



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

11/2/2016

Mr. Noah McManus
Johns Manville
925 Carpenter Rd
Defiance, OH 43512

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0320010005
Permit Number: P0121658
Permit Type: Administrative Modification
County: Defiance

Certified Mail

Yes	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
Yes	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**
- **What should you do if you notice a spill or environmental emergency?**

How to appeal this permit

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/survey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

What should you do if you notice a spill or environmental emergency?

Any spill or environmental emergency which may endanger human health or the environment should be reported to the Emergency Response 24-HOUR EMERGENCY SPILL HOTLINE toll-free at (800) 282-9378. Report non-emergency complaints to the appropriate district office or local air agency.

If you have any questions regarding your permit, please contact Ohio EPA DAPC, Northwest District Office at (419)352-8461 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael E. Hopkins, P.E.
Assistant Chief, Permitting Section, DAPC

Cc: U.S. EPA
Ohio EPA-NWDO; Michigan; Indiana



FINAL

**Division of Air Pollution Control
Permit-to-Install
for
Johns Manville**

Facility ID:	0320010005
Permit Number:	P0121658
Permit Type:	Administrative Modification
Issued:	11/2/2016
Effective:	11/2/2016



Division of Air Pollution Control
Permit-to-Install
for
Johns Manville

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Final Permit-to-Install
Johns Manville
Permit Number: P0121658
Facility ID: 0320010005
Effective Date: 11/2/2016

Authorization

Facility ID: 0320010005
Facility Description: Fiberglass manufacturing
Application Number(s): M0004076, M0004077, M0004155, M0004156
Permit Number: P0121658
Permit Description: Administrative modification to group emissions units for sear roll and curing oven; and pipe product finishing; and revise the particulate emissions calculations record keeping requirement for emissions units P047, P054 and P055.
Permit Type: Administrative Modification
Permit Fee: \$1,100.00
Issue Date: 11/2/2016
Effective Date: 11/2/2016

This document constitutes issuance to:

Johns Manville
925 Carpenter Road
Defiance, OH 43512

of a Permit-to-Install for the emissions unit(s) identified on the following page.

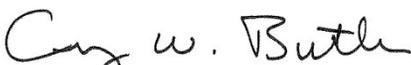
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Northwest District Office
347 North Dunbridge Road
Bowling Green, OH 43402
(419)352-8461

The above named entity is hereby granted a Permit-to-Install for the emissions unit(s) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Craig W. Butler
Director



Authorization (continued)

Permit Number: P0121658

Permit Description: Administrative modification to group emissions units for sear roll and curing oven; and pipe product finishing; and revise the particulate emissions calculations record keeping requirement for emissions units P047, P054 and P055.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Emissions Unit ID:	P047
Company Equipment ID:	Unit 89 - Hot End
Superseded Permit Number:	03-17389
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P054
Company Equipment ID:	Unit 89 - Internal Cullet Silo
Superseded Permit Number:	03-10931
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P055
Company Equipment ID:	Unit 89 - External Cullet Silo
Superseded Permit Number:	03-10931
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P066
Company Equipment ID:	Unit 801 - Finishing
Superseded Permit Number:	03-16294
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P069
Company Equipment ID:	Unit 802 - Finishing
Superseded Permit Number:	03-16294
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P072
Company Equipment ID:	Unit 803 - Finishing
Superseded Permit Number:	03-16294
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P075
Company Equipment ID:	Unit 804 - Finishing
Superseded Permit Number:	03-16294
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P078
Company Equipment ID:	Unit 805 - Finishing
Superseded Permit Number:	03-16294
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P081
Company Equipment ID:	Unit 806 - Finishing
Superseded Permit Number:	03-16294
General Permit Category and Type:	Not Applicable



Final Permit-to-Install
Johns Manville
Permit Number: P0121658
Facility ID: 0320010005
Effective Date: 11/2/2016

Emissions Unit ID:

Company Equipment ID:
Superseded Permit Number:
General Permit Category and Type:

P325

Unit 21 - Fiberglass Pipe Curing Oven
P0120830
Not Applicable

Emissions Unit ID:

Company Equipment ID:
Superseded Permit Number:
General Permit Category and Type:

P327

Fiberglass Pipe Sear Roll
P0120830
Not Applicable



Final Permit-to-Install
Johns Manville
Permit Number: P0121658
Facility ID: 0320010005
Effective Date: 11/2/2016

A. Standard Terms and Conditions

1. Federally Enforceable Standard Terms and Conditions

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
 - (1) Standard Term and Condition A.2.a), Severability Clause
 - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
 - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
 - (4) Standard Term and Condition A.9., Reporting Requirements
 - (5) Standard Term and Condition A.10., Applicability
 - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
 - (7) Standard Term and Condition A.14., Public Disclosure
 - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
 - (9) Standard Term and Condition A.16., Fees
 - (10) Standard Term and Condition A.17., Permit Transfers

2. Severability Clause

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. General Requirements

- a) Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.

- b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d) This permit does not convey any property rights of any sort, or any exclusive privilege.
- e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

4. Monitoring and Related Record Keeping and Reporting Requirements

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - (1) The date, place (as defined in the permit), and time of sampling or measurements.
 - (2) The date(s) analyses were performed.
 - (3) The company or entity that performed the analyses.
 - (4) The analytical techniques or methods used.
 - (5) The results of such analyses.
 - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Northwest District Office.

- (2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Ohio EPA DAPC, Northwest District Office. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.
 - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the Ohio EPA DAPC, Northwest District Office every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
 - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Ohio EPA DAPC, Northwest District Office in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

6. Compliance Requirements

- a) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted

local air agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a Responsible Official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

- b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
- (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c) The permittee shall submit progress reports to the Ohio EPA DAPC, Northwest District Office concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
- (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - (2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

7. Best Available Technology

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

8. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Northwest District Office.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Ohio EPA DAPC, Northwest District Office. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

10. Applicability

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s) not exempt from the requirement to obtain a Permit-to-Install.

11. Construction of New Sources(s) and Authorization to Install

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the

Director within a reasonable time before the termination date and the permittee shows good cause for any such extension.

- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director of the permanent shutdown of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

Unless otherwise exempted, no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

12. Permit-To-Operate Application

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if operation of the proposed new or modified source(s) as authorized by this permit would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d) must be obtained before operating the source in a manner that would violate the existing Title V permit requirements.

13. Construction Compliance Certification

The applicant shall identify the following dates in the "Air Services" facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

14. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

16. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in "Air Services" once the transfer is legally completed. The change must be submitted through "Air Services" within thirty days of the ownership transfer date.

18. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

19. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.



Final Permit-to-Install
Johns Manville
Permit Number: P0121658
Facility ID: 0320010005
Effective Date: 11/2/2016

B. Facility-Wide Terms and Conditions



Final Permit-to-Install
Johns Manville
Permit Number: P0121658
Facility ID: 0320010005
Effective Date: 11/2/2016

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
 - a) None.



Final Permit-to-Install
Johns Manville
Permit Number: P0121658
Facility ID: 0320010005
Effective Date: 11/2/2016

C. Emissions Unit Terms and Conditions

1. P047, Unit 89 - Hot End

Operations, Property and/or Equipment Description:

Fiberglass Melt Furnace (Electric Melter)

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	66.80 tons particulate emissions (PE) per rolling, 365-day period from emissions units P047, P048, P049, P050, P051, P052, P054 and P055, combined [See b)(2)a.]
b.	OAC rule 3745-31-05(A)(3)	Control requirements [See b)(2)b.] 1.00 lb PE/hr, 4.38 tons PE/yr [See b)(2)c.] Visible PE shall not exceed 0% opacity as a 6-minute average.
c.	OAC rule 3745-17-11(B)	See b)(2)d.
d.	OAC rule 3745-17-07(A)	See b)(2)d.

(2) Additional Terms and Conditions

a. The permittee has requested a federal enforceable restriction of 66.80 tons PE per rolling 365-day period for purposes of avoiding Prevention of Significant Deterioration (PSD) requirements [see c)(1)].

b. Best Available Technology (BAT) for this emissions unit has been determined to be the use of three baghouse dust collectors, operated in parallel to provide full time control of emissions during individual baghouse cleaning cycles.

c. All PE is assumed to be in the form of PM10.

d. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

c) Operational Restrictions

(1) Combined annual PE from Line 89, which includes emissions units P047, P048, P049, P050, P051, P052, P054 and P055, shall not exceed 66.80 tons, based upon a rolling, 365-day summation of emissions.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Emissions of PE (Tons)</u>
1	5.57
1-2	11.13
1-3	16.70
1-4	22.27
1-5	27.83
1-6	33.40
1-7	38.97
1-8	44.53
1-9	50.10
1-10	55.67
1-11	61.23
1-12	66.80

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual emission limitation for PE shall be based upon a rolling, 365-day summation of the daily emissions.

(2) The pressure drop across the three baghouses shall each be maintained within the range of 0.5-10 inches of water while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall properly operate, and maintain equipment to monitor the pressure drop across each of the three baghouses while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the three baghouses on a once per shift basis.

(2) The permittee shall maintain the following daily records for this emissions unit:

a. the operating hours for each day; and

- b. the calculated PE rate (lbs/day), based on an emission factor (lb/ton glass pulled) from the most recent compliance test.
- (3) The permittee shall maintain the following daily records for Line 89, which includes emissions units P047, P048, P049, P048, P049, P050, P051, P052, P054 and P055.
- a. for the first 12 months of operation under the provisions of this permit, the cumulative monthly PE rate for all product groups manufactured on this line; and
 - b. after the first 12 months of operation, under the provisions of this permit, the cumulative PE rate for all product groups manufactured on this line, based on a rolling 365-day summation of PE.
- e) Reporting Requirements
- (1) The permittee shall submit pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the baghouses did not comply with the allowable range specified above. These deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.
 - (2) The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 365-day emission limitation for PE and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative emission levels. These deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
66.80 tons PE per rolling, 365-day period from emissions units P047, P048, P049, P050, P051, P052, P054 and P055, combined

Applicable Compliance Method:
Compliance with the rolling 365-day emission limitation shall be demonstrated by the recordkeeping requirements specified in section d)(3).
 - b. Emission Limitation:
1.00 lb PE/hr and 4.38 tons PE/yr

Applicable Compliance Method:

The hourly emission limitation represents the emissions unit's potential to emit determined by multiplying the maximum process rate as indicated in the permit application by an emission factor derived from stack testing of a similar emissions unit. If required, the permittee shall demonstrate compliance by testing in accordance with Method 5, of 40 CFR 60, Appendix A.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8,760 hours/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

c. Emission Limitation:

Visible PE shall not exceed 0% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

g) Miscellaneous Requirements

(1) None.

2. P054, Unit 89 - Internal Cullet Silo

Operations, Property and/or Equipment Description:

Fiberglass Internal Cullet Silo – Line No. 89

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	66.80 tons particulate emissions (PE) per rolling, 365-day period from emissions units P047, P048, P049, P050, P051, P052, P054 and P055, combined [See b)(2)a.]
b.	OAC rule 3745-31-05(A)(3)	Use of baghouse [See b)(2)b.] 0.1 lb PE/hr, 0.44 ton PE/yr [See b)(2)c.] Visible PE shall not exceed 0% opacity as a 6-minute average.
c.	OAC rule 3745-17-11(B)	See b)(2)d.
d.	OAC rule 3745-17-07(A)	See b)(2)d.

(2) Additional Terms and Conditions

a. The permittee has requested a federal enforceable restriction of 66.80 tons PE per rolling 365-day period for purposes of avoiding Prevention of Significant Deterioration (PSD) requirements [See c)(1)].

b. Best Available Technology (BAT) for this emissions unit has been determined to be the use of a baghouse.

c. All PE is assumed to be in the form of PM10.

d. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

c) Operational Restrictions

- (1) Combined annual PE from Line 89, which includes emissions units P047, P048, P049, P050, P051, P052, P054 and P055, shall not exceed 66.80 tons, based upon a rolling, 365-day summation of emissions.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Emissions of PE (Tons)</u>
1	5.57
1-2	11.13
1-3	16.70
1-4	22.27
1-5	27.83
1-6	33.40
1-7	38.97
1-8	44.53
1-9	50.10
1-10	55.67
1-11	61.23
1-12	66.80

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual emission limitation for PE shall be based upon a rolling, 365-day summation of the daily emissions.

- (2) The pressure drop across the baghouse shall be maintained within the range of 0.5-10 inches of water while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a hourly basis when the emissions unit is in operation.
- (2) The permittee shall maintain the following daily records for this emissions unit:
 - a. the operating hours for each day; and
 - b. the calculated PE rate (lbs/day), based upon an emission factor of 0.36 lb PM/ton material processed, multiplied by the material throughput per day.

- (3) The permittee shall maintain the following daily records for Line 89, which includes emissions units P047, P048, P049, P048, P049, P050, P051, P052, P054 and P055.
- a. for the first 12 months of operation under the provisions of this permit, the cumulative monthly PE rate for all product groups manufactured on this line; and
 - b. after the first 12 months of operation, under the provisions of this permit, the cumulative PE rate for all product groups manufactured on this line, based on a rolling 365-day summation of PE.
- e) Reporting Requirements
- (1) The permittee shall submit pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above. These deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.
 - (2) The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 365-day emission limitation for PE and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative emission levels. These deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
66.80 tons PE per rolling 365-day period from emissions units P047, P048, P049, P050, P051, P052, P054 and P055, combined

Applicable Compliance Method:
Compliance with the rolling 365-day emission limitation shall be demonstrated by the recordkeeping requirements specified in section d)(3).
 - b. Emission Limitation:
0.10 lb PE/hr and 0.44 ton PE/yr

Applicable Compliance Method:
The hourly emission limitation represents the emissions unit's potential to emit determined by using the manufacturer's maximum designed outlet grain loading of 0.02 gr/scf, multiplied by the maximum flow rate of the silos dust collector (565 acfm).



The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8,760 hours/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

c. Emission Limitation:

0% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

g) Miscellaneous Requirements

(1) None.

3. P055, Unit 89 - External Cullet Silo

Operations, Property and/or Equipment Description:

Fiberglass External Cullet Silo - Line No. 89

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	66.80 tons particulate emissions (PE) per rolling, 365-day period from emissions units P047, P048, P049, P050, P051, P052, P054 and P055, combined [See b)(2)a.]
b.	OAC rule 3745-31-05(A)(3)	Use of baghouse [See b)(2)b.] 0.1 lb PE/hr, 0.44 ton PE/yr [See b)(2)c.] Visible PE shall not exceed 0% opacity as a 6-minute average.
c.	OAC rule 3745-17-11(B)	See b)(2)d.
d.	OAC rule 3745-17-07(A)	See b)(2)d.

(2) Additional Terms and Conditions

a. The permittee has requested a federal enforceable restriction of 66.80 tons PE per rolling 365-day period for purposes of avoiding Prevention of Significant Deterioration (PSD) requirements [See c)(1)].

b. Best Available Technology (BAT) for this emissions unit has been determined to be the use of a baghouse.

c. All PE is assumed to be in the form of PM10.

d. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

c) Operational Restrictions

- (1) Combined annual PE from Line 89, which includes emissions units P047, P048, P049, P050, P051, P052, P054 and P055, shall not exceed 66.80 tons, based upon a rolling, 365-day summation of emissions.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Emissions of PE (Tons)</u>
1	5.57
1-2	11.13
1-3	16.70
1-4	22.27
1-5	27.83
1-6	33.40
1-7	38.97
1-8	44.53
1-9	50.10
1-10	55.67
1-11	61.23
1-12	66.80

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual emission limitation for PE shall be based upon a rolling, 365-day summation of the daily emissions.

- (2) The pressure drop across the baghouse shall be maintained within the range of 0.5-10 inches of water while the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall properly operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a hourly basis when the emissions unit is in operation.

- (2) The permittee shall maintain the following daily records for this emissions unit:

The permittee shall maintain the following daily records for this emissions unit:

- a. the operating hours for each day; and

- b. the calculated PE rate (lbs/day), based upon an emission factor of 0.36 lb PM/ton material processed, multiplied by the material throughput per day.
- (3) The permittee shall maintain the following daily records for Line 89, which includes emissions units P047, P048, P049, P048, P049, P050, P051, P052, P054 and P055.
- a. for the first 12 months of operation under the provisions of this permit, the cumulative monthly PE rate for all product groups manufactured on this line; and
 - b. after the first 12 months of operation, under the provisions of this permit, the cumulative PE rate for all product groups manufactured on this line, based on a rolling 365-day summation of PE.
- e) Reporting Requirements
- (1) The permittee shall submit pressure drop deviation (excursion) reports that identify that all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above. These deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.
 - (2) The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 365-day emission limitation for PE and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative emission levels. These deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
66.80 tons PE per rolling 365-day period from emissions units P047, P048, P049, P050, P051, P052, P054 and P055, combined

Applicable Compliance Method:
Compliance with the rolling 365-day emission limitation shall be demonstrated by the recordkeeping requirements specified in section d)(3).
 - b. Emission Limitation:
0.10 lb PE/hr and 0.44 ton PE/yr

Applicable Compliance Method:

The hourly emission limitation represents the emissions unit's potential to emit determined by using the manufacturer's maximum designed outlet grain loading of 0.02 gr/scf, multiplied by the maximum flow rate of the silos dust collector (565 acfm).

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8,760 hours/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

c. Emission Limitation:

0% opacity as a 6-minute average

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

g) Miscellaneous Requirements

(1) None.

4. Emissions Unit Group – Pipe Product Finishing: P066, P069, P072, P075, P078, P081

EU ID	Operations, Property and/or Equipment Description
P066	Pipe Product Finishing – Unit 801
P069	Pipe Product Finishing – Unit 802
P072	Pipe Product Finishing – Unit 803
P075	Pipe Product Finishing – Unit 804
P078	Pipe Product Finishing – Unit 805
P081	Pipe Product Finishing – Unit 806

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	See b)(2)a. and b)(2)b. Emissions from emissions units P066, P069, P072 and P075, individually: 0.26 lb particulate emissions (PE)/hr, 1.14 tons PE/yr <u>Emissions from emissions units P078 and P081, individually:</u> 0.39 lb particulate emissions (PE)/hr, 1.71 tons PE/yr <u>Opacity Limitation for emissions units P066, P069, P072, P075, P078 and P081, individually:</u> Visible PE from the stack(s) servicing this emissions unit shall not exceed 5% opacity, as a six-minute average
b.	OAC rule 3745-17-07(A)	See b)(2)c.
c.	OAC rule 3745-17-11(B)	See b)(2)c.

(2) Additional Terms and Conditions

- a. The Best Available Technology (BAT) control requirements for each emissions unit P066, P069, P072, P075, P078 and P081 have been determined to be the use of a control system consisting of a cyclone and baghouse (finishing dust collector). The control system shall achieve a 99% removal efficiency for PE (100% capture).
- b. All PE is assumed to be in the form of particulate matter less than 10 microns in size (PM₁₀).
- c. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform checks at least 5 days per week, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.
- (2) Notwithstanding the frequency of reporting requirements specified in section e), the permittee may reduce the frequency of visual observations for this emissions unit from at least 5 days per week to weekly readings if the following conditions are met:
 - a. for 1 full quarter the facility's visual observations indicate no abnormal visible emissions; and
 - b. the permittee continues to comply with all the record keeping and monitoring requirements specified in section d)(1).

The permittee shall revert to 5 days per week readings if any abnormal visible emissions are observed.

e) Reporting Requirements

- (1) The permittee shall submit semiannual written reports that (a) identify all days during which visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the Ohio EPA, Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

0.26 lb PE/hr, 1.14 tons PE/yr from emissions units P066, P069, P072 and P075, individually

Applicable Compliance Method:

The hourly allowable PE limitation was established by multiplying the maximum glass pull rate (lb/hr) [as indicated in the permit application] by a controlled emission factor (lb/lb of glass) derived from stack testing of a similar emissions unit. If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation by testing in accordance with Methods 1-5 of 40 CFR, Part 60, Appendix A.

Compliance with the annual emission limitation shall be assumed as long as compliance with the hourly emission limitation is maintained (the annual emission limitation was calculated by multiplying the hourly emission limitation by 8,760 and dividing by 2,000).

b. Emission Limitations:

0.39 lb PE/hr, 1.71 tons PE/yr from emissions units P078 and P081, individually

Applicable Compliance Method:

The hourly allowable PE limitation was established by multiplying the maximum glass pull rate (lb/hr) [as indicated in the permit application] by a controlled emission factor (lb/lb of glass) derived from stack testing of a similar emissions unit. If required, the permittee shall demonstrate compliance with the hourly allowable PE limitation by testing in accordance with Methods 1-5 of 40 CFR, Part 60, Appendix A.

Compliance with the annual emission limitation shall be assumed as long as compliance with the hourly emission limitation is maintained (the annual emission

limitation was calculated by multiplying the hourly emission limitation by 8,760 and dividing by 2,000).

c. Emission Limitation:

Visible PE from the stack(s) servicing this emissions unit shall not exceed 5% opacity, as a six-minute average from emissions units P066, P069, P072, P075, P078 and P081, individually

Applicable Compliance Method:

If required, compliance with the visible emission limitation for the baghouse stack shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 2002.

g) Miscellaneous Requirements

(1) None.

4. Emissions Unit Group – Curing Oven and Sear Roll: P325, P327

Operations, Property and/or Equipment Description:

EU ID	Operations, Property and/or Equipment Description
P325	Unit 21 - Fiberglass Pipe Curing Oven
P327	Fiberglass Pipe Sear Roll

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) d)(14), d)(15) and d)(16).

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	<p>See b)(2)a.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-11(B)(1), 3745-18-06(E) and 40 CFR, Part 63, Subpart NNN.</p> <p><u>Emissions from emissions unit P325:</u></p> <p>Particulate emissions (PE) shall not exceed 6.22 tons per year (tpy).</p> <p>Sulfur dioxide (SO₂) emissions shall not exceed 1.52 pounds per hour (lbs/hr) and 6.70 tpy.</p> <p>Carbon monoxide (CO) emissions shall not exceed 1.87 lbs/hr and 8.20 tpy.</p> <p>Nitrogen oxides (NO_x) emissions shall not exceed 1.16 lbs/hr and 5.10 tpy.</p> <p>Organic compound (OC) emissions shall not exceed 2.99 lbs/hr and 13.10 tpy.</p> <p><u>Emissions from emissions unit P327:</u></p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>PE shall not exceed 0.75 pound per hour (lb/hr) and 3.30 tpy.</p> <p>SO₂ emissions shall not exceed 0.15 lb/hr and 0.70 tpy.</p> <p>NO_x emissions shall not exceed 0.12 lb/hr and 0.50 tpy.</p> <p>CO emissions shall not exceed 0.19 lb/hr and 0.80 tpy.</p> <p>OC emissions shall not exceed 0.31 lb/hr and 1.40 tpy.</p>
b.	OAC rule 3745-17-11(B)(1)	See b)(2)b.
c.	OAC rule 3745-17-07(A)	Visible PE from the stack servicing this emissions unit shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
d.	<p>40 CFR, Part 63, Subpart NNN [40 CFR 63.1380-1399]</p> <p>[In accordance with 40 CFR 63.1380(b)(3), this emissions unit is an existing flame attenuation wool fiberglass manufacturing line producing a bonded pipe product.]</p>	The permittee shall not discharge or cause to be discharged into the atmosphere in excess of 3.4 kg of formaldehyde per mega gram (6.8 lb of formaldehyde per ton) of glass pulled from each existing or new flame attenuation manufacturing line that produces pipe product wool fiberglass.
e.	OAC rule 3745-21-07(M)(4)	Exempt pursuant to OAC rule 3745-21-07(M)(5)(d)(ii).
f.	OAC rule 3745-18-06(E)	See b)(2)c.
g.	40 CFR 63.1-15 [CFR 63.1380(d)]	Table 1 of Subpart NNN of 40 CFR, Part 63 – Applicability of General Provisions to Subpart NNN shows which parts of the general provisions in 40 CFR 63.1 -15 apply.

(2) Additional Terms and Conditions

- a. For purposes of federal enforceability, all OC is considered to be VOC.
- b. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

- c. The maximum process weight rate is less than 1,000 pounds/hr. Therefore, this emissions unit is exempt from the SO₂ emission limitation based on OAC rule 3745-18-06(E), pursuant to OAC rule 3745-18-06(C).

c) **Operational Restrictions**

- (1) The use of any liquid organic material or substance containing liquid organic material with a volatile content greater than twenty percent, by volume, is prohibited.
- (2) The permittee 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 40 CFR 63.1384 for the process modification(s) used to control formaldehyde emissions and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.
- (3) The permittee 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 limits(s) established during the performance test as specified in 40 CFR 63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period.
- (4) The permittee 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 40 CFR 63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period.
- (5) The permittee shall use a resin in the formulation of binder such that the free-formaldehyde content of the resin used does not exceed the free-formaldehyde range contained in the specification for the resin used during the performance test as specified in 40 CFR 63.1384(a)(9).
- (6) The permittee shall use a binder formulation that does not vary from the specification and operating range established and used during the performance test as specified in 40 CFR Part 63.1384(a)(9). 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.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall collect and record the following information each month for this emissions unit:
 - a. the volatile content (including water) of each material as employed; and
 - b. the liquid organic portion of said volatile content, in percent by volume as applied.
- (2) The permittee shall perform checks at least 5 days per week, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from this emissions unit. The presence or absence of any visible emissions shall be

noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the color of the emissions;
- b. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emission incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item d)(2)d. above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (3) Notwithstanding the frequency of reporting requirements specified in e)(2), the permittee may reduce the frequency of visual observations from at least five (5) days per week to weekly readings for this emissions unit if the following conditions are met:
 - a. For 1 full quarter the facility's visual observations indicate no abnormal visible emissions; and
 - b. The permittee continues to comply with all the record keeping and monitoring requirements specified in d)(2).

The permittee shall revert to readings of five (5) days per week if any abnormal visible emissions are observed.

- (4) The permittee shall establish a correlation between formaldehyde emissions and a process parameter(s) to be monitored.
- (5) The permittee shall monitor the established parameter(s) according to the procedures in the operations, maintenance, and monitoring plan.
- (6) The permittee shall include as part of their operations, maintenance, and monitoring plan the following information:
 - a. procedures for the proper operation and maintenance of the process;
 - b. process parameter(s) to be monitored to demonstrate compliance with the applicable emission limits in 40 CFR Part 63.1382. Examples of process

- parameters include loss on ignition (LOI), binder solids content, and binder application rate;
- c. correlation(s) between process parameter(s) to be monitored and formaldehyde emissions;
 - d. a schedule for monitoring the process parameter(s); and
 - e. record keeping procedures, consistent with the record keeping requirements of 40 CFR Part 63.1386, to show that the process parameter value(s) established during the performance test is not exceeded.
- (7) The permittee shall monitor and record the free-formaldehyde content of each resin shipment received and used in the formulation of binder.
 - (8) The permittee shall monitor and record the formulation of each batch of binder used.
 - (9) The permittee shall monitor and record at least once every 8 hours, the product (LOI) and product density of each bonded wool fiberglass product manufactured.
 - (10) The permittee shall develop and implement a written plan as described in 40 CFR part 63.6(e)(3) that contains specific procedures to be followed for operating the source and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process modifications and control systems used to comply with the standard. In addition to the information required in 40 CFR part 63.6(e)(3), the plan shall include:
 - a. procedures to determine and record the cause of the malfunction and the time the malfunction began and ended;
 - b. corrective actions to be taken in the event of a malfunction of a control device or process modification, including procedures for recording the actions taken to correct the malfunction or minimize emissions; and
 - c. a maintenance schedule for each control device and process modification that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.
 - (11) The permittee shall also keep records of each event as required by 40 CFR Part 63.10(b) of this part and record and report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as described in 40 CFR Part 63.10(e)(3)(iv).
 - (12) As required by 40 CFR Part 63.10(b), the permittee shall maintain files of all information (including all reports and notifications) required by the general provisions and this subpart:
 - a. The permittee shall 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 shall be retained at the facility. The remaining 3 years of records may be retained off site.

- b. The permittee may retain records on microfilm, on a computer, on computer disks, on magnetic tape, or on microfiche.
 - c. The permittee may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software.
- (13) In addition to the general records required by 40 CFR Part 63.10(b)(2), the permittee shall maintain records of the following information:
- a. The formulation of each binder batch and the LOI and density for each product manufactured on a flame attenuation manufacturing line subject to the provisions of this subpart, and the free formaldehyde content of each resin shipment received and used in the binder formulation.
 - b. The process parameter level(s) flame attenuation 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.
- (14) PTI No. 03-13282, issued 11/16/2000 allows the use of coatings (binders) specified by the permittee in the permit to install application for emissions units P325 and P327. To fulfill the best available technology requirements of OAC rule 3745-31-05 and to ensure compliance with OAC rule 3745-17-07 (Air Pollution Nuisances Prohibited), the emission limitations specified in this permit were established using the Ohio EPA's "Air Toxic Policy" and are based on both the materials used and the design parameters of the emissions unit's exhaust system, as specified in the application. The Ohio EPA's "Air Toxic Policy" was applied for each pollutant using the SCREEN 3.0 model and comparing the predicted 1-hour maximum ground-level concentration to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for each pollutant:

Toxic Contaminant: Formaldehyde

TLV (mg/m³): 273

Maximum Hourly Emission Rate (lbs/hr): 0.57 (P325 and P327 combined)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 0.26

MAGLC (ug/m³): 6.49

Toxic Contaminant: Phenol

TLV (mg/m³): 19,000

Maximum Hourly Emission Rate (lbs/hr): 0.35 (P325 and P327 combined)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 0.16

MAGLC (ug/m3): 452

Toxic Contaminant: Methanol

TLV (mg/m3): 262,000

Maximum Hourly Emission Rate (lbs/hr): 1.18 (P325 and P327 combined)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.56

MAGLC (ug/m3): 6,238

- (15) OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a “modification” as defined by the OAC rule 3745-31-01. The permittee is hereby advised that the following changes to the process may be determined to be a modification:
- a. changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled “American Conference of Governmental Industrial Hygienists (ACGIH),” than the lowest TLV value specified in the table above;
 - b. changes to the emissions unit or its exhaust parameters (e.g. increase emission rate [not including an increase in an “allowable” emission limitation specified in the terms and conditions of this permit], reduced exhaust gas flow rate, and decreased stack height);
 - c. changes in the composition of the materials used, or use of new materials, that would result in the emission of an air contaminant not previously permitted; and
 - d. changes in the composition of the materials used, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV.
- (16) The Ohio EPA will not consider any of the above-mentioned as a “modification” requiring a permit to install, if the following conditions are met:
- a. The change is not otherwise considered a “modification” under OAC Chapter 3745-31;
 - b. The permittee can continue to comply with the allowable emission limitations specified in its permit to install; and
 - c. Prior to the change, the applicant conducts an evaluation pursuant to the Air Toxic Policy, determines that the changed emissions unit still satisfies the Air Toxic Policy, and the permittee maintains documentation that identifies the change and the results of the application of the Air Toxic Policy for the change.

For any change to the emissions unit or its method of operation that either would require an increase in the emission limitation(s) established by this permit or would otherwise be

considered a “modification” as defined in OAC rule 3745-31-01, the permittee shall obtain a final permit to install prior to the change.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify each month during which a non-complying material [as specified in c)(1)] was employed in this emissions unit. These deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.
- (2) The permittee shall submit semiannual written reports that identify:
 - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
 - b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

- (3) As required by 40 CFR Part 63.10(e)(3)(v), the permittee 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 40 CFR Part 63.10(c). When no deviations have occurred, the permittee shall submit a report stating that no excess emissions occurred during the reporting period.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

PE shall not exceed 1.42 lbs/hr and 6.22 tpy from emissions unit P325.

Applicable Compliance Method:

If required, compliance with the emission limitation above shall be conducted in accordance with the methods specified in OAC rule 3745-17-03(B)(10).

The annual emission limitation was developed by multiplying the hourly emission limitation by 8,600, and then dividing by 2,000. Therefore, provided compliance is shown with the hourly limitation and the restriction on the annual number of hours of operation of 8,600, compliance shall also be shown with the annual limitation.

b. Emission Limitations:

SO₂ emissions shall not exceed 1.52 lbs/hr and 6.70 tpy from emissions unit P325.

Applicable Compliance Method:

If required, compliance with the hourly emission limitation based upon the results of the stack testing conducted in accordance with Methods 1 through 4 and 6 of 40 CFR, Part 60, Appendix A.

The annual emission limitation was developed by multiplying the hourly emission limitation by 8,600, and then dividing by 2,000. Therefore, provided compliance is shown with the hourly limitation and the restriction on the annual number of hours of operation of 8,600, compliance shall also be shown with the annual limitation.

c. Emission Limitations:

CO emissions shall not exceed 1.87 lbs/hr and 8.20 tpy from emissions unit P325.

Applicable Compliance Method:

If required, compliance with the hourly emission limitation based upon the results of stack testing conducted in accordance with Methods 1 through 4 and 10 of 40 CFR, Part 60, Appendix A

The annual emission limitation was developed by multiplying the hourly emission limitation by 8,600, and then dividing by 2,000. Therefore, provided compliance is shown with the hourly limitation and the restriction on the annual number of hours of operation of 8,600, compliance shall also be shown with the annual limitation.

d. Emission Limitations:

NO_x emissions shall not exceed 1.16 lbs/hr and 5.10 tpy from emissions unit P325.

Applicable Compliance Method:

If required, compliance with the hourly emission limitation based upon the results of stack testing conducted in accordance with Methods 1 through 4 and 7 of 40 CFR, Part 60, Appendix A

The annual emission limitation was developed by multiplying the hourly emission limitation by 8,600, and then dividing by 2,000. Therefore, provided compliance is shown with the hourly limitation and the restriction on the annual number of hours of operation of 8,600, compliance shall also be shown with the annual limitation.

e. Emission Limitations:

OC emissions shall not exceed 2.99 lbs/hr and 13.1 tpy from emissions unit P325.

Applicable Compliance Method:

If required, compliance with the hourly emission limitation based upon the results of stack testing conducted in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

The annual emission limitation was developed by multiplying the hourly emission limitation by 8,600, and then dividing by 2,000. Therefore, provided compliance is shown with the hourly limitation and the restriction on the annual number of hours of operation of 8,600, compliance shall also be shown with the annual limitation.

f. Emission Limitations:

PE shall not exceed 0.75 lb/hr and 3.30 tpy from emissions unit P327.

Applicable Compliance Method:

If required, compliance with the hourly emission limitation based upon the results of the stack testing conducted in accordance with Methods 1-5 of 40 CFR, Part 60, Appendix A.

The annual emission limitation was determined by multiplying the hourly emission limitation by 8,760 hours/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

g. Emission Limitations:

SO₂ emissions shall not exceed 0.15 lb/hr and 0.70 tpy from emissions unit P327.

Applicable Compliance Method:

If required, compliance with the hourly emission limitation based upon the results of the stack testing conducted in accordance with Methods 1-4 and 6, of 40 CFR, Part 60, Appendix A.

The annual emission limitation was determined by multiplying the hourly emission limitation by 8,760 hours/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

h. Emission Limitations:

NO_x emissions shall not exceed 0.12 lb/hr and 0.50 tpy from emissions unit P327.

Applicable Compliance Method:

If required, compliance with the hourly emission limitation based upon the results of the stack testing conducted in accordance with Methods 1-4 and 7 of 40 CFR, Part 60, Appendix A.

The annual emission limitation was determined by multiplying the hourly emission limitation by 8,760 hours/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

i. Emission Limitations:

CO emissions shall not exceed 0.19 lb/hr and 0.80 tpy from emissions unit P327.

Applicable Compliance Method:

If required, compliance with the hourly emission limitation based upon the results of the stack testing conducted in accordance with Methods 1-4 and 10 of 40 CFR, Part 60, Appendix A.

The annual emission limitation was determined by multiplying the hourly emission limitation by 8,760 hours/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

j. Emission Limitations:

OC emissions shall not exceed 0.31 lb/hr and 1.40 tpy from emissions unit P327.

Applicable Compliance Method:

If required, compliance with the hourly emission limitation based upon the results of the stack testing conducted in accordance with Methods 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A.

The annual emission limitation was determined by multiplying the hourly emission limitation by 8,760 hours/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

k. Emission Limitation:

The permittee shall not discharge or cause to be discharged into the atmosphere in excess of 3.4 kg of formaldehyde per mega gram (6.8 lb of formaldehyde per ton) of glass pulled from each emissions unit P325 and P327.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the monitoring requirements specified in the operation, maintenance and monitoring plan.

I. Emission Limitation:

Visible PE from the stack servicing emissions units P325 and P327 shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

(2) Unless disapproved by the Director, the permittee 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 test without first conducting performance tests. Such runs must not exceed 1 week in duration unless the Director approves a longer period. The permittee must notify the Director and postmark or deliver the notification at least 15 days prior to commencement of the short-term experimental production runs. The Director must inform the permittee of a decision to disapprove or must request additional information prior to the date of the short-term experimental production runs. Notification of the intent to perform and experimental short-term production run shall include the following information:

- a. the purpose of the experimental production run;
- b. the affected line;
- c. how the established process parameters will deviate from previously approved levels;
- d. the duration of the experimental production run;
- e. the date and time of the experimental production run; and
- f. a description of any emission testing to be performed during the experimental production run.

g) **Miscellaneous Requirements**

(1) For all process operating parameters measured during the initial performance tests, the permittee 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 40 CFR Part 63.1382. The owner or operator shall conduct all additional performance tests according to the procedures 40 CFR, Part 63, Subpart A and in 40 CFR Part 63.1384.

(2) The written operations, maintenance and monitoring plan required by 40 CFR 63.1383(a) has been submitted and approved by the Administrator. This plan shall be updated if the control device and/or process operating parameters measured during the initial performance are modified in accordance with g)(1) above.