



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL  
CUYAHOGA COUNTY**

**CERTIFIED MAIL**

Street Address:

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

Mailing Address:

Lazarus Gov.  
Center

**Application No:** 13-04177

**DATE:** 6/29/2004

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

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

CLAA



**Permit To Install  
Terms and Conditions**

**Issue Date: 6/29/2004  
Effective Date: 6/29/2004**

**FINAL PERMIT TO INSTALL 13-04177**

Application Number: 13-04177  
APS Premise Number: 1318170235  
Permit Fee: **\$2000**  
Name of Facility: Ferro Corporation  
Person to Contact: Michael 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):  
**Continuous frit smelter No. 10 -- P912.**

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**

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. 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**

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**

Ferro Corporation  
PTI Application: **13-04177**  
**Issued: 6/29/2004**

Facility ID: **1318170235**

If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) 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.

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>
PE	5.20
NOx	65.8
CO	22.6

Note: The above limits represent an increase of 4.37 tpy PE, 39.5 tpy NOx, and 15.87 tpy CO as a result of this modification.

13

Ferro Corporation  
PTI Application: 13-04177  
Issued: 6/29/2004

Facility ID: 1318170235

**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.

### 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>	<u>OAC rule 3745-23-06(B)</u>
P912 - continuous frit smelter #10 (production capacity: 3000 lbs/hr max.) equipped with four venturi scrubbers which operate independently and in parallel	OAC rule 3745-31-05(A)(3)	40 CFR Part 60 Subpart CC
MODIFIED	OAC rule 3745-17-07(A)	
	OAC rule 3745-17-11(B)(1)	
	OAC rule 3745-31-05(C) Synthetic Minor to avoid PSD	
	OAC rule 3745-21-08(B)	

Applicable Emissions Limitations/Control Measures

particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

1.14 lbs/hr of particulate emissions and 4.12 TPY  
18.2 lbs/hr of NO<sub>x</sub> emissions and 65.8 TPY  
6.24 lbs/hr of CO emissions and 22.6 TPY  
The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).

Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

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).

65.8 TPY of NO<sub>x</sub> emissions as a 12-month rolling summation

See A.I.2.a

See A.I.2.b

The particulate emission limitation specified by this rule is less stringent than the

2. Additional Terms and Conditions

2.a The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 13-4177.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 13-4177.

II. Operational Restrictions

- 1. The permittee shall only burn natural gas in this emissions unit.
2. The pH of the scrubber liquor in each scrubber shall be maintained within the range of 6 and 10.
3. The pressure drop across each scrubber shall be continuously maintained at a value of not less than 30 inches of water at all times while the emissions unit is in operation.
4. The maximum annual operating hours for this emissions unit shall not exceed 7,234 hrs, based upon a rolling, 12-month summation of the operating hours.
5. To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the operating hours specified in the following table:

Table with 2 columns: Month(s) and Maximum Allowable Cumulative Operational hours. Rows: 1 (603), 1-2 (1206)

1-3	1809
1-4	2412
1-5	3015
1-6	3618
1-7	4221
1-8	4824
1-9	5427
1-10	6030
1-11	6633
1-12	7234

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

6. The maximum average hourly amount of frit processed in this emissions unit shall not exceed 2,600 pounds.

### III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly operate and maintain equipment to continuously monitor and record the pH of the scrubber liquor and the pressure drop across each scrubber while the emissions unit is in operation. The monitoring devices and any recorders shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

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

- a. The pH of the scrubber liquor.
  - b. The pressure drop across the scrubber, in inches of water.
  - c. The downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
  3. The permittee shall maintain daily records of the number of hours the emissions unit operated and the amount of frit processed in this emissions unit (in pounds).
  4. The permittee shall maintain daily records of the average hourly production rate (in pounds per hour) of frit processed in this emissions unit.

5. The permittee shall maintain monthly records of the following information:
  - a. the operating hours for each month.
  - b. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the operating hours.

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative operating hours for each calendar month.

#### IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports to the Cleveland Division of Air Quality (Cleveland DAQ) that identify all periods of time during which the following scrubber parameters were not maintained at or above the required levels:
  - a. The pressure drop across the scrubber.
  - b. The pH of the scrubber liquor.
2. The permittee shall submit deviation (excursion) reports to the Cleveland DAQ that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
3. The permittee shall submit deviation (excursion) reports to the Cleveland DAQ which identify all exceedances of the rolling, 12-month operating hours limitation and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative operating hours levels. Each report shall be submitted within 30 days after the deviation occurs.
4. The permittee shall submit quarterly deviation (excursion) reports to the Cleveland DAQ that identify each instance when the emissions unit exceeded the average hourly production rate restriction of 2,600 lbs/hour of frit.

#### V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation:  
Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average.  
  
Applicable Compliance Method:  
If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03 (B)(1).
  - b. Emission Limitation:  
1.14 lb/hr of particulate emissions  
  
Applicable Compliance Method:  
The permittee performed emissions testing in accordance with its Title V permit in April 2003 which provided an emission factor of 0.18 lb of particulate emissions per ton of frit

produced. Compliance may be determined by multiplying this emission factor by the actual average hourly process weight rate (in tons/hr).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

- c. Emission Limitation:  
4.12 TPY of particulate emissions

Applicable Compliance Method:

Compliance shall be determined by multiplying the April 2003 stack test emission factor of 0.18 lb/ton of frit produced by the actual annual amount of frit material processed in this emissions unit (tons/yr) and the factor of (ton/2000 lbs).

- d. Emission Limitation:  
18.2 lbs/hr of NO<sub>x</sub> emissions

Applicable Compliance Method:

Emission testing was conducted for this emissions unit in April 2003 during which an emission factor of 10.14 lbs of NO<sub>x</sub> emissions per ton of frit produced was determined. Compliance may be determined by multiplying this emission factor by the actual average hourly process weight (in tons/hour).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 7 of 40 CFR Part 60, Appendix A.

- e. Emission Limitation -  
65.8 TPY of NO<sub>x</sub> as a 12-month rolling summation

Applicable Compliance Method -

Compliance with the above limitation shall be determined by multiplying the stack test emission factor of 10.14 lbs of NO<sub>x</sub> emissions per ton of frit produced by the actual annual amount of frit material processed in this emissions unit (tons/yr) and the factor of (ton/2000 lbs).

- f. Emission Limitation:  
6.24 lbs/hr of CO emissions

21

Ferro C

PTI A<sub>1</sub>

**Issued: 6/29/2004**

Emissions Unit ID: P912

Applicable Compliance Method:

Compliance with the hourly emission limitation may be determined through the use of the U.S. EPA database, FIRE 6.22 emission factor for frit manufacturing (4.8 lbs/ton), which is multiplied by the actual average hourly process weight rate (in tons/hr).

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 10 of 40 CFR Part 60, Appendix A.

- g. Emission Limitation:  
22.6 TPY of CO emissions

Applicable Compliance Method:

Compliance may be determined by the use of the U.S. EPA database, FIRE 6.22 emission factor for frit manufacturing (4.8 lbs/ton), which is multiplied by the actual annual amount of frit material processed in this emissions unit (tons/yr) and the factor of (ton/2000 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>
P912 - continuous frit smelter #10 (production capacity: 3000 lbs/hr max.) equipped with four venturi scrubbers which operate independently and in parallel MODIFIED	None.	None.

**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.

24

Ferro (

PTI A<sub>1</sub>

**Issued: 6/29/2004**

Emissions Unit ID: P912

**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.

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P924 - feeding, crushing and bagging operations for smelter #10 (production capacity 3000 lbs/hr max) equipped with a baghouse	OAC rule 3745-31-05(A)(3)	0.01 grains/dscf of exhaust gases and 1.08 TPY of particulate emissions  The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and 3745-17-07(B).
MODIFIED	OAC rule 3745-17-07(A)	See A.I.2.a  Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
	OAC rule 3745-17-07(B)	Visible particulate emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average.
	OAC rule 3745-17-08(B)	The control measures specified by this rule are equivalent to the control measures established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-11(B)(1)	The particulate emission limitation specified by this rule is less stringent than

26

Ferro (

PTI A<sub>1</sub>

**Issued: 6/29/2004**

Emissions Unit ID: P924

the particulate emission  
limitation established  
pursuant to OAC rule 3745-  
31-05(A)(3).

2. Additional Terms and Conditions

2.a The permittee shall employ best available control measures on all frit material feeding, crushing and bagging operations for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, the permittee has committed to the use of a baghouse for particulate emission control.

II. Operational Restrictions

- 1. The pressure drop across the baghouse shall be maintained within the range of 1.0 to 8.0 inches of water while the emissions unit is in operation.
2. The maximum annual operating hours for this emissions unit shall not exceed 7234 hrs, based upon a rolling, 12-month summation of the operating hours.
3. To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the operating hours specified in the following table:

Table with 2 columns: Month(s) and Maximum Allowable Cumulative Operational hours. Rows range from 1 to 1-12, showing cumulative hours increasing from 603 to 7234.

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

- 4. The maximum average hourly amount of frit processed in this emissions unit shall not exceed

2,600 lbs/hour.

### III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the 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 the baghouse once per day.
2. The permittee shall perform daily checks for visible fugitive particulate emissions from the non-stack egress points from the building housing this emissions unit. These egress points shall include, but not be limited to: doorways, windows, and roof monitors. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
  - a. the location and color of the emissions;
  - b. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emission incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.

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

3. The permittee shall maintain daily records of the number of hours the emissions unit operated and the amount of frit (in pounds) processed in this emissions unit.
4. The permittee shall maintain daily records of the average hourly production rate (in pounds/hour) of frit processed in this emissions unit.
5. The permittee shall maintain monthly records of the following information:
  - a. the operating hours for each month.
  - b. beginning after the first 12 calendar months of operation following the issuance of this

permit, the rolling, 12-month summation of the operating hours.

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative operating hours for each calendar month.

#### **IV. Reporting Requirements**

1. The permittee shall submit quarterly pressure drop deviation (excursion) reports to the Cleveland DAQ that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above.
2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible emissions were observed from the non-stack egress points from the building housing this emissions unit and (b) describe any corrective actions taken to eliminate the visible emissions. These reports shall be submitted to the Cleveland DAQ by January 31 and July 31 of each year and shall cover the previous 6-month period.
3. The permittee shall submit deviation (excursion) reports to the Cleveland DAQ which identify all exceedances of the rolling, 12-month operating hours limitation and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative operating hours levels. Each report shall be submitted within 30 days after the deviation occurs.
4. The permittee shall submit quarterly deviation (excursion) reports to the Cleveland DAQ that identify each instance when the emissions unit exceeded the average hourly production rate restriction of 2,600 lbs/hour of frit.

#### **V. Testing Requirements**

1. Compliance with the emission limitations/control requirements in sections A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation:  
Visible particulate emissions from any stack shall not exceed 20% opacity as a 6-minute average.  
  
Applicable Compliance Method:  
If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

- b. Emission Limitation:  
Visible particulate emissions of fugitive dust shall not exceed 20% opacity as a 3-minute average.

**Applicable Compliance Method:**

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(3). The points of observation for visible emissions shall include any non-stack egress points from the building housing this emissions unit. Such egress points shall include, but are not limited to, doorways, windows, and roof monitors.

- c. Emission Limitation:  
0.01 grain/dry standard cubic feet of exhaust gases

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1-5 of 40 CFR Part 60, Appendix A.

- d. Emission Limitation:  
1.08 TPY of particulate emissions

Applicable Compliance Method:

Compliance may be based on the recordkeeping requirement in sections A.III.3 and 4. of this permit. The actual annual operating hours are multiplied by the short term particulate emission rate (0.01 gr/dscf), the baghouse rated exhaust flow rate of 3500 dscf/min, the factor of 60 min/hr, the factor of 1.0 ton/2000 lbs and dividing by 7000 grains/lb.

## **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>
P924 - feeding, crushing and bagging operations for smelter #10 (production capacity 3000 lbs/hr max) equipped with a baghouse MODIFIED	None.	None.

**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.

33

Ferro (

PTI A<sub>1</sub>

**Issued: 6/29/2004**

Emissions Unit ID: P924

**VI. Miscellaneous Requirements**

None.