



State of Ohio Environmental Protection Agency

RE: DRAFT PERMIT TO INSTALL CERTIFIED MAIL
CUYAHOGA COUNTY

Street Address:

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

Mailing Address:
Lazarus Gov.
Center

Application No: 13-03667

DATE: 9/12/2000

Ferro Corporation
Michael E. Gray
4150 East 56th St. P.O. Box 6550
Cuyahoga Hts, OH 44101

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install for the air contaminant source(s) [emissions unit(s)] shown on 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 proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43266-0149.

A Permit to Install may be issued in proposed or final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of \$400 will be due. Please do not submit any payment now.

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. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Very truly yours,

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

CC: USEPA

CBAPC

PA



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install

Issue Date: To be entered upon final issuance

DRAFT PERMIT TO INSTALL 13-03667

Application Number: 13-03667
APS Premise Number: 1318170235
Permit Fee: **To be entered upon final issuance**
Name of Facility: Ferro Corporation
Person to Contact: Michael E. Gray
Address: 4150 East 56th St. P.O. Box 6550
Cuyahoga Hts, OH 44101

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

**4150 East 56th Street
Cuyahoga Hts, Ohio**

Description of proposed emissions unit(s):

No. 14 Mill / Mikron Classification.

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

Ferro Corporation

Facility ID: 1318170235

PTI Application: 13-03667

Issued: To be entered upon final issuance

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.11 below if no deviations occurred during the quarter.

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- 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

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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

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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.

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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 thirty (30) days after commencing operation of the source(s) covered by this permit.

Ferro Corporation

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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 Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping 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

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

4. 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.

5. Termination of Permit To Install

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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.

6. 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 are inadequate 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 prove to be inadequate or cannot meet applicable standards.

7. 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.

8. Applicability

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

9. Best Available Technology

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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.

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10. 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.

11. 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>
Particulate Emissions	14.32

Ferro Corporation

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Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

None.

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

None.

**Ferro
PTI A**

Emissions Unit ID: P023

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Part III - SPEC

IAL 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>	<u>Applicable Emissions Limitations/Control Measures</u>
P023 - No. 14 Mill / Mikron Classification consisting of milling, pneumatic transport and classifier with three fabric filters/baghouses.	OAC rule 3745-31-05(A)(3)	3.27 lbs/hr particulate emissions (PE) 14.32 TPY PE
	OAC rule 3745-17-11(A)	5% opacity, as a 6-minute average.
	OAC rule 3745-17-07(A)(1)	Equivalent to or less stringent than OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

- 2.a None.

II. Operational Restrictions

1. The pressure drop across each fabric filter/baghouse shall not exceed 8 inches of water column while the emissions unit is in operation.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall inspect the baghouse for leaks and visible particulate emissions at least once a

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month during operation periods. Records of such inspections shall include at a minimum the date the inspection was conducted, any and all results obtained, any problems discovered, and any corrective action taken.

2. The permittee shall properly operate and maintain equipment to monitor the pressure drop across each fabric filter/baghouse while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each fabric filter/baghouse on daily basis.

IV. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across any of the three fabric filters/baghouses did not comply with the allowable range specified above.

V. Testing Requirements

1. Emission Limitation - 3.27 lbs/hr, 14.32 tpy PE.

Applicable Compliance Method(s) -

The permittee shall conduct, or have conducted, emission testing for this emissions unit at the request of Ohio Environmental Protection Agency. Emission testing shall be performed in accordance with the following requirements:

- a. The emission testing shall be conducted to demonstrate compliance with the allowable particulate emission rates.
- b. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approval by the appropriate Ohio EPA District Office or local air agency.
- c. Method 1-5 of 40 CFR Part 60, Appendix A. shall be employed to demonstrate compliance with the allowable emission rate.

2. Emission Limitation - 5% opacity, as a 6-minute average

Applicable Compliance Method(s) -

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Emissions Unit ID: P023

Compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03 (B)(1) using the methods and procedures specified in USEPA Reference Method 9.

VI. Miscellaneous Requirements

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>
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2. Additional Terms and Conditions

- 2.a None.

II. Operational Restrictions

None.

III. Monitoring and/or Recordkeeping Requirements

None.

IV. Reporting Requirements

None.

V. Testing Requirements

None.

VI. Miscellaneous Requirements

None.

NEW SOURCE REVIEW FORM B

PTI Number: 13-03667 Facility ID: 1318170235

FACILITY NAME Ferro Corporation

FACILITY DESCRIPTION manufacturing frit and glass powder CITY/TWP Cuyahoga Hts

SIC CODE 2899 SCC CODE 3-12-999-99 EMISSIONS UNIT ID P023

EMISSIONS UNIT DESCRIPTION No. 14 Mill / Mikron Classification.

DATE INSTALLED 4/1/00

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter					
PM ₁₀	non-attainment	0.428	1.87	3.27	14.32
Sulfur Dioxide					
Organic Compounds					
Nitrogen Oxides					
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? NESHAP? PSD? OFFSET POLICY?

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Enter Determination: three fabric filters/baghouses based on engineering experiences

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*? _____ YES X NO

IDENTIFY THE AIR CONTAMINANTS: particulate emissions

NEW SOURCE REVIEW FORM B

PTI Number: 13-03667 Facility ID: 1318170235

FACILITY NAME Ferro Corporation

FACILITY DESCRIPTION manufacturing frit and glass powder CITY/TWP Cuyahoga Hts**Please describe any hard copy information is being submitted with this recommendation (Please send hard copy information to Pam McGraner, DAPC Central Office - Air Quality Modeling and Planning):**Premise No.13-18-17-0235 Source No. **P023**PTI No.13-03667City of Cleveland Division of Air Pollution Control
BES - EES - Emissions Calculation Form

1. Facility Name :FERRO CORP -FRIT PLANT

2. Source Description :No. 14 Batch Mill

3. Source Inspection : yes [] no [x]

Source Operating : yes [] no []

4. Calculations :

Air Contaminants:Particulate Emissions (PE)

Process weight rate, maximum:1425 lbs/hr**Permit to install fee:\$400*********MILLING*********Emission factor supplied by company :****0.79 lb/batch****control efficiency = 99%****MAX. Production = 6 batches/24hrs****UNCONTROLLED**

Therefore taking the numbers supplied by the company above we can obtain the uncontrolled emission :

0.79 lb/batch = 1 %

therefore 100 % = 79 lb /batch

Uncontrolled emission = 79 lb/batch

1 batch = 4 hrs therefore Uncontrolled emission = 19.75 lb/hr

operation = 24 hrs per yr

Therefore 19.75 lb/hr x 8760 hrs/yr x 1/2000 ton/lb = 86.5 TPY

Uncontrolled emission = 19.75 lb/hr**Uncontrolled emission = 86.5 TPY**

NEW SOURCE REVIEW FORM B

PTI Number: 13-03667 Facility ID: 1318170235

FACILITY NAME Ferro Corporation

FACILITY DESCRIPTION manufacturing frit and glass powder CITY/TWP Cuyahoga Hts
Actual (CONTROLLED)

Actual is the emission factor supplied by company after control = 0.79 lb/batch

1 batch = 4 hrs therefore controlled emission = 0.1975 lb/hr

Actual emission = 0.1975 lb/hr

Actual emission = 0.865 TPY

Potential

Same as Actual.

*******Pneumatic Transport*******

Emission factor supplied by company :

0.31 lb/batch

control efficiency = 99%

MAX. Production = 6 batches/24hrs

UNCONTROLLED

Therefore taking the numbers supplied by the company above we can obtain the uncontrolled emission :

0.31 lb/batch = 1 %

therefore 100 % = 31 lb /batch

Uncontrolled emission = 31 lb/batch

1 batch = 4 hrs therefore Uncontrolled emission = 7.75 lb/hr

operation = 24 hrs per yr

Therefore 7.75 lb/hr x 8760 hrs/yr x 1/2000 ton/lb = 33.9 TPY

Uncontrolled emission = 7.75 lb/hr

Uncontrolled emission = 33.9 TPY

Actual (CONTROLLED)

NEW SOURCE REVIEW FORM B

PTI Number: 13-03667 Facility ID: 1318170235

FACILITY NAME Ferro Corporation

FACILITY DESCRIPTION manufacturing frit and glass powder CITY/TWP Cuyahoga Hts

Actual is the emission factor supplied by company after control = 0.31 lb/batch

1 batch = 4 hrs therefore controlled emission = 0.0775 lb/hr

Actual emission = 0.0775 lb/hr

Actual emission = 0.34 TPY

Potential

Same as Actual.

*******Classifier*******

Emission factor supplied by company :

0.6 lb/batch

control efficiency = 99%

MAX. Production = 6 batches/24hrs

UNCONTROLLED

Therefore taking the numbers supplied by the company above we can obtain the uncontrolled emission :

0.61 lb/batch = 1 %

therefore 100 % = 61 lb /batch

Uncontrolled emission = 61 lb/batch

1 batch = 4 hrs therefore Uncontrolled emission = 15.25 lb/hr

operation = 24 hrs per yr

Therefore 15.25 lb/hr x 8760 hrs/yr x 1/2000 ton/lb = 66.8 TPY

Uncontrolled emission = 15.25 lb/hr

Uncontrolled emission = 66.8 TPY

Actual (CONTROLLED)

NEW SOURCE REVIEW FORM B

PTI Number: 13-03667 Facility ID: 1318170235

FACILITY NAME Ferro Corporation

FACILITY DESCRIPTION manufacturing frit and glass powder CITY/TWP Cuyahoga Hts

Actual is the emission factor supplied by company after control = 0.61 lb/batch

1 batch = 4 hrs therefore controlled emission = 0.153 lb/hr

Actual emission = 0.153 lb/hr

Actual emission = 0.66 TPY

Potential

Same as Actual.

***** **TOTAL EMISSIONS** *****

Total Uncontrolled emission = 42.75lb/hr
Total Uncontrolled emission = 187.25 TPY

Total Actual emission = 0.428 lb/hr
Total Actual emission = 1.87 TPY

*****ALLOWABLE*****

PWR = 5700 lb/batch therefore = 5700/4 = 1425 lb/hr.

Under OAC rule 3745-17-11(B)(1) TABLE I - Allowable = $4.10(0.715)^{0.67} = 3.27$ lb/hr

Allowable = $4.10(0.715)^{0.67} = 3.27$ lb/hr

Allowable = 14.32 TPY

5. Emissions (TPY) :

<u>POLLUTANT</u>	<u>UNCONTROLLED</u>	<u>ACTUAL</u>	<u>ALLOWABLE</u>	<u>POTENTIAL</u>	<u>ALLOWABLE</u>
					14.32
					PE187.251.8714.321.87

* Based on actual operating hours** Based on 24 hr/day, 365 days/year

NEW SOURCE REVIEW FORM B

PTI Number: 13-03667 Facility ID: 1318170235

FACILITY NAME Ferro Corporation

FACILITY DESCRIPTION manufacturing frit and glass powder CITY/TWP Cuyahoga Hts**Please provide any additional permit specific notes as you deem necessary:**

NONE

Permit To Install Synthetic Minor Write-Up

NONE

Please fill in the following for this permit:**TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS**

<u>Pollutant</u>	<u>Tons Per Year</u>
Particulate Emissions	14.32

NEW SOURCE REVIEW FORM B

PTI Number: 13-03667

Facility ID: 1318170235

FACILITY NAME Ferro Corporation

FACILITY DESCRIPTION manufacturing frit and glass powder

CITY/TWP Cuyahoga Hts