



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL CERTIFIED MAIL
SUMMIT COUNTY**

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 16-02161

DATE: 2/28/2002

Transfoam
Todd Jordan
281 Southwest Ave
Tallmadge, OH 44278-2232

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging 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 Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 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. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

Thomas G. Rigo, Manager
Field Operations and Permit Section
Division of Air Pollution Control

CC: USEPA

ARAQMD



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

**Permit To Install
Terms and Conditions**

**Issue Date: 2/28/2002
Effective Date: 2/28/2002**

FINAL PERMIT TO INSTALL 16-02161

Application Number: 16-02161
APS Premise Number: 1677120068
Permit Fee: **\$2200**
Name of Facility: Transfoam
Person to Contact: Todd Jordan
Address: 281 Southwest Ave
Tallmadge, OH 44278-2232

Location of proposed air contaminant source(s) [emissions unit(s)]:

**281 Southwest Ave
Tallmadge, Ohio**

Description of proposed emissions unit(s):

PFX Fabrication Line, Drainage Board Line, Sander, Taper Saw, Planar, Densifier, and FoamSealR.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) 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 above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

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

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized

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representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. Air Pollution Nuisance

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

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio

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Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

10. Public Disclosure

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

11. Applicability

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit to Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the emissions unit(s) covered by this permit.

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14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
OCs	99.0
PM	46.7

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P001 (PFX Fabrication Line) polystyrene foam insulation boards trimmed, saw cut, hot wire cut, and slitted; air emissions of organic compounds (OCs) from HCFC-R142b blowing agent released during fabrication uncontrolled; air emissions of particulate matter (PM) vented to and controlled by a baghouse common to P001 through P007, excluding P006; includes facility-requested federally enforceable Title V Synthetic Minor (TVSM) fabrication limitations	OAC rule 3745-31-05 (A)(3)	<p><u>For the emissions unit:</u></p> <p>10.3 lbs/hr & 45.0 tpy of OCs;</p> <p>10% opacity from any stack, as a 6-minute average; and</p> <p>1.5 lbs/hr & 6.6 tpy of PM.</p> <p>See sections A.2 and B.1 through B.5 below for other requirements of OAC rule 3745-31-05 (A)(3).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p>
	OAC rule 3745-35-07 (B)	<p><u>For the facility:</u></p> <p>99.0 tpy of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable fabrication limitations of Part II, section B.</p>
	OAC rule 3745-17-07 OAC rule 3745-17-11	<p>The emission limitations required by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05.</p>

2. Additional Terms and Conditions

- 2.a** As determined from application data, the OC and PM emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon accepted USEPA potential to emit procedures for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate compliance with these emission limits.

However, if any proposed change(s), such as with the materials processed, the type and amount of blowing agent contained in the materials processed, the maximum process weight rate capacity, or anything else that increase(s) the potential to emit of any pollutant, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to making the change(s).

- 2.b** Air emissions of PM shall be properly contained by an enclosure system and vented to a baghouse; the enclosure system shall be sufficient to essentially eliminate visible particulate emissions of fugitive dust from the emissions unit to the extent possible with good engineering design; and the baghouse shall be properly operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
- 2.c** The emissions of OCs from this facility shall not exceed 99.0 tpy, based upon a rolling, 12-month summation of the monthly emissions.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Emissions of OCs (Tons)</u>
1	8.25
1-2	16.5
1-3	24.75
1-4	33.0
1-5	41.25
1-6	49.5
1-7	57.75
1-8	66.0
1-9	74.25

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Emissions Unit ID: **P001**

1-10	82.5
1-11	90.75
1-12	99.0

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

B. Operational Restrictions

1. The permittee shall employ the baghouse at all times this emissions unit is in operation.
2. Except for an initial operating period after filter media replacement to attain design filtering efficiency, the pressure drop across the baghouse serving this emissions unit shall be maintained within the range recommended by manufacturer, while the emissions unit is in operation. Operation of the baghouse outside of this specified range is not necessarily indicative of an emission violation, but rather serves as a trigger level for maintenance and/or repair activities, or further investigations to establish corrective action.
3. Facility polystyrene foam insulation board fabrication shall not exceed 825 tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates.
4. Facility polyethylene foam insulation roll fabrication shall be limited in accordance with the following equation:

$$E = (O/b) - S(a/b)$$

where:

E = facility polyethylene foam insulation roll fabrication annual limitation, in tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates, as a function of S;

O = 99.0 tpy [facility maximum allowable annual OC emissions, based upon a rolling, 12-month summation of the monthly emissions.];

S = facility polystyrene foam insulation board fabrication annual limitation, in tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates;

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication]; and

b = 0.1564 [OC emission factor for polyethylene foam insulation roll fabrication].

[Note: the above linear equation with a slope of about -0.7673 specifies, during fabrication, that

approximately for every ton of polystyrene foam insulation removed, 0.7673 ton of polyethylene foam insulation shall not be removed, so that emissions do not exceed 99.0 tpy of OCs.]

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

<u>Month</u>	<u>Maximum Allowable Cumulative Polystyrene Material Removed (tons) (tons) (assumes no polyethylene fabrication)</u>	<u>Maximum Allowable Cumulative Polyethylene Material Removed (assumes no polystyrene fabrication)</u>
1	69	53
1-2	138	106
1-3	206	158
1-4	275	211
1-5	344	264
1-6	412	316
1-7	481	369
1-8	550	422
1-9	619	475
1-10	688	528
1-11	756	580
1-12	825	633

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual fabrication rate limitations shall be based upon a rolling, 12-month summation of the monthly fabrication rates.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall document when the baghouse system was not in service when the emissions unit was in operation.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse serving this emissions unit, while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.
3. The permittee shall maintain monthly records of the following information:

- a. The facility monthly polystyrene foam insulation board stock and polyethylene foam insulation roll fabrication rates, in tons/month of respective foam insulation removed.
- b. The facility rolling, 12-month polystyrene and polyethylene fabrication rate summations of the monthly fabrication rates, in tons/year of respective foam insulation removed.
- c. The calculated facility annual polyethylene fabrication rate limitation, in tons/year, using the appropriate recorded information of C.3.b, and the equation of B.4 above.
- d. The facility monthly OC emissions from all facility fabrication of polystyrene foam insulation board stock and polyethylene foam insulation rolls.
- e. The facility rolling, 12-month summation of the monthly OC emissions from all facility fabrication of polystyrene foam insulation board stock and polyethylene foam insulation rolls.

D. Reporting Requirements

1. The permittee shall notify the Director (the appropriate District Office or local air agency) in writing of any record showing that the baghouse was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Director (the appropriate District Office or local air agency) within 30 days after the event occurs.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse serving this emissions unit did not comply with the allowable range specified above.
3. The permittee shall submit deviation (excursion) reports that identify all exceedances of the polystyrene foam insulation board stock and polyethylene foam insulation roll fabrication limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.
4. The permittee shall submit deviation (excursion) reports which identify all exceedances of the facility 99.0 tons of OCs/year limitation, based upon a rolling, 12-month summation of the monthly OC emissions, as well as the corrective actions that were taken to achieve compliance.
5. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
10% opacity from any stack, as a 6-minute average

 Applicable Compliance Method:
If required, compliance shall be determined by visible emission evaluations performed in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(1).
 - b. Emission Limitations:
1.5 lbs/hr & 6.6 tpy of PM (emissions unit)

 Applicable Compliance Method:
The above emissions limitations are based on the unrestricted potential to emit and control assumptions, as shown in the following equations, using company-specified fabrication, emissions, and dust capture/control data:

$$Ph = dS(1 - C); \text{ and}$$

$$Py = PhTW$$

Where,

$$Ph = 1.5 \text{ lbs/hr of PM [unrestricted, controlled hourly potential to emit];}$$

$$Py = 6.6 \text{ tpy of PM [unrestricted, controlled yearly potential to emit];}$$

$$S = 85.34 \text{ lbs/hr of polystyrene foam insulation removed [fabrication rate capacity];}$$

$$d = 0.88 \text{ [PM emission factor for polystyrene foam insulation board fabrication];}$$

$$C = 0.98 \text{ [engineering estimated dust collection/control efficiency of baghouse];}$$

$$T = 8760 \text{ hours/year [unrestricted operating schedule]; and}$$

$$W = 1 \text{ ton/2000 pounds [weight conversion].}$$
 - c. Emission Limitations:
10.3 lbs/hr & 45.0 tpy of OCs (emissions unit)

 Applicable Compliance Method:
The above emissions limitations are based on the unrestricted potential to emit, as shown in the following equations, using company-specified fabrication and emissions data:

$$Oh = aS; \text{ and}$$

$$Oy = OhTW$$

Where,

Oh = 10.3 lbs/hr of OCs [unrestricted hourly potential to emit];
Oy = 45.0 tpy of OCs [unrestricted yearly potential to emit];
S = 85.34 lbs/hr of polystyrene foam insulation removed [fabrication rate capacity];
a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication];
T = 8760 hours/year [unrestricted operating schedule]; and
W = 1 ton/2000 pounds [weight conversion].

- d. Emission Limitation:
99.0 tpy of OCs, based upon a rolling, 12-month summation of the monthly emissions (facility).

Applicable Compliance Method:

The above emissions limitation is based on the federally enforceable restricted fabrication potential to emit, as shown in the following equation, using company-specified fabrication and emissions data:

$$O = (aS + bE)$$

where:

O = 99.0 tpy [facility maximum allowable annual OC emissions, based upon a rolling, 12-month summation of the monthly emissions.];

S = 674 tons/year of polystyrene foam insulation removed [representative facility fabrication rate, based upon a rolling, 12-month summation of the monthly fabrication rates];

E = 116 tons/year of polyethylene foam insulation removed [representative facility fabrication rate, based upon a rolling, 12-month summation of the monthly fabrication rates];

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication]; and

b = 0.1564 [OC emission factor for polyethylene foam insulation roll fabrication].

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.
2. Except for F.1 of this section, all terms and conditions of this permit are federally enforceable.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-07 OAC rule 3745-17-11
P002 (Drainage Board Line) polystyrene foam insulation boards groove cut; air emissions of organic compounds (OCs) from HCFC-R142b blowing agent released during fabrication uncontrolled; air emissions of particulate matter (PM) vented to and controlled by a baghouse common to P001 through P007, excluding P006; includes facility-requested federally enforceable Title V Synthetic Minor (TVSM) fabrication limitations	OAC rule 3745-31-05 (A)(3)	
	OAC rule 3745-35-07 (B)	

Trans:
PTI A
Issued: 2/28/2002

Emissions Unit ID: **P002**

Applicable Emissions
Limitations/Control Measures

For the emissions unit:

10.2 lbs/hr & 44.6 tpy of OCs;

10% opacity from any stack, as a
6-minute average; and

1.5 lbs/hr & 6.5 tpy of PM.

See sections A.2 and B.1 through
B.5 below for other requirements
of OAC rule 3745-31-05 (A)(3).

The requirements of this rule also
include compliance with the
requirements of OAC rule
3745-35-07 (B).

For the facility:

99.0 tpy of OCs, based upon a
rolling, 12-month summation of the
monthly emissions, and as
established in the restricted
potential to emit procedures of
Part II, section E using the
federally enforceable fabrication
limitations of Part II, section B.

The emission limitations required
by these rules are less stringent than
the emission limitations established
pursuant to OAC rule 3745-31-05.

2. Additional Terms and Conditions

- 2.a** As determined from application data, the OC and PM emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon accepted USEPA potential to emit

procedures for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate compliance with these emission limits.

However, if any proposed change(s), such as with the materials processed, the type and amount of blowing agent contained in the materials processed, the maximum process weight rate capacity, or anything else that increase(s) the potential to emit of any pollutant, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to making the change(s).

- 2.b** Air emissions of PM shall be properly contained by an enclosure system and vented to a baghouse; the enclosure system shall be sufficient to essentially eliminate visible particulate emissions of fugitive dust from the emissions unit to the extent possible with good engineering design; and the baghouse shall be properly operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
- 2.c** The emissions of OCs from this facility shall not exceed 99.0 tpy, based upon a rolling, 12-month summation of the monthly emissions.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Emissions of OCs (Tons)</u>
1	8.25
1-2	16.5
1-3	24.75
1-4	33.0
1-5	41.25
1-6	49.5
1-7	57.75
1-8	66.0
1-9	74.25
1-10	82.5
1-11	90.75
1-12	99.0

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

B. Operational Restrictions

1. The permittee shall employ the baghouse at all times this emissions unit is in operation.
2. Except for an initial operating period after filter media replacement to attain design filtering efficiency, the pressure drop across the baghouse serving this emissions unit shall be maintained within the range recommended by manufacturer, while the emissions unit is in operation. Operation of the baghouse outside of this specified range is not necessarily indicative of an emission violation, but rather serves as a trigger level for maintenance and/or repair activities, or further investigations to establish corrective action.
3. Facility polystyrene foam insulation board fabrication shall not exceed 825 tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates.
4. Facility polyethylene foam insulation roll fabrication shall be limited in accordance with the following equation:

$$E = (O/b) - S(a/b)$$

where:

E = facility polyethylene foam insulation roll fabrication annual limitation, in tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates, as a function of S;

O = 99.0 tpy [facility maximum allowable annual OC emissions, based upon a rolling, 12-month summation of the monthly emissions.];

S = facility polystyrene foam insulation board fabrication annual limitation, in tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates;

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication]; and

b = 0.1564 [OC emission factor for polyethylene foam insulation roll fabrication].

[Note: the above linear equation with a slope of about -0.7673 specifies, during fabrication, that approximately for every ton of polystyrene foam insulation removed, 0.7673 ton of polyethylene foam insulation shall not be removed, so that emissions do not exceed 99.0 tpy of OCs.]

5. To ensure enforceability during the first 12 calendar months of operation following the issuance of

this permit, the permittee shall not exceed the fabrication levels specified in the following table:

<u>Month</u>	<u>Maximum Allowable Cumulative Polystyrene Material Removed (tons) (tons) (assumes no polyethylene fabrication)</u>	<u>Maximum Allowable Cumulative Polyethylene Material Removed (assumes no polystyrene fabrication)</u>
1	69	53
1-2	138	106
1-3	206	158
1-4	275	211
1-5	344	264
1-6	412	316
1-7	481	369
1-8	550	422
1-9	619	475
1-10	688	528
1-11	756	580
1-12	825	633

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual fabrication rate limitations shall be based upon a rolling, 12-month summation of the monthly fabrication rates.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall document when the baghouse system was not in service when the emissions unit was in operation.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse serving this emissions unit, while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.
3. The permittee shall maintain monthly records of the following information:
 - a. The facility monthly polystyrene foam insulation board stock and polyethylene foam insulation roll fabrication rates, in tons/month of respective foam insulation removed.

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Emissions Unit ID: **P002**

- b. The facility rolling, 12-month polystyrene and polyethylene fabrication rate summations of the monthly fabrication rates, in tons/year of respective foam insulation removed.
- c. The calculated facility annual polyethylene fabrication rate limitation, in tons/year, using the appropriate recorded information of C.3.b, and the equation of B.4 above.
- d. The facility monthly OC emissions from all facility fabrication of polystyrene foam insulation board stock and polyethylene foam insulation rolls.
- e. The facility rolling, 12-month summation of the monthly OC emissions from all facility fabrication of polystyrene foam insulation board stock and polyethylene foam insulation rolls.

D. Reporting Requirements

1. The permittee shall notify the Director (the appropriate District Office or local air agency) in writing of any record showing that the baghouse was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Director (the appropriate District Office or local air agency) within 30 days after the event occurs.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse serving this emissions unit did not comply with the allowable range specified above.
3. The permittee shall submit deviation (excursion) reports that identify all exceedances of the polystyrene foam insulation board stock and polyethylene foam insulation roll fabrication limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.
4. The permittee shall submit deviation (excursion) reports which identify all exceedances of the facility 99.0 tons of OCs/year limitation, based upon a rolling, 12-month summation of the monthly OC emissions, as well as the corrective actions that were taken to achieve compliance.
5. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:
10% opacity from any stack, as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined by visible emission evaluations performed in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(1).

- b. Emission Limitations:
1.5 lbs/hr & 6.5 tpy of PM (emissions unit)

Applicable Compliance Method:

The above emissions limitations are based on the unrestricted potential to emit and control assumptions, as shown in the following equations, using company-specified fabrication, emissions, and dust capture/control data:

$$P_h = dS(1 - C); \text{ and}$$

$$P_y = P_h T W$$

Where,

P_h = 1.5 lbs/hr of PM [unrestricted, controlled hourly potential to emit];
 P_y = 6.5 tpy of PM [unrestricted, controlled yearly potential to emit];
 S = 84.90 lbs/hr of polystyrene foam insulation removed [fabrication rate capacity];
 d = 0.88 [PM emission factor for polystyrene foam insulation board fabrication];
 C = 0.98 [engineering estimated dust collection/control efficiency of baghouse];
 T = 8760 hours/year [unrestricted operating schedule]; and
 W = 1 ton/2000 pounds [weight conversion].

- c. Emission Limitations:
10.2 lbs/hr & 44.6 tpy of OCs (emissions unit)

Applicable Compliance Method:

The above emissions limitations are based on the unrestricted potential to emit, as shown in the following equations, using company-specified fabrication and emissions data:

$$O_h = aS; \text{ and}$$

$$O_y = O_h T W$$

Where,

O_h = 10.2 lbs/hr of OCs [unrestricted hourly potential to emit];
 O_y = 44.6 tpy of OCs [unrestricted yearly potential to emit];
 S = 84.90 lbs/hr of polystyrene foam insulation removed [fabrication rate capacity];

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a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication];
T = 8760 hours/year [unrestricted operating schedule]; and
W = 1 ton/2000 pounds [weight conversion].

- d. Emission Limitation:
99.0 tpy of OCs, based upon a rolling, 12-month summation of the monthly emissions (facility).

Applicable Compliance Method:

The above emissions limitation is based on the federally enforceable restricted fabrication potential to emit, as shown in the following equation, using company-specified fabrication and emissions data:

$$O = (aS + bE)$$

where:

O = 99.0 tpy [facility maximum allowable annual OC emissions, based upon a rolling, 12-month summation of the monthly emissions.];

S = 674 tons/year of polystyrene foam insulation removed [representative facility fabrication rate, based upon a rolling, 12-month summation of the monthly fabrication rates];

E = 116 tons/year of polyethylene foam insulation removed [representative facility fabrication rate, based upon a rolling, 12-month summation of the monthly fabrication rates];

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication]; and

b = 0.1564 [OC emission factor for polyethylene foam insulation roll fabrication].

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.
2. Except for F.1 of this section, all terms and conditions of this permit are federally enforceable.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-07 OAC rule 3745-17-11
P003 (Sander) polystyrene foam insulation boards sanded; air emissions of organic compounds (OCs) from HCFC-R142b blowing agent released during fabrication uncontrolled; air emissions of particulate matter (PM) vented to and controlled by a baghouse common to P001 through P007, excluding P006; includes facility-requested federally enforceable Title V Synthetic Minor (TVSM) fabrication limitations	OAC rule 3745-31-05 (A)(3)	
	OAC rule 3745-35-07 (B)	

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Emissions Unit ID: **P003**

Applicable Emissions
Limitations/Control Measures

For the emissions unit:

6.3 lbs/hr & 27.6 tpy of OCs;

10% opacity from any stack, as a 6-minute average; and

0.92 lb/hr & 4.0 tpy of PM.

See sections A.2 and B.1 through B.5 below for other requirements of OAC rule 3745-31-05 (A)(3).

The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).

For the facility:

99.0 tpy of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable fabrication limitations of Part II, section B.

The emission limitations required by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05.

2. Additional Terms and Conditions

- 2.a** As determined from application data, the OC and PM emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon accepted USEPA potential to emit procedures for this emissions unit. Therefore, no emissions record keeping or reporting

are required to demonstrate compliance with these emission limits.

However, if any proposed change(s), such as with the materials processed, the type and amount of blowing agent contained in the materials processed, the maximum process weight rate capacity, or anything else that increase(s) the potential to emit of any pollutant, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to making the change(s).

- 2.b** Air emissions of PM shall be properly contained by an enclosure system and vented to a baghouse; the enclosure system shall be sufficient to essentially eliminate visible particulate emissions of fugitive dust from the emissions unit to the extent possible with good engineering design; and the baghouse shall be properly operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
- 2.c** The emissions of OCs from this facility shall not exceed 99.0 tpy, based upon a rolling, 12-month summation of the monthly emissions.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Emissions of OCs (Tons)</u>
1	8.25
1-2	16.5
1-3	24.75
1-4	33.0
1-5	41.25
1-6	49.5
1-7	57.75
1-8	66.0
1-9	74.25
1-10	82.5
1-11	90.75
1-12	99.0

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

B. Operational Restrictions

1. The permittee shall employ the baghouse at all times this emissions unit is in operation.
2. Except for an initial operating period after filter media replacement to attain design filtering efficiency, the pressure drop across the baghouse serving this emissions unit shall be maintained within the range recommended by manufacturer, while the emissions unit is in operation. Operation of the baghouse outside of this specified range is not necessarily indicative of an emission violation, but rather serves as a trigger level for maintenance and/or repair activities, or further investigations to establish corrective action.
3. Facility polystyrene foam insulation board fabrication shall not exceed 825 tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates.
4. Facility polyethylene foam insulation roll fabrication shall be limited in accordance with the following equation:

$$E = (O/b) - S(a/b)$$

where:

E = facility polyethylene foam insulation roll fabrication annual limitation, in tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates, as a function of S;

O = 99.0 tpy [facility maximum allowable annual OC emissions, based upon a rolling, 12-month summation of the monthly emissions.];

S = facility polystyrene foam insulation board fabrication annual limitation, in tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates;

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication]; and

b = 0.1564 [OC emission factor for polyethylene foam insulation roll fabrication].

[Note: the above linear equation with a slope of about -0.7673 specifies, during fabrication, that

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approximately for every ton of polystyrene foam insulation removed, 0.7673 ton of polyethylene foam insulation shall not be removed, so that emissions do not exceed 99.0 tpy of OCs.]

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

<u>Month</u>	<u>Maximum Allowable Cumulative Polystyrene Material Removed (tons)</u> (assumes no polyethylene fabrication)	<u>Maximum Allowable Cumulative Polyethylene Material Removed</u> (assumes no polystyrene fabrication)
1	69	53
1-2	138	106
1-3	206	158
1-4	275	211
1-5	344	264
1-6	412	316
1-7	481	369
1-8	550	422
1-9	619	475
1-10	688	528
1-11	756	580
1-12	825	633

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual fabrication rate limitations shall be based upon a rolling, 12-month summation of the monthly fabrication rates.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall document when the baghouse system was not in service when the emissions unit was in operation.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse serving this emissions unit, while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.
3. The permittee shall maintain monthly records of the following information:
 - a. The facility monthly polystyrene foam insulation board stock and polyethylene foam insulation roll fabrication rates, in tons/month of respective foam insulation removed.

- b. The facility rolling, 12-month polystyrene and polyethylene fabrication rate summations of the monthly fabrication rates, in tons/year of respective foam insulation removed.
- c. The calculated facility annual polyethylene fabrication rate limitation, in tons/year, using the appropriate recorded information of C.3.b, and the equation of B.4 above.
- d. The facility monthly OC emissions from all facility fabrication of polystyrene foam insulation board stock and polyethylene foam insulation rolls.
- e. The facility rolling, 12-month summation of the monthly OC emissions from all facility fabrication of polystyrene foam insulation board stock and polyethylene foam insulation rolls.

D. Reporting Requirements

1. The permittee shall notify the Director (the appropriate District Office or local air agency) in writing of any record showing that the baghouse was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Director (the appropriate District Office or local air agency) within 30 days after the event occurs.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse serving this emissions unit did not comply with the allowable range specified above.
3. The permittee shall submit deviation (excursion) reports that identify all exceedances of the polystyrene foam insulation board stock and polyethylene foam insulation roll fabrication limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.
4. The permittee shall submit deviation (excursion) reports which identify all exceedances of the facility 99.0 tons of OCs/year limitation, based upon a rolling, 12-month summation of the monthly OC emissions, as well as the corrective actions that were taken to achieve compliance.
5. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation:
 10% opacity from any stack, as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined by visible emission evaluations performed in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(1).

- b. Emission Limitations:
 0.92 lb/hr & 4.0 tpy of PM (emissions unit)

Applicable Compliance Method:

The above emissions limitations are based on the unrestricted potential to emit and control assumptions, as shown in the following equations, using company-specified fabrication, emissions, and dust capture/control data:

$$Ph = dS(1 - C); \text{ and}$$

$$Py = PhTW$$

Where,

Ph = 0.92 lb/hr of PM [unrestricted, controlled hourly potential to emit];

Py = 4.0 tpy of PM [unrestricted, controlled yearly potential to emit];

S = 52.51 lbs/hr of polystyrene foam insulation removed [fabrication rate capacity];

d = 0.88 [PM emission factor for polystyrene foam insulation board fabrication];

C = 0.98 [engineering estimated dust collection/control efficiency of baghouse];

T = 8760 hours/year [unrestricted operating schedule]; and

W = 1 ton/2000 pounds [weight conversion].

- c. Emission Limitations:
 6.3 lbs/hr & 27.6 tpy of OCs (emissions unit)

Applicable Compliance Method:

The above emissions limitations are based on the unrestricted potential to emit, as shown in the following equations, using company-specified fabrication and emissions data:

$$Oh = aS; \text{ and}$$

$$Oy = OhTW$$

Where,

Oh = 6.3 lbs/hr of OCs [unrestricted hourly potential to emit];

Oy = 27.6 tpy of OCs [unrestricted yearly potential to emit];

S = 52.51 lbs/hr of polystyrene foam insulation removed [fabrication rate capacity];

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication];
T = 8760 hours/year [unrestricted operating schedule]; and
W = 1 ton/2000 pounds [weight conversion].

- d. Emission Limitation:
99.0 tpy of OCs, based upon a rolling, 12-month summation of the monthly emissions (facility).

Applicable Compliance Method:

The above emissions limitation is based on the federally enforceable restricted fabrication potential to emit, as shown in the following equation, using company-specified fabrication and emissions data:

$$O = (aS + bE)$$

where:

O = 99.0 tpy [facility maximum allowable annual OC emissions, based upon a rolling, 12-month summation of the monthly emissions.];

S = 674 tons/year of polystyrene foam insulation removed [representative facility fabrication rate, based upon a rolling, 12-month summation of the monthly fabrication rates];

E = 116 tons/year of polyethylene foam insulation removed [representative facility fabrication rate, based upon a rolling, 12-month summation of the monthly fabrication rates];

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication]; and

b = 0.1564 [OC emission factor for polyethylene foam insulation roll fabrication].

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.
2. Except for F.1 of this section, all terms and conditions of this permit are federally enforceable.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-07 OAC rule 3745-17-11
P004 (Taper Saw) polystyrene foam insulation boards bisected; air emissions of organic compounds (OCs) from HCFC-R142b blowing agent released during fabrication uncontrolled; air emissions of particulate matter (PM) vented to and controlled by a baghouse common to P001 through P007, excluding P006; includes facility-requested federally enforceable Title V Synthetic Minor (TVSM) fabrication limitations	OAC rule 3745-31-05 (A)(3)	
	OAC rule 3745-35-07 (B)	

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Issued**Facility ID: 1677120068**Emissions Unit ID: **P004**

Applicable Emissions
Limitations/Control Measures

For the emissions unit:

3.9 lbs/hr & 17.0 tpy of OCs;

10% opacity from any stack, as a 6-minute average; and

0.57 lb/hr & 2.5 tpy of PM.

See sections A.2 and B.1 through B.5 below for other requirements of OAC rule 3745-31-05 (A)(3).

The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).

For the facility:

99.0 tpy of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable fabrication limitations of Part II, section B.

The emission limitations required by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05.

2. Additional Terms and Conditions

- 2.a** As determined from application data, the OC and PM emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon accepted USEPA potential to emit procedures for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate compliance with these emission limits.

However, if any proposed change(s), such as with the materials processed, the type and amount of blowing agent contained in the materials processed, the maximum process

weight rate capacity, or anything else that increase(s) the potential to emit of any pollutant, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to making the change(s).

- 2.b** Air emissions of PM shall be properly contained by an enclosure system and vented to a baghouse; the enclosure system shall be sufficient to essentially eliminate visible particulate emissions of fugitive dust from the emissions unit to the extent possible with good engineering design; and the baghouse shall be properly operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
- 2.c** The emissions of OCs from this facility shall not exceed 99.0 tpy, based upon a rolling, 12-month summation of the monthly emissions.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Emissions of OCs (Tons)</u>
1	8.25
1-2	16.5
1-3	24.75
1-4	33.0
1-5	41.25
1-6	49.5
1-7	57.75
1-8	66.0
1-9	74.25
1-10	82.5
1-11	90.75
1-12	99.0

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

B. Operational Restrictions

1. The permittee shall employ the baghouse at all times this emissions unit is in operation.
2. Except for an initial operating period after filter media replacement to attain design filtering efficiency, the pressure drop across the baghouse serving this emissions unit shall be maintained within the range recommended by manufacturer, while the emissions unit is in operation. Operation of the baghouse outside of this specified range is not necessarily indicative of an emission violation, but rather serves as a trigger level for maintenance and/or repair activities, or further investigations to establish corrective action.
3. Facility polystyrene foam insulation board fabrication shall not exceed 825 tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates.
4. Facility polyethylene foam insulation roll fabrication shall be limited in accordance with the following equation:

$$E = (O/b) - S(a/b)$$

where:

E = facility polyethylene foam insulation roll fabrication annual limitation, in tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates, as a function of S;

O = 99.0 tpy [facility maximum allowable annual OC emissions, based upon a rolling, 12-month summation of the monthly emissions.];

S = facility polystyrene foam insulation board fabrication annual limitation, in tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates;

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication]; and

b = 0.1564 [OC emission factor for polyethylene foam insulation roll fabrication].

[Note: the above linear equation with a slope of about -0.7673 specifies, during fabrication, that

approximately for every ton of polystyrene foam insulation removed, 0.7673 ton of polyethylene foam insulation shall not be removed, so that emissions do not exceed 99.0 tpy of OCs.]

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

<u>Month</u>	<u>Maximum Allowable Cumulative Polystyrene Material Removed (tons) (tons)</u> (assumes no polyethylene fabrication)	<u>Maximum Allowable Cumulative Polyethylene Material Removed</u> (assumes no polystyrene fabrication)
1	69	53
1-2	138	106
1-3	206	158
1-4	275	211
1-5	344	264
1-6	412	316
1-7	481	369
1-8	550	422
1-9	619	475
1-10	688	528
1-11	756	580
1-12	825	633

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual fabrication rate limitations shall be based upon a rolling, 12-month summation of the monthly fabrication rates.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall document when the baghouse system was not in service when the emissions unit was in operation.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse serving this emissions unit, while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.
3. The permittee shall maintain monthly records of the following information:
 - a. The facility monthly polystyrene foam insulation board stock and polyethylene foam insulation roll fabrication rates, in tons/month of respective foam insulation removed.

- b. The facility rolling, 12-month polystyrene and polyethylene fabrication rate summations of the monthly fabrication rates, in tons/year of respective foam insulation removed.
- c. The calculated facility annual polyethylene fabrication rate limitation, in tons/year, using the appropriate recorded information of C.3.b, and the equation of B.4 above.
- d. The facility monthly OC emissions from all facility fabrication of polystyrene foam insulation board stock and polyethylene foam insulation rolls.
- e. The facility rolling, 12-month summation of the monthly OC emissions from all facility fabrication of polystyrene foam insulation board stock and polyethylene foam insulation rolls.

D. Reporting Requirements

1. The permittee shall notify the Director (the appropriate District Office or local air agency) in writing of any record showing that the baghouse was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Director (the appropriate District Office or local air agency) within 30 days after the event occurs.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse serving this emissions unit did not comply with the allowable range specified above.
3. The permittee shall submit deviation (excursion) reports that identify all exceedances of the polystyrene foam insulation board stock and polyethylene foam insulation roll fabrication limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.
4. The permittee shall submit deviation (excursion) reports which identify all exceedances of the facility 99.0 tons of OCs/year limitation, based upon a rolling, 12-month summation of the monthly OC emissions, as well as the corrective actions that were taken to achieve compliance.
5. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation:
 10% opacity from any stack, as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined by visible emission evaluations performed in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(1).

- b. Emission Limitations:
 0.57 lb/hr & 2.5 tpy of PM (emissions unit)

Applicable Compliance Method:

The above emissions limitations are based on the unrestricted potential to emit and control assumptions, as shown in the following equations, using company-specified fabrication, emissions, and dust capture/control data:

$$Ph = dS(1 - C); \text{ and}$$

$$Py = PhTW$$

Where,

Ph = 0.57 lb/hr of PM [unrestricted, controlled hourly potential to emit];
 Py = 2.5 tpy of PM [unrestricted, controlled yearly potential to emit];
 S = 32.36 lbs/hr of polystyrene foam insulation removed [fabrication rate capacity];
 d = 0.88 [PM emission factor for polystyrene foam insulation board fabrication];
 C = 0.98 [engineering estimated dust collection/control efficiency of baghouse];
 T = 8760 hours/year [unrestricted operating schedule]; and
 W = 1 ton/2000 pounds [weight conversion].

- c. Emission Limitations:
 3.9 lbs/hr & 17.0 tpy of OCs (emissions unit)

Applicable Compliance Method:

The above emissions limitations are based on the unrestricted potential to emit, as shown in the following equations, using company-specified fabrication and emissions data:

$$Oh = aS; \text{ and}$$

$$Oy = OhTW$$

Where,

Oh = 3.9 lbs/hr of OCs [unrestricted hourly potential to emit];
 Oy = 17.0 tpy of OCs [unrestricted yearly potential to emit];
 S = 32.36 lbs/hr of polystyrene foam insulation removed [fabrication rate capacity];

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication];
T = 8760 hours/year [unrestricted operating schedule]; and
W = 1 ton/2000 pounds [weight conversion].

- d. Emission Limitation:
99.0 tpy of OCs, based upon a rolling, 12-month summation of the monthly emissions (facility).

Applicable Compliance Method:

The above emissions limitation is based on the federally enforceable restricted fabrication potential to emit, as shown in the following equation, using company-specified fabrication and emissions data:

$$O = (aS + bE)$$

where:

O = 99.0 tpy [facility maximum allowable annual OC emissions, based upon a rolling, 12-month summation of the monthly emissions.];

S = 674 tons/year of polystyrene foam insulation removed [representative facility fabrication rate, based upon a rolling, 12-month summation of the monthly fabrication rates];

E = 116 tons/year of polyethylene foam insulation removed [representative facility fabrication rate, based upon a rolling, 12-month summation of the monthly fabrication rates];

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication]; and

b = 0.1564 [OC emission factor for polyethylene foam insulation roll fabrication].

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.
2. Except for F.1 of this section, all terms and conditions of this permit are federally enforceable.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
<p>P005 (Planar) polystyrene foam insulation boards planed; air emissions of organic compounds (OCs) from HCFC-R142b blowing agent released during fabrication uncontrolled; air emissions of particulate matter (PM) vented to and controlled by a baghouse common to P001 through P007, excluding P006; includes facility-requested federally enforceable Title V Synthetic Minor (TVSM) fabrication limitations</p>	<p>OAC rule 3745-31-05 (A)(3)</p>	<p><u>For the emissions unit:</u> 30.2 lbs/hr of OCs; 10% opacity from any stack, as a 6-minute average; and 4.4 lbs/hr & 19.4 tpy of PM. See sections A.2 and B.1 through B.5 below for other requirements of OAC rule 3745-31-05 (A)(3). The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p>
	<p>OAC rule 3745-35-07 (B)</p>	<p><u>For the facility:</u> 99.0 tpy of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable fabrication limitations of Part II, section B.</p>
	<p>OAC rule 3745-17-07 OAC rule 3745-17-11</p>	<p>The emission limitations required by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05.</p>

2. Additional Terms and Conditions

- 2.a** As determined from application data, the OC and PM emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon accepted USEPA potential to emit procedures for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate compliance with these emission limits.

However, if any proposed change(s), such as with the materials processed, the type and amount of blowing agent contained in the materials processed, the maximum process weight rate capacity, or anything else that increase(s) the potential to emit of any pollutant, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to making the change(s).

- 2.b** Air emissions of PM shall be properly contained by an enclosure system and vented to a baghouse; the enclosure system shall be sufficient to essentially eliminate visible particulate emissions of fugitive dust from the emissions unit to the extent possible with good engineering design; and the baghouse shall be properly operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

- 2.c** The emissions of OCs from this facility shall not exceed 99.0 tpy, based upon a rolling, 12-month summation of the monthly emissions.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Emissions of OCs (Tons)</u>
1	8.25
1-2	16.5
1-3	24.75
1-4	33.0
1-5	41.25
1-6	49.5
1-7	57.75
1-8	66.0

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1-9	74.25
1-10	82.5
1-11	90.75
1-12	99.0

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

B. Operational Restrictions

1. The permittee shall employ the baghouse at all times this emissions unit is in operation.
2. Except for an initial operating period after filter media replacement to attain design filtering efficiency, the pressure drop across the baghouse serving this emissions unit shall be maintained within the range recommended by manufacturer, while the emissions unit is in operation. Operation of the baghouse outside of this specified range is not necessarily indicative of an emission violation, but rather serves as a trigger level for maintenance and/or repair activities, or further investigations to establish corrective action.
3. Facility polystyrene foam insulation board fabrication shall not exceed 825 tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates.
4. Facility polyethylene foam insulation roll fabrication shall be limited in accordance with the following equation:

$$E = (O/b) - S(a/b)$$

where:

E = facility polyethylene foam insulation roll fabrication annual limitation, in tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates, as a function of S;

O = 99.0 tpy [facility maximum allowable annual OC emissions, based upon a rolling, 12-month summation of the monthly emissions.];

S = facility polystyrene foam insulation board fabrication annual limitation, in tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates;

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication]; and

b = 0.1564 [OC emission factor for polyethylene foam insulation roll fabrication].

[Note: the above linear equation with a slope of about -0.7673 specifies, during fabrication, that approximately for every ton of polystyrene foam insulation removed, 0.7673 ton of polyethylene foam insulation shall not be removed, so that emissions do not exceed 99.0 tpy of OCs.]

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

<u>Month</u>	<u>Maximum Allowable Cumulative Polystyrene Material Removed (tons) (assumes no polyethylene fabrication)</u>	<u>Maximum Allowable Cumulative Polyethylene Material Removed (assumes no polystyrene fabrication)</u>
1	69	53
1-2	138	106
1-3	206	158
1-4	275	211
1-5	344	264
1-6	412	316
1-7	481	369
1-8	550	422
1-9	619	475
1-10	688	528
1-11	756	580
1-12	825	633

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual fabrication rate limitations shall be based upon a rolling, 12-month summation of the monthly fabrication rates.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall document when the baghouse system was not in service when the emissions unit was in operation.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse serving this emissions unit, while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.

3. The permittee shall maintain monthly records of the following information:
 - a. The facility monthly polystyrene foam insulation board stock and polyethylene foam insulation roll fabrication rates, in tons/month of respective foam insulation removed.
 - b. The facility rolling, 12-month polystyrene and polyethylene fabrication rate summations of the monthly fabrication rates, in tons/year of respective foam insulation removed.
 - c. The calculated facility annual polyethylene fabrication rate limitation, in tons/year, using the appropriate recorded information of C.3.b, and the equation of B.4 above.
 - d. The facility monthly OC emissions from all facility fabrication of polystyrene foam insulation board stock and polyethylene foam insulation rolls.
 - e. The facility rolling, 12-month summation of the monthly OC emissions from all facility fabrication of polystyrene foam insulation board stock and polyethylene foam insulation rolls.

D. Reporting Requirements

1. The permittee shall notify the Director (the appropriate District Office or local air agency) in writing of any record showing that the baghouse was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Director (the appropriate District Office or local air agency) within 30 days after the event occurs.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse serving this emissions unit did not comply with the allowable range specified above.
3. The permittee shall submit deviation (excursion) reports that identify all exceedances of the polystyrene foam insulation board stock and polyethylene foam insulation roll fabrication limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.
4. The permittee shall submit deviation (excursion) reports which identify all exceedances of the facility 99.0 tons of OCs/year limitation, based upon a rolling, 12-month summation of the monthly OC emissions, as well as the corrective actions that were taken to achieve compliance.
5. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be

determined in accordance with the following methods:

- a. Emission Limitation:
10% opacity from any stack, as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined by visible emission evaluations performed in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(1).

- b. Emission Limitations:
4.4 lbs/hr & 19.4 tpy of PM (emissions unit)

Applicable Compliance Method:

The above emissions limitations are based on the unrestricted potential to emit and control assumptions, as shown in the following equations, using company-specified fabrication, emissions, and dust capture/control data:

$$Ph = dS(1 - C); \text{ and}$$

$$Py = PhTW$$

Where,

Ph = 4.4 lbs/hr of PM [unrestricted, controlled hourly potential to emit];

Py = 19.4 tpy of PM [unrestricted, controlled yearly potential to emit];

S = 251.97 lbs/hr of polystyrene foam insulation removed [fabrication rate capacity];

d = 0.88 [PM emission factor for polystyrene foam insulation board fabrication];

C = 0.98 [engineering estimated dust collection/control efficiency of baghouse];

T = 8760 hours/year [unrestricted operating schedule]; and

W = 1 ton/2000 pounds [weight conversion].

- c. Emission Limitations:
30.2 lbs/hr of OCs (emissions unit)

Applicable Compliance Method:

The above emissions limitation is based on the unrestricted potential to emit, as shown in the following equation, using company-specified fabrication and emissions data:

$$O = aS$$

Where,

O = 30.2 lbs/hr of OCs [unrestricted hourly potential to emit];
S = 251.97 lbs/hr of polystyrene foam insulation removed [fabrication rate capacity]; and
a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication].

- d. Emission Limitation:
99.0 tpy of OCs, based upon a rolling, 12-month summation of the monthly emissions (facility).

Applicable Compliance Method:

The above emissions limitation is based on the federally enforceable restricted fabrication potential to emit, as shown in the following equation, using company-specified fabrication and emissions data:

$$O = (aS + bE)$$

where:

O = 99.0 tpy [facility maximum allowable annual OC emissions, based upon a rolling, 12-month summation of the monthly emissions.];

S = 674 tons/year of polystyrene foam insulation removed [representative facility fabrication rate, based upon a rolling, 12-month summation of the monthly fabrication rates];

E = 116 tons/year of polyethylene foam insulation removed [representative facility fabrication rate, based upon a rolling, 12-month summation of the monthly fabrication rates];

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication]; and

b = 0.1564 [OC emission factor for polyethylene foam insulation roll fabrication].

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.
2. Except for F.1 of this section, all terms and conditions of this permit are federally enforceable.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

- The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P006 (FoamSealR) polyethylene foam insulation rolls hot wire cut; air emissions of organic compounds (OCs) from low molecular weight hydrocarbon gas blowing agent and polyethylene released during fabrication process uncontrolled; includes facility-requested federally enforceable Title V Synthetic Minor (TVSM) fabrication limitations	OAC rule 3745-31-05 (A)(3)	<p><u>For the emissions unit:</u> 4.1 lbs/hr & 18.1 tpy of OCs</p> <p>See sections A.2 and B.1 through B.3 below for other requirements of OAC rule 3745-31-05 (A)(3).</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).</p>
	OAC rule 3745-35-07 (B)	<p><u>For the facility:</u> 99.0 tpy of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable fabrication limitations of Part II, section B.</p>
	OAC rule 3745-17-07 OAC rule 3745-17-11	<p>The emission limitations required by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05.</p>

2. Additional Terms and Conditions

- 2.a** As determined from application data, the OC emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon accepted USEPA potential to emit procedures for this emissions unit. Therefore, no emissions record keeping or reporting are required to demonstrate compliance with these emission limits.

However, if any proposed change(s), such as with the materials processed, the type and amount of blowing agent contained in the materials processed, the maximum process weight rate capacity, or anything else that increase(s) the potential to emit of any pollutant, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to making the change(s).

- 2.b** The emissions of OCs from this facility shall not exceed 99.0 tpy, based upon a rolling, 12-month summation of the monthly emissions.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Emissions of OCs (Tons)</u>
1	8.25
1-2	16.5
1-3	24.75
1-4	33.0
1-5	41.25
1-6	49.5
1-7	57.75
1-8	66.0
1-9	74.25
1-10	82.5
1-11	90.75
1-12	99.0

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual emission limitation for OCs shall be based upon a rolling,

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12-month summation of the monthly emissions.

B. Operational Restrictions

1. Facility polystyrene foam insulation board fabrication shall not exceed 825 tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates.
2. Facility polyethylene foam insulation roll fabrication shall be limited in accordance with the following equation:

$$E = (O/b) - S(a/b)$$

where:

E = facility polyethylene foam insulation roll fabrication annual limitation, in tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates, as a function of S;

O = 99.0 tpy [facility maximum allowable annual OC emissions, based upon a rolling, 12-month summation of the monthly emissions.];

S = facility polystyrene foam insulation board fabrication annual limitation, in tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates;

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication]; and

b = 0.1564 [OC emission factor for polyethylene foam insulation roll fabrication].

[Note: the above linear equation with a slope of about -0.7673 specifies, during fabrication, that approximately for every ton of polystyrene foam insulation removed, 0.7673 ton of polyethylene foam insulation shall not be removed, so that emissions do not exceed 99.0 tpy of OCs.]

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

<u>Month</u>	<u>Maximum Allowable Cumulative Polystyrene Material Removed (tons)</u> (assumes no polyethylene fabrication)	<u>Maximum Allowable Cumulative Polyethylene Material Removed</u> (assumes no polystyrene fabrication)
1	69	53
1-2	138	106
1-3	206	158
1-4	275	211
1-5	344	264
1-6	412	316
1-7	481	369
1-8	550	422

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1-9	619	475
1-10	688	528
1-11	756	580
1-12	825	633

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual fabrication rate limitations shall be based upon a rolling, 12-month summation of the monthly fabrication rates.

C. Monitoring and/or Recordkeeping Requirements

1. The permit to install for this emissions unit was evaluated based on the actual process materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxics Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: butane (CAS 106-97-8)

TLV (ug/m3): 1,900,000

Maximum Hourly Emission Rate (lbs/hr): 4.1

Predicted 1-Hour Maximum Ground-Level Concentration at 367 m (ug/m3): 255

MAGLC (ug/m3): 45,000

2. Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxics Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxics Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:
 - i. changes in the composition of the materials used (process materials and cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

- ii changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- iii physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxics Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

- 3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics Policy":
 - a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
 - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxics Policy"; and
 - c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxics Policy" for the change.
- 4. The permittee shall maintain monthly records of the following information:
 - a. The facility monthly polystyrene foam insulation board stock and polyethylene foam insulation roll fabrication rates, in tons/month of respective foam insulation removed.
 - b. The facility rolling, 12-month polystyrene and polyethylene fabrication rate summations of the monthly fabrication rates, in tons/year of respective foam insulation removed.
 - c. The calculated facility annual polyethylene fabrication rate limitation, in tons/year, using the appropriate recorded information of C.4.b, and the equation of B.2 above.
 - d. The facility monthly OC emissions from all facility fabrication of polystyrene foam insulation board stock and polyethylene foam insulation rolls.
 - e. The facility rolling, 12-month summation of the monthly OC emissions from all facility

fabrication of polystyrene foam insulation board stock and polyethylene foam insulation rolls.

D. Reporting Requirements

1. The permittee shall notify the Director (the appropriate District Office or local air agency) in writing of any record showing that the baghouse was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Director (the appropriate District Office or local air agency) within 30 days after the event occurs.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse serving this emissions unit did not comply with the allowable range specified above.
3. The permittee shall submit deviation (excursion) reports that identify all exceedances of the polystyrene foam insulation board stock and polyethylene foam insulation roll fabrication limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.
4. The permittee shall submit deviation (excursion) reports which identify all exceedances of the facility 99.0 tons of OCs/year limitation, based upon a rolling, 12-month summation of the monthly OC emissions, as well as the corrective actions that were taken to achieve compliance.
5. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitations:
4.1 lbs/hr & 18.1 tpy of OCs (emissions unit)

Applicable Compliance Method:

The above emissions limitations are based on the unrestricted potential to emit, as shown in the following equations, using company-specified fabrication and emissions data:

$O_h = bE$; and

$O_y = O_hTW$

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Where,

$O_h = 4.1$ lbs/hr of OCs [unrestricted hourly potential to emit];

$O_y = 18.1$ tpy of OCs [unrestricted yearly potential to emit];

$E = 26.49$ lbs/hr of polyethylene foam insulation removed [fabrication rate capacity];

$b = 0.1564$ [OC emission factor for polyethylene foam insulation roll fabrication];

$T = 8760$ hours/year [unrestricted operating schedule]; and

$W = 1$ ton/2000 pounds [weight conversion].

- b. Emission Limitation:
99.0 tpy of OCs, based upon a rolling, 12-month summation of the monthly emissions (facility).

Applicable Compliance Method:

The above emissions limitation is based on the federally enforceable restricted fabrication potential to emit, as shown in the following equation, using company-specified fabrication and emissions data:

$$O = (aS + bE)$$

where:

O = 99.0 tpy [facility maximum allowable annual OC emissions, based upon a rolling, 12-month summation of the monthly emissions.];

S = 674 tons/year of polystyrene foam insulation removed [representative facility fabrication rate, based upon a rolling, 12-month summation of the monthly fabrication rates];

E = 116 tons/year of polyethylene foam insulation removed [representative facility fabrication rate, based upon a rolling, 12-month summation of the monthly fabrication rates];

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication]; and

b = 0.1564 [OC emission factor for polyethylene foam insulation roll fabrication].

F. Miscellaneous Requirements

1. Except for Part II, sections C.1 through C.3, all terms and conditions of this permit are federally enforceable.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	OAC rule 3745-17-07 OAC rule 3745-17-11
P007 (Densifier) cuts and densifies excess polystyrene foam insulation removed from PFX Line trim cuts and densifies material collected in baghouse; air emissions of organic compounds (OCs) from HCFC-R142b blowing agent released during fabrication uncontrolled; air emissions of particulate matter (PM) vented to and controlled by a baghouse common to P001 through P007, excluding P006; includes facility-requested federally enforceable Title V Synthetic Minor (TVSM) fabrication limitations	OAC rule 3745-31-05 (A)(3)	
	OAC rule 3745-35-07 (B)	

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Applicable Emissions
Limitations/Control Measures

For the emissions unit:

3.0 lbs/hr & 13.1 tpy of OCs;

10% opacity from any stack, as a 6-minute average; and

1.8 lbs/hr & 7.7 tpy of PM.

See sections A.2 and B.1 through B.5 below for other requirements of OAC rule 3745-31-05 (A)(3).

The requirements of this rule also include compliance with the requirements of OAC rule 3745-35-07 (B).

For the facility:

99.0 tpy of OCs, based upon a rolling, 12-month summation of the monthly emissions, and as established in the restricted potential to emit procedures of Part II, section E using the federally enforceable fabrication limitations of Part II, section B.

The emission limitations required by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05.

2. Additional Terms and Conditions

- 2.a** As determined from application data, the OC and PM emission limitations regulated per OAC rule 3745-31-05 (A)(3) are based upon accepted USEPA potential to emit procedures for this emissions unit. Therefore, no emissions record keeping or reporting

are required to demonstrate compliance with these emission limits.

However, if any proposed change(s), such as with the materials processed, the type and amount of blowing agent contained in the materials processed, the maximum process weight rate capacity, or anything else that increase(s) the potential to emit of any pollutant, then the permittee shall apply for and obtain either a modification to the permit to install or a new final permit to install prior to making the change(s).

- 2.b** Air emissions of PM shall be properly contained by an enclosure system and vented to a baghouse; the enclosure system shall be sufficient to essentially eliminate visible particulate emissions of fugitive dust from the emissions unit to the extent possible with good engineering design; and the baghouse shall be properly operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
- 2.c** The emissions of OCs from this facility shall not exceed 99.0 tpy, based upon a rolling, 12-month summation of the monthly emissions.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Emissions of OCs (Tons)</u>
1	8.25
1-2	16.5
1-3	24.75
1-4	33.0
1-5	41.25
1-6	49.5
1-7	57.75
1-8	66.0
1-9	74.25
1-10	82.5
1-11	90.75
1-12	99.0

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

B. Operational Restrictions

1. The permittee shall employ the baghouse at all times this emissions unit is in operation.
2. Except for an initial operating period after filter media replacement to attain design filtering efficiency, the pressure drop across the baghouse serving this emissions unit shall be maintained within the range recommended by manufacturer, while the emissions unit is in operation. Operation of the baghouse outside of this specified range is not necessarily indicative of an emission violation, but rather serves as a trigger level for maintenance and/or repair activities, or further investigations to establish corrective action.
3. Facility polystyrene foam insulation board fabrication shall not exceed 825 tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates.
4. Facility polyethylene foam insulation roll fabrication shall be limited in accordance with the following equation:

$$E = (O/b) - S(a/b)$$

where:

E = facility polyethylene foam insulation roll fabrication annual limitation, in tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates, as a function of S;

O = 99.0 tpy [facility maximum allowable annual OC emissions, based upon a rolling, 12-month summation of the monthly emissions.];

S = facility polystyrene foam insulation board fabrication annual limitation, in tpy of foam insulation removed, based upon a rolling, 12-month summation of the monthly fabrication rates;

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication]; and

b = 0.1564 [OC emission factor for polyethylene foam insulation roll fabrication].

[Note: the above linear equation with a slope of about -0.7673 specifies, during fabrication, that

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approximately for every ton of polystyrene foam insulation removed, 0.7673 ton of polyethylene foam insulation shall not be removed, so that emissions do not exceed 99.0 tpy of OCs.]

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

<u>Month</u>	<u>Maximum Allowable Cumulative Polystyrene Material Removed (tons)</u> (assumes no polyethylene fabrication)	<u>Maximum Allowable Cumulative Polyethylene Material Removed</u> (assumes no polystyrene fabrication)
1	69	53
1-2	138	106
1-3	206	158
1-4	275	211
1-5	344	264
1-6	412	316
1-7	481	369
1-8	550	422
1-9	619	475
1-10	688	528
1-11	756	580
1-12	825	633

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual fabrication rate limitations shall be based upon a rolling, 12-month summation of the monthly fabrication rates.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall document when the baghouse system was not in service when the emissions unit was in operation.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse serving this emissions unit, while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.
3. The permittee shall maintain monthly records of the following information:
 - a. The facility monthly polystyrene foam insulation board stock and polyethylene foam insulation roll fabrication rates, in tons/month of respective foam insulation removed.

- b. The facility rolling, 12-month polystyrene and polyethylene fabrication rate summations of the monthly fabrication rates, in tons/year of respective foam insulation removed.
- c. The calculated facility annual polyethylene fabrication rate limitation, in tons/year, using the appropriate recorded information of C.3.b, and the equation of B.4 above.
- d. The facility monthly OC emissions from all facility fabrication of polystyrene foam insulation board stock and polyethylene foam insulation rolls.
- e. The facility rolling, 12-month summation of the monthly OC emissions from all facility fabrication of polystyrene foam insulation board stock and polyethylene foam insulation rolls.

D. Reporting Requirements

1. The permittee shall notify the Director (the appropriate District Office or local air agency) in writing of any record showing that the baghouse was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Director (the appropriate District Office or local air agency) within 30 days after the event occurs.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse serving this emissions unit did not comply with the allowable range specified above.
3. The permittee shall submit deviation (excursion) reports that identify all exceedances of the polystyrene foam insulation board stock and polyethylene foam insulation roll fabrication limitations specified in Section B above, as well as the corrective actions that were taken to achieve compliance.
4. The permittee shall submit deviation (excursion) reports which identify all exceedances of the facility 99.0 tons of OCs/year limitation, based upon a rolling, 12-month summation of the monthly OC emissions, as well as the corrective actions that were taken to achieve compliance.
5. The deviation (excursion) reports shall be submitted in accordance with the requirements specified in Part I - General Term and Condition 2 of this permit.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1 of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation:
 10% opacity from any stack, as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined by visible emission evaluations performed in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(1).

- b. Emission Limitations:
 1.8 lbs/hr & 7.7 tpy of PM (emissions unit)

Applicable Compliance Method:

The above emissions limitations are based on the unrestricted potential to emit and control assumptions, as shown in the following equations, using company-specified fabrication, emissions, and dust capture/control data:

$$Ph = dS(1 - C); \text{ and}$$

$$Py = PhTW$$

Where,

Ph = 1.8 lbs/hr of PM [unrestricted, controlled hourly potential to emit];

Py = 7.7 tpy of PM [unrestricted, controlled yearly potential to emit];

S = 100.0 lbs/hr of scrap polystyrene foam insulation fabricated [fabrication rate capacity];

d = 0.88 [PM emission factor for polystyrene foam insulation board fabrication];

C = 0.98 [engineering estimated dust collection/control efficiency of baghouse];

T = 8760 hours/year [unrestricted operating schedule]; and

W = 1 ton/2000 pounds [weight conversion].

- c. Emission Limitations:
 3.0 lbs/hr & 13.1 tpy of OCs (emissions unit)

Applicable Compliance Method:

The above emissions limitations are based on the unrestricted potential to emit, as shown in the following equations, using company-specified fabrication and emissions data:

$$Oh = aSf; \text{ and}$$

$$Oy = OhTW$$

Where,

Oh = 3.0 lbs/hr of OCs [unrestricted hourly potential to emit];

Oy = 13.1 tpy of OCs [unrestricted yearly potential to emit];

S = 100.0 lbs/hr of scrap polystyrene foam insulation fabricated [fabrication rate capacity];

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication];
f = 0.25 [estimated fraction of scrap foam with potential to emit OCs];
T = 8760 hours/year [unrestricted operating schedule]; and
W = 1 ton/2000 pounds [weight conversion].

- d. Emission Limitation:
99.0 tpy of OCs, based upon a rolling, 12-month summation of the monthly emissions (facility).

Applicable Compliance Method:

The above emissions limitation is based on the federally enforceable restricted fabrication potential to emit, as shown in the following equation, using company-specified fabrication and emissions data:

$$O = (aS + bE)$$

where:

O = 99.0 tpy [facility maximum allowable annual OC emissions, based upon a rolling, 12-month summation of the monthly emissions.];

S = 674 tons/year of polystyrene foam insulation removed [representative facility fabrication rate, based upon a rolling, 12-month summation of the monthly fabrication rates];

E = 116 tons/year of polyethylene foam insulation removed [representative facility fabrication rate, based upon a rolling, 12-month summation of the monthly fabrication rates];

a = 0.12 [OC emission factor for polystyrene foam insulation board fabrication]; and

b = 0.1564 [OC emission factor for polyethylene foam insulation roll fabrication].

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.
2. Except for F.1 of this section, all terms and conditions of this permit are federally enforceable.