	.....	No	[Reserved].
§ 63.1(c)(5)–(e) .....	.....	Yes.	
§ 63.2	Definitions	Yes.	
§ 63.3	Units and Abbreviations	Yes.	
§ 63.4(a)(1)–(2)	Prohibited Activities	Yes.	
§ 63.4(a)(3)–(5) .....	.....	No	[Reserved].
§ 63.4(b)–(c) .....	.....	Yes.	
§ 63.5(a)–(b)(2)	Construction/Reconstruction Applica- bility.	Yes.	
§ 63.5(b)(3)–(4) .....	.....	Yes.	
§ 63.5(b)(5) .....	.....	No	[Reserved].
§ 63.5(b)(6) .....	.....	Yes.	
§ 63.5(c) .....	.....	No	[Reserved].
§ 63.5(d)	Application for Approval of Construction or Reconstruction.	Yes.	
§ 63.5(e)	Approval of Construction/Reconstruction	Yes.	
§ 63.5(f)	Approval of Construction/Reconstruction Based on State Review.	Yes.	
§ 63.6(a)–(d)	Compliance with Standards and Mainte- nance Requirements.	Yes.	
§ 63.6(e)(1)(i)	General Duty to Minimize Emissions	No	See § 63.1382(b) for general duty re- quirement.
§ 63.6(e)(1)(ii)	Requirement to Correct Malfunctions As Soon As Possible.	No	§ 63.1382(b) specifies additional re- quirements.
§ 63.6(e)(1)(iii) .....	.....	Yes.	
§ 63.6(e)(2) .....	.....	No	[Reserved].
§ 63.6(e)(3)	Startup, Shutdown, Malfunction (SSM) Plan.	No	Startups and shutdowns addressed in § 63.1388.
§ 63.6(f)(1)	SSM Exemption	No.	
§ 63.6(f)(2)–(3)	Methods for Determining Compliance ...	Yes.	
§ 63.6(g)	Use of an Alternative Nonopacity Emis- sion Standard.	Yes.	
§ 63.6(h)(1)	SSM Exemption	No.	
§ 63.6(h)(2)–(j) .....	.....	Yes.	
§ 63.7(a)–(d) .....	.....	Yes.	
§ 63.7(e)(1)	Performance Testing	No	See § 63.1382(b).
§ 63.7(e)(2)–(e)(4) .....	.....	Yes.	
§ 63.7(f)	Alternative Test Method	Yes.	
§ 63.7(g)(1)	Data Analysis	Yes.	
§ 63.7(g)(2) .....	.....	No	[Reserved].
§ 63.7(g)(3) .....	.....	Yes.	
§ 63.7(h)	Waiver of Performance Test	Yes.	
§ 63.8(a)–(b)	Monitoring Requirements	Yes.	
§ 63.8(c)(1)(i)	General Duty to Minimize Emissions and CMS Operation.	No	See § 63.1382(c) for general duty re- quirement.
§ 63.8(c)(1)(ii) .....	.....	Yes.	
§ 63.8(c)(1)(iii)	Requirement to Develop SSM Plan for CMS.	No.	
§ 63.8(d)(1)–(2)	Quality Control Program	Yes.	
§ 63.8(d)(3)	Written Procedures for CMS	Yes, except for last sentence, which refers to SSM plan. SSM plans are not required.	
§ 63.8(e)–(g) .....	.....	Yes.	
§ 63.9(a)	Notification Requirements	Yes.	
§ 63.9(b)(1)–(2)	Initial Notifications	Yes.	
§ 63.9(b)(3) .....	.....	No	[Reserved].
§ 63.9(b)(4)–(j) .....	.....	Yes.	
§ 63.9(k)	Yes	Only as specified in § 63.9(j).	
§ 63.10(a)	Recordkeeping and Reporting Require- ments.	Yes.	
§ 63.10(b)(1)	General Recordkeeping Requirements ..	Yes.	
§ 63.10(b)(2)(i)	Recordkeeping of Occurrence and Du- ration of Startups and Shutdowns.	No.	

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General provisions citation	Requirement	Applies to subpart NNN?	Explanation	
§ 63.10(b)(2)(ii)	Recordkeeping of Malfunctions	No	See § 63.1386 (c)(1) through (3) for recordkeeping of occurrence and duration and actions taken during a failure to meet a standard.	
§ 63.10(b)(2)(iii)	Maintenance Records	Yes.		
§ 63.10(b)(2)(iv)–(v)	Actions Taken to Minimize Emissions During SSM.	No.		
§ 63.10(b)(2)(vi)	Recordkeeping for CMS Malfunctions ...	Yes.		
§ 63.10(b)(2)(vii)–(xiv)	Other CMS Requirements	Yes.		
§ 63.10(b)(3)	Recordkeeping Requirements for Applicability Determinations.	Yes.		
§ 63.10(c)(1)–(6)	Additional Recordkeeping Requirements for Sources with CMS.	Yes.		
§ 63.10(c)(7)–(8)	Additional Recordkeeping Requirements for CMS—Identifying Exceedances and Excess Emissions.	Yes.		
§ 63.10(c)(9) .....	.....	No	
§ 63.10(c)(10)–(11) .....	.....	No	
§ 63.10(c)(12)–(c)(14) .....	.....	Yes.	
§ 63.10(c)(15)	Use of SSM Plan	No.		
§ 63.10(d)(1)–(4)	General Reporting Requirements	Yes.		
§ 63.10(d)(5)	SSM Reports	No		
§ 63.10(e)–(f)	Additional CMS Reports Excess Emission/CMS Performance Reports COMS Data Reports Recordkeeping/Reporting Waiver.	Yes.	See § 63.1386(c)(iii) for reporting of malfunctions.	
§ 63.11(a)–(b)	Control Device Requirements Applicability Flares.	No		Flares will not be used to comply with the emissions limits.
§ 63.11(c)	Alternative Work Practice for Monitoring Equipment for Leaks.	Yes.		
§ 63.11(d)	Alternative Work Practice Standard	Yes.		
§ 63.11(e)	Alternative Work Practice Requirements	Yes.		
§ 63.12	State Authority and Delegations	Yes.		
§ 63.13	Addresses	Yes.		
§ 63.14	Incorporation by Reference	Yes.		
§ 63.15	Availability of Information/Confidentiality	Yes.		
§ 63.16	Performance Track Provisions	Yes.		

[80 FR 45336, July 29, 2015, as amended at 85 FR 73899, Nov. 19, 2020; 85 FR 84262, Dec. 28, 2020]

TABLE 2 TO SUBPART NNN OF PART 63—EMISSIONS LIMITS AND COMPLIANCE DATES

If your source is a:	And you commenced construction:	Your emission limits are: ¹	And you must comply by: ²
1. Glass-melting furnace	On or before March 31, 1997	0.5 lb PM per ton of glass pulled ³ .	June 14, 2002.
2. Glass-melting furnace	After March 31, 1997 but on or before November 25, 2011.	0.5 lb PM per ton of glass pulled ³ .	June 14, 1999.
3. Glass-melting furnace	On or before November 25, 2011.	0.33 lb PM per ton of glass pulled.	July 31, 2017.
4. Glass-melting furnace	After November 25, 2011	0.33 lb PM per ton of glass pulled.	July 29, 2015. ⁴
5. Gas-fired glass-melting furnace.	On or before November 25, 2011.	0.00025 lb chromium compounds per ton of glass pulled.	July 31, 2017.
6. Gas-fired glass-melting furnace.	After November 25, 2011	0.00025 lb chromium compounds per ton of glass pulled.	July 29, 2015. ⁴
7. Rotary spin manufacturing line.	On or before March 31, 1997	1.2 lb formaldehyde per ton of glass pulled ⁵ .	June 14, 2002.
8. Rotary spin manufacturing line.	After March 31, 1997	0.8 lb formaldehyde per ton of glass pulled ⁵ .	June 14, 1999.
9. Rotary spin manufacturing line.	On or before November 25, 2011.	1.2 lb formaldehyde per ton of glass pulled 1.1 lb methanol per ton of glass pulled.	December 26, 2020.

If your source is a:	And you commenced construction:	Your emission limits are: ¹	And you must comply by: ²
10. Rotary spin manufacturing line.	After November 25, 2011	0.8 lb formaldehyde per ton of glass pulled 0.65 lb methanol per ton of glass pulled.	December 26, 2017. ⁴
11. Flame-attenuation line manufacturing a heavy-density product.	After March 31, 1997, but on or before November 25, 2011.	7.8 lb formaldehyde per ton of glass pulled ⁵ .	June 14, 1999.
12. Flame-attenuation line manufacturing a pipe product.	On or before March 31, 1997	6.8 lb formaldehyde per ton of glass pulled ⁵ .	June 14, 2002.
13. Flame-attenuation line manufacturing a pipe product.	After March 31, 1997, but before November 25, 2011.	6.8 lb formaldehyde per ton of glass pulled ⁵ .	June 14, 1999.
14. Flame-attenuation line manufacturing an aerospace, air filtration, or pipe product.	On or before November 25, 2011.	27 lb formaldehyde per ton of glass pulled 8.9 lb methanol per ton of glass pulled.	December 26, 2020.
15. Flame-attenuation line manufacturing an aerospace, air filtration, or pipe product.	After November 25, 2011	18.0 lb formaldehyde per ton of glass pulled 4.0 lb methanol per ton of glass pulled.	December 26, 2017. ⁴
16. Flame-attenuation line manufacturing an HVAC product.	On or before November 25, 2011.	2.8 lb formaldehyde per ton of glass pulled 7.3 lb methanol per ton of glass pulled 0.4 lb phenol per ton of glass pulled.	December 26, 2020.
17. Flame-attenuation line manufacturing an HVAC product.	After November 25, 2011	2.4 lb formaldehyde per ton of glass pulled 1.5 lb methanol per ton of glass pulled 0.4 lb phenol per ton of glass pulled.	December 26, 2017. ⁴
18. Flame-attenuation line manufacturing an OEM product.	On or before November 25, 2011.	5.0 lb formaldehyde per ton of glass pulled 5.7 lb methanol per ton of glass pulled 31 lb phenol per ton of glass pulled.	December 26, 2020.
19. Flame-attenuation line manufacturing an OEM product.	After November 25, 2011	2.9 lb formaldehyde per ton of glass pulled 1.1 lb methanol per ton of glass pulled 22 lb phenol per ton of glass pulled.	December 26, 2017. ⁴

¹ The numeric limits do not apply during startup and shutdown.
² Existing sources must demonstrate compliance by the compliance dates specified in this table. New sources have 180 days after the applicable compliance date to demonstrate compliance.
³ This limit does not apply after July 31, 2017.
⁴ Or initial startup, whichever is later.
⁵ This limit does not apply after December 26, 2020.

[80 FR 45338, July 29, 2015, as amended at 82 FR 60885, Dec. 26, 2017]

APPENDIX A TO SUBPART NNN OF PART 63—METHOD FOR THE DETERMINATION OF LOI

1. Purpose

The purpose of this test is to determine the LOI of cured blanket insulation. The method is applicable to all cured board and blanket products.

2. Equipment

- 2.1 Scale sensitive to 0.1 gram.
- 2.2 Furnace designed to heat to at least 540 °C (1,000 °F) and controllable to ±10 °C (50 °F).
- 2.3 Wire tray for holding specimen while in furnace.

3. Procedure

3.1 Cut a strip along the entire width of the product that will weigh at least 10.0 grams. Sample should be free of dirt or foreign matter.

NOTE: Remove all facing from sample.

3.2 Cut the sample into pieces approximately 12 inches long, weigh to the nearest 0.1 gram and record. Place in wire tray. Sample should not be compressed or overhang on tray edges.

NOTE: On air duct products, remove shiplaps and overspray.

3.3 Place specimen in furnace at 540 °C (1,000 °F), ±10 °C (50 °F) for 15 to 20 minutes

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to insure complete oxidation. After ignition, fibers should be white and should not be fused together.

3.4 Remove specimen from the furnace and cool to room temperature.

3.5 Weigh cooled specimen and wire tray to the nearest 0.1 gram. Deduct the weight of the wire tray and then calculate the loss in weight as a percent of the original specimen weight.

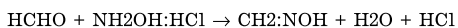
APPENDIX B TO SUBPART NNN OF PART 63—FREE FORMALDEHYDE ANALYSIS OF INSULATION RESINS BY HYDROXYLAMINE HYDROCHLORIDE

1. Scope

This method was specifically developed for water-soluble phenolic resins that have a relatively high free-formaldehyde (FF) content such as insulation resins. It may also be suitable for other phenolic resins, especially those with a high FF content.

2. Principle

2.1 a. The basis for this method is the titration of the hydrochloric acid that is liberated when hydroxylamine hydrochloride reacts with formaldehyde to form formaldoxime:



b. Free formaldehyde in phenolic resins is present as monomeric formaldehyde, hemiformals, polyoxymethylene hemiformals, and polyoxymethylene glycols. Monomeric formaldehyde and hemiformals react rapidly with hydroxylamine hydrochloride, but the polymeric forms of formaldehyde must hydrolyze to the monomeric state before they can react. The greater the concentration of free formaldehyde in a resin, the more of that formaldehyde will be in the polymeric form. The hydrolysis of these polymers is catalyzed by hydrogen ions.

2.2 The resin sample being analyzed must contain enough free formaldehyde so that the initial reaction with hydroxylamine hydrochloride will produce sufficient hydrogen ions to catalyze the depolymerization of the polymeric formaldehyde within the time limits of the test method. The sample should contain approximately 0.3 grams free formaldehyde to ensure complete reaction within 5 minutes.

3. Apparatus

- 3.1 Balance, readable to 0.01 g or better.
- 3.2 pH meter, standardized to pH 4.0 with pH 4.0 buffer and pH 7 with pH 7.0 buffer.
- 3.3 50-mL burette for 1.0 N sodium hydroxide.
- 3.4 Magnetic stirrer and stir bars.
- 3.5 250-mL beaker.
- 3.6 50-mL graduated cylinder.

- 3.7 100-mL graduated cylinder.
- 3.8 Timer.

4. Reagents

- 4.1 Standardized 1.0 N sodium hydroxide solution.
- 4.2 Hydroxylamine hydrochloride solution, 100 grams per liter, pH adjusted to 4.00.
- 4.3 Hydrochloric acid solution, 1.0 N and 0.1 N.
- 4.4 Sodium hydroxide solution, 0.1 N.
- 4.5 50/50 v/v mixture of distilled water and methyl alcohol.

5. Procedure

- 5.1 Determine the sample size as follows:
 - a. If the expected FF is greater than 2 percent, go to Part A to determine sample size.
 - b. If the expected FF is less than 2 percent, go to Part B to determine sample size.
 - c. Part A: Expected FF \geq 2 percent.

Grams resin = 60/expected percent FF

- i. The following table shows example levels:

Expected % free formaldehyde	Sample size, grams
2	30.0
5	12.0
8	7.5
10	6.0
12	5.0
15	4.0

- ii. It is very important to the accuracy of the results that the sample size be chosen correctly. If the milliliters of titrant are less than 15 mL or greater than 30 mL, reestimate the needed sample size and repeat the tests.

- d. Part B: Expected FF < 2 percent

Grams resin = 30/expected percent FF

- i. The following table shows example levels:

Expected % free formaldehyde	Sample size, grams
2	15
1	30
0.5	60

- ii. If the milliliters of titrant are less than 5 mL or greater than 30 mL, reestimate the needed sample size and repeat the tests.

5.2 Weigh the resin sample to the nearest 0.01 grams into a 250-mL beaker. Record sample weight.

5.3 Add 100 mL of the methanol/water mixture and stir on a magnetic stirrer. Confirm that the resin has dissolved.

5.4 Adjust the resin/solvent solution to pH 4.0, using the prestandardized pH meter, 1.0 N hydrochloric acid, 0.1 N hydrochloric acid, and 0.1 N sodium hydroxide.

5.5 Add 50 mL of the hydroxylamine hydrochloride solution, measured with a graduated cylinder. Start the timer.

5.6 Stir for 5 minutes. Titrate to pH 4.0 with standardized 1.0 N sodium hydroxide.

Record the milliliters of titrant and the normality.

6. Calculations

$$\% \text{ FF} = \frac{\text{mL sodium hydroxide} \times \text{normality} \times 3.003}{\text{grams of sample}}$$

7. Method Precision and Accuracy

Test values should conform to the following statistical precision:

Variance = 0.005

Standard deviation = 0.07

95% Confidence Interval, for a single determination = 0.2

8. Author

This method was prepared by K. K. Tutin and M. L. Foster, Tacoma R&D Laboratory, Georgia-Pacific Resins, Inc. (Principle written by R. R. Conner.)

9. References

9.1 GPAM 2221.2.

9.2 PR&C TM 2.035.

9.3 Project Report, Comparison of Free Formaldehyde Procedures, January 1990, K. K. Tutin.

APPENDIX C TO SUBPART NNN OF PART 63—METHOD FOR THE DETERMINATION OF PRODUCT DENSITY

1. Purpose

The purpose of this test is to determine the product density of cured blanket insulation. The method is applicable to all cured board and blanket products.

2. Equipment

One square foot (12 in. by 12 in.) template, or templates that are multiples of one square foot, for use in cutting insulation samples.

3. Procedure

3.1 Obtain a sample at least 30 in. long across the machine width. Sample should be free of dirt or foreign matter.

3.2 Lay out the cutting pattern according to the plant's written procedure for the designated product.

3.2 Cut samples using one square foot (or multiples of one square foot) template.

3.3 Weigh product and obtain area weight (lb/ft²).

3.4 Measure sample thickness.

3.5 Calculate the product density:

Density (lb/ft³) = area weight (lb/ft²)/thickness (ft)

Subpart OOO—National Emission Standards for Hazardous Air Pollutant Emissions: Manufacture of Amino/Phenolic Resins

SOURCE: 65 FR 3290, Jan. 20, 2000, unless otherwise noted.

§ 63.1400 Applicability and designation of affected sources.

(a) *Applicability.* The provisions of this subpart apply to the owner or operator of processes that produce amino/phenolic resins and that are located at a plant site that is a major source as defined in § 63.2.

(b) *Affected source.* The affected source is:

(1) The total of all amino/phenolic resin process units (APPU);

(2) The associated heat exchange systems;

(3) Equipment required by, or utilized as a method of compliance with, this subpart which may include control devices and recovery devices;

(4) Equipment that does not contain organic hazardous air pollutants (HAP) and is located within an APPU that is part of an affected source;

(5) Vessels and equipment storing and/or handling material that contain no organic HAP and/or organic HAP as impurities only;

(6) Equipment that is intended to operate in organic HAP service for less than 300 hours during the calendar year;

(7) Each waste management unit; and

(8) Maintenance wastewater.

(c) *Existing affected source.* The affected source to which the existing source provisions of this subpart apply is defined in paragraph (b) of this section.