



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

9/11/2015

Certified Mail

Kim Jouppi
 TREMCO INC.
 3361 East 80th Street
 Cleveland, OH 44127

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

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1318007273
 Permit Number: P0119283
 Permit Type: Administrative Modification
 County: Cuyahoga

Dear Permit Holder:

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

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

How to appeal this permit

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

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

How to save money, reduce pollution and reduce energy consumption

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

How to give us feedback on your permitting experience

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

How to get an electronic copy of your permit

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

If you have any questions, please contact Cleveland Division of Air Quality at (216)664-2297 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



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

Cc: CDAQ



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
TREMCO INC.**

Facility ID:	1318007273
Permit Number:	P0119283
Permit Type:	Administrative Modification
Issued:	9/11/2015
Effective:	9/11/2015
Expiration:	9/17/2023



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

for
TREMCO INC.

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Final Permit-to-Install and Operate
TREMCO INC.
Permit Number: P0119283
Facility ID: 1318007273
Effective Date: 9/11/2015

Authorization

Facility ID: 1318007273
Application Number(s): M0003503
Permit Number: P0119283
Permit Description: PTIO Administrative Modification for emissions unit P001 to change the limit for particulate matter from 0.04 kg/Mg (0.08 lb/ton) to 0.4 kg/Mg (0.8 lb/ton) of saturated felt or smooth-surfaced roll roofing produced, as indicated in the updated 40 CFR Part 60, Subpart UU, NSPS rule.
Permit Type: Administrative Modification
Permit Fee: \$0.00
Issue Date: 9/11/2015
Effective Date: 9/11/2015
Expiration Date: 9/17/2023
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

TREMCO INC.
3361 EAST 80TH STREET
Cleveland, OH 44127

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

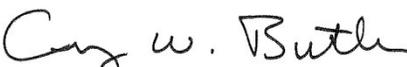
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Cleveland Division of Air Quality
2nd Floor
75 Erieview Plaza
Cleveland, OH 44114
(216)664-2297

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Craig W. Butler
Director



Final Permit-to-Install and Operate
TREMCO INC.
Permit Number: P0119283
Facility ID: 1318007273
Effective Date: 9/11/2015

Authorization (continued)

Permit Number: P0119283
Permit Description: PTIO Administrative Modification for emissions unit P001 to change the limit for particulate matter from 0.04 kg/Mg (0.08 lb/ton) to 0.4 kg/Mg (0.8 lb/ton) of saturated felt or smooth-surfaced roll roofing produced, as indicated in the updated 40 CFR Part 60, Subpart UU, NSPS rule.

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

Emissions Unit ID:	P001
Company Equipment ID:	Asphalt coating line
Superseded Permit Number:	P0094691
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P006
Company Equipment ID:	ROOFING MIXING PROCESS #4 & 5 MIXERS
Superseded Permit Number:	P0094691
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
TREMCO INC.
Permit Number: P0119283
Facility ID: 1318007273
Effective Date: 9/11/2015

A. Standard Terms and Conditions

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

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

2. Who is responsible for complying with this permit?

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

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

3. What records must I keep under this permit?

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

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

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

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

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

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

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

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

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

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

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

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

7. What reports must I submit under this permit?

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

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

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

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

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

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

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

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

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

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

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

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

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

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

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

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

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

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

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

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

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

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



Final Permit-to-Install and Operate
TREMCO INC.
Permit Number: P0119283
Facility ID: 1318007273
Effective Date: 9/11/2015

B. Facility-Wide Terms and Conditions

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) B.2, B.3

2. This facility is subject to 40 CFR Part 60, Subpart UU, New Source Performance Standards (NSPS) for Asphalt Processing and Asphalt Roofing Manufacture. The complete NSPS requirements, including the Subpart A General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website at <http://www.ecfr.gov> or by contacting the Cleveland Division of Air Quality (CDAQ).

The permittee must comply with all applicable requirements of 40 CFR Part 60, Subpart UU. The permittee shall also comply with all applicable requirements of 40 CFR Part 60, Subpart A (General Provisions)

3. Pursuant to 40 CFR Part 60, Subpart UU, the permittee shall not cause to be discharged into the atmosphere from any asphalt storage tank exhaust gases with opacity greater than 0 percent, except for one consecutive 15-minute period in any 24-hour period when the transfer lines are being blown for clearing. The control device shall not be bypassed during this 15-minute period. If, however, the emissions from any asphalt storage tank(s) are ducted to a control device for a saturator, the combined emissions shall meet the emission limit contained in § 60.472(a) during the time the saturator control device is operating. At any other time the asphalt storage tank(s) must meet the opacity limit specified above for storage tanks. If required, compliance with the zero percent opacity limitation shall be determined using Method 9 of 40 CFR Part 60, Appendix A.

As defined in NSPS Subpart UU, *asphalt storage tank* means any tank used to store asphalt at asphalt roofing plants, petroleum refineries, and asphalt processing plants. Storage tanks containing cutback asphalts (asphalts diluted with solvents to reduce viscosity for low temperature applications) and emulsified asphalts (asphalts dispersed in water with an emulsifying agent) are not subject to this regulation.



Final Permit-to-Install and Operate
TREMCO INC.
Permit Number: P0119283
Facility ID: 1318007273
Effective Date: 9/11/2015

C. Emissions Unit Terms and Conditions



1. P001, Asphalt coating line

Operations, Property and/or Equipment Description:

Asphalt roofing material manufacturing line with 4 mixers, gas-fired filler dryer, 5 storage silos, 2 coating tanks and mineral coating system controlled with a baghouse.

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

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

a. None.

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

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 13-1323, issued 12/5/1984)	See b)(2)a., and b)(2)b. below.
b.	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation specified by this rule is equivalent or less stringent than the visible particulate emission limitation specified by the requirements of 40 CFR Part 60, Subpart UU.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-07(B)	The fugitive visible emission limitation specified by this rule is less stringent than the fugitive visible emission limitation specified by the requirements of 40 CFR Part 60, Subpart UU.
d.	OAC rule 3745-17-08(B)	Reasonably available control measures (RACM) must be employed to sufficiently minimize or eliminate visible emissions of fugitive dust. See b)(2)a., b)(2)b., and c)(1) below.
e.	OAC rule 3745-17-11(B)	The particulate emission limitation established by this rule is less stringent than the particulate emission limitation established by 40 CFR Part 60, Subpart UU.
f.	40 CFR Part 60, Subpart UU	See b)(2)c. and b)(2)d. below.

(2) Additional Terms and Conditions

- a. Various material handling operations involving dusty material shall be enclosed and/or adequately hooded, vented and controlled so that no visible fugitive dust emissions are generated from any of the equipment or operations. There shall be no visible emissions from any of the exhausts, including the fabric filter dust collector exhausts.
- b. Pre-coating and coating tanks shall be hooded and vented to adequately capture any emissions from these operations.
- c. The permittee shall comply with the particulate emissions limitation required under the following sections of 40 CFR Part 60, Subpart UU:

60.472(a)(1)(i)	Particulate emissions shall not exceed 0.04 kg/Mg (0.08 lb/ton) of mineral-surfaced roll roofing produced from any saturator.
60.472(a)(1)(ii)	Particulate emissions shall not exceed 0.4 kg/Mg (0.8 lb/ton) of smooth-surfaced roll roofing produced from any saturator.

As defined in Subpart UU, *saturator* means the equipment in which asphalt is applied to felt to make asphalt roofing products. The term saturator includes the saturator, wet looper, and coater.

- d. The permittee shall comply with the opacity limitations required under the following sections of 40 CFR Part 60, Subpart UU:

60.472(a)(2)	Visible particulate emissions from the saturator shall not exceed more than 20 percent opacity, as a six-minute average.
60.472(a)(3)	There shall not be any visible particulate emissions from the saturator capture system for more than 20 percent of any period of consecutive valid observations totaling 60 minutes.
60.472(d)	Visible particulate emissions from the mineral handling and storage facility shall not exceed 1 percent opacity, as a six-minute average.

As defined in Subpart UU, *mineral handling and storage facility* means the areas in asphalt roofing plants in which minerals are unloaded from a carrier, the conveyor transfer points between the carrier and the storage silos, and the storage silos.

- e. There are no applicable requirements from OAC rule 3745-21-07(M) because there is no control device for VOC emissions associated with this emissions unit.

c) **Operational Restrictions**

- (1) The permittee shall operate the filter baghouse for the control of particulate emissions whenever this emissions unit is in operation. The dry particulate filter shall be maintained in accordance with the manufacturer’s recommendations, instructions, and/or operating manual(s), with any modifications deemed necessary by the permittee.

In the event that the dust collector is not operating in accordance with the manufacturer’s recommendations, instructions, and/or operating manuals, with any modifications deemed necessary by the permittee, the control device shall be expeditiously repaired and returned to these documented operating conditions.

- (2) The pressure drop across the baghouse shall be maintained within 1 to 5 inches of water at all times when this emissions unit is in operation.

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

- (1) The permittee shall properly operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the

manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

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

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

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

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

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

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

- (2) The permittee shall maintain records that document any time period when the dry particulate filter was not in service when the emissions unit was in operation, as well as, a record of all operations during which the dry particulate filter was not operated according to the manufacturer's recommendations with any documented modifications made by the permittee.
 - (3) The permittee shall perform weekly checks, when the emissions unit is in operation and, when the weather conditions allow, for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed from any points of capture and/or the stack, the permittee shall also note the following in the operations log:
 - a. the location and color of the emissions;
 - b. the total duration of any visible emissions incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
 - (4) The permittee shall maintain the MSDS sheets for each liquid organic material employed in this emissions unit.
- e) Reporting Requirements
- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Cleveland DAQ by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "e-Business Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.
 - (2) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the baghouse during the 12-month reporting period for this/these emissions unit(s):
 - a. each period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;
 - b. each incident of deviation described in "a" (above) where a prompt investigation was not conducted;
 - c. each incident of deviation described in "a" where prompt corrective actions were determined to be necessary and were not taken; and
 - d. each incident of deviation described in "a" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and recordkeeping requirements of this permit.
 - (3) The permittee shall identify in the annual PER the following information concerning the operations of the baghouse during the 12-month reporting period for this emissions unit:

- a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
 - b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;
 - c. each incident of deviation described in "a" (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in "a" where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - e. each incident of deviation described in "a" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.
- (4) The permittee shall identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible emissions in d)(3) above:
- a. all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and
 - b. any corrective actions taken to eliminate the visible emissions.
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:
- a. Emission Limitation:

Visible particulate emissions from the saturator shall not exceed 20 percent opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible PE observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures in 40 CFR Part 60.11.
 - b. Emission Limitation:

There shall not be any visible particulate emissions from the saturator capture system for more than 20 percent of any period of consecutive valid observations totaling 60-minutes.

Applicable Compliance Method:

If required, compliance shall be determined through visible PE observations performed in accordance with 40 CFR Part 60, Appendix A, Method 22.

In accordance with NSPS Subpart UU 60.474(d), determine compliance by using Method 22, modified so that readings are recorded every 15 seconds for a period of consecutive observations during representative conditions (in accordance with 40 CFR Part 60.8(c) totaling 60 minutes. A performance test shall consist of one run.

c. Emission Limitation:

Visible particulate emissions from the mineral handling operations and storage facility shall not exceed 1 percent opacity, as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible PE observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures in 40 CFR Part 60.11.

d. Emission Limitation:

Particulate emissions shall not exceed 0.04 kg PE/Mg (0.08 lb PE/ton) of mineral-surfaced and 0.4 kg PE/Mg (0.8 lb PE/ton) of smooth-surfaced roll roofing produced from any saturator.

Applicable Compliance Method:

Compliance shall be demonstrated through the test methods and procedures outlined in 40 CFR Part 60, Subpart UU. See f)(2) below.

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 6 months prior to the permit expiration date.

The initial testing that was required for permit P0094691 was completed on 6/9/2015.

b. The emission testing shall be conducted to demonstrate compliance with the allowable emission and opacity limitations identified in B.(3) and C.1.b)(2).

c. The following test methods shall be employed to demonstrate compliance with the emission limitations: Methods 1 through 5 of 40 CFR Part 60, Appendix A for PE. Visible emission reading, using USEPA Method 9 and Method 22, shall be performed during each test run. Method 5A shall be used to determine the particulate matter concentration and volumetric flow rate of the effluent gas.

- d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the Cleveland Division of Air Quality (Cleveland DAQ). Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

Per NSPS Subpart UU § 60.474:

- i. If the final product is shingle or mineral-surfaced roll roofing, the tests shall be conducted while 106.6-kg (235-lb) shingle is being produced.
 - ii. If the final product is saturated felt or smooth-surfaced roll roofing, the tests shall be conducted while 6.8-kg (15-lb) felt is being produced.
 - iii. If the final product is fiberglass shingle, the test shall be conducted while a nominal 100-kg (220-lb) shingle is being produced.
 - iv. If the above product weights cannot be produced, the emissions unit shall be tested at the maximum product weight.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Cleveland DAQ. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in Cleveland DAQ's refusal to accept the results of the emission test(s).
- f. Personnel from Cleveland DAQ shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to Cleveland DAQ within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from Cleveland DAQ.
- (3) In accordance with NSPS Subpart UU 60.474(c)(1), the emission rate (E) of particulate matter shall be computed for each test run using the following equation:

$$E=(c_s Q_{sd})/(PK)$$

where:

E=emission rate of particulate matter, kg/Mg (lb/ton).

c_s =concentration of particulate matter, g/dscm (gr/dscf).

Q_{sd} =volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

P=asphalt roofing production rate or asphalt charging rate, Mg/hr (ton/hr).

K=conversion factor, 1000 g/kg [7000 (gr/lb)].

- (4) In accordance with NSPS Subpart UU 60.474(c)(2), Method 5A shall be used to determine the particulate matter concentration (c_s) and volumetric flow rate (Q_{sd}) of the effluent gas. For a saturator, the sampling time and sample volume for each run shall be at least 120 minutes and 3.00 dscm (106 dscf), and for the blowing still, at least 90 minutes or the duration of the coating blow or non-coating blow, whichever is greater, and 2.25 dscm (79.4 dscf).
- (5) In accordance with NSPS Subpart UU 60.474(c)(3), for the saturator, the asphalt roofing production rate (P) for each run shall be determined as follows: The amount of asphalt roofing produced on the shingle or saturated felt process lines shall be obtained by direct measurement. The asphalt roofing production rate is the amount produced divided by the time taken for the run.

g) Miscellaneous Requirements

- (1) None.

2. P006, ROOFING MIXING PROCESS #4 & 5 MIXERS

Operations, Property and/or Equipment Description:

2 mixers for asphalt roofing and mastic products with baghouse

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

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

a. None.

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

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 13-2866, issued 9/8/1994)	<p>Volatile organic compound (VOC) emissions shall not exceed 3.58 lbs/batch and 3.92 tons per year for each mixer.</p> <p>Particulate emissions (PE) shall not exceed 0.43 lb/hr and 0.01 gr/dscf from the baghouse stack.</p> <p>There shall be no visible particulate emissions from the baghouse serving this emissions unit.</p>

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-17-07(A)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
c.	OAC rule 3745-17-11(B)	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

- a. There are no applicable requirements from OAC rule 3745-21-07(M) because the liquid organic materials are not heat cured or heat polymerized and there are no controls for VOC emissions associated with this unit.

c) Operational Restrictions

- (1) The permittee shall operate the baghouse whenever the emission units are in operation. The baghouse filter shall be maintained in accordance with the manufacturer's recommendations, instructions, and/or operating manuals, with any modifications deemed necessary by the permittee.

In the event that the dust collector is not operating in accordance with the manufacturer's recommendations, instructions, or operating manuals, with any modifications deemed necessary by the permittee, the control device shall be expeditiously repaired and returned to these documented operating conditions.

- (2) The pressure drop across the baghouse shall be maintained within 1 to 5 inches of water at all times when this emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each day for each mixer:
 - a. the amount, in 1,000 gallons, of material loaded for each batch produced in each mixer; and
 - b. the VOC emission rate for all asphalt material and mastic products produced in pounds per batch, as determined in f)(1)a. below, for each mixer.

- (2) The permittee shall properly operate and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on a daily basis. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

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

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

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

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

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

This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Cleveland DAQ. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that

demonstrates compliance with the allowable particulate emission rate for the controlled emissions unit(s). In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

- (3) The permittee shall maintain records that document any time period when the dry particulate filter was not in service when the emissions unit was in operation, as well as, a record of all operations during which the dry particulate filter was not operated according to the manufacturer's recommendations with any documented modifications made by the permittee.
- (4) The permittee shall maintain MSDS sheets for each liquid organic material employed in this emissions unit.

e) Reporting Requirements

- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Cleveland DAQ by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of not more than twelve-months for each air contaminant source identified in this permit. It is recommended that the PER is submitted electronically through the Ohio EPA's "eBusiness Center: Air Services" although PERs can be submitted via U.S. postal service or can be hand delivered.
- (2) The permittee shall identify in the annual PER the following information concerning the operations of the baghouse during the 12-month reporting period for this/these emissions unit(s):
 - a. each period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;
 - b. each incident of deviation described in "a" (above) where a prompt investigation was not conducted;
 - c. each incident of deviation described in "a" where prompt corrective actions were determined to be necessary and were not taken; and
 - d. each incident of deviation described in "a" where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and recordkeeping requirements of this permit.
- (3) The permittee shall identify in the annual PER the following information concerning the operations of the baghouse during the 12-month reporting period for this emissions unit:
 - a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
 - b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;

- c. each incident of deviation described in “a” (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in “a” where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
 - e. each incident of deviation described in “a” where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.
- (4) The permittee shall identify in the annual PER each incident where the pound per batch VOC emission limit was exceeded for this emissions unit.
- f) **Testing Requirements**
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

VOC emissions shall not exceed 3.58 lbs/batch and 3.92 tons/year per mixer.

Applicable Compliance Method:

Compliance shall be determined through the recordkeeping requirements located in d)(1) and using the following calculations:

Material Loading:

$$E_{\text{load}} = 12.46 \times \frac{S \times P \times M \times Q}{T}$$

Where:

S = Saturation factor;

P = Vapor pressure of material loaded at temperature “T”;

M = Vapor molecular weight (lb/lb-mol);

Q = Volume of material loaded (1,000 gallons/batch); and

T = Temperature of liquid loaded (°R)

E_{load} = lbs VOC/batch

$$E_{\text{load}} = 12.46 \times \frac{1.45 \times 0.24 \times 133 \times 1.97}{575} = 1.98 \text{ lbs VOC /batch per mixer}$$

Heat Up Loss Formula:

$$E_{\text{heat}} = \frac{\left(\frac{\sum(Px)T_1}{14.7 - \sum(Px)T_1} \right) + \left(\frac{\sum(Px)T_2}{14.7 - \sum(Px)T_2} \right)}{2} \times (\Delta n) \times (Ma)$$

Where:

$(P_x)_{T1}$ = Initial partial pressure of each VOC species "x" in the vessel at the initial temperature T1 (psia);

$(P_x)_{T2}$ = Final partial pressure of each VOC species "x" in the vessel at the final temperature T1 (psia);

Δn = Number of pound-moles of gas displaced (lb-mole/cycle) (see below equation);

M_a = Average vapor molecular weight (pound/pound-mol); and

$$\Delta n = \frac{V}{R} \times \left[\left(\frac{Pa1}{T1} \right) - \left(\frac{Pa2}{T2} \right) \right]$$

Where:

V = Volume of free space in the vessel (ft³);

R = Universal gas constant at 1 atmosphere of pressure (10.73 psia x ft³/lb-mole);

Pa1 = Initial gas pressure in vessel (psia) = 14.7 - $\sum(P_x)_{T1}$

Pa2 = Final gas pressure in vessel (psia) = 14.7 - $\sum(P_x)_{T2}$;

T1 = Initial temperature of vessel (°R); and

T2 = Final temperature of vessel (°R).

$$E_{\text{heat}} = \frac{\left(\frac{0.24}{14.7-0.24} \right) + \left(\frac{0.32}{14.7-0.32} \right)}{2} \times \frac{124.3224}{10.73} \times \left[\left(\frac{14.7-0.24}{575} \right) - \left(\frac{14.7-0.32}{585} \right) \right] \times 133 = 0.02$$

lb VOC/batch per mixer

Packaging Formula:

$$E_{\text{packaging}} = 12.46 \times \frac{S \times P \times M \times Q}{T}$$

Where:

S = Saturation factor;

P = Vapor pressure of material packaged at temperature "T";

M = Vapor molecular weight (lb/lb-mol);

Q = Volume of material packaged (1,000 gallons/batch); and

T = Temperature of liquid packaged (°R)

E_{packing} = lbs VOC/batch

$$E_{\text{packaging}} = 12.46 \times \frac{1 \times 0.28 \times 133 \times 1.97}{580} = 1.58 \text{ lbs VOC/batch per mixer}$$

The total process loss for each batch was calculated by the following equation:

E_{total} : (E_{load}) + (E_{heat}) + ($E_{\text{packaging}}$)

E_{total} = (1.98 lbs/batch) + (0.02 lbs/batch) + (1.58 lbs/batch) = 3.58 lbs VOC/batch per mixer

Emission factors determined from Emission Inventory Improvement Program (EIIP) February 2005, Volume 2, Chapter 8, equations 8.4-1 and 8.4-10.



Compliance with the ton per year limitation shall be demonstrated by summing total pounds of VOC/batch for each calendar year and dividing by 2,000 lbs/ton.

b. Emission Limitation:

PE emissions shall not exceed 0.43 lb/hr and 0.01 gr/dscf from the baghouse stack.

Applicable Compliance Method:

The hourly PE emission limitation was established by the following methodology:

$$\text{HER} = (\text{DCFR}) \times (\text{DCEF}) \times (\text{TI}) \times (\text{CONV}) = \text{PE/hr}$$

HER = hourly emission rate (lb of PE/hr);

DCFR = dust collector flow rate (5,000 dscfm);

DCEF = dust collector efficiency (0.01 grain/dscf);

TI = time (60 minutes/hr); and

CONV = conversion factor (1 lb/7,000 grains).

If required, the permittee shall demonstrate compliance with the PE limitations based upon the results of the emission testing conducted in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

c. Emission Limitation:

There shall be no visible PE from the baghouse stack serving this emission unit.

Applicable Compliance Method:

If required, compliance shall be determined through visible PE observations performed in accordance with 40 CFR Part 60, Appendix A, Method 22 and the procedures specified in OAC rule 3745-17-03(B)(1).

g) Miscellaneous Requirements

- (1) None.