



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

9/23/2016

Certified Mail

Douglas Dean
 Third Dimension, Inc.
 633 Pleasant Ave
 Geneva, OH 44041

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: 0204030449
 Permit Number: P0118679
 Permit Type: Renewal
 County: Ashtabula

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 Ohio EPA DAPC, Northeast District Office at (330)963-1200 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: Ohio EPA-NEDO



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
Third Dimension, Inc.**

Facility ID:	0204030449
Permit Number:	P0118679
Permit Type:	Renewal
Issued:	9/23/2016
Effective:	9/23/2016
Expiration:	9/30/2021



**Division of Air Pollution Control
Permit-to-Install and Operate**

for
Third Dimension, Inc.

Table of Contents

Authorization	1
A. Standard Terms and Conditions	3
1. What does this permit-to-install and operate ("PTIO") allow me to do?.....	4
2. Who is responsible for complying with this permit?	4
3. What records must I keep under this permit?	4
4. What are my permit fees and when do I pay them?.....	4
5. When does my PTIO expire, and when do I need to submit my renewal application?	4
6. What happens to this permit if my project is delayed or I do not install or modify my source?	5
7. What reports must I submit under this permit?	5
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?	5
9. What are my obligations when I perform scheduled maintenance on air pollution control equipment? ...	5
10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?	6
11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?	6
12. What happens if one or more emissions units operated under this permit is/are shut down permanently?	6
13. Can I transfer this permit to a new owner or operator?.....	7
14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?	7
15. What happens if a portion of this permit is determined to be invalid?	7
B. Facility-Wide Terms and Conditions.....	8
C. Emissions Unit Terms and Conditions	13
1. P003, P003	14
2. P004, P004	18
3. P005, P005	22
4. Emissions Unit Group -Pre-expansion lines: P001 and P002	26



Final Permit-to-Install and Operate
Third Dimension, Inc.
Permit Number: P0118679
Facility ID: 0204030449
Effective Date: 9/23/2016

Authorization

Facility ID: 0204030449
Application Number(s): A0052630, A0052646, A0052647, A0052648
Permit Number: P0118679
Permit Description: FEPTIO renewal permit for pre-expansion lines and molding presses
Permit Type: Renewal
Permit Fee: \$0.00
Issue Date: 9/23/2016
Effective Date: 9/23/2016
Expiration Date: 9/23/2021
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Third Dimension, Inc.
633 Pleasant Ave
Geneva, OH 44041

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:

Ohio EPA DAPC, Northeast District Office
2110 East Aurora Road
Twinsburg, OH 44087
(330)963-1200

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: P0118679
 Permit Description: FEPTIO renewal permit for pre-expansion lines and molding presses

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

- | | |
|-----------------------------------|----------------|
| Emissions Unit ID: | P003 |
| Company Equipment ID: | P003 |
| Superseded Permit Number: | 02-17794 |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P004 |
| Company Equipment ID: | P004 |
| Superseded Permit Number: | 02-20076 |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P005 |
| Company Equipment ID: | P005 |
| Superseded Permit Number: | 02-21664 |
| General Permit Category and Type: | Not Applicable |

Group Name: Pre-expansion lines

Emissions Unit ID:	P001
Company Equipment ID:	P001
Superseded Permit Number:	02-17794
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P002
Company Equipment ID:	P002
Superseded Permit Number:	02-17794
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
Third Dimension, Inc.
Permit Number: P0118679
Facility ID: 0204030449
Effective Date: 9/23/2016

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
Third Dimension, Inc.
Permit Number: P0118679
Facility ID: 0204030449
Effective Date: 9/23/2016

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) B.2, B.3, B.4, B.5, B.6 and B.7.
2. OAC rule 3745-31-05(D)(1)(b) - Federally enforceable VOC emission limitation for combined VOC emissions from emissions units P001, P002, P003, P004, P005, P006 and P007 (P001 – P007):
 - a) The total emissions of volatile organic compounds (VOC) emitted from the following emissions units at this facility shall not exceed 94.1 tons per year, based upon a rolling, 12-month summation of the monthly emissions:

P001 - Pre-expansion line No. 1 with pre-puff aging for expandable polystyrene (EPS) and expandable polyethylene/polystyrene (EPE/EPS) foam products;

P002 - Pre-expansion line No. 2 with pre-puff aging for EPS and EPE/EPS foam products;

P003 - Molding machines Nos. 2 and 3 with product aging for EPS and EPE/EPS foam products;

P004 - Molding machine No. 4 with product aging for EPS and EPE/EPS foam products;

P005 - Molding machine No. 5 with product aging for EPS and EPE/EPS foam products;

P006 - Molding machine No. 6 with product aging for EPS and EPE/EPS foam products; and

P007 - Pre-expansion line No. 3 with pre-puff aging for EPS foam products.

3. Federally enforceable operational restrictions for limiting potential to emit to the federally enforceable VOC emissions limitation in section B.2:

- a) The permittee shall not exceed any of the operational restrictions in Table 1 below.

Table 1, Federally enforceable operational restrictions			
	Emissions units	Types of operations	Operational restrictions
1.	P001, P002 and P007	pre-expansion lines	Maximum usage: 1,980,000 pounds of resin materials, used in all pre-expansion lines combined, emissions units P001, P002 and P007, based on a rolling, 12-month summation of monthly usage rates
2.	P001, P002 and P007	pre-expansion lines	Maximum allowable limit: blowing agent (pentane) content of each resin shall not exceed 10% by weight.
3.	P003 – P006	Mold machines	Only pre-puff resin that is processed at an on-site pre-expansion line (P001, P002 or P007) may be molded at any of the mold machine Nos. 1 - 6 (P003 – P006).

[The emissions units in Table 1 have been in operation for more than 12 months and, as such, the permittee has existing records to generate rolling, 12-month summations of resin materials usage, upon issuance of this permit.]

4. Monitoring and/or Recordkeeping Requirements for the federally enforceable VOC emissions limitation in section B.2 of this permit:

- a) The permittee shall maintain monthly records of the following information:
 - (1) The monthly VOC emissions from each emissions units P001 – P007, in tons/month;
 - (2) The combined monthly VOC emissions from emissions units P001 – P007, in tons/month;
 - (3) The rolling, 12-month summation of tons of VOC emissions, calculated by adding the current month's combined VOC emissions from emissions units P001 – P007 to the combined VOC emissions for the preceding eleven calendar months from emissions units P001 – P007.

5. Monitoring and/or Recordkeeping Requirements for the federally enforceable operational restrictions in Table 1 of section B.3 of this permit:

- a) The permittee shall maintain monthly records of the following information:
 - (1) For the pre-expansion lines, emissions units P001, P002 and P007:
 - (a) The monthly resin usage at each pre-expansion lines, in lbs/month;

- (b) The combined monthly resin usage from emissions units P001, P002 and P007, in lbs/month;
 - (c) A rolling, 12-month summation of the total amount of pounds of resins used in emissions units P001, P002 and P007 combined, calculated by adding the current month's combined usage amount of resins from emissions units P001, P002 and P007 to the preceding eleven calendar months of combined usage amount of resins from emissions units P001, P002 and P007; and
 - (d) The blowing agent (pentane) content of each resin employed, by weight percent.
 - (2) For the mold machines, emissions units P003 – P006:
 - (a) The amount of pre-puff resin used on any of the mold machines Nos. 1 - 6, emissions units P003 – P006 that was not processed at an on-site pre-expansion line (P001, P002 or P007).
- 6. Reporting Requirements for the federally enforceable VOC emissions limitation in section B.2 and the operational restrictions in Table 1 of section B.3 of this permit:
 - a) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
 - b) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - (1) all exceedances of the rolling, 12-month VOC emission limitation, in section in B.2 of this permit;
 - (2) all exceedances of the rolling, 12-month operational restriction for resin usage, in Table 1 of section B.3 of this permit – federally enforceable operational restriction “1”;
 - (3) all exceedances of the blowing agent limit (pentane) in Table 1, of section B.3 of this permit – federally enforceable operational restriction “2”;
 - (4) the total amount of pre-puff resin used on any of the mold machines Nos. 1 - 6, emissions units P003 – P006 that was not processed at an on-site pre-expansion line P001, P002 or P007 (Table 1, of section B.3 of this permit – federally enforceable operational restriction “3”);
 - (5) the probable cause of each deviation (excursion);
 - (6) any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
 - (7) 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, electronically through Ohio EPA Air Services, 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 Northeast District Office).

c) 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.

7. Testing Requirements for the federally enforceable VOC emissions limitation in section B.2:

a) Compliance with the emission limitation specified in B.2. of these terms and conditions shall be determined in accordance with the following method:

(1) Emission Limitation:

The total emissions of volatile organic compounds emitted from the following emissions units at this facility shall not exceed 94.1 tons per year, based upon a rolling, 12-month summation of the monthly emissions: P001 – P007.

Applicable Compliance Method:

Compliance shall be demonstrated by employing the operational restrictions specified in B.3, the record keeping requirements specified in B.4 and B.5 and the reporting requirements in B.6.



Final Permit-to-Install and Operate
Third Dimension, Inc.
Permit Number: P0118679
Facility ID: 0204030449
Effective Date: 9/23/2016

C. Emissions Unit Terms and Conditions



1. P003, P003

Operations, Property and/or Equipment Description:

Molding machines Nos. 2 and 3 with product aging for expandable polystyrene (EPS) and expandable polyethylene/polystyrene (EPE/EPS) foam products

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 and c)(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(A)(3)	Volatile organic compounds (VOC) emissions shall not exceed 105 lbs/hr and 34.7 tons/year.
b.	OAC rule 3745-31-05(D)(1)(b) FEPTIO to limit potential to emit to avoid Title V.	B.2. through B.7.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) See B.3.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month for this emissions unit:
 - a. the name and company identification of each pre-puff material employed;
 - b. an identification of the on-site expansion line (i.e. P001, P002 or P007) where the pre-puff material was processed;
 - c. an identification of each pre-puff material composition as EPS or EPE/EPS;
 - d. the net weight of each pre-puff material employed, in pounds per month;
 - e. for each pre-puff material, the initial blowing agent (pentane) content of the original resin material employed, in percent by weight;
 - f. the total monthly VOC emissions from the use of all pre-puff materials employed, in pounds per month;
 - g. the actual number of hours this emissions unit was in operation, in hours per month; and
 - h. the average, hourly VOC emissions rate, i.e., (f)/(g), in pounds per hour (average).

e) Reporting Requirements

- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
- (2) The permittee shall identify in the annual permit evaluation report the following information during the 12-month reporting period for this emissions unit:
 - a. each month during which the average hourly VOC emissions rate exceeded 105 lbs/hr, and the actual, average hourly VOC emissions rate;
 - 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).
- (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) 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 shall not exceed 105 lbs/hr.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(1) and the following equation:

$$\text{Average VOC (lbs/hr)} = A/B$$

Where:

$$A = (EF_1 + EF_2) \times \sum_i^n W_{i_i} \times PC_i$$

A = the monthly, VOC emissions from molding and product aging for all EPS and EPS/EPE pre-puff material materials employed throughout the month, in pounds per month;

For EPS resins, pre-puff materials:

EF₁ = VOC emission factor for molding, which is 0.25 lb VOC per lb of available pentane in EPS resin, as noted on page 11 of "Expandable Polystyrene Storage and Handling Safety Guide", by Nova Chemicals, an EPS resin manufacturer; and

EF₂ = VOC emission factor for product aging, which is 0.10 lb VOC per lb of available pentane in EPS resin, as noted on page 11 of "Expandable Polystyrene Storage and Handling Safety Guide", by Nova Chemicals, an EPS resin manufacturer; or

For EPS/EPE resins, pre-puff materials:

EF₁ = VOC emission factor for molding, which is 0.20 lb VOC per lb of available pentane in EPS/EPE resin, as noted in "% of VOCs Lost During Processing Arcel", by Nova Chemicals. "Arcel" is a brand name for EPS/EPE resin manufactured by Nova Chemicals; and

EF₂ = VOC emission factor for product aging, which is 0.05 lb VOC per lb of available pentane in EPS/EPE resin, as noted in "% of VOCs Lost During Processing Arcel", by Nova Chemicals. "Arcel" is a brand name for EPS/EPE resin manufactured by Nova Chemicals;

W_i = the net weight of pre-puff material "i" employed, in pounds per month;

PC_i = the initial blowing agent (pentane) content of the original resin "i" employed;

i = an identifier denoting an individual EPS or EPS/EPE pre-puff material;

n = the total number of different EPS or EPS/EPE pre-puff materials employed throughout the month; and

B = the actual hours the emissions unit was in operation, in hours/month.

If required, the permittee shall demonstrate compliance with this hourly emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 25A, Method 25 or Method 18, as appropriate, or an equivalent alternate method as approved by Ohio EPA.

b. Emission Limitation:

VOC emissions shall not exceed 34.7 tons/year.

Applicable Compliance Method:

Compliance shall be demonstrated by summing monthly VOC emissions as recorded in d)(1)f for the calendar year and then dividing by 2000 lbs/ton.

- (2) Any determination of initial blowing agent (pentane) content (percent by weight) or density of a resin material shall be based on the material as employed at the pre-expansion line (P001, P002 or P007). The permittee shall determine the composition of the material by formulation data supplied by the manufacturer or alternative method as approved by Ohio EPA.

g) Miscellaneous Requirements

- (1) None.



2. P004, P004

Operations, Property and/or Equipment Description:

Molding machine No. 4 with product aging for expandable polystyrene (EPS) and expandable polyethylene/polystyrene (EPE/EPS) foam products

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 and c)(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(A)(3)	Volatile organic compounds (VOC) emissions shall not exceed 10.8 lbs/hr and 47.3 tons/year.
b.	OAC rule 3745-31-05(D)(1)(b) FEPTIO to limit potential to emit to avoid Title V.	B.2. through B.7.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) See B.3.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month for this emissions unit:
 - a. the name and company identification of each pre-puff material employed;
 - b. an identification of the on-site expansion line (i.e. P001, P002 or P007) where the pre-puff material was processed;
 - c. an identification of each pre-puff material composition as EPS or EPE/EPS;
 - d. the net weight of each pre-puff material employed, in pounds per month;
 - e. for each pre-puff material, the initial blowing agent (pentane) content of the original resin material employed, in percent by weight;
 - f. the total monthly VOC emissions from the use of all pre-puff materials employed, in pounds per month;
 - g. the actual number of hours this emissions unit was in operation, in hours per month; and
 - h. the average, hourly VOC emissions rate, i.e., (f)/(g), in pounds per hour (average).

e) Reporting Requirements

- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
- (2) The permittee shall identify in the annual permit evaluation report the following information during the 12-month reporting period for this emissions unit:
 - a. each month during which the average hourly VOC emissions rate exceeded 10.8 lbs/hr, and the actual, average hourly VOC emissions rate;
 - 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).
- (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) 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 shall not exceed 10.8 lbs/hr.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(1) and the following equation:

$$\text{Average VOC (lbs/hr)} = A/B$$

Where:

$$A = (EF_1 + EF_2) \times \sum_i^n W_{i_i} \times PC_i$$

A = the monthly, VOC emissions from molding and product aging for all EPS and EPS/EPE pre-puff material materials employed throughout the month, in pounds per month;

For EPS resins, pre-puff materials:

EF₁ = VOC emission factor for molding, which is 0.25 lb VOC per lb of available pentane in EPS resin, as noted on page 11 of "Expandable Polystyrene Storage and Handling Safety Guide", by Nova Chemicals, an EPS resin manufacturer; and

EF₂ = VOC emission factor for product aging, which is 0.10 lb VOC per lb of available pentane in EPS resin, as noted on page 11 of "Expandable Polystyrene Storage and Handling Safety Guide", by Nova Chemicals, an EPS resin manufacturer; or

For EPS/EPE resins, pre-puff materials:

EF₁ = VOC emission factor for molding, which is 0.20 lb VOC per lb of available pentane in EPS/EPE resin, as noted in "% of VOCs Lost During Processing Arcel", by Nova Chemicals. "Arcel" is a brand name for EPS/EPE resin manufactured by Nova Chemicals; and

EF₂ = VOC emission factor for product aging, which is 0.05 lb VOC per lb of available pentane in EPS/EPE resin, as noted in "% of VOCs Lost During Processing Arcel", by Nova Chemicals. "Arcel" is a brand name for EPS/EPE resin manufactured by Nova Chemicals;

W_i = the net weight of pre-puff material "i" employed, in pounds per month;

PC_i = the initial blowing agent (pentane) content of the original resin "i" employed;

i = an identifier denoting an individual EPS or EPS/EPE pre-puff material;

n = the total number of different EPS or EPS/EPE pre-puff materials employed throughout the month; and

B = the actual hours the emissions unit was in operation, in hours/month.

If required, the permittee shall demonstrate compliance with this hourly emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 25A, Method 25 or Method 18, as appropriate, or an equivalent alternate method as approved by Ohio EPA.

b. Emission Limitation:

VOC emissions shall not exceed 47.3 tons/year.

Applicable Compliance Method:

Compliance shall be demonstrated by summing monthly VOC emissions as recorded in d)(1)f for the calendar year and then dividing by 2000 lbs/ton.

- (2) Any determination of initial blowing agent (pentane) content (percent by weight) or density of a resin material shall be based on the material as employed at the pre-expansion line (P001, P002 or P007). The permittee shall determine the composition of the material by formulation data supplied by the manufacturer or alternative method as approved by Ohio EPA.

g) Miscellaneous Requirements

- (1) None.



3. P005, P005

Operations, Property and/or Equipment Description:

Molding machine No. 5 with product aging for expandable polystyrene (EPS) and polystyrene/polyethylene (EPS/EPE) foam products

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 and c)(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(A)(3)	Volatile organic compounds (VOC) emissions shall not exceed 21 lbs/hr and 92 tons/year.
b.	OAC rule 3745-31-05(D)(1)(b) FEPTIO to limit potential to emit to avoid Title V.	B.2. through B.7.

(2) Additional Terms and Conditions

a. None.

c) Operational Restrictions

(1) See B.3.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each month for this emissions unit:
 - a. the name and company identification of each pre-puff material employed;
 - b. an identification of the on-site expansion line (i.e. P001, P002 or P007) where the pre-puff material was processed;
 - c. an identification of each pre-puff material composition as EPS or EPE/EPS;
 - d. the net weight of each pre-puff material employed, in pounds per month;
 - e. for each pre-puff material, the initial blowing agent (pentane) content of the original resin material employed, in percent by weight;
 - f. the total monthly VOC emissions from the use of all pre-puff materials employed, in pounds per month;
 - g. the actual number of hours this emissions unit was in operation, in hours per month; and
 - h. the average, hourly VOC emissions rate, i.e., (f)/(g), in pounds per hour (average).

e) Reporting Requirements

- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
- (2) The permittee shall identify in the annual permit evaluation report the following information during the 12-month reporting period for this emissions unit:
 - a. each month during which the average hourly VOC emissions rate exceeded 21 lbs/hr, and the actual, average hourly VOC emissions rate;
 - 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).
- (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) 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 shall not exceed 21 lbs/hr.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(1) and the following equation:

$$\text{Average VOC (lbs/hr)} = A/B$$

Where:

$$A = (EF_1 + EF_2) \times \sum_i^n W_{i_i} \times PC_i$$

A = the monthly, VOC emissions from molding and product aging for all EPS and EPS/EPE pre-puff material materials employed throughout the month, in pounds per month;

For EPS resins, pre-puff materials:

EF_1 = VOC emission factor for molding, which is 0.25 lb VOC per lb of available pentane in EPS resin, as noted on page 11 of "Expandable Polystyrene Storage and Handling Safety Guide", by Nova Chemicals, an EPS resin manufacturer; and

EF_2 = VOC emission factor for product aging, which is 0.10 lb VOC per lb of available pentane in EPS resin, as noted on page 11 of "Expandable Polystyrene Storage and Handling Safety Guide", by Nova Chemicals, an EPS resin manufacturer; or

For EPS/EPE resins, pre-puff materials:

EF_1 = VOC emission factor for molding, which is 0.20 lb VOC per lb of available pentane in EPS/EPE resin, as noted in "% of VOCs Lost During Processing Arcel", by Nova Chemicals. "Arcel" is a brand name for EPS/EPE resin manufactured by Nova Chemicals; and

EF_2 = VOC emission factor for product aging, which is 0.05 lb VOC per lb of available pentane in EPS/EPE resin, as noted in "% of VOCs Lost During Processing Arcel", by Nova Chemicals. "Arcel" is a brand name for EPS/EPE resin manufactured by Nova Chemicals;



W_i = the net weight of pre-puff material "i" employed, in pounds per month;

PC_i = the initial blowing agent (pentane) content of the original resin "i" employed;

i = an identifier denoting an individual EPS or EPS/EPE pre-puff material;

n = the total number of different EPS or EPS/EPE pre-puff materials employed throughout the month; and

B = the actual hours the emissions unit was in operation, in hours/month.

If required, the permittee shall demonstrate compliance with this hourly emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 25A, Method 25 or Method 18, as appropriate, or an equivalent alternate method as approved by Ohio EPA.

b. Emission Limitation:

VOC emissions shall not exceed 92 tons/year.

Applicable Compliance Method:

Compliance shall be demonstrated by summing monthly VOC emissions as recorded in d)(1)f for the calendar year and then dividing by 2000 lbs/ton.

- (2) Any determination of initial blowing agent (pentane) content (percent by weight) or density of a resin material shall be based on the material as employed at the pre-expansion line (P001, P002 or P007). The permittee shall determine the composition of the material by formulation data supplied by the manufacturer or alternative method as approved by Ohio EPA.

g) Miscellaneous Requirements

- (1) None.

4. Emissions Unit Group -Pre-expansion lines: P001 and P002

EU ID	Operations, Property and/or Equipment Description
P001	Pre-expansion line No. 1 with pre-puff aging for expandable polystyrene (EPS) and expandable polyethylene/polystyrene (EPE/EPS) foam products
P002	Pre-expansion line No. 2 with pre-puff aging for expandable polystyrene (EPS) and expandable polyethylene/polystyrene (EPE/EPS) foam products

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 and c)(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(A)(3)	Volatile organic compounds (VOC) emissions shall not exceed from each pre-expansion line 105 lbs/hr and 69.3 tons/year.
b.	OAC rule 3745-31-05(D)(1)(b) FEPTIO to limit potential to emit to avoid Title V.	B.2. through B.7.

(2) Additional Terms and Conditions

a. None.

- c) Operational Restrictions
 - (1) See B.3.
- d) Monitoring and/or Recordkeeping Requirements
 - (1) The permittee shall collect and record the following information each month for each emissions unit:
 - a. the name and company identification of each resin material employed;
 - b. an identification of each resin material composition as EPS or EPE/EPS;
 - c. the weight of each resin material employed, in pounds per month;
 - d. the blowing agent (pentane) content, of each resin material employed, in percent by weight;
 - e. the total monthly VOC emissions from the use of all resin materials employed, in pounds per month;
 - f. the actual number of hours this emissions unit was in operation, in hours per month; and
 - g. the average, hourly VOC emission rate, i.e., (e)/(f), in pound per hour (average).
- e) Reporting Requirements
 - (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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 12-months for each air contaminant source identified in this permit.
 - (2) The permittee shall identify in the annual permit evaluation report the following information during the 12-month reporting period for each emissions unit:
 - a. each month during which the average hourly VOC emissions rate exceeded 105 lbs/hr, and the actual, average hourly VOC emissions rate;
 - 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).
 - (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) 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 shall not exceed from each pre-expansion line 105 lbs/hr.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(1) and the following equation:

$$\text{Average VOC (lbs/hr)} = A/B$$

Where:

$$A = (EF_1 + EF_2) \times \sum_i^n W_{i_i} \times PC_i$$

A = the monthly, VOC emissions from a pre-expansion line with pre-puff aging for all EPS and EPS/EPE resin materials employed throughout the month, in pounds per month;

For EPS resins:

EF₁ = VOC emission factor for the pre-expansion, which is 0.30 lb VOC per lb of available pentane in EPS resin, as noted on page 11 of "Expandable Polystyrene Storage and Handling Safety Guide", by Nova Chemicals, an EPS resin manufacturer; and

EF₂ = VOC emission factor for pre-puff aging, which is 0.20 lb VOC per lb of available pentane in EPS resin, as noted on page 11 of "Expandable Polystyrene Storage and Handling Safety Guide", by Nova Chemicals, an EPS resin manufacturer; or

For EPS/EPE resins:

EF₁ = VOC emission factor for the pre-expansion, which is 0.50 lb VOC per lb of available pentane in EPS/EPE resin, as noted in "% of VOCs Lost During Processing Arcel", by Nova Chemicals. "Arcel" is a brand name for EPS/EPE resin manufactured by Nova Chemicals; and

EF₂ = VOC emission factor for pre-puff aging, which is 0.20 lb VOC per lb of available pentane in EPS/EPE resin, as noted in "% of VOCs Lost During Processing Arcel", by Nova Chemicals. "Arcel" is a brand name for EPS/EPE resin manufactured by Nova Chemicals;



W_i = the net weight of resin "i" employed, in pounds per month;

PC_i = the initial blowing agent (pentane) content of the original resin "i" employed;

i = an identifier denoting an individual EPS or EPS/EPE resin;

n = the total number of different EPS or EPS/EPE resin employed throughout the month; and

B = the actual hours the emissions unit was in operation, in hours/month.

If required, the permittee shall demonstrate compliance with this hourly emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 25A, Method 25 or Method 18, as appropriate, or an equivalent alternate method as approved by Ohio EPA.

b. Emission Limitation:

VOC emissions shall not exceed from each pre-expansion line 69.3 tons/year.

Applicable Compliance Method:

Compliance shall be demonstrated by summing monthly VOC emissions as recorded in d)(1)e for the calendar year and then dividing by 2000 lbs/ton.

- (2) Any determination of initial blowing agent (pentane) content (percent by weight) or density of a resin material shall be based on the material as employed at the pre-expansion line (P001, P002 or P007). The permittee shall determine the composition of the material by formulation data supplied by the manufacturer or alternative method as approved by Ohio EPA.

g) Miscellaneous Requirements

- (1) None.