



State of Ohio Environmental Protection Agency

Street Address:
122 S. Front Street

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

Mailing Address:
Lazarus Gov. Center
P.O. Box 1049

CERTIFIED MAIL

RE: PERMIT TO INSTALL *CORRECTED COPY 11/16/2004***
ASHTABULA COUNTY
Application No:02-17873**

DATE: 11/16/2004

Foseco Metallurgical, Inc.
Jeremy Wilkinson
20200 Sheldon Road
Cleveland, OH 44142

Attached please find a corrected copy of PTI 02-17873 issued **8/21/2003**. This corrected copy is being sent due to administrative processing errors and does not affect the enforceability or effective date of the Directors final action. Please note, the appearance of the corrected document may have changed due to changing software or printers (e.g., total number of pages, margins, etc.). Areas of the permit that have been substantively affected by the correction(s) are highlighted in the enclosed "Corrected Copy". I urge you to review these areas in relation to the issued permit document. Please replace the copy provided to you on **8/21/2003** with the attached corrected Permit To Install document. *Please note:* No payment is required for processing this corrected copy.

Very truly yours,

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

cc:



State of Ohio Environmental Protection Agency

Street /

Address:
zarus Gov.
Center

**RE: FINAL PERMIT TO INSTALL
ASHTABULA COUNTY
Application No: 02-17873**

CERTIFIED MAIL

*****CORRECTED COPY 11/16/2004*****

DATE: 8/21/2003

Foseco Metallurgical, Inc.
Jeremy Wilkinson
20200 Sheldon Road
Cleveland, OH 44142

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

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, Ohio 43215

Sincerely,

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

CC: USEPA

NEDO



**Permit To Install
Terms and Conditions**

**Issue Date: 8/21/2003
Effective Date: 8/21/2003**

**FINAL PERMIT TO INSTALL 02-17873
CORRECTED COPY 11/16/2004**

Application Number: 02-17873
APS Premise Number: 0204000450
Permit Fee: **\$1500**
Name of Facility: Foseco Metallurgical, Inc.
Person to Contact: Jeremy Wilkinson
Address: 20200 Sheldon Road
Cleveland, OH 44142

Location of proposed air contaminant source(s) [emissions unit(s)]:
**4741 Kister Ct
Ashtabula, Ohio**

Description of proposed emissions unit(s):
Mixing, pressing, curing, kilning, machining operations.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install General Terms and Conditions

1. Monitoring and Related Recordkeeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - i. The date, place (as defined in the permit), and time of sampling or measurements.
 - ii. The date(s) analyses were performed.
 - iii. The company or entity that performed the analyses.
 - iv. The analytical techniques or methods used.
 - v. The results of such analyses.
 - vi. The operating conditions existing at the time of sampling or measurement.
- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
 - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous

calendar quarters. See B.9 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
- iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

2. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

3. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

4. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition

declared invalid.

6. General Requirements

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.
- b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d. This permit does not convey any property rights of any sort, or any exclusive privilege.
- e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

7. Fees

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

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are

required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit To Operate Application

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the source(s) covered by this permit.

11. Best Available Technology

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

12. Air Pollution Nuisance

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

B. State Only Enforceable Permit To Install General Terms and Conditions**1. Compliance Requirements**

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

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

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

3. Permit Transfers

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

4. Termination of Permit To Install

This permit to install shall terminate within eighteen months of the effective date of the permit to install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete

within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

5. Construction of New Sources(s)

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

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

6. Public Disclosure

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

7. Applicability

Foseco Metallurgical, Inc.
PTI Application: **02-17873**
Issued: 8/21/2003

Facility ID: **0204000450**

*****CORRECTED COPY 11/16/2004*****

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

8. Construction Compliance Certification

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

Foseco Metallurgical, Inc.
 PTI Application: 02-17873
 Issued: 8/21/2003

Facility ID: 0204000450

CORRECTED COPY 11/16/2004

9. **Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)**

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

C. **Permit To Install Summary of Allowable Emissions**

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

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

<u>Pollutant</u>	<u>Tons Per Year</u>
ethylene glycol	2.5
ammonia	17.5
formaldehyde	1.4
phenol	0.8
total organic compounds	6.4
particulates	6.6
NOx	22.0
CO	12.8

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Foseco Metallurgical, Inc.
PTI Application: **02-17873**
Issued: 8/21/2003

Facility ID: **0204000450**

*****CORRECTED COPY 11/16/2004*****

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS**A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions**

1. Permittee shall maintain records as required by Ohio Administrative Code (OAC) rule 3745-15-05(D) and (E) for the "mix preparation," "pressing," "machining," and "finishing" steps in this multi-step process for CBC manufacturing. This record keeping is required because actual or controlled particulate emissions from each of these steps is less than 10 pounds per day, but the potential uncontrolled particulate emissions is over 10 pounds per day.
2. Records developed under paragraph (E) of OAC rule 3745-15-05(E) shall be maintained by the permittee at the facility for a period of two years following the recording of the information, and shall be provided to the director, or authorized representative, upon request.

B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P001 - 4.904 mmBtu/hr curing oven, equipped with a 3.961 mmBTU/hr afterburner.	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-11
		OAC rule 3745-21-07(G)(1)
	OAC rule 3745-31-05(D)	
	OAC rule 3745-17-07(A)	

Applicable Emissions
Limitations/Control
Measures

The requirements of this rule also include compliance with OAC rule 3745-31-05(D).

Particulates: 0.5 lb/hr,
2.2 tons/year

Visible emissions from the stack serving this emissions unit shall not exceed 5% opacity as a six-minute average.

NOx: 1.0 lb/hr, 4.4 tons/year

CO from combustion of both the curing oven and the afterburner #1: 0.7 lb/hr, 3.2 tons/year

See section A.I.2.a.

The visible emissions limitation specified by this rule is less stringent than the visible emissions limitation established pursuant to OAC rule 3745-31-05(A)(3).

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).

The organic compound emission limitation specified by this rule is less stringent than the organic compound emission limitation established pursuant to OAC rule 3745-31-05(A)(3)

2. Additional Terms and Conditions

- 2.a** The ethylene glycol limit of 0.58 lb/hr, 2.5 tons/year; ammonia limit of 4.0 lbs/hr, 17.5 tons/year; formaldehyde limit of 0.33 lb/hr, 1.4 tons/year; phenol limit of 0.17 lb/hr, 0.8 ton/year and total organic compound limit of 1.47 lbs/hr, 6.4 tons/year is for P001, P002 and P003 combined.

II. Operational Restrictions

1. The 3.961 mmBtu/hr afterburner (AB1), reported as a thermal oxidizer, shall be operated at all times when this emissions unit is in operation.
2. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit (proportional to 28 degrees Celsius) below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain a daily record of the following:
 - a. the quantity (in pounds) of the total raw materials used in the CBC manufacturing process,
 - b. the quantity (in pounds) of resin, or any other material containing organic compounds, in the raw material used in the CBC manufacturing process,
 - c. the identification and quantity (in pounds) of each component in the resin, or any other material containing organic compounds, in the raw material used in the CBC manufacturing process, and
 - d. the number of hours this emissions unit is in operation.
2. The permittee shall record each day's emission rate for ethylene glycol, formaldehyde, phenol, and particulates (in pounds per hour) using the equations in sections A.V.1, 3, 4 & 11 of this permit.
3. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emission unit is in operation. Units may be in degrees Fahrenheit or in degrees Celsius. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The

Emissions Unit ID: P001

temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

4. The permittee shall record all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit (proportional to 28 degrees Celsius) below the average temperature during the most recent emission test that demonstrated that the emissions unit was in compliance.
5. The permittee shall perform an inspection of the thermal oxidizer on at least an annual basis. Each inspection shall consist of internal and visual inspections in accordance with the manufacturer's recommendations and shall include a physical inspection of the unit and checks of associated equipment, including but not limited to burners, controls, dampers, valves, and monitoring and recording equipment. Repair and replacement of equipment shall be performed as determined by the inspection.
6. The permittee shall maintain a record of the results of each annual inspection of the thermal oxidizer.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit (proportional to 28 degrees Celsius) below the average temperature during the most recent emission test that demonstrated that the emissions unit was in compliance.

V. Testing Requirements

1. Emission Limitation:
 Combined P001, P002, P003 limit for ethylene glycol = 0.58 lb/hr

Applicable Compliance Method:
 The following equation shall be used:

$$E = \frac{A}{H} \times (1-CE)$$

where;

E = Emission rate, in pound(s) per hour
 A = Amount (in pounds) of ethylene glycol in the raw material used, as recorded in section A.III.1.c.

H = Number of operating hours in a given day, as recorded in section A.III.1.d.

CE = Control efficiency of the afterburner, or thermal oxidizer. If the control efficiency is 98%, CE = 0.98.

2. Emission Limitation:
Combined P001, P002, P003 limit for ammonia = 4.0 lbs/hr

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the allowable ammonia limit shall be determined in accordance with procedures approved by the Agency.

3. Emission Limitation:
Combined P001, P002, P003 limit for formaldehyde = 0.33 lb/hr

Applicable Compliance Method:
The following equation shall be used:

$$E = \frac{A}{H} \times (1-CE)$$

where;

E = Emission rate, in pound(s) per hour
A = Amount (in pounds) of formaldehyde in the raw material used, as recorded in section A.III.1.c.

H = Number of operating hours in a given day, as recorded in section A.III.1.d.

CE = Control efficiency of the afterburner, or thermal oxidizer. If the control efficiency is 98%, CE = 0.98.

4. Emission Limitation:
Combined P001, P002, P003 limit for phenol = 0.17 lb/hr

Applicable Compliance Method:
The following equation shall be used:

$$E = \frac{A}{H} \times (1-CE)$$

where;

E = Emission rate, in pound(s) per hour

A = Amount (in pounds) of phenol in the raw material used, as recorded in section A.III.1.b.

H = Number of operating hours in a given day, as recorded in section A.III.1.d.

CE = Control efficiency of the afterburner, or thermal oxidizer. If the control efficiency is 98%, CE = 0.98.

5. Emission Limitation:

Combined P001, P002, P003 limit for ethylene glycol = 2.5 tons/year

Applicable Compliance Method:

To determine the annual ethylene glycol emission rate, compliance shall be based on the sum of the daily ethylene glycol emission rates as recorded in section A.III.2 of the permit, for the calendar year, divided by 2,000 pounds per ton.

6. Emission Limitation:

Combined P001, P002, P003 limit for ammonia = 17.5 tons/year

Applicable Compliance Method:

To determine the annual ammonia emission rate, compliance shall be based on the hourly rate (in lbs/hr) multiplied by (# hours/yr) and (ton/2,000 lbs).

7. Emission Limitation:

Combined P001, P002, P003 limit for formaldehyde = 1.4 tons/year

Applicable Compliance Method:

To determine the annual formaldehyde emission rate, compliance shall be based on the sum of the daily formaldehyde emission rates as recorded in section A.III.2 of the permit, for the calendar year, divided by 2,000 pounds per ton.

8. Emission Limitation:

Combined P001, P002, P003 limit for phenol = 0.8 ton/year

Applicable Compliance Method:

To determine the annual phenol emission rate, compliance shall be based on the sum of the daily

Emissions Unit ID: P001

phenol emission rates as recorded in section A.III.2 of the permit, for the calendar year, divided by 2,000 pounds per ton.

9. Emission Limitation:
1.47 lbs/hr of OC emissions

Applicable Compliance Method:

U.S. EPA Reference Methods 1-4, 18, 25, or 25A of 40 CFR Part 60, Appendix A.

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 30 months after issuance of the permit.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for organic compound emissions.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate: Method 1-4, 18, 25, or 25A of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval for the Ohio EPA, Northeast District Office.
- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northeast District Office. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast district Office 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, Northeast District Office.

10. Emission Limitation:
6.4 tons/year of OC emission

Applicable Compliance Method:

To determine the annual OC emission rate, compliance shall be based on the hourly rate (in lbs/hr) multiplied by (# hours/yr) and (ton/2,000 lbs)

11. Emission Limitation:

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Fosecc

PTI A₁

Issued: 8/21/2003

Emissions Unit ID: P001

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0.5 lb/hr of particulate emissions

Applicable Compliance Method:

The following equation shall be used:

$$E = EF \times PWR$$

where;

E = Emission rate of filterable particulates, in pound(s) per hour

EF = Emission Factor of 0.82 lb PE/ton, taken from AP-42, Chapter 11, Table 11.5-5.

PWR = Process Weight Rate, in tons per hour. This number is the total amount of raw materials processed, recorded in pounds per day in section A.III.1.a of this permit. To get PWR in tons per hour, this number is multiplied by ton/2,000 lbs and then divided by the number of hours in the day, as recorded in section A.III.1.d.

If required by the Ohio EPA, compliance with the allowable particulate emission limit may also be determined in accordance with U.S. EPA Reference Methods 1-5 of 40 CFR Part 60, Appendix A.

12. Emission Limitation:
2.2 tons/year of particulate emissions

Applicable Compliance Method:

To determine the annual particulate emission rate, compliance shall be based on the sum of the daily particulate emission rates as recorded in section A.III.2 of the permit, for the calendar year, divided by 2,000 pounds per ton.

13. Emission Limitation:
5% opacity as a six-minute average

Applicable Compliance Method:

If required by the Ohio EPA, compliance shall be determined by visible emission evaluations performed in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

14. Emission Limitation:
1.0 lb/hr of NO_x emissions

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the allowable NO_x emission limit shall be determined in accordance with U.S. EPA Reference Method 7 of 40 CFR Part 60, Appendix A.

15. Emission Limitation:

Foseco Metallurgical, Inc.
PTI Application: **02 17072**
Issued

Facility ID: **0204000450**

Emissions Unit ID: P001

4.4 tons/year of NOx emission

Applicable Compliance Method:

To determine the annual NOx emission rate, compliance shall be based on the hourly rate (in lbs/hr) multiplied by (# hours/yr) and (ton/2,000 lbs).

16. Emission Limitation:
0.7 lb/hr of CO emissions from both the curing oven and afterburner #1

Applicable Compliance Method:

The following equation shall be used for each combustion source. The results of each calculation is then added to determine the total CO emission rate.

$$E = EF \times R \times 1/H$$

where;

EF = CO Emission Factor for natural gas, taken from Table 1.4-1 of AP-42, is 84 lbs/mmft³.

R = Maximum rating, in mmBtu/hr, of the combustion source, (curing oven and afterburner/thermal oxidizer).

H = Heating value of the natural gas, in BTU/ft³. PTI application reports this value as 1,020 BTU/ft³.

17. Emission Limitation:
3.2 tons/year of CO emissions from both the curing oven and afterburner #1

Applicable Compliance Method:

To determine the annual CO emission rate, compliance shall be based on the hourly rate (in lbs/hr) multiplied by (# hours/yr) and (ton/2,000 lbs).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P001 - 4.904 mmBtu/hr curing oven, equipped with a 3.961 mmBtu/hr afterburner.	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

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

POLLUTANT	formaldehyde
TLV	368.5 ug/m ³

Emissions Unit ID: P001

MAXIMUM HOURLY EMISSION RATE	P001: 0.07 lb/hr P002: 0.09 lb/hr P003: 0.07 lb/hr
PREDICTED 1-HR MAX GROUND-LEVEL CONC.	P001: 6.5 ug/m3 P002: 0.4 ug/m3 P003: 1.4 ug/m3 TOTAL: 8.3 ug.m3
MAGLC = TLV/42	8.8 ug/m3
Predicted 1-hour maximum ground-level concentration is less than the MAGLC. PASS.	

2. Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:
 - a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH), " than the lowest TLV value previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
 - c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

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

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"
 - a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
 - b. documentation of its evaluation and determination that the changed emissions unit still

satisfied the "Air Toxic Policy"; and

- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Applicable Emissions
Limitations/Control
Measures

The requirements of this rule also include compliance with OAC rule 3745-31-05(D).

Particulates: 0.5 lb/hr,
2.2 tons/year

Visible emissions from the stack serving this emissions unit shall not exceed 5% opacity as a six0minute average.

NO_x: 2.0 lb/hr, 8.8
tons/year

CO from combustion of both
kiln #1 and afterburner #2:
1.8 lb/hr, 7.8 tons/year

See section A.I.2.a.

The visible emissions limitation specified by this rule is less stringent than the visible emissions limitation established pursuant to OAC rule 3745-31-05(A) (3).

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).

The organic compound emission limitation specified by this rule is less stringent than the organic compound emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

- 2.a The ethylene glycol limit of 0.58 lb/hr, 2.5 tons/year; ammonia limit of 4.0 lbs/hr, 17.5 tons/year; formaldehyde limit of 0.33 lb/hr, 1.4 tons/year; phenol limit of 0.17 lb/hr, 0.8 ton/year and total organic compound limit of 1.47 lbs/hr, 6.4 tons/year is for P001, P002 and P003 combined.

II. Operational Restrictions

1. The 7.171 mmBtu/hr afterburner (AB2), reported as a thermal oxidizer, shall be operated at all times when this emissions unit is in operation.
2. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit (proportional to 28 degrees Celsius) below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain a daily record of the following:
 - a. the quantity (in pounds) of the total raw materials used in the CBC manufacturing process,
 - b. the quantity (in pounds) of resin, or any other material containing organic compounds, in the raw material used in the CBC manufacturing process,
 - c. the identification and quantity (in pounds) of each component in the resin, or any other material containing organic compounds, in the raw material used in the CBC manufacturing process, and
 - d. the number of hours this emissions unit is in operation.
2. The permittee shall record each day's emission rate for ethylene glycol, formaldehyde, phenol, and particulates (in pounds per hour) using the equations in sections A.V.1,3, 4 & 11 of this permit.
3. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emission unit is in operation. Units may be in degrees Fahrenheit or in degrees Celsius. The monitoring

and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

4. The permittee shall record all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit (proportional to 28 degrees Celsius) below the average temperature during the most recent emission test that demonstrated that the emissions unit was in compliance.
5. The permittee shall perform an inspection of the thermal oxidizer on at least an annual basis. Each inspection shall consist of internal and visual inspections in accordance with the manufacturer's recommendations and shall include a physical inspection of the unit and checks of associated equipment, including but not limited to burners, controls, dampers, valves, and monitoring and recording equipment. Repair and replacement of equipment shall be performed as determined by the inspection.
6. The permittee shall maintain a record of the results of each annual inspection of the thermal oxidizer.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit (proportional to 28 degrees Celsius) below the average temperature during the most recent emission test that demonstrated that the emissions unit was in compliance.

V. Testing Requirements

1. Emission Limitation:
Combined P001, P002, P003 limit for ethylene glycol = 0.58 lb/hr

Applicable Compliance Method:
The following equation shall be used:

$$E = \frac{A}{H} \times (1-CE)$$

where;

- E = Emission rate, in pound(s) per hour
 A = Amount (in pounds) of ethylene glycol in the raw material used, as recorded in section A.III.1.c.
 H = Number of operating hours in a given day, as recorded in section A.III.1.d.
 CE = Control efficiency of the afterburner, or thermal oxidizer. If the control efficiency is 98%, CE = 0.98.

2. Emission Limitation:
 Combined P001, P002, P003 limit for ammonia = 4.0 lbs/hr

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the allowable ammonia limit shall be determined in accordance with procedures approved by the Agency.

3. Emission Limitation:
 Combined P001, P002, P003 limit for formaldehyde = 0.33 lb/hr

Applicable Compliance Method:
 The following equation shall be used:

$$E = \frac{A}{H} \times (1-CE)$$

where;

- E = Emission rate, in pound(s) per hour
 A = Amount (in pounds) of formaldehyde in the raw material used, as recorded in section A.III.1.c.
 H = Number of operating hours in a given day, as recorded in section A.III.1.d.
 CE = Control efficiency of the afterburner, or thermal oxidizer. If the control efficiency is 98%, CE = 0.98.

4. Emission Limitation:
 Combined P001, P002, P003 limit for phenol = 0.17 lb/hr

Applicable Compliance Method:
 The following equation shall be used:

$$E = \frac{A}{H} \times (1-CE)$$

H

where;

E = Emission rate, in pound(s) per hour

A = Amount (in pounds) of phenol in the raw material used, as recorded in section A.III.1.b.

H = Number of operating hours in a given day, as recorded in section A.III.1.d.

CE = Control efficiency of the afterburner, or thermal oxidizer. If the control efficiency is 98%, CE = 0.98.

5. Emission Limitation:
Combined P001, P002, P003 limit for ethylene glycol = 2.5 tons/year

Applicable Compliance Method:

To determine the annual ethylene glycol emission rate, compliance shall be based on the sum of the daily ethylene glycol emission rates as recorded in section A.III.2 of the permit, for the calendar year, divided by 2,000 pounds per ton.

6. Emission Limitation:
Combined P001, P002, P003 limit for ammonia = 17.5 tons/year

Applicable Compliance Method:

To determine the annual ammonia emission rate, compliance shall be based on the hourly rate (in lbs/hr) multiplied by (# hours/yr) and (ton/2,000 lbs).

7. Emission Limitation:
Combined P001, P002, P003 limit for formaldehyde = 1.4 tons/year

Applicable Compliance Method:

To determine the annual formaldehyde emission rate, compliance shall be based on the sum of the daily formaldehyde emission rates as recorded in section A.III.2 of the permit, for the calendar year, divided by 2,000 pounds per ton.

8. Emission Limitation:
Combined P001, P002, P003 limit for phenol = 0.8 ton/year

Applicable Compliance Method:

To determine the annual phenol emission rate, compliance shall be based on the sum of the daily phenol emission rates as recorded in section A.III.2 of the permit, for the calendar year, divided by 2,000 pounds per ton.

9. Emission Limitation:
1.47 lbs/hr of OC emissions

Applicable Compliance Method:

U.S. EPA Reference Methods 1-4, 18, 25, or 25A of 40 CFR Part 60, Appendix A.

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 30 months after issuance of the permit.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for organic compound emissions.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate: Method 1-4, 18, 25, or 25A of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval for the Ohio EPA, Northeast District Office.
- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northeast District Office. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast district Office 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, Northeast District Office.

10. Emission Limitation:
6.4 tons/year of OC emission

Applicable Compliance Method:

To determine the annual OC emission rate, compliance shall be based on the hourly rate (in lbs/hr) multiplied by (# hours/yr) and (ton/2,000 lbs)

11. Emission Limitation:

0.5 lb/hr of particulate emissions

Applicable Compliance Method:
 The following equation shall be used:

$$E = EF \times PWR$$

where;

E = Emission rate of filterable particulates, in pound(s) per hour

EF = Emission Factor of 0.82 lb PE/ton, taken from AP-42, Chapter 11, Table 11.5-5.

PWR = Process Weight Rate, in tons per hour. This number is the total amount of raw materials processed, recorded in pounds per day in section A.III.1.a of this permit. To get PWR in tons per hour, this number is multiplied by ton/2,000 lbs and then divided by the number of hours in the day, as recorded in section A.III.1.d.

If required by the Ohio EPA, compliance with the allowable particulate emission limit may also be determined in accordance with U.S. EPA Reference Methods 1-5 of 40 CFR Part 60, Appendix A.

12. Emission Limitation:
 2.2 tons/year of particulate emissions

Applicable Compliance Method:
 To determine the annual particulate emission rate, compliance shall be based on the sum of the daily particulate emission rates as recorded in section A.III.2 of the permit, for the calendar year, divided by 2,000 pounds per ton.

13. Emission Limitation:
 5% opacity as a six-minute average

Applicable Compliance Method:
 If required by the Ohio EPA, compliance shall be determined by visible emission evaluations performed in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

14. Emission Limitation:
 2.0 lb/hr of NO_x emissions

Applicable Compliance Method:
 If required by the Ohio EPA, compliance with the allowable NO_x emission limit shall be determined in accordance with U.S. EPA Reference Method 7 of 40 CFR Part 60, Appendix A.

15. Emission Limitation:
 8.8 tons/year of NO_x emission

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PTI A₁

Issued: 8/21/2003

Emissions Unit ID: P002

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Applicable Compliance Method:

To determine the annual NO_x emission rate, compliance shall be based on the hourly rate (in lbs/hr) multiplied by (# hours/yr) and (ton/2,000 lbs).

16. Emission Limitation:

1.8 lb/hr of CO emissions from both kiln #1 and afterburner #2

Applicable Compliance Method:

The following equation shall be used for each combustion source. The results of each calculation is then added to determine the total CO emission rate.

$$E = EF \times R \times 1/H$$

where;

EF = CO Emission Factor for natural gas, taken from Table 1.4-1 of AP-42, is 84 lbs/mmft³.

R = Maximum rating, in mmBtu/hr, of the combustion source, (kiln and afterburner/thermal oxidizer).

H = Heating value of the natural gas, in BTU/ft³. PTI application reports this value as 1,020 BTU/ft³.

17. Emission Limitation:
7.8 tons/year of CO emissions from both kiln #1 and afterburner #2

Applicable Compliance Method:

To determine the annual CO emission rate, compliance shall be based on the hourly rate (in lbs/hr) multiplied by (# hours/yr) and (ton/2,000 lbs).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P002 - 14.343 mmBtu/hr kiln no. 1, equipped with a 7.171 mmBtu/hr afterburner.	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

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

POLLUTANT	formaldehyde
TLV	368.5 ug/m3
MAXIMUM HOURLY EMISSION RATE	P001: 0.07 lb/hr P002: 0.09 lb/hr P003: 0.07 lb/hr
PREDICTED 1-HR MAX GROUND-LEVEL CONC.	P001: 6.5 ug/m3 P002: 0.4 ug/m3 P003: 1.4 ug/m3 TOTAL: 8.3 ug.m3

MAGLC = TLV/42	8.8 ug/m ³
Predicted 1-hour maximum ground-level concentration is less than the MAGLC. PASS.	

2. Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH), " than the lowest TLV value previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
 - c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

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

3. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"
- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
 - b. documentation of its evaluation and determination that the changed emissions unit still satisfied the "Air Toxic Policy"; and

- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P003 - 4.918 mmBtu/hr kiln no. 2, equipped with a 2.049 mmBtu/hr afterburner.	OAC rule 3745-31-05(A)(3)	OAC rule 3745-21-07(G)(1)
	OAC rule 3745-31-05(D)	
	OAC rule 3745-17-07(A)	
	OAC rule 3745-17-11	

Applicable Emissions
Limitations/Control
Measures

The requirements of this rule also include compliance with OAC rule 3745-31-05(D).

Particulates: 0.5 lb/hr,
2.2 tons/year

Visible emissions from the stack serving this emissions unit shall not exceed 5% opacity as a six-minute average

NOx: 2.0 lb/hr, 8.8 tons/year

CO from combustion of both kiln #2 and afterburner #3: 0.4 lb/hr, 1.8 tons/year

See section A.I.2.a.

The visible emissions limitation specified by this rule is less stringent than the visible emissions limitation established pursuant to OAC rule 3745-31-05(A)(3)

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)

The organic compound emission limitation specified by this rule is less stringent than the organic compound emission limitation established pursuant to OAC rule 3745-31-05(A)(3)

2. Additional Terms and Conditions

- 2.a The ethylene glycol limit of 0.58 lb/hr, 2.5 tons/year; ammonia limit of 4.0 lbs/hr, 17.5 tons/year; formaldehyde limit of 0.33 lb/hr, 1.4 tons/year; phenol limit of 0.17 lb/hr, 0.8 ton/year and total organic compound limit of 1.47 lbs/hr, 6.4 tons/year is for P001, P002 and P003 combined.

II. Operational Restrictions

1. The 2.049 mmBtu/hr afterburner (AB1), reported as a thermal oxidizer, shall be operated at all times when this emissions unit is in operation.
2. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit (proportional to 28 degrees Celsius) below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain a daily record of the following:
 - a. the quantity (in pounds) of the total raw materials used in the CBC manufacturing process,
 - b. the quantity (in pounds) of resin, or any other material containing organic compounds, in the raw material used in the CBC manufacturing process,
 - c. the identification and quantity (in pounds) of each component in the resin, or any other material containing organic compounds, in the raw material used in the CBC manufacturing process, and
 - d. the number of hours this emissions unit is in operation.
2. The permittee shall record each day's emission rate for ethylene glycol, formaldehyde, phenol, and particulates (in pounds per hour) using the equations in sections A.V.1, 3, 4 & 11 of this permit.
3. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emission unit is in operation. Units may be in degrees Fahrenheit or in degrees Celsius. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The

Emissions Unit ID: P003

temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

4. The permittee shall record all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit (proportional to 28 degrees Celsius) below the average temperature during the most recent emission test that demonstrated that the emissions unit was in compliance.
5. The permittee shall perform an inspection of the thermal oxidizer on at least an annual basis. Each inspection shall consist of internal and visual inspections in accordance with the manufacturer's recommendations and shall include a physical inspection of the unit and checks of associated equipment, including but not limited to burners, controls, dampers, valves, and monitoring and recording equipment. Repair and replacement of equipment shall be performed as determined by the inspection.
6. The permittee shall maintain a record of the results of each annual inspection of the thermal oxidizer.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit (proportional to 28 degrees Celsius) below the average temperature during the most recent emission test that demonstrated that the emissions unit was in compliance.

V. Testing Requirements

1. Emission Limitation:
 Combined P001, P002, P003 limit for ethylene glycol = 0.58 lb/hr

Applicable Compliance Method:
 The following equation shall be used:

$$E = \frac{A}{H} \times (1-CE)$$

where;

E = Emission rate, in pound(s) per hour
 A = Amount (in pounds) of ethylene glycol in the raw material used, as recorded in section A.III.1.c.

H = Number of operating hours in a given day, as recorded in section A.III.1.d.

CE = Control efficiency of the afterburner, or thermal oxidizer. If the control efficiency is 98%, CE = 0.98.

2. Emission Limitation:
Combined P001, P002, P003 limit for ammonia = 4.0 lbs/hr

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the allowable ammonia limit shall be determined in accordance with procedures approved by the Agency.

3. Emission Limitation:
Combined P001, P002, P003 limit for formaldehyde = 0.33 lb/hr

Applicable Compliance Method:
The following equation shall be used:

$$E = \frac{A}{H} \times (1-CE)$$

where;

E = Emission rate, in pound(s) per hour
A = Amount (in pounds) of formaldehyde in the raw material used, as recorded in section A.III.1.c.

H = Number of operating hours in a given day, as recorded in section A.III.1.d.

CE = Control efficiency of the afterburner, or thermal oxidizer. If the control efficiency is 98%, CE = 0.98.

4. Emission Limitation:
Combined P001, P002, P003 limit for phenol = 0.17 lb/hr

Applicable Compliance Method:
The following equation shall be used:

$$E = \frac{A}{H} \times (1-CE)$$

where;

E = Emission rate, in pound(s) per hour

A = Amount (in pounds) of phenol in the raw material used, as recorded in section A.III.1.b.

H = Number of operating hours in a given day, as recorded in section A.III.1.d.

CE = Control efficiency of the afterburner, or thermal oxidizer. If the control efficiency is 98%, CE = 0.98.

5. Emission Limitation:
Combined P001, P002, P003 limit for ethylene glycol = 2.5 tons/year

Applicable Compliance Method:

To determine the annual ethylene glycol emission rate, compliance shall be based on the sum of the daily ethylene glycol emission rates as recorded in section A.III.2 of the permit, for the calendar year, divided by 2,000 pounds per ton.

6. Emission Limitation:
Combined P001, P002, P003 limit for ammonia = 17.5 tons/year

Applicable Compliance Method:

To determine the annual ammonia emission rate, compliance shall be based on the hourly rate (in lbs/hr) multiplied by (# hours/yr) and (ton/2,000 lbs).

7. Emission Limitation:
Combined P001, P002, P003 limit for formaldehyde = 1.4 tons/year

Applicable Compliance Method:

To determine the annual formaldehyde emission rate, compliance shall be based on the sum of the daily formaldehyde emission rates as recorded in section A.III.2 of the permit, for the calendar year, divided by 2,000 pounds per ton.

8. Emission Limitation:
Combined P001, P002, P003 limit for phenol = 0.8 ton/year

Applicable Compliance Method:

To determine the annual phenol emission rate, compliance shall be based on the sum of the daily

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phenol emission rates as recorded in section A.III.2 of the permit, for the calendar year, divided by 2,000 pounds per ton.

9. Emission Limitation:
 1.47 lbs/hr of OC emissions

Applicable Compliance Method:
 U.S. EPA Reference Methods 1-4, 18, 25, or 25A of 40 CFR Part 60, Appendix A.

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 30 months after issuance of the permit.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for organic compound emissions.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate: Method 1-4, 18, 25, or 25A of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval for the Ohio EPA, Northeast District Office.
- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northeast District Office. 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, Northeast District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Northeast District Office 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.

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 Ohio EPA, Northeast district Office 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, Northeast District Office.

10. Emission Limitation:
 6.4 tons/year of OC emission

Applicable Compliance Method:

To determine the annual OC emission rate, compliance shall be based on the hourly rate (in lbs/hr) multiplied by (# hours/yr) and (ton/2,000 lbs)

11. Emission Limitation:
0.5 lb/hr of particulate emissions

Applicable Compliance Method:

The following equation shall be used:

$$E = EF \times PWR$$

where;

E = Emission rate of filterable particulates, in pound(s) per hour

EF = Emission Factor of 0.82 lb PE/ton, taken from AP-42, Chapter 11, Table 11.5-5.

PWR = Process Weight Rate, in tons per hour. This number is the total amount of raw materials processed, recorded in pounds per day in section A.III.1.a of this permit. To get PWR in tons per hour, this number is multiplied by ton/2,000 lbs and then divided by the number of hours in the day, as recorded in section A.III.1.d.

If required by the Ohio EPA, compliance with the allowable particulate emission limit may also be determined in accordance with U.S. EPA Reference Methods 1-5 of 40 CFR Part 60, Appendix A.

12. Emission Limitation:
2.2 tons/year of particulate emissions

Applicable Compliance Method:

To determine the annual particulate emission rate, compliance shall be based on the sum of the daily particulate emission rates as recorded in section A.III.2 of the permit, for the calendar year, divided by 2,000 pounds per ton.

13. Emission Limitation:
5% opacity as a six-minute average

Applicable Compliance Method:

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If required by the Ohio EPA, compliance shall be determined by visible emission evaluations performed in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

14. Emission Limitation:
 2.0 lb/hr of NO_x emissions

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the allowable NO_x emission limit shall be determined in accordance with U.S. EPA Reference Method 7 of 40 CFR Part 60, Appendix A.

15. Emission Limitation:
 8.8 tons/year of NO_x emission

Applicable Compliance Method:

To determine the annual NO_x emission rate, compliance shall be based on the hourly rate (in lbs/hr) multiplied by (# hours/yr) and (ton/2,000 lbs).

16. Emission Limitation:
 0.4 lb/hr of CO emissions from both kiln #2 and afterburner #3

Applicable Compliance Method:

The following equation shall be used for each combustion source. The results of each calculation is then added to determine the total CO emission rate.

$$E = EF \times R \times 1/H$$

where;

EF = CO Emission Factor for natural gas, taken from Table 1.4-1 of AP-42, is 84 lbs/mmft³.

R = Maximum rating, in mmBtu/hr, of the combustion source, (curing oven and afterburner/thermal oxidizer).

H = Heating value of the natural gas, in BTU/ft³. PTI application reports this value as 1,020 BTU/ft³.

17. Emission Limitation:
 1.8 tons/year of CO emissions from both kiln #2 and afterburner #3

Applicable Compliance Method:

To determine the annual CO emission rate, compliance shall be based on the hourly rate (in lbs/hr) multiplied by (# hours/yr) and (ton/2,000 lbs).

VI. Miscellaneous Requirements

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None

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B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P003 - 4.918 mmBtu/hr kiln no. 2, equipped with a 2.049 mmBtu/hr afterburner.	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

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

POLLUTANT	formaldehyde
TLV	368.5 ug/m ³

MAXIMUM HOURLY EMISSION RATE	P001: 0.07 lb/hr P002: 0.09 lb/hr P003: 0.07 lb/hr
PREDICTED 1-HR MAX GROUND-LEVEL CONC.	P001: 6.5 ug/m ³ P002: 0.4 ug/m ³ P003: 1.4 ug/m ³ TOTAL: 8.3 ug.m ³
MAGLC = TLV/42	8.8 ug/m ³
Predicted 1-hour maximum ground-level concentration is less than the MAGLC. PASS.	

2. Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:
- changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH), " than the lowest TLV value previously modeled;
 - changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
 - physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

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

3. The permittee shall collect, record, and retain the following information when it conducts

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evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of its evaluation and determination that the changed emissions unit still satisfied the "Air Toxic Policy"; and
- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None