



10/15/2014

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

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL
 Facility ID: 0320010005
 Permit Number: P0117543
 Permit Type: OAC Chapter 3745-31 Modification
 County: Defiance

Certified Mail

No	TOXIC REVIEW
No	PSD
Yes	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	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**

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.

If you have any questions, please contact Ohio EPA DAPC, Northwest District Office at (419)3528461 or the Office of Compliance Assistance and Pollution Prevention at (614)644-3469.

Sincerely,



Erica R. Engel-Ishida, Interim Manager
Permit Issuance and Data Management Section, DAPC

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



Response to Comments

Facility ID:	0320010005
Facility Name:	Johns Manville
Facility Description:	Fiberglass manufacturing
Facility Address:	925 Carpenter Road Defiance, OH 43512 Defiance County
Permit:	P0117543, Permit-To-Install - OAC Chapter 3745-31 Modification
A public notice for the draft permit issuance was published in the Ohio EPA Weekly Review and appeared in the Crescent-News on 09/12/2014. The comment period ended on 10/12/2014.	
Hearing date (if held)	N/A
Hearing Public Notice Date (if different from draft public notice)	N/A

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. PDF copies of the original comments in the format submitted are available upon request.

1. Topic: Typographical Errors

- a. Comment: Page 24, Condition 2.b)(l)b.: The current Title V permit limit for short term CO emission from P029 producing OEM is 3.27 lb/hr. JM inadvertently had a typo in the permit application for the CO lb/hr limit for Original Equipment Manufacturer (OEM) products. JM is requesting no change to this OEM CO lb/hr emission limit and requests OEPA revise the PTI to reflect the current Title V limit of 3.27 lb/hr CO for OEM from P029. JM apologizes for any inconvenience this may have caused.
- b. Comment: Page 14, Condition l.b)(l)b.: The particulate matter limit in our current Title v is 40.65 tpy whereas the draft permit lists 40.64 tpy. Since a change in particulate was not requested, JM is requesting the draft permit be revised to match the current Title V limit.
- c. Response: The requested changes have been made.

2. Topic: Requested Change to Operational Restriction Equation

- a. Comment: Pages 17 and 27, operational restriction equation: The current equation listed in PTI P0117543 for determining annual emissions includes "(total for P015 – P029)," Mathematically, this could potentially be interpreted as "P015 minus P029" or "P015 through P029" whereas the application intended to be mathematically interpreted as "P015 and P029." JM is requested further clarification be added to this equation by changing "(total for P015 – P029)" to "(total for



- P015&P029).”
- b. Response: Ohio EPA concurs and the requested changes have been made.



FINAL

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

Facility ID:	0320010005
Permit Number:	P0117543
Permit Type:	OAC Chapter 3745-31 Modification
Issued:	10/15/2014
Effective:	10/15/2014



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

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Final Permit-to-Install
Johns Manville
Permit Number: P0117543
Facility ID: 0320010005
Effective Date: 10/15/2014

Authorization

Facility ID: 0320010005
Facility Description: Fiberglass manufacturing
Application Number(s): A0051553
Permit Number: P0117543
Permit Description: Chapter 31 modification permit to allow Johns Manville the flexibility to produce both Air Filtration Media (AFM) high efficiency and AFM low/medium efficiency products on Line 86.
Permit Type: OAC Chapter 3745-31 Modification
Permit Fee: \$400.00
Issue Date: 10/15/2014
Effective Date: 10/15/2014

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



Final Permit-to-Install
Johns Manville
Permit Number: P0117543
Facility ID: 0320010005
Effective Date: 10/15/2014

Authorization (continued)

Permit Number: P0117543
Permit Description: Chapter 31 modification permit to allow Johns Manville the flexibility to produce both Air Filtration Media (AFM) high efficiency and AFM low/medium efficiency products on Line 86.

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

Emissions Unit ID:	P015
Company Equipment ID:	Unit 86 - Forming and Collection
Superseded Permit Number:	03-17015
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P029
Company Equipment ID:	Unit 86 - Curing Oven
Superseded Permit Number:	03-17015
General Permit Category and Type:	Not Applicable



Final Permit-to-Install
Johns Manville
Permit Number: P0117543
Facility ID: 0320010005
Effective Date: 10/15/2014

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: P0117543
Facility ID: 0320010005
Effective Date: 10/15/2014

B. Facility-Wide Terms and Conditions



Final Permit-to-Install
Johns Manville
Permit Number: P0117543
Facility ID: 0320010005
Effective Date: 10/15/2014

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: P0117543
Facility ID: 0320010005
Effective Date: 10/15/2014

C. Emissions Unit Terms and Conditions



1. P015, Unit 86 - Forming and Collection

Operations, Property and/or Equipment Description:

Line 86 Forming and Collection

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) g)(1).

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)	Carbon monoxide (CO) emissions shall not exceed 137.99 tons per rolling, 12-month period for P015 and P029, combined. See b)(2)a.
b.	OAC rule 3745-31-05(F)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). <u>For each product individually</u> CO emissions from Original Equipment Manufacturer (OEM) shall not exceed 7.75 pounds per hour (lbs/hr). CO emissions from Air Filtration Media (AFM) High Efficiency (H) shall not exceed 73.00 lbs/hr. CO emissions from AFM Low/Medium Efficiency (L/M) shall not exceed 12.92 lbs/hr. <u>For all products combined</u> Particulate matter less than 10 microns in size (PM10) emissions shall not exceed 9.28 lbs/hr and 40.65 tons per year (tpy). Organic compound (OC) emissions shall



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		not exceed 5.63 lbs/hr and 24.66 tpy. [See b)(2)j.] Nitrogen oxides (NOx) emissions shall not exceed 4.02 lbs/hr and 17.60 tpy. Sulfur dioxide (SO2) emissions shall not exceed 1.50 lbs/hr and 6.60 tpy. Formaldehyde emissions shall not exceed 1.42 lbs/hr and 6.22 tpy. See b)(2)b. and b)(2)i.
c.	ORC 3704.03(T)	See b)(2)c.
d.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)d. and b)(2)e.
e.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)f.
f.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) servicing this emissions unit shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
g.	OAC rule 3745-17-11(B)	See b)(2)g.
h.	OAC rule 3745-18-06(E)	See b)(2)g.
i.	40 CFR, Part 63, Subpart NNN	See b)(2)h.

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitation for the purpose of limiting potential to emit (PTE) to avoid Prevention of Significant Deterioration (PSD). The federally enforceable emission limitation is based on the operational restriction contained in c)(1):
 - i. CO emissions shall not exceed 137.99 tons per rolling, 12-month period for emissions units P015 and P029, combined.
- b. The permittee has requested the following legally and practically enforceable emission limitations.
 - i. CO emissions from OEM shall not exceed 7.75 lbs/hr;
 - ii. CO emissions from AFM (H) shall not exceed 73.00 lbs/hr;
 - iii. CO emissions from AFM (L/M) shall not exceed 12.92 lbs/hr;
 - iv. PM10 emissions shall not exceed 9.28 lbs/hr and 40.65 tpy for all products combined;



- v. OC emissions shall not exceed 5.63 lbs/hr and 24.66 tpy for all products combined;
 - vi. NOx emissions shall not exceed 4.02 lbs/hr and 17.60 tpy for all products combined;
 - vii. SO2 emissions shall not exceed 1.50 lbs/hr and 6.60 tpy for all products combined; and
 - viii. Formaldehyde emissions shall not exceed 1.42 lbs/hr and 6.22 tpy for all products combined.
- c. The Best Available Technology (“BAT”) requirement established under ORC 3704.03(T) has been determined to be the following:
- i. PM10 emissions shall not exceed 40.65 tpy [as established under OAC rule 3745-31-05(F)];
 - ii. OC emissions shall not exceed 24.66 tpy [as established under OAC rule 3745-31-05(F)];
 - iii. NOx emissions shall not exceed 17.60 tpy [as established under OAC rule 3745-31-05(F)]; and
 - iv. CO emissions shall not exceed 137.99 tons per rolling, 12-month period [as established under OAC rule 3745-31-05(D)].
- d. The Best Available Technology (“BAT”) requirement established under OAC rule 3745-31-05(A)(3), as effective November 30, 2001, has been determined to be the following:
- i. SO2 emissions shall not exceed 6.60 tpy [as established under OAC rule 3745-31-05(F)].
- e. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio’s State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective on November 30, 2001 will no longer apply.
- It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(F) and OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.
- f. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.



The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3), as effective December 1, 2006 do not apply to the emissions of SO₂ since the uncontrolled potential to emit is less than 10 tons per year.

- g. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(F).
- h. 40 CFR, Part 63, Subpart NNN is not applicable to existing flame attenuation lines producing bonded heavy-density product. For the purpose of 40 CFR, Part 63, Subpart NNN, this modified emissions unit is still considered an existing emissions unit. [The modifications performed do not constitute reconstruction as defined 40 CFR 63.2].
- i. All particulate matter emissions are PM₁₀ (filterable only).
- j. All OC emissions are volatile organic compounds (VOC).

c) Operational Restrictions

- (1) This permit establishes an operational restriction which limits the CO emissions from emissions units P015 and P029, combined:

The maximum rolling, 12-month quantity of CO emissions from emissions units P015 and P029, combined, is limited by the following equation:

$$\text{Annual Emissions} = \sum E F_x \times P R_x \times T \times (\text{ton}/2,000 \text{ lb}) \text{ (total for P015 \& P029)} \leq 137.99 \text{ tons per rolling, 12-month period}$$

Emissions Factor for Binder "X" = EF_x [lb/ton glass]

Pull Rate for Binder "X" = PR_x [ton glass/hr]

Operation Time = T [hr/yr]

Annual Emission [tpy]

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform checks at least five (5) days per week, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving 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 emissions incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item d)(1)d. above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions 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.

- (2) Notwithstanding the frequency of reporting requirements specified in d)(1), 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)(1).

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

- (3) The permittee shall collect and record the following information for each month for emissions units P015 and P029, combined:

- a. The company identification of each product manufactured;
- b. The CO emission rate, in tons, from each product manufactured [based upon the equation in c)(1)];
- c. The total CO emission rate, in tons, from all products manufactured [based upon the equation in c)(1)]; and
- d. The rolling, 12-month CO emissions for all products combined [based upon the equation in c)(1)].

e) Reporting Requirements

- (1) 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.

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. alleceedances of the rolling, 12-month CO limitation of 137.99 tons for P015 and P029, combined.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) **Testing Requirements**

- (1) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emissions testing shall be conducted separately for the production of OEM, AFM (H) and AFM (L/M). For OEM and AFM (L/M), the emissions testing shall be conducted within 6 months after the startup of each product. For AFM (H), the emissions testing shall be conducted within 6 months of startup of the product but not to exceed one year of running the first product.
 - b. The emission testing shall be conducted to demonstrate compliance with the mass emission rates (lb/hr) for CO and NO_x for each product.
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
 - i. For CO, Methods 1-4 and 10 of 40 CFR, Part 60, Appendix A.
 - ii. For NO_x, Methods 1-4 and 7 of 40 CFR, Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- d. The test(s) shall be conducted at a Maximum Source Operating Rate (MSOR), unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. MSOR is defined as the condition that is most likely to challenge the emission control measures with regards to meeting the applicable emission standard(s). Although it generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test at the MSOR is justification for not accepting the test results as a demonstration of compliance.



- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
 - f. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
 - g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.
- (2) 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:

CO emissions shall not exceed 137.99 tons per rolling, 12-month period for emissions units P015 and P029, combined.

Applicable Compliance Method:

Compliance shall be based on the record keeping requirements specified in d)(3).
 - b. Emission Limitations:

CO emissions from OEM shall not exceed 7.75 lbs/hr.

CO emissions from AFM (H) shall not exceed 73.00 lbs/hr.

CO emissions from AFM (L/M) shall not exceed 12.92 lbs/hr.

Applicable Compliance Method:

The hourly allowable CO emission limitations were established by multiplying the maximum glass pull rate (tons/hr) [as indicated in the permit application] by an emission factor (lb/lb of glass) derived from stack testing of a similar emissions unit.



Compliance with the hourly emission limitation shall be determined based on the results of emission testing required in f)(1).

c. Emission Limitations:

PM10 emissions shall not exceed 9.28 lbs/hr and 40.65 tpy for all products combined.

Applicable Compliance Method:

The hourly allowable PM10 limitation was established by multiplying the maximum glass pull rate (tons/hr) [as indicated in the permit application] by an emission factor (lb/lb of glass) derived from stack testing of a similar emissions unit.

If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and 201/201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

The annual emission limitation was determined by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

d. Emission Limitations:

OC emissions shall not exceed 5.63 lbs/hr and 24.66 tpy for all products combined.

Applicable Compliance Method:

The hourly allowable OC emission limitation was established by multiplying the maximum glass pull rate (tons/hr) [as indicated in the permit application] by an emission factor (lb/lb of glass) derived from stack testing of a similar emissions unit.

If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 and 18, 25 or 25A of 40 CFR, Part 60, Appendix A.

The annual emission limitation was determined by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

e. Emission Limitations:

NOx emissions shall not exceed 4.02 lbs/hr and 17.60 tpy for all products combined.



Applicable Compliance Method:

The hourly allowable NO_x emission limitation was established by multiplying the maximum glass pull rate (tons/hr) [as indicated in the permit application] by an emission factor (lb/lb of glass) derived from stack testing of a similar emissions unit.

Compliance with the hourly emission limitation shall be determined based on the results of emission testing required in f)(1).

The annual emission limitation was determined by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

f. Emission Limitation:

SO₂ emissions shall not exceed 1.50 lbs/hr and 6.60 tpy for all products combined.

Applicable Compliance Method:

The hourly allowable SO₂ emission limitation was established by multiplying the maximum glass pull rate (tons/hr) [as indicated in the permit application] by an emission factor (lb/lb of glass) derived from stack testing of a similar emissions unit.

If required, the permittee shall demonstrate compliance by testing 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 8760 hours/yr and dividing by 2000 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:

Formaldehyde emissions shall not exceed 1.42 lbs/hr and 6.22 tpy for all products combined.

Applicable Compliance Method:

The hourly allowable formaldehyde emission limitation was established by multiplying the maximum glass pull rate (tons/hr) [as indicated in the permit application] by an emission factor (lb/lb of glass) derived from stack testing of a similar emissions unit.

If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 and 316 or 318 of 40 CFR, Part 60, Appendix A.



The annual emission limitation was determined by multiplying the hourly emission limitation by 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

h. Emission Limitation:

Visible PE from the stack(s) servicing this emissions unit shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be demonstrated in accordance with the methods in OAC rule 3745-17-03(B)(1).

g) **Miscellaneous Requirements**

- (1) Modeling to demonstrate compliance with ORC 3704.03(F)(4)(b) ["Review of New Sources of Air Toxics Emissions, Option A."] was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton. 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 OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.



2. P029, Unit 86 - Curing Oven

Operations, Property and/or Equipment Description:

Line 86 Curing Oven

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) g)(1).

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)	Carbon monoxide (CO) emissions shall not exceed 137.99 tons per rolling, 12-month period for P015 and P029, combined. See b)(2)a.
b.	OAC rule 3745-31-05(F)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A). <u>For each product individually</u> CO emissions from Original Equipment Manufacturer (OEM) shall not exceed 3.27 pounds per hour (lbs/hr). CO emissions from Air Filtration Media (AFM) High Efficiency (H) shall not exceed 3.44 lbs/hr. CO emissions from AFM Low/Medium Efficiency (L/M) shall not exceed 2.84 lbs/hr. <u>For all products combined</u> Particulate matter less than 10 microns in size (PM10) emissions shall not exceed 1.07 lbs/hr and 4.69 tons per year (tpy). Organic compound (OC) emissions shall



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		not exceed 2.47 lbs/hr and 10.82 tpy. [See b)(2)j.] Nitrogen oxides (NOx) emissions shall not exceed 0.57 lb/hr and 2.50 tpy. Sulfur dioxide (SO2) emissions shall not exceed 0.07 lb/hr and 0.31 tpy. Formaldehyde emissions shall not exceed 0.62 lb/hr and 2.72 tpy. See b)(2)b. and b)(2)i.
c.	ORC 3704.03(T)	See b)(2)c.
d.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)d. and b)(2)e.
e.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)f.
f.	OAC rule 3745-17-07(A)	Visible PE from the stack(s) servicing this emissions unit shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
g.	OAC rule 3745-17-11(B)	See b)(2)g.
h.	OAC rule 3745-18-06(E)	See b)(2)g.
i.	OAC rule 3745-21-07(M)(4)	Exempt, pursuant to OAC rule 3745-21-07(M)(5)(d)(ii).
j.	40 CFR, Part 63, Subpart NNN	See b)(2)h.

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitation for the purpose of limiting potential to emit (PTE) to avoid Prevention of Significant Deterioration (PSD). The federally enforceable emission limitation is based on the operational restriction contained in c)(2):
 - i. CO emissions shall not exceed 137.99 tons per rolling, 12-month period for P015 and P029, combined.
- b. The permittee has requested the following legally and practically enforceable emission limitations.
 - i. CO emissions from OEM shall not exceed 3.27 lbs/hr;
 - ii. CO emissions from AFM (H) shall not exceed 3.44 lbs/hr;
 - iii. CO emissions from AFM (L/M) shall not exceed 2.84 lbs/hr;



- iv. PM10 emission shall not exceed 1.07 lbs/hr and 4.69 tpy for all products combined;
 - v. OC emissions shall not exceed 2.47 lbs/hr and 10.82 tpy for all products combined;
 - vi. NOx emissions shall not exceed 0.57 lb/hr and 2.50 tpy for all products combined;
 - vii. SO2 emissions shall not exceed 0.07 lb/hr and 0.31 tpy for all products combined; and
 - viii. Formaldehyde emissions shall not exceed 0.62 lb/hr and 2.72 tpy for all products combined.
- c. The Best Available Technology (“BAT”) requirement established under ORC 3704.03(T) has been determined to be the following:
- i. OC emissions shall not exceed 10.82 tpy [as established under OAC rule 3745-31-05(F)]; and
 - ii. CO emissions shall not exceed 137.99 tons per rolling, 12-month period [as established under OAC rule 3745-31-05(D)].
- d. The Best Available Technology (“BAT”) requirement established under OAC rule 3745-31-05(A)(3), as effective November 30, 2001, has been determined to be the following:
- i. PM10 emissions shall not exceed 4.69 tpy [as established under OAC rule 3745-31-05(F)];
 - ii. NOx emissions shall not exceed 2.50 tpy [as established under OAC rule 3745-31-05(F)].
 - iii. SO2 emissions shall not exceed 0.31 tpy [as established under OAC rule 3745-31-05(F)].
- e. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 Changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio’s State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements of 3745-31-05(A)(3) as effective on November 30, 2001 will no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(F) and OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.



- f. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3), as effective December 1, 2006 do not apply to the emissions of PM10, NOx and SO2 since the uncontrolled potential to emit is less than 10 tons per year.

- g. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(F).
- h. 40 CFR, Part 63, Subpart NNN is not applicable to existing flame attenuation lines producing bonded heavy-density product. For the purpose of 40 CFR, Part 63, Subpart NNN, this modified emissions unit is still considered an existing emissions unit. [The modifications performed do not constitute reconstruction as defined 40 CFR 63.2].
- i. All particulate matter emissions are PM10 (filterable only).
- j. All OC emissions are volatile organic compounds (VOC).

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) This permit establishes an operational restriction which limits the CO emissions from emissions units P015 and P029, combined:

The maximum rolling, 12-month quantity of CO emissions from emissions units P015 and P029, combined is limited by the following equation:

$$\text{Annual Emissions} = \sum E F_x \times P R_x \times T \times (\text{ton}/2,000 \text{ lb}) \text{ (total for P015 \& P029)} \leq 137.99 \text{ tons per rolling, 12-month period}$$

Emissions Factor for Binder "X" = $E F_x$ [lb/ton glass]

Pull Rate for Binder "X" = $P R_x$ [ton glass/hr]

Operation Time = T [hr/yr]

Annual Emission [tpy]

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information for this emissions unit:
 - a. The composition of the volatile content of each material employed; and



- b. The liquid organic portion of the volatile content, in % by volume, of each material employed.
- (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 d)(1), 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 d)(2).

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

- (4) The permittee shall collect and record the following information for each month foremissions units P015 and P029, combined:
- a. The company identification of each product manufactured;
 - b. The CO emission rate, in tons, from each product manufactured [based upon the equation in c)(2)];



- c. The total CO emission rate, in tons, from all products manufactured [based upon the equation in c)(2)]; and
- d. The rolling, 12-month CO emissions for all products combined [based upon the equation in c)(2)].

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]. 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 (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.
- (3) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. alleceedances of the rolling, 12-month CO limitation of 137.99 tons for P015 and P029, combined.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (4) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

f) Testing Requirements

- (1) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emissions testing shall be conducted separately for the production of OEM, AFM (H) and AFM (L/M). For OEM and AFM (L/M), the emissions testing shall be conducted within 6 months after the startup of each product. For AFM (H), the emissions testing shall be conducted within 6 months of startup of the product but not to exceed one year of running the first product.
 - b. The emission testing shall be conducted to demonstrate compliance with the mass emission rates (lb/hr) for CO and NO_x for each product.
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):



- i. For CO, Methods 1-4 and 10 of 40 CFR, Part 60, Appendix A.
- ii. For NO_x, Methods 1-4 and 7 of 40 CFR, Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- d. The test(s) shall be conducted at a Maximum Source Operating Rate (MSOR), unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. MSOR is defined as the condition that is most likely to challenge the emission control measures with regards to meeting the applicable emission standard(s). Although it generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test at the MSOR is justification for not accepting the test results as a demonstration of compliance.
 - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
 - f. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
 - g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.
- (2) 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:
CO emissions shall not exceed 137.99 tons per rolling, 12-month period for emissions units P015 and P029, combined.



Applicable Compliance Method:

Compliance shall be based on the record keeping requirements specified in d)(4).

b. Emission Limitations:

CO emissions from OEM shall not exceed 3.27 lbs/hr.

CO emissions from AFM (H) shall not exceed 3.44 lbs/hr.

CO emissions from AFM (L/M) shall not exceed 2.84 lbs/hr.

Applicable Compliance Method:

The hourly allowable CO emission limitations were established by multiplying the maximum glass pull rate (tons/hr) [as indicated in the permit application] by an emission factor (lb/lb of glass) derived from stack testing of a similar emissions unit.

Compliance with the hourly emission limitation shall be determined based on the results of emission testing required in f)(1).

c. Emission Limitations:

PM10 emissions shall not exceed 1.07 lbs/hr and 4.69 tpy for all products combined.

Applicable Compliance Method:

The hourly allowable PM10 limitation was established by multiplying the maximum glass pull rate (tons/hr) [as indicated in the permit application] by an emission factor (lb/lb of glass) derived from stack testing of a similar emissions unit.

If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

The annual emission limitation was determined by multiplying the hourly emission limitation by 8760 hours/yr, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

d. Emission Limitations:

OC emissions shall not exceed 2.47 lbs/hr and 10.82 tpy for all products combined.



Applicable Compliance Method:

The hourly allowable OC emission limitation was established by multiplying the maximum glass pull rate (tons/hr) [as indicated in the permit application] by an emission factor (lb/lb of glass) derived from stack testing of a similar emissions unit.

If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 and 18, 25 or 25A of 40 CFR, Part 60, Appendix A.

The annual emission limitation was determined by multiplying the hourly emission limitation by 8760 hours/yr, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

e. Emission Limitations:

NOx emissions shall not exceed 0.57 lb/hr and 2.50 tpy for all products combined.

Applicable Compliance Method:

The hourly allowable NOx emission limitation was established by multiplying the maximum glass pull rate (tons/hr) [as indicated in the permit application] by an emission factor (lb/lb of glass) derived from stack testing of a similar emissions unit.

Compliance with the hourly emission limitation shall be determined based on the results of emission testing required in f)(1).

The annual emission limitation was determined by multiplying the hourly emission limitation by 8760 hours/yr, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

f. Emission Limitations:

SO2 emissions shall not exceed 0.07 lb/hr and 0.31 tpy for all products combined.

Applicable Compliance Method:

The hourly allowable SO2 emission limitation was established by multiplying the maximum glass pull rate (tons/hr) [as indicated in the permit application] by an emission factor (lb/lb of glass) derived from stack testing of a similar emissions unit.

If required, the permittee shall demonstrate compliance by testing 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 8760 hours/yr, and then dividing by 2000 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:

Formaldehyde emissions shall not exceed 0.62lb/hr and 2.72tpy for all products combined.

Applicable Compliance Method:

The hourly allowable formaldehyde emission limitation was established by multiplying the maximum glass pull rate (tons/hr) [as indicated in the permit application] by an emission factor (lb/lb of glass) derived from stack testing of a similar emissions unit.

If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1-4 and 316 or 318 of 40 CFR, Part 60, Appendix A.

The annual emission limitation was determined by multiplying the hourly emission limitation by 8760 hours/yr, and then dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

h. Emission Limitation:

Visible PE from the stack(s) servicing this emissions unit shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be demonstrated in accordance with the methods in OAC rule 3745-17-03(B)(1).

g) Miscellaneous Requirements

- (1) Modeling to demonstrate compliance with ORC 3704.03(F)(4)(b) ["Review of New Sources of Air Toxics Emissions, Option A."] was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton. 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 OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.