



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

7/12/2016

Certified Mail

Ms. Stacy Wahl
 Owens Corning Foam Insulation, LLC
 170 South Avenue
 Tallmadge, OH 44278-0037

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
Yes	SYNTHETIC MINOR TO AVOID TITLE V
Yes	FEDERALLY ENFORCABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1677120043
 Permit Number: P0119756
 Permit Type: Renewal
 County: Summit

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. 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 PTIO 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 Akron Regional Air Quality Management District at (330)375-2480 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: ARAQMD



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
Owens Corning Foam Insulation, LLC**

Facility ID:	1677120043
Permit Number:	P0119756
Permit Type:	Renewal
Issued:	7/12/2016
Effective:	7/12/2016
Expiration:	7/12/2021



Division of Air Pollution Control
Permit-to-Install and Operate
for
Owens Corning Foam Insulation, LLC

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Final Permit-to-Install and Operate
Owens Corning Foam Insulation, LLC
Permit Number: P0119756
Facility ID: 1677120043
Effective Date: 7/12/2016

Authorization

Facility ID: 1677120043
Application Number(s): A0051707
Permit Number: P0119756
Permit Description: Renewal FEPTIO for the manufacture of polystyrene foam insulation. This permit transitions the facility from Title V to synthetic minor due to use of different materials and rescission of the greenhouse gas "tailoring rule".
Permit Type: Renewal
Permit Fee: \$0.00
Issue Date: 7/12/2016
Effective Date: 7/12/2016
Expiration Date: 7/12/2021
Permit Evaluation Report (PER) Annual Date: July 1 - June 30, Due Aug 15

This document constitutes issuance to:

Owens Corning Foam Insulation, LLC
170 South Avenue
Tallmadge, OH 44278

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

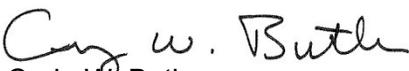
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Akron Regional Air Quality Management District
1867 West Market St.
Akron, OH 44313
(330)375-2480

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (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 described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Craig W. Butler
Director



Authorization (continued)

Permit Number: P0119756

Permit Description: Renewal FEPTIO for the manufacture of polystyrene foam insulation. This permit transitions the facility from Title V to synthetic minor due to use of different materials and rescission of the greenhouse gas "tailoring rule".

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

- | | |
|-----------------------------------|-----------------------|
| Emissions Unit ID: | P002 |
| Company Equipment ID: | Barometric Leg #2 |
| Superseded Permit Number: | P0114713 |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P003 |
| Company Equipment ID: | Barometric Leg #3 |
| Superseded Permit Number: | P0114713 |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P006 |
| Company Equipment ID: | Finishing Equipment |
| Superseded Permit Number: | P0114713 |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P007 |
| Company Equipment ID: | Finishing Equipment |
| Superseded Permit Number: | P0114713 |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P011 |
| Company Equipment ID: | Staging and Warehouse |
| Superseded Permit Number: | |
| General Permit Category and Type: | Not Applicable |

Group Name: Foam Grinders

Emissions Unit ID:	P008
Company Equipment ID:	Nelmor Foam Grinder
Superseded Permit Number:	16-02490
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P012
Company Equipment ID:	Vortex Grinder
Superseded Permit Number:	P0109177
General Permit Category and Type:	Not Applicable

Group Name: Reclaim Units

Emissions Unit ID:	P009
Company Equipment ID:	Reclaim #1 Extruder
Superseded Permit Number:	16-02490
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P010
Company Equipment ID:	Reclaim #2 Extruder
Superseded Permit Number:	16-02490
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
Owens Corning Foam Insulation, LLC
Permit Number: P0119756
Facility ID: 1677120043
Effective Date: 7/12/2016

Emissions Unit ID:	P013
Company Equipment ID:	Reclaim #3
Superseded Permit Number:	P0116651
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
Owens Corning Foam Insulation, LLC
Permit Number: P0119756
Facility ID: 1677120043
Effective Date: 7/12/2016

A. Standard Terms and Conditions

1. What does this permit-to-install and operate ("PTIO") allow me to do?

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. Who is responsible for complying with this permit?

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. What records must I keep under this permit?

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. What are my permit fees and when do I pay them?

There are two fees associated with permitted air contaminant sources in Ohio:

PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. When does my PTIO expire, and when do I need to submit my renewal application?

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is

very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. What happens to this permit if my project is delayed or I do not install or modify my source?

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. What reports must I submit under this permit?

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions of this permit will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the [DO/LAA] in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means 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.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the

change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



Final Permit-to-Install and Operate
Owens Corning Foam Insulation, LLC
Permit Number: P0119756
Facility ID: 1677120043
Effective Date: 7/12/2016

B. Facility-Wide Terms and Conditions

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) None.
2. 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 District Office or 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 required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.



Final Permit-to-Install and Operate
Owens Corning Foam Insulation, LLC
Permit Number: P0119756
Facility ID: 1677120043
Effective Date: 7/12/2016

C. Emissions Unit Terms and Conditions

1. P002, Barometric Leg #2

Operations, Property and/or Equipment Description:

Polystyrene foam board extrusion, Line 2 - barometric leg

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. b)(1)b., c)(1), d)(3), d)(4) and e)(3).

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)	When employing a blowing agent containing any volatile organic compound (VOC), the VOC emissions shall not exceed 0.39 pound per hour and 1.69 tons per year. See b)(2)a. and b)(2)b. below.
b.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V	VOC emissions from emissions units P002 and P006, combined, shall not exceed 32.8 tons per rolling, 12-month period. See c)(1) below.

(2) Additional Terms and Conditions

a. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the organic compound (OC) emissions from this air

contaminant source since the non-ODS blowing agents that do not contain VOC are not air contaminants for which a National Ambient Air Quality Standard (NAAQS) has been established or a precursor of an air contaminant for which a NAAQS has been established.

- b. The hourly VOC emissions limit was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this emissions limitation.
- c) Operational Restrictions
 - (1) Annual hours of operation for this emissions unit shall not exceed 3,240 hours based upon a rolling, 12-month summation of the operating hours, when employing a blowing agent containing any VOC.
 - (2) The permittee shall only employ the following blowing agents in this emissions unit:
 - a. 1,1,1,2-tetrafluoroethane (HFC-134a) - organic compound;
 - b. 1,1,1-trifluoroethane (HFC-143a) - organic compound;
 - c. 1,1-difluoroethane (HFC-152a) - organic compound;
 - d. 1,1,1,3,3-pentafluoropropane (HFC-245 FA) - organic compound;
 - e. 1,1,1,3,3-pentafluorobutane (HFC-365 MFC) - organic compound;
 - f. USEPA SNAP approved blowing agent that may or may not contain VOC;
 - g. 1,1,2,2-tetrafluoroethane (HFC-134) - organic compound; and
 - h. Other blowing agents approved by the Akron Regional Air Quality Management District (ARAQMD) and Ohio EPA.
- d) Monitoring and/or Recordkeeping Requirements
 - (1) The permittee shall evaluate the blowing agent efficiency on a once per shift frequency to ensure that material is being added to meet product specification by performing a "rate check", or by recording the data from the micro motion mass-flow sensor, in accordance with one of the following methods:
 - a. weighing the amount of blowing agent introduced into the extrusion line during a given period of time, by supplying blowing agent from a container, which is weighed at the beginning and end of the evaluation;
 - b. data from the micro motion mass-flow sensors, which control the flow rate of the blowing agent, will be averaged on a per shift frequency and used to determine blowing agent percent to the extrusion line; or
 - c. other procedures approved by ARAQMD and Ohio EPA.

The permittee shall maintain records of the performance of the blowing agent by rate check or micro-motion flow sensor, on the extrusion line, including date and time, results, i.e., whether the blowing agent rate was within, above, or below specification; whether corrective actions were initiated; and whether such actions were effective, as shown by the next rate check or micro-motion data.

(2) The permittee shall evaluate the efficiency of the board forming operations (extrusion die and shaping device at the inlet bulkhead of the barometric leg) on a once per day frequency to ensure the amount of scrap material generated is minimized by performing a "trim loss check." The trim loss checks may be conducted by one of the following methods:

- a. calculating the percentage of trim loss by using the weights of the untrimmed and trimmed product;
- b. calculating the percentage trim loss using untrimmed and trimmed product widths;
- c. calculating the percentage trim loss based on weight and width of a trimmed board and the width of an untrimmed board; or
- d. other procedures approved by ARAQMD and Ohio EPA.

The permittee shall maintain records of the performance of trim loss checks on the extrusion line, including date and time, results, i.e., whether the trim was within, above, or below specification; whether corrective actions were initiated; and whether such actions were effective, as shown by the next rate check.

(3) The permittee shall maintain monthly records of the following information for this emissions unit:

- a. the number of hours of operation for each month, when a blowing agent that contains any VOC is employed; and
- b. the rolling, 12-month summation of the operating hours, when a blowing agent that contains any VOC is employed.

(4) The permittee shall maintain monthly records of the following information for emissions units P002 and P006, combined:

- a. the VOC emissions, in tons; and
- b. the rolling, 12-month summation of the VOC emissions, in tons.

e) Reporting Requirements

(1) The permittee shall notify the Director (the appropriate Ohio EPA District Office or Local Air Agency) in writing of any daily record showing the use of any blowing agent other than those allowed in c)(2) above. The notification shall include a copy of such record and shall be sent to the Director (the appropriate Ohio EPA District Office or Local Air Agency) within 30 days following the end of the calendar month.

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
- a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. all exceedances of the rolling, 12-month VOC emission limitation for emissions units P002 and P006, combined; and
 - ii. all exceedances of the rolling, 12-month restriction on the hours of operation.
 - b. the probable cause of each deviation (excursion);
 - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
 - d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (4) The permittee shall identify the following information in the annual permit evaluation report:
- a. all days during which either the blowing efficiency or trim loss checks results in out of specification results; and
 - b. any corrective actions taken bring the results back into proper specifications.
- 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. Emissions Limitations:
VOC emissions shall not exceed 0.39 lbs/hr and 1.69 tons/yr.



Applicable Compliance Methods:

Compliance with the hourly allowable VOC emission limitation identified above shall be determined in accordance with the following equation:

$$\text{Hourly VOC rate (lbs/hr)} = \text{SUM (M)} \times \text{EF} \times P_{\text{VOC}} \text{ for each product recipe}$$

Where:

M = actual raw material in-feed rate factoring in buoyancy factor entering extruder, in pounds per hour

EF = emission factor, 0.0004 VOC/lb raw material (accounts for buoyancy factor)

P_{VOC} = Concentration VOC blend/BA % content of in-feed

*The constant factors were developed by the permittee as the result of stack testing performed at a similar facility for the same product mix.

Compliance with the annual allowable VOC emission limitation identified above shall be determined by multiplying the hourly allowable VOC emission limitation by 8,760 hrs/yr and dividing by 2,000 lbs/ton. Therefore, as long as compliance with the hourly allowable emission limitation is maintained, compliance with the annual allowable emission limitation shall be assumed.

b. Emission Limitation:

VOC emissions from emissions units P002 and P006, combined, shall not exceed 32.8 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the annual allowable VOC emission limitation identified above shall be demonstrated by the record keeping requirements specified in section d)(4) of this permit.

g) Miscellaneous Requirements

- (1) None.

2. P003, Barometric Leg #3

Operations, Property and/or Equipment Description:

Polystyrene foam board extrusion, Line 3 - barometric leg

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. 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. below.

(2) Additional Terms and Conditions

a. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the organic compound (OC) emissions from this air contaminant source since the non-ODS blowing agents are not air contaminants for which a National Ambient Air Quality Standard (NAAQS) has been established or a precursor of an air contaminant for which a NAAQS has been established.

c) Operational Restrictions

(1) The permittee shall employ only the following blowing agents in this emissions unit:

a. 1,1,1,2-tetrafluoroethane (HFC-134a) - organic compound;

- b. 1,1,1-trifluoroethane (HFC-143a) - organic compound;
 - c. 1,1-difluoroethane (HFC-152a) - organic compound;
 - d. 1,1,1,3,3-pentafluoropropane (HFC-245 FA) - organic compound;
 - e. 1,1,1,3,3-pentafluorobutane (HFC-365 MFC) - organic compound;
 - f. 1,1,2,2-tetrafluoroethane (HFC-134) - organic compound;
 - g. US EPA SNAP approved blowing agents that do not contain VOC; and
 - h. Other blowing agents approved by the Akron Regional Air Quality Management District (ARAQMD) and Ohio EPA.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall maintain a record of each blowing agent employed in this emissions unit on a daily basis.
- e) Reporting Requirements
- (1) The permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) in writing of any daily record showing the use of any blowing agent other than those allowed in c)(1) above. The notification shall include a copy of such record and shall be sent to the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days following the end of the calendar month.
 - (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- f) Testing Requirements
- (1) None.
- g) Miscellaneous Requirements
- (1) None.

3. P006, Finishing Equipment

Operations, Property and/or Equipment Description:

Polystyrene foam board trimming and cutting equipment associated with Line 2; includes fugitive emissions from warehouse (P011).

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. b)(1)d., c)(1), d)(3), d)(4) and e)(2).

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), as effective 11/30/01	Particulate emissions (PE) shall not exceed 9.74 tons per year. Volatile organic compound (VOC) emissions shall not exceed 15.3 pounds per hour. See b)(2)a. below.
b	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)b. below.
c.	OAC rule 3745-31-05(E) Voluntary Restriction to avoid BAT	See b)(2)b. below.
d.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V	Volatile organic compound (VOC) emissions from emissions units P002 and P006, combined, shall not exceed 32.8 tons per rolling, 12-month period. See c)(1) below.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Fugitive VOC emissions from the warehouse shall not exceed 7.37 tons per year.
e.	OAC rule 3745-17-07(A)	Visible PE from any stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
f.	OAC rule 3745-17-11(B)	PE shall not exceed 5.34 pounds per hour.

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) 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 OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.
- b. These rule paragraphs apply once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.
 - i. This FEPTIO takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC Rule 3745- 31-05(A)(3):
 - (a) the use of a cyclone and baghouse, whenever this emissions unit is in operation, with a minimum overall control efficiency of 98.5%, by weight for PE; and
 - (b) PE shall not exceed 9.74 tons per year.
 - ii. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to PE since the potential to emit for PE is less than ten tons per year.

- c. The hourly VOC emissions limit was established to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this emissions limitation.

c) Operational Restrictions

- (1) Annual hours of operation for this emissions unit shall not exceed 3,240 hours, based on a rolling 12-month summation of the operating hours, when finishing foam boards containing any VOC blowing agents.
- (2) The permittee shall only finish foam board containing the following blowing agents in this emissions unit:
 - a. 1,1,1,2-tetrafluoroethane (HFC-134a) - organic compound;
 - b. 1,1,1-trifluoroethane (HFC-143a) - organic compound;
 - c. 1,1-difluoroethane (HFC-152a) - organic compound;
 - d. 1,1,1,3,3-pentafluoropropane (HFC-245 FA) - organic compound;
 - e. 1,1,1,3,3-pentafluorobutane (HFC-365 MFA) - organic compound;
 - f. USEPA SNAP approved blowing agent that may or may not contain VOC;
 - g. 1,1,2,2-tetrafluoroethane (HFC-134) - organic compound; and
 - h. Other blowing agents approved by the Akron Regional Air Quality Management District (ARAQMD) and Ohio EPA.
- (3) The particulate emissions shall be vented to a cyclone and baghouse at all times the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range established for the pressure drop across the baghouse is between 0.1 to 5.0 inches of water.
- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (3) The permittee shall maintain monthly records of the following information for P006:
 - a. the number of hours of operation for each month, when finishing foam boards containing any VOC blowing agents; and
 - b. the rolling, 12-month summation of the operating hours, when finishing foam boards containing any VOC blowing agents.
 - (4) The permittee shall maintain monthly records of the following information for emissions units P002 and P006, combined:
 - a. the VOC emissions, in tons; and
 - b. the rolling, 12-month summation of the VOC emissions, in tons.
- e) Reporting Requirements
- (1) The permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) in writing of any daily record showing the use of any blowing agent other than those allowed in c)(2) above. The notification shall include a copy of such record and shall be sent to the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days following the end of the calendar month.
 - (2) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. all exceedances of the rolling, 12-month VOC emission limitation for emissions units P002 and P006, combined; and
 - ii. all exceedances of the rolling, 12-month restriction on the numbers of hours of operation for P006.
 - b. the probable cause of each deviation (excursion);
 - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
 - d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
 - (4) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the baghouse serving P006 during the 12-month reporting period for this emissions unit:
 - a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
 - b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;
 - c. each incident of deviation described in "a" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - e. each incident of deviation described in "a" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements 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:
PE shall not exceed 9.74 tons/yr

Applicable Compliance Method:
Compliance with the annual allowable PE limitation identified above shall be demonstrated by multiplying the maximum hourly controlled PE rate [(148.25 lbs PE/hr) x (1-0.985) = 2.22 lbs PE/hr] by the maximum annual hours of operation (8760 hrs/yr) and dividing by 2000 lbs/ton.
 - b. Emission Limitation:
VOC emissions from emissions units P002 and P006, combined, shall not exceed 32.8 tons per rolling, 12-month period.



Applicable Compliance Method:

Compliance with the annual allowable VOC emission limitation identified above shall be demonstrated by the record keeping requirements specified in section d)(4) of this permit.

c. Emission Limitation:

Fugitive VOC emissions from the warehouse shall not exceed 7.37 tons/yr.

Applicable Compliance Method:

Compliance with the annual allowable fugitive VOC emission limitation identified above shall be determined in accordance with the following equation:

$$\text{Annual VOC rate (tons/yr)} = \text{SUM} (M \times \text{Trim}\%) \text{EF}_2 \times P_{\text{Mix}} \times 3240 \text{ hrs}/2000 \text{ lbs}$$

Where:

SUM = summation of each VOC in the blowing agent mix

M = actual raw material in-feed rate factoring in buoyancy factor entering extruder, in pounds per hour

Trim% = percentage of material removed from board stock

EF₂ = emission factor based on in-feed material less trim with buoyancy accounted for

P_{Mix} = concentration VOC blend/BA% content of in-feed

d. Emission Limitation:

Visible PE from any stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, compliance with the allowable stack opacity limitation identified above shall be determined through visible emissions observations performed in accordance with US EPA Method 9 of 40 CFR Part 60, Appendix A.

e. Emission Limitation:

PE shall not exceed 5.34 lbs/hr.

Applicable Compliance Method:

If required, compliance with the hourly allowable PE limitation identified above shall be determined through emissions testing performed in accordance with US EPA Methods 1-5 of 40 CFR Part 60, Appendix A.



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- g) Miscellaneous Requirements
 - (1) None.

4. P007, Finishing Equipment

Operations, Property and/or Equipment Description:

Polystyrene foam board trimming and cutting equipment associated with Line 3

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. 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), as effective 11/30/01	Particulate emissions (PE) shall not exceed 9.81 tons per year. See b)(2)a. below.
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)b. below.
c.	OAC rule 3745-31-05(E) Voluntary Restriction to avoid BAT	See b)(2)b. below.
b.	OAC rule 3745-17-07(A)	Visible PE from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
c.	OAC rule 3745-17-11(B)	PE shall not exceed 5.34 pounds per hour.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as

effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) 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 OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

b. These rule paragraphs apply once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

i. This federally enforceable permit-to-install and operate (FEPTIO) takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC Rule 3745- 31-05(A)(3):

(a) the use of a cyclone and baghouse, whenever this emissions unit is in operation, with a minimum overall control efficiency of 98.6%, by weight for PE; and

(b) PE shall not exceed 9.81 tons per year.

ii. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to PE from P007 since the potential to emit for PE is less than ten tons per year.

c) Operational Restrictions

(1) The permittee shall only finish foam board containing the following blowing agents in this emissions unit:

a. 1,1,1,2-tetrafluoroethane (HFC-134a) - organic compound;

b. 1,1,1-trifluoroethane (HFC-143a) - organic compound;

c. 1,1-difluoroethane (HFC-152a) - organic compound;

d. 1,1,1,3,3-pentafluoropropane (HFC-245 FA) - organic compound;

e. 1,1,1,3,3-pentafluorobutane (HFC-365 MFC) - organic compound;

f. 1,1,2,2-tetrafluoroethane (HFC-134) - organic compound;

g. US EPA SNAP approved blowing agents that do not contain VOC; and

- h. Other blowing agents approved by the Akron Regional Air Quality Management District (ARAQMD) and Ohio EPA.
- (2) The particulate emissions from this emissions unit shall be vented to a cyclone and baghouse at all times the emissions unit is in operation.
- d) **Monitoring and/or Recordkeeping Requirements**
 - (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range established for the pressure drop across the baghouse is between 0.1 to 5.0 inches of water.
 - (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit (P007) is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;

- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

e) Reporting Requirements

- (1) The permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) in writing of any daily record showing the use of any blowing agent other than those allowed in c)(1) above. The notification shall include a copy of such record and shall be sent to the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days following the end of the calendar month.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the baghouse serving P006 during the 12-month reporting period for this emissions unit:
 - a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
 - b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;
 - c. each incident of deviation described in "a" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and

- e. each incident of deviation described in “a” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements 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:

PE shall not exceed 9.81 tons per year.

Applicable Compliance Method:

Compliance with the annual allowable PE limitation identified above shall be demonstrated by multiplying the maximum hourly controlled PE rate [(160.0 lbs PE/hr) x (1-0.986) = 2.24 lbs PE/hr] by the maximum annual hours of operation (8760 hrs/yr) and dividing by 2000 lbs/ton.

- b. Emission Limitation:

Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, compliance with the allowable stack opacity limitation identified above shall be determined through visible emissions observations performed in accordance with US EPA Method 9 of 40 CFR Part 60, Appendix A.

- c. Emission Limitation:

PE shall not exceed 5.34 pounds per hour.

Applicable Compliance Method:

If required, compliance with the hourly allowable PE limitation identified above shall be determined through emissions testing performed in accordance with US EPA Methods 1-5 of 40 CFR Part 60, Appendix A.

g) Miscellaneous Requirements

- (1) None.

5. P011, Staging and Warehouse

Operations, Property and/or Equipment Description:

Warehouse storage of foam board prior to shipping. Fugitive blowing agent emissions.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. 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.	None.	None.

(2) Additional Terms and Conditions

a. Fugitive volatile organic compound (VOC) emissions from this emissions unit are regulated under emissions unit P006.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) None.

e) Reporting Requirements

(1) None.



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- f) Testing Requirements
 - (1) None.
- g) Miscellaneous Requirements
 - (1) None.

6. Emissions Unit Group - Foam Grinders: P008, P012

EU ID	Operations, Property and/or Equipment Description
P008	Scrap foam grinder for EPS, XPS, and R&D foam
P012	Scrap polystyrene foam grinder

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. 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.	ORC 3704.03(T) and OAC rule 3745-31-05(A)(3),	Volatile organic compound (VOC) emissions from P008 shall not exceed 2.5 pounds per hour and 11.04 tons per year. See b)(2)a. below.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	Particulate matter less than 10 microns (PM ₁₀) emissions from P008 shall not exceed 7.9 tons per year. PM ₁₀ emissions from P012 shall not exceed 6.6 tons per year. VOC emissions from P012 shall not exceed 9.2 tons per year. See b)(2)c.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)d. below.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-31-05(E) Voluntary Restriction to avoid BAT	See b)(2)d. below.
e.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
f.	OAC rule 3745-17-11(B)	PE from P008 shall not exceed 3.82 pounds per hour. PE from P012 shall not exceed 3.4 pounds per hour.

(2) Additional Terms and Conditions

- a. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the organic compound (OC) emissions from this air contaminant source since the non-ODS blowing agents that do not contain VOC are not air contaminants for which a National Ambient Air Quality Standard (NAAQS) has been established or a precursor of an air contaminant for which a NAAQS has been established.
- b. The hourly and annual VOC emissions limits were established to reflect the potential to emit for these emissions units. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these emissions limitations.
- c. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) 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 OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.
- d. These rule paragraphs apply once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.
 - i. This FEPTIO takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment) as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC Rule 3745- 31-05(A)(3):

- (a) the use of baghouses, whenever each emissions unit is in operation, with a minimum overall control efficiency of 98%, by weight for PM₁₀; and
 - (b) PM₁₀ emissions shall not exceed 7.9 tons per year from P008 and 6.6 tons per year from P012.
 - ii. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to PM₁₀ and VOC emissions from P008 and P012 since the potential to emit for PM₁₀ and VOC is less than ten tons per year.
- c) **Operational Restrictions**
 - (1) The emissions from this emissions unit shall be vented to a baghouse at all times the emissions unit is in operation.
 - (2) The permittee shall only employ the following blowing agents in P008:
 - a. 1,1,1,2-tetrafluoroethane (HFC-134a) - organic compound;
 - b. 1,1,1-trifluoroethane (HFC-143a) - organic compound;
 - c. 1,1-difluoroethane (HFC-152a) - organic compound;
 - d. 1,1,1,3,3-pentafluoropropane (HFC-245 FA) - organic compound;
 - e. 1,1,1,3,3-pentafluorobutane (HFC-365 MFC) - organic compound;
 - f. USEPA SNAP approved blowing agent that may or may not contain VOC;
 - g. 1,1,2,2-tetrafluoroethane (HFC-134) - organic compound; and
 - h. Other blowing agents approved by the Akron Regional Air Quality Management District (ARAQMD) and Ohio EPA.
 - (3) The permittee shall grind only scrap expanded polystyrene (EPS) foam, or scrap extruded polystyrene (XPS) foam containing no detectable amount of blowing agent, in P012.
- d) **Monitoring and/or Recordkeeping Requirements**
 - (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range established for the pressure drop across the baghouses is between 0.1 to 5.0 inches of water, except for an initial operating period after filter media replacement to attain design filtering efficiency.
 - (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouses when the controlled emissions unit (P008 or P012) is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouses on a daily basis.

The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across the baghouses is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring

requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (3) The permittee shall maintain records documenting any time periods when the permittee was grinding anything other than scrap EPS foam, or scrap XPS foam containing no detectable amount of blowing agent, in P012.

e) Reporting Requirements

- (1) The permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) in writing of any daily record showing the use of any blowing agent other than those allowed in c)(1) above. The notification shall include a copy of such record and shall be sent to the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days following the end of the calendar month.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the baghouses serving P008 and P012 during the 12-month reporting period for this emissions unit:
 - a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
 - b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;
 - c. each incident of deviation described in "a" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - e. each incident of deviation described in "a" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements 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:

VOC emissions from P008 shall not exceed 2.5 pounds per hour and 11.04 tons per year.

VOC emissions from P012 shall not exceed 2.1 pounds per hour and 9.2 tons per year.

Applicable Compliance Method:

Compliance with the hourly allowable VOC emission limitation identified above shall be demonstrated by multiplying the maximum hourly usage rate by the appropriate VOC emission factor*.

*Emission Factors:

Expanded polystyrene EPS, including R&D EPS = 0.0014 lb VOC per pound of polystyrene**

**The emission factors were provided by the permittee and are based on analytical sampling that was performed on various batches of polystyrene scrap foam.

Compliance with the annual allowable VOC emission limitation identified above shall be determined by multiplying the hourly allowable VOC emission limitation by 8,760 hrs/yr and dividing by 2,000 lbs/ton. Therefore, as long as compliance with the hourly allowable emission limitation is maintained, compliance with the annual allowable emission limitation shall be assumed.

b. Emission Limitation:

PM₁₀ emissions from P008 shall not exceed 7.9 tons per year.

PM₁₀ emissions from P012 shall not exceed 6.6 tons per year.

Applicable Compliance Method:

Compliance with the annual allowable PM₁₀ emission limitation identified above shall be demonstrated by multiplying the maximum hourly uncontrolled PE rate* by (1 - 0.95*) and by (1 - 0.98*). The result is multiplied by the maximum annual number of hours of operation (8,760 hours/yr), and divided by 2,000 lbs/ton.

*Maximum hourly uncontrolled PE rate is 1,800 pounds/hr for P008 and 1,500 pounds per hour for P012.

**The capture efficiency is assumed to be 95% and the control efficiency is assumed to be 98%.

c. Emission Limitation:

Visible PE shall not exceed 20% opacity as a six-minute average.



Applicable Compliance Method:

If required, compliance with the allowable stack opacity limitation identified above shall be determined through visible emissions observations performed in accordance with US EPA Method 9 of 40 CFR Part 60, Appendix A.

d. Emission Limitation:

PE shall not exceed 3.82 pounds per hour.

PE shall not exceed 3.4 pounds per hour.

Applicable Compliance Method:

If required, compliance with the hourly allowable PE limitation identified above shall be determined through emissions testing performed in accordance with US EPA Methods 1-5 of 40 CFR Part 60, Appendix A.

g) Miscellaneous Requirements

(1) None.

7. Emissions Unit Group - Reclaim Units: P009, P010, P013

EU ID	Operations, Property and/or Equipment Description
P009	Reclaim Unit No. 1 - Polystyrene Extruder
P010	Reclaim Unit No. 2 - Polystyrene Extruder
P013	Reclaim No. 3 Polystyrene Extruder

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. 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.	ORC 3704.03(T) and OAC rule 3745-31-05(A)(3)	Volatile organic compound (VOC) emission from P013 shall not exceed 3.1 pounds per hour and 13.7 tons per year.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	VOC emissions from P009 shall not exceed 0.62 pounds per hour and 2.7 tons per year. VOC emissions from P010 shall not exceed 0.71 pounds per hour and 3.1 tons per year. See b)(2)a. and b)(2)c. below.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)b. below.

(2) Additional Terms and Conditions

a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) 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 OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from P009 and P010 since the potential to emit for VOC is less than ten tons per year.

c. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the organic compound (OC) emissions from this air contaminant source since the non-ODS blowing agents that do not contain VOC are not air contaminants for which a National Ambient Air Quality Standard (NAAQS) has been established or a precursor of an air contaminant for which a NAAQS has been established.

d. The hourly and annual VOC emissions limits were established to reflect the potential to emit for these emissions units. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these emissions limitations.

c) Operational Restrictions

a. None.

d) Monitoring and/or Recordkeeping Requirements

(1) None.

e) Reporting Requirements

(1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA District Office or Local Air Agency by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in 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 Limitations:

VOC emissions from P009 shall not exceed 0.62 pounds per hour and 2.7 tons per year.

VOC emissions from P010 shall not exceed 0.71 pounds per hour and 3.1 tons per year.

VOC emission from P013 shall not exceed 3.1 pounds per hour and 13.7 tons per year.

Applicable Compliance Methods:

Compliance with the hourly allowable VOC emission limitations identified above shall be demonstrated by multiplying the maximum hourly polystyrene usage rate by the appropriate VOC emission factor*.

Compliance with the annual allowable VOC emission limitations identified above shall be determined by multiplying the hourly allowable VOC emission limitations by 8,760 hrs/yr and dividing by 2,000 lbs/ton. Therefore, as long as compliance with the hourly allowable emission limitations is maintained, compliance with the annual allowable emission limitations shall be assumed.

*Emission Factors:

R&D scrap EPS polystyrene = 0.0016 lb VOC per pound of polystyrene**

Scrap EPS polystyrene = 0.0002 lb VOC per pound of polystyrene**

**The emission factors were provided by the permittee and are based on analytical sampling that was performed on various batches of polystyrene scrap foam.

g) Miscellaneous Requirements

- (1) None.