



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

4/22/2016

Certified Mail

Dr. Michael Armitage
 ARC Abrasives Inc
 85 Marybill Drive
 Troy, OH 45373

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

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0855145015
 Permit Number: P0120412
 Permit Type: Initial Installation
 County: Miami

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install and Operate (PTIO) for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio Environmental Protection Agency (EPA) Weekly Review and the local newspaper, Troy Daily News. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically 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. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall
 Permit Review/Development Section
 Ohio EPA, DAPC
 50 West Town Street Suite 700
 PO Box 1049
 Columbus, Ohio 43216-1049

and Regional Air Pollution Control Agency
 117 South Main Street
 Dayton, OH 45422-1280

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Regional Air Pollution Control Agency at (937)225-4435.

Sincerely,

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

Cc: U.S. EPA Region 5 Via E-Mail Notification
 RAPCA; Indiana

Permit Strategy Write-Up

1. Check all that apply:

Synthetic Minor Determination

Netting Determination

2 Source Description: Arc Abrasives manufactures abrasive products for use in the metal finishing and reworking industries. The abrasives manufactured are coated abrasives that consist of grit or grains bonded to backing materials such as paper or textiles.

3 Facility Emissions and Attainment Status: Arc Abrasives in a currently unpermitted facility located in Troy, (Miami County) Ohio. Miami County is currently in attainment with all National Ambient Air Quality Standards. Arc Abrasives plans to install a new production line that will potentially use and emit as air contaminants more than 3,080 tons of volatile organic compounds (VOC) per year. VOC emissions at this level would make Arc Abrasives a major source subject to Title V operating permit requirements and prevention of significant deterioration (PSD) permitting requirements. None of the VOCs are listed as hazardous air pollutants (HAP) by U.S. EPA.

The emissions of all other criteria pollutants are well below any major source thresholds (particulate 5.34 tons/year; nitrogen oxides 5.15 tons/year; sulfur dioxide < 1 ton/year; carbon monoxide 4.32 tons/year).

4 Source Emissions: All of the VOC emissions are generated by a new fabric coating line (Ohio EPA Emissions Unit K001). Arc Abrasives has elected to implement the following measures to avoid major source permitting requirements and establish federally enforceable limitations for VOC emissions:

- Arc Abrasives will limit the use of VOC to less than 1,614 tons on a rolling 12-month basis: and
- Capture 100% of the VOC emitted through the use of a permanent total enclosure and vent them to a regenerative thermal oxidizer (RTO) with a destruction efficiency of at least 95 percent.

These measures will reduce VOC emissions from emissions unit K001 to less than 80.7 tons on a rolling 12-month basis. In addition to the 80.7 tons of controlled VOC emissions there will also be an additional 2.09 tons of uncontrolled VOC emissions from cleanup activities associated with this emissions unit. The total VOC emissions from the coating line (K001) will be 82.8 tons on a rolling 12-month basis.

Combined with the 7.5 tons per year of potential VOC emissions from other sources at Arc Abrasives their total potential VOC emissions will be 90.3 tons on a rolling 12-month basis.

5 Conclusion: By implementing production limitations and establishing an overall VOC control efficiency of 95 percent, Arc Abrasives will reduce potential VOC emissions to below the major source thresholds for Title V operating permit and PSD permitting and preclude compliance with those requirements.

6 Please provide additional notes or comments as necessary:

None



Permit Strategy Write-Up
ARC Abrasives Inc
Permit Number: P0120412
Facility ID: 0855145015

7 Total Permit Allowable Emissions Summary (for informational purposes only):

<u>Pollutant</u>	<u>Tons Per Year</u>
<u>VOC</u>	<u>82.8</u>
<u>Particulate</u>	<u>4.9</u>

PUBLIC NOTICE

The following matters are the subject of this public notice by the Ohio Environmental Protection Agency. The complete public notice, including any additional instructions for submitting comments, requesting information, a public hearing, or filing an appeal may be obtained at: <http://epa.ohio.gov/actions.aspx> or Hearing Clerk, Ohio EPA, 50 W. Town St., Columbus, Ohio 43215. Ph: 614-644-2129 email: HClerk@epa.ohio.gov

Draft Air Pollution Permit-to-Install and Operate Initial Installation

ARC Abrasives Inc

2131 Corporate Dr., Troy, OH 45373

ID#:P0120412

Date of Action: 4/22/2016

Permit Desc: Initial installation PTIO for an abrasive fabric manufacturing line..

The permit and complete instructions for requesting information or submitting comments may be obtained at: <http://epa.ohio.gov/dapc/permitsonline.aspx> by entering the ID # or: Andrew Weisman, Regional Air Pollution Control Agency, 117 South Main Street, Dayton, OH 45422-1280. Ph: (937)225-4435



DRAFT

**Division of Air Pollution Control
Permit-to-Install and Operate
for
ARC Abrasives Inc**

Facility ID:	0855145015
Permit Number:	P0120412
Permit Type:	Initial Installation
Issued:	4/22/2016
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance



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

for
ARC Abrasives Inc

Table of Contents

Authorization	1
A. Standard Terms and Conditions	3
1. What does this permit-to-install and operate ("PTIO") allow me to do?.....	4
2. Who is responsible for complying with this permit?	4
3. What records must I keep under this permit?	4
4. What are my permit fees and when do I pay them?.....	4
5. When does my PTIO expire, and when do I need to submit my renewal application?	4
6. What happens to this permit if my project is delayed or I do not install or modify my source?	5
7. What reports must I submit under this permit?	5
8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?	5
9. What are my obligations when I perform scheduled maintenance on air pollution control equipment? ...	5
10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?	6
11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?	6
12. What happens if one or more emissions units operated under this permit is/are shut down permanently?	6
13. Can I transfer this permit to a new owner or operator?.....	7
14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?	7
15. What happens if a portion of this permit is determined to be invalid?	7
B. Facility-Wide Terms and Conditions.....	8
C. Emissions Unit Terms and Conditions	10
1. K001, Fabric Coating Line.....	11
2. P001, Laser Cutting Operation.....	25
3. P008, Grinding Lab.....	29



Draft Permit-to-Install and Operate

ARC Abrasives Inc

Permit Number: P0120412

Facility ID: 0855145015

Effective Date: To be entered upon final issuance

Authorization

Facility ID: 0855145015
Application Number(s): A0054531
Permit Number: P0120412
Permit Description: Initial installation PTIO for an abrasive fabric manufacturing line.
Permit Type: Initial Installation
Permit Fee: \$900.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date: 4/22/2016
Effective Date: To be entered upon final issuance
Expiration Date: To be entered upon final issuance
Permit Evaluation Report (PER) Annual Date: To be entered upon final issuance

This document constitutes issuance to:

ARC Abrasives Inc
2131 Corporate Dr
Troy, OH 45373

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:

Regional Air Pollution Control Agency
117 South Main Street
Dayton, OH 45422-1280
(937)225-4435

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



Draft Permit-to-Install and Operate

ARC Abrasives Inc

Permit Number: P0120412

Facility ID: 0855145015

Effective Date: To be entered upon final issuance

Authorization (continued)

Permit Number: P0120412

Permit Description: Initial installation PTIO for an abrasive fabric manufacturing line.

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

Emissions Unit ID:	K001
Company Equipment ID:	Fabric Coating Line
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P001
Company Equipment ID:	Laser Cutting Operation
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P008
Company Equipment ID:	Grinding Lab
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



Draft Permit-to-Install and Operate
ARC Abrasives Inc
Permit Number: P0120412
Facility ID: 0855145015
Effective Date: To be entered upon final issuance

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 Regional Air Pollution Control Agency 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.



Draft Permit-to-Install and Operate
ARC Abrasives Inc
Permit Number: P0120412
Facility ID: 0855145015
Effective Date: To be entered upon final issuance

B. Facility-Wide Terms and Conditions



Draft Permit-to-Install and Operate

ARC Abrasives Inc

Permit Number: P0120412

Facility ID: 0855145015

Effective Date: To be entered upon final issuance

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



Draft Permit-to-Install and Operate
ARC Abrasives Inc
Permit Number: P0120412
Facility ID: 0855145015
Effective Date: To be entered upon final issuance

C. Emissions Unit Terms and Conditions



1. K001, Fabric Coating Line

Operations, Property and/or Equipment Description:

Textile Coating Line with dry filtration for overspray and RTO

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

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

a. None.

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

a. b)(1)b.

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) June 30, 2008	The best available technology (BAT) determination for this emissions unit includes the use of a permanent total enclosure ducted to a regenerative thermal oxidizer (RTO) to reduce volatile organic compound (VOC) emissions by at least 95%, on a dry weight basis, excluding methane. See b)(2)a. through b)(2)d. and c)(1) through c)(4)
b.	OAC rule 3745-31-05(D) Synthetic Minor to avoid Title V and major new source review)	The VOC emissions from this emissions unit, excluding cleanup material, shall not exceed 80.7 tons on a rolling 12-month basis. The VOC emissions from cleanup material used in this emissions unit shall not exceed 2.09 tons on a rolling 12-

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		month basis. See b)(2)a. through b)(2)d. and c)(1) through c)(4)
d.	OAC rule 3745-21-09(B)(6) Overall control efficiency alternative to pounds of VOC per gallon of solids limitations of OAC rule 3745-21-09(G).	The capture and control system shall provide not less than an 81 percent reduction, by weight, in the overall VOC emissions from the coating line and the VOC reduction efficiency of the RTO shall not be less than 90 percent, by weight, excluding cleanup materials. The VOC emissions limitations established according to this rule are less stringent than those established according to OAC rule 3745-31-05(A)(3).
e.	OAC rule 3745-17-11(C)	See c)(5), c)(6) and d)(8) through d)(12).

(2) Additional Terms and Conditions

- a. The permanent total enclosure shall be constructed to totally enclose the application stations, coating reservoirs, and all areas from the application station to the oven, such that all VOC emissions from coating application are captured, contained, and directed to the RTO. The RTO shall reduce VOC emissions by at least 95%, on a dry weight basis.

The permanent total enclosure and curing ovens shall be operationally interlocked such that the curing ovens will not operate unless the VOC capture system and RTO are in operation.

The VOC emissions from cleanup materials employed in this emissions unit are uncontrolled and are not vented to the RTO.

- b. The permanent total enclosure shall be maintained under negative pressure whenever the emissions unit is in operation, and shall be designed and maintained to have an average facial velocity of air through each natural draft opening of at least 200 feet per minute (3,600 m/hour). Compliance with the average facial velocity shall be demonstrated during the compliance test, by either using an air flow monitor or a differential pressure gauge at each natural draft opening, and maintaining the required facial velocity or the corresponding negative pressure. The permanent total enclosure shall meet all of the following criteria if the capture efficiency of the enclosure and control device is to be assumed to be 100%:
 - i. Any natural draft openings shall be at least four equivalent opening diameters, or 4 times the diameter of the opening, from each VOC emitting point. Anequivalent di



ameter is the diameter of a circle that has the same area as the opening. If the opening is not circular the equivalent diameter (ED) is calculated as follows:

$$ED = (4 \text{ area} / \pi)^{0.5}$$

- ii. The total area of all natural draft openings (A_N) shall not exceed 5 percent of the total surface area of the enclosure (A_T), i.e., the four walls, floor, and ceiling. The natural draft opening to enclosure area ratio (NEAR) is calculated as follows:

$$NEAR = A_N / A_T$$

- iii. The direction of air flow through all natural draft openings shall be into the enclosure, with an average facial velocity of no less than 200 feet per minute (3,600 m/hour) or a pressure drop of 0.013 mm Hg (0.007 in. H₂O).
- iv. All access doors and windows to the enclosure that do not meet the requirements of a natural draft opening and whose surface areas are not included in the 5 percent surface area determination in (b)(2)(b).ii. shall be completely closed to any air movement during process operations.
- v. All VOC emissions from coating application shall be captured and contained for discharge through the RTO.

- c. The permanent total enclosure serving this emissions unit shall be maintained in such a manner as to meet the criteria established for a permanent total enclosure in 40 CFR, Part 51, Appendix M, Reference Method 204, and shall capture all of the VOC emissions from coating application this emissions unit.
- d. All of the VOC emissions from coating application in this emissions unit shall be vented to a RTO that shall meet the operational restrictions, monitoring, and record keeping requirements of this permit, when the emissions unit is in operation.

c) Operational Restrictions

- (1) The weight of VOC coating materials employed in this emissions unit, excluding cleanup materials, shall not exceed 1,614 tons on a rolling 12-month basis.

To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the VOC usage and emissions rates specified in the following table:

Month	Maximum Allowable Cumulative VOC Usage (excluding cleanup, tons)	Maximum Allowable VOC Emissions (excluding cleanup, tons)
0-1	269	13.5
1-2	538	27.0
2-3	807	40.5
3-4	1,076	54.0



4-5	1,345	67.5
5-6	1,614	80.7
6-7	1,614	80.7
7-8	1,614	80.7
8-9	1,614	80.7
9-10	1,614	80.7
10-11	1,614	80.7
11-12	1,614	80.7

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the rolling 12-month VOC usage and emissions limitations shall be based upon a rolling, 12-month sum of the VOC usage and emissions rates.

- (2) The weight of VOC cleanup materials employed in this emissions unit shall not exceed 2.09 tons on a rolling 12-month basis.
- (3) The permanent total enclosure shall be maintained under negative pressure whenever the emissions unit is in operation:
 - a. with an average facial velocity at each natural draft opening of 200 feet per minute (3,600 m/hour) or greater; or
 - b. a minimum pressure differential that is not less than 0.013 mm Hg (0.007 in. H₂O).
- (4) The permanent total enclosure shall be maintained under negative pressure whenever the emissions unit is in operation. Negative pressure shall be visually monitored using streamers, plastic flow indicating strips, string, or other visually noticeable flow indicating device that shows the direction of air flow through each natural draft opening to be into the enclosure.
- (5) The permittee shall install and operate a dry filtration system for the control of particulate emissions whenever this emissions unit is in operation and shall maintain the dry particulate filter in accordance with the manufacturer's recommendations, instructions, and/or operating manual(s), with any modifications deemed necessary by the permittee.
- (6) In the event the particulate filter system is not operating in accordance with the manufacturer's recommendations, instructions, or operating manual, with any modifications deemed necessary by the permittee, the control device shall be expeditiously repaired or otherwise returned to these documented operating conditions.

d) Monitoring and/or Recordkeeping Requirements

- (1)

<u>Permanent</u>	<u>Total</u>	<u>Enclosure</u>	<u>Design:</u>
The permittee shall measure, document/calculate, and maintain a written record of the following information for the permanent total enclosure, which may be the same record documented during the compliance test(s):			
a.	the measured diameter of each natural draft opening;		

- b. the distance measured from each natural draft opening to each VOC emitting point;
- c. the total calculated surface area of all natural draft openings and the surface area of the enclosures four walls, floor, and ceiling;
- d. the calculation or demonstration that the distance from each VOC emitting point to each natural draft opening is at least 4 times the diameter of the opening; and
- e. the calculation demonstrating that the sum of the surface areas of all of the natural draft openings to the enclosure is not more than 5 percent of the sum of the surface areas of the enclosures four walls, floor, and ceiling.

(2) Permanent Total Enclosure Monitoring: - The permittee shall monitor the pressure differential around or air flow into the permanent total enclosure by:

- a. The permittee shall install, operate, and maintain monitoring devices and a recorder that continuously monitor and record the differential pressure between the inside and outside of the permanent total enclosure when the emissions unit is in operation. The monitoring and recording devices shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information each day:

- i. all three-hour blocks of time during which the difference in pressure between the permanent total enclosure and the surrounding areas is not maintained at or above the minimum pressure differential of 0.007 inches of water, as a three-hour average; and
 - ii. a log or record of downtime for the capture (collection) system when the emissions unit was in operation; or
- b. The permittee shall perform daily inspections of the permanent total enclosure to ensure that all access doors and windows that are not natural draft openings are closed, and that the direction of air at each natural draft opening is inward, as shown by streamers, smoke tubes, tracer gases, and/or other air flow monitoring devices.
- i. Using a portable air flow meter, the permittee shall perform weekly facial velocity checks at each natural draft opening to the permanent total enclosure, to determine if the average facial velocity at each opening is maintained at 200 feet per minute or greater.
 - ii. Records shall be maintained of the results of each daily inspection and the weekly air velocity measurements, and shall include any corrective actions taken by the permittee.

(3) In order to maintain compliance with the emission limitations contained in this permit, the acceptable average combustion temperature within the RTO, for any 3-

hour block of time when the emissions unit controlled by the RTO is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature measured during the most recent performance test that demonstrated the emissions unit was in compliance. Until compliance testing has been conducted, the RTO shall be operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

The temperature limit is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted temperature limit based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate for VOC. In addition, approved revisions to the temperature limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (4) The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the RTO when the emissions unit is in operation, including periods of startup and shutdown. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. The acceptable temperature setting shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate temperature range is established to demonstrate compliance. Following compliance testing, the permittee shall collect and record the following information each day the emissions unit is in operation:
- a. all 3-hour blocks of time, when the emissions unit controlled by the RTO was in operation, during which the average combustion temperature within the RTO was more than 50 degrees Fahrenheit below the average temperature measured during the most recent performance test that demonstrated the emissions unit was in compliance; and
 - b. a log or record of the operating time for the capture (collection) system, RTO, monitoring equipment, and the associated emissions unit.

These records shall be maintained at the facility for a period of five years.

- (5) Whenever the monitored average combustion temperature within the RTO deviates from limit 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/limit specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

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

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

- (6) The permittee shall collect and record the following information on a monthly basis for the materials employed in this emissions unit:
 - a. The identification of each coating material employed;
 - b. The VOC concentration of each coating material employed, in pounds per gallon;
 - c. The volume, in gallons, of each coating material employed;
 - d. The uncontrolled VOC emissions from all coating materials employed, (the sum of d)(6)b. x d)(6)c. for all coating materials), in tons;
 - e. The overall control efficiency determined for the RTO during the most recent compliance demonstration;
 - f. The total controlled VOC emissions, in tons, from all coating materials employed, (the product of {d)(6)d. x (1 – d)(6)e.}) divided by 2,000 pounds per ton);
 - g. The rolling 12-month VOC emissions rate, in tons, from all coating materials employed (the sum of the monthly VOC emissions rates from d)(6)f. for the previous 12 months);

- h. The identification of each cleanup material employed;
 - i. The VOC concentration of each cleanup material employed, in pounds per gallon;
 - j. The volume, in gallons, of each cleanup material employed;
 - k. The uncontrolled VOC emissions, in tons, from all cleanup materials employed, (the sum of {d)(6)h. x d)(6)i.} for all cleanup materials divided by 2,000 pounds per ton) and ;
 - l. The rolling 12-month VOC emissions rate from all cleanup materials employed, in tons, (the sum of the monthly VOC emissions rates from d)(6)k. for the previous 12 months).
- (7) The permittee shall collect and record the following information for the purpose of determining annual organic compound (OC) emissions as required for the Synthetic Minor Title V Fee Emissions Report (FER). This information shall be maintained for all non VOC materials (e.g. acetone).
- a. the name and identification of each material employed;
 - b. the OC content of each cleanup material employed, in pounds per gallon;
 - c. the volume, in gallons, of each coating, thinner, and cleanup material employed; and
 - d. the total OC emissions from all cleanup materials employed, in tons, (i.e., d)(7)b. x d)(7)c. for all OC materials).
- (8) The permittee shall maintain documentation of the manufacturer's recommendations, instructions, or operating manuals for the dry particulate filter, along with documentation of any modifications deemed necessary by the permittee. These documents shall be maintained at the facility and shall be made available to the appropriate Ohio EPA District Office or local air agency upon request.
- (9) The permittee shall conduct periodic inspections of the dry particulate filter to determine whether it is operating in accordance with the manufacturer's recommendations, instructions, or operating manuals with any modifications deemed necessary by the permittee or operator. These inspections shall be performed at a frequency that shall be based upon the recommendation of the manufacturer and the permittee shall maintain a copy of the manufacturer's recommended inspection frequency and it shall be made available to the Ohio EPA upon request.

- (10) In addition to the recommended periodic inspections, not less than once each calendar year the permittee shall conduct a comprehensive inspection of the dry particulate filter while the emissions unit is shut down and perform any needed maintenance and repair to ensure that it is operated in accordance with the manufacturer's recommendations.
- (11) The permittee shall document each inspection (periodic and annual) of the dry particulate filter system and shall maintain the following information:
 - a. the date of the inspection;
 - b. a description of each/any problem identified and the date it was corrected;
 - c. a description of any maintenance and repairs performed; and
 - d. the name of person who performed the inspection.

These records shall be maintained at the facility for not less than five years from the date the inspection and any necessary maintenance or repairs were completed and shall be made available to the appropriate Ohio EPA District Office or local air agency upon request.

- (12) The permittee shall maintain records that document any time periods 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. These records shall be maintained for a period of not less than five years and shall be made available to the Ohio EPA upon request.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. All periods of time during which the air flow indicating strips or other flow indicating device, at any natural draft opening, showed no air flow or air flow in a direction leaving the enclosure;
 - b. All periods of time during which an access door and/or window, not qualifying as a natural draft opening, was left open when the emissions unit was in operation;
 - c. All 3-hour blocks of time (when the emissions unit was in operation) during which the average combustion temperature within the RTO was more than 50 degrees Fahrenheit below the average temperature maintained during the most recent performance test that demonstrated the emissions unit was in compliance;
 - d. Any records of downtime (date and length of time) for the capture (collection) system, the RTO, and/or the monitoring equipment when the emissions unit was in operation;
 - e. a log of the operating time for the capture system, thermal oxidizer, monitoring equipment, and the emissions unit.

- f. Any exceedances of the rolling 12-month VOC emissions limitation;
- g. any daily record showing that the dry particulate filter system was not in service when the emissions unit was in operation;
- h. The probable cause of each deviation; and
- i. Any corrective actions that were taken to remedy the deviations (excursion) or prevent future deviations.
- j. each incident of deviation described in a. through h. (above) where a prompt investigation was not conducted;
- k. each incident of deviation described in a. through h. where prompt corrective action, that would bring the emissions unit into compliance and/or the temperature within the RTO into compliance with the acceptable limit, was determined to be necessary and was not taken; and
- l. each incident of deviation described in "a. through h. where proper records were not maintained for the investigation and/or the corrective action.

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

The quarterly reports shall be submitted each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency). Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.

f) Testing Requirements

- (1) Compliance with the emissions limitations and control requirements specified in b) shall be determined in accordance with the following methods:

- a. Emissions Limitation:

The use of a permanent total enclosure ducted to a RTO to reduce VOC emissions by at least 95%, on a dry weight basis, excluding methane.

Applicable Compliance Method:

Compliance shall be based on air emissions testing conducted according to f)(2) and the requirements of OAC rule 3745-21-10, Reference Method 204 of 40 CFR part 51, Appendix M and Reference Method 2 of 40 CFR Part 60, Appendix A for VOC capture efficiency and Reference Method 18, 25 or 25A or 40 CFR Part 60 Appendix A for VOC destruction efficiency.

- b. Emissions Limitation:

The VOC emissions from this emissions unit shall not exceed 82.8 tons on a rolling 12-month basis.

Applicable Compliance Method:

Compliance shall be based on the record keeping requirements of d)(6).

- (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 180 days after initial startup and on a recurring 60 month basis thereafter.

During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio EPA District Office or local air agency. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions during the emissions testing and describe why they believe "worst case" operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA

District Office or local air agency that the proposed operating conditions constitute “worst case”. Failure to test under the approved conditions may result in the Ohio EPA or local air agency not accepting the test results as a demonstration of compliance.

- b. The emission testing shall be conducted to demonstrate compliance with the 100% capture efficiency requirement for the permanent total enclosure. The following test methods shall be employed:

Method 204 from 40 CFR Part 51 Appendix M; and

Method 2 from 40 CFR Part 60, Appendix A.

- c. During the compliance demonstration for the permanent total enclosure, monitoring devices shall be installed to measure the average facial velocity of the air flow through each natural draft opening.
- d. Method 2 from 40 CFR Part 60, Appendix A shall be conducted to determine the volumetric flow rate of the exhaust stream(s) exiting the permanent total enclosure, corrected to standard conditions. If the building is being used as the permanent total enclosure, it may be necessary to measure the volumetric flow, corrected to standard conditions, of each gas stream entering the enclosure through a forced makeup air duct, using Method 2. The facial velocity (FV) shall be calculated using the following equation:

$$FV = (Q_o - Q_i) / A_n$$

where:

- Q_o is the sum of the volumetric flow from all gas streams exiting the enclosure through an exhaust duct or hood;
- Q_i is the sum of the volumetric flow from all gas streams into the enclosure through a forced makeup air duct, and is equal to zero if there is no forced makeup air into the enclosure; and
- A_n is the total area of all natural draft openings in the enclosure.

- e. If the average facial velocity is measured at greater than 500 feet per minute (9,000 m/hour), the direction of air flow shall be assumed to be inward at all times during the compliance demonstration. If the average facial velocity is measured at less than 500 feet per minute, the continuous inward flow of air shall be verified at least once every 10 minutes for a minimum of 1 hour during the compliance demonstration, either by checking the flow or pressure meter(s) or through the use of streamers, smoke tubes, or tracer gases. All closed access doors and windows that are not considered natural draft openings shall also be checked once during the compliance demonstration for leakage around their perimeters using smoke tubes or tracer gases.

- f. The permittee shall also measure and record the following information for the permanent total enclosure and each natural draft opening:
- i. the diameter of each natural draft opening;
 - ii. the distance measured from each natural draft opening to each VOC emitting point in the process;
 - iii. the distance measured from each exhaust duct or hood in the enclosure to each natural draft opening;
 - iv. the total surface area of each natural draft opening and the surface area of the enclosures four walls, floor, and ceiling; and
 - v. the ratio of the total surface area (sum) of all natural draft openings to the total surface area of the permanent total enclosure.
- g. The control efficiency (i.e., the percent reduction in VOC mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic compounds present and their total concentration, and on a consideration of the potential presence of interfering gases.
- h. The following test method(s) shall be employed to demonstrate compliance with the allowable VOC emissions limitations:

U.S. EPA Reference Methods 18, 25 and/or 25A of 40 CFR Part 60, Appendix A

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

Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office or local air agency refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.



Draft Permit-to-Install and Operate

ARC Abrasives Inc

Permit Number: P0120412

Facility ID: 0855145015

Effective Date: To be entered upon final issuance

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA.

g) Miscellaneous Requirements

- (1) None.

2. P001, Laser Cutting Operation

Operations, Property and/or Equipment Description:

Laser Cutting Line for abrasive textiles with Fabric Filter

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. b)(1)c.

(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.

a	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) June 30, 2008	The particulate emissions from this emissions unit shall not exceed 0.169 ton per month averaged over a rolling 12-month period. See b)(2)a.
b.	OAC rule 3745-31-05(A)(3)(a)(ii) June 30, 2008	See b)(2)b.
c.	OAC rule 3745-31-05(E) June 30, 2008	The particulate emissions from this emissions unit shall not exceed 0.46 pound per hour.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average.
e.	OAC rule 3745-17-11(B)(1)	The particulate emissions from this emissions unit shall not exceed 1.95 pounds per hour.

(2) Additional Terms and Conditions

- a. The BAT emissions limitation for particulate emissions applies until U.S. EPA approves OAC rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- b. This requirement applies once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio SIP. Based on the voluntary use of a fabric filter particulate emissions will be less than 2.03 tons per year.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emissions incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

e) Reporting Requirements

- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.

The permittee shall identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible emissions in term number d)(1) above:

- a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
- b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

f) **Testing Requirements**

(1) Compliance with the emissions limitations and control requirements specified in b) shall be determined in accordance with the following methods:

a. Emissions Limitation:

The particulate emissions from this emissions unit shall not exceed 0.46 pound per hour.

Applicable Compliance Method:

An uncontrolled hourly particulate emissions rate was developed by multiplying the particulate emissions factor developed by the permittee (1.63×10^{-4} pound per yard) by the maximum process rate of the emissions unit (25,591 yards/hour). The uncontrolled hourly emissions rate (4.17 pounds per hour) was multiplied by the 89 percent control efficiency (1-0.89) of the fabric filter on this emissions unit for an actual hourly particulate emissions rate of 0.46 pound per hour.

b. Emissions Limitation:

The particulate emissions from this emissions unit shall not exceed 0.169 ton per month averaged over a rolling 12-month period.



Applicable Compliance Method:

The emissions limitation was calculated by multiplying the hourly particulate emissions rate of 0.46 pound per hour by 8,760 hours per year and dividing by 2,000 pounds per ton and 12 months as an averaging period.

c. Emissions Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average.

Applicable Compliance Method:

If requested, compliance will be demonstrated by stack testing conducted according to EPA Reference Method 9 of 40 CFR Part 60, Appendix A and OAC rule 3745-17-03(B)(1).

d. Emissions Limitation:

The particulate emissions from this emissions unit shall not exceed 1.95 pounds per hour.

Applicable Compliance Method:

If requested, compliance will be demonstrated by stack testing conducted according to EPA Reference Method 5 of 40 CFR Part 60, Appendix A and OAC rule 3745-17-03(B)(10).

g) Miscellaneous Requirements

- (1) None.

3. P008, Grinding Lab

Operations, Property and/or Equipment Description:

Grinding equipment used for product testing with cyclone

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. b)(1)c.

(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) June 30, 2008	All particulate emissions shall be directed to a cyclone that is designed to limit particulate emissions to less than 0.05 grain per dry standard cubic foot of exhaust. See b)(2)a.
b.	OAC rule 3745-31-05(A)(3)(ii) June 30, 2008	See b)(2)b.
c.	OAC rule 3745-31-05(E) June 30, 2008	The particulate emissions from this emissions unit shall not exceed 0.64 pound per hour. See b)(2)b.
d.	OAC rule 3745-17-11(B)(1)	The particulate emissions from this emissions unit shall not exceed 8.47 pounds per hour.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack or vents serving this emissions unit shall not exceed 20% opacity, as a six-minute average.

(2) Additional Terms and Conditions

- a. This Best Available Technology (BAT) emissions limitation applies until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- b. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(ii) (the less than 10 tons per year BAT exemption) into the Ohio SIP. The use of a cyclone that limits particulate emissions to less than 0.05 grain per dry standard cubic foot of exhaust will reduce particulate emissions to less than 2.82 tons per year.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emissions incident; and
 - e. Any corrective actions taken to minimize or eliminate the visible emissions.

e) Reporting Requirements

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

The permittee shall identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible emissions in term number d)(1) above:

- a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
- b. Any corrective actions taken to eliminate the visible particulate emissions.

All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

f) Testing Requirements

(1) Compliance with the Emissions Limitations specified in section b) shall be determined in accordance with the following methods:

a. Emissions Limitation -

Particulate emissions shall not exceed 0.05 grain per dry standard cubic foot of exhaust.

Applicable Compliance Method –

This emissions limitation is based on the design specifications of the cyclone installed on this emissions unit (99% control at a designed inlet loading of 5 grains per standard cubic foot).

If requested, compliance will be demonstrated by stack testing conducted according to EPA Reference Method 5 of 40 CFR Part 60, Appendix A and OAC rule 3745-17-03(B)(10).

b. Emissions Limitation -

Particulate emissions shall not exceed 0.64 pound per hour.



Applicable Compliance Method –

This emissions limitation is based on the controlled particulate emissions rate of 0.05 grain per dry standard cubic foot multiplied by the maximum flow rate of 1,500 standard cubic feet per minute and 60 minutes per hour and divided by 7,000 grains per pound.

If requested, compliance will be demonstrated by stack testing conducted according to EPA Reference Method 5 of 40 CFR Part 60, Appendix A and OAC rule 3745-17-03(B)(10).

c. Emissions Limitation -

Particulate emissions shall not exceed 8.47 pounds per hour.

Applicable Compliance Method –

This emissions limitation is based on compliance with Figure II, curve P-1 of the Appendix to OAC rule 3745-17-11 and an uncontrolled particulate emissions rate of 64 pounds per hour.

If requested, compliance will be demonstrated by stack testing conducted according to EPA Reference Method 5 of 40 CFR Part 60, Appendix A and OAC rule 3745-17-03(B)(10).

d. Emissions Limitation -

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity, as a six-minute average.

Applicable Compliance Method –

If requested, compliance will be demonstrated by stack testing conducted according to EPA Reference Method 9 of 40 CFR Part 60, Appendix A and OAC rule 3745-17-03(B)(1).

g) **Miscellaneous Requirements**

- (1) None.