State of Ohio Environmental Protection Agency

RE: FINAL PERMIT TO INSTALL **CERTIFIED MAIL**
WILLIAMS COUNTY

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

Application No: 03-13872

DATE: 8/22/2002

Ferro Corporation
Kent Huang
103 Railroad Avenue
Stryker, OH 43557

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
236 East Town Street, Room 300
Columbus, Ohio 43215

Very truly yours,

Michael W. Ahern

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

CC: USEPA **NWDO**

STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install	**Issue Date: 8/22/2002**
Terms and Conditions	**Effective Date: 8/22/2002**

FINAL PERMIT TO INSTALL 03-13872

Application Number:	03-13872
APS Premise Number:	0386000023
Permit Fee:	**$200**
Name of Facility:	Ferro Corporation
Person to Contact:	Kent Huang
Address:	103 Railroad Avenue Stryker, OH 43557

Location of proposed air contaminant source(s) [emissions unit(s)]:
103 Railroad Avenue
Stryker, **Ohio**

Description of proposed emissions unit(s):
Thermoplastic pellets extrusion line 4.

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. 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 Record keeping Requirements

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or record keeping 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 emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping 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. Records Retention Requirements

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.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. 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 verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. 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 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. 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 emissions unit(s) that is (are) served by such control system(s).

6. 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.

7. 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.

8. 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.

9. 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.

10. 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.

11. 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).

12. 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.

13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This 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 emissions unit(s) covered by this permit.

14. 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.

15. 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.

B. 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

Pollutant	Tons Per Year
PE	0.22
OC	0.10

Emissions Unit ID: **P036**

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. 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
Plastic pellets extrusion line 4.	OAC rule 3745-31-05 (A) (3)	See A.2.a. 0.05 lb particulate emissions (PE)/hr& 0.22 ton PE/yr 0.09 lb organic compound (OC)/hr & 0.10 ton OC/yr Visible particulate emissions shall not exceed 0% opacity as a six-minute average
	OAC rule 3745-17-07 (A)	See A.2.b.
	OAC rule 3745-17-11 (B)	See A.2.b.

2. Additional Terms and Conditions

2.a Best Available Technology (BAT) control requirements for this emissions unit has been determined to be the use of a baghouse with a maximum outlet grain loading of 0.02 gr/dscf.
BAT requirements also include compliance with the terms and conditions of this permit.

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

B. Operational Restrictions

1. The pressure drop across the baghouse shall be maintained within the range of 1-6 inches of water while the emissions unit is in operation.

C. Monitoring and/or Record keeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals(s). The permittee shall record the pressure drop across the baghouse of a weekly basis.

2. The permittee shall collect the following monthly records for resin usage in emissions unit P036:

a. Identification of each resin processed;

b. Pounds of each resin processed;

c. Annual pounds of each resin processed year to date, and

d. The total monthly and annual (year to date, in tons) organic compound emissions. The emissions shall be determined based on the following formulas:

Total Organic Emissions (TOC) = $\sum$ (pounds of each resin processed per month) * (EF)

Total Annual Organic Emissions = $\sum$ (TOC) * (X months of operation) (1 ton/2000 lbs)
X = year to date months of operation

Where EF is the appropriate emission factor for each resin processed. The factors are as follows:

a.	Polypropylene (homopolymer)	33.4 lbs OC emitted/million lbs
b.	Polypropylene (copolymer)	80.3 lbs OC emitted/million lbs
c.	Polyethylene (low density)	35.3 lbs OC emitted/million lbs
d.	Polyethylene (linear low density)	14.2 lbs OC emitted/million lbs
e.	Polystyrene	189 lbs OC emitted/million lbs
f.	Acrylonitrile Butadiene Styrene (ABS)	189 lbs OC emitted/million lbs
g.	Ethylene-Vinyl Acetate (EVA)	123.4 lbs OC emitted/million lbs
h.	Styrene Acrylonitrile (SAN)	189 lbs OC emitted/million lbs
i.	Polyethylene Terephalate (PET)	35.3 lbs OC emitted/million lbs

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above. These deviation reports shall be submitted in accordance with the general terms and conditions of this permit.

2. The permittee shall submit annual written reports of any deviations (excursions) from the annual organic compound emission limitation in section A.1. of this permit. If no deviations occurred during the calendar year, the permittee shall submit a report which states that no deviations occurred during that year. The reports shall be submitted annually, by January 31 of each year and shall cover the previous calendar year.

E. Testing Requirements

1. Compliance with the emission limitations specified in Section A.1. of the terms and conditions of this permit shall be determined in accordance with the following method(s):

a. **Emission Limitation:**
0.09 lb OC/hr

Applicable Compliance Method:
The hourly OC emission limitation is based on the emission units potential to emit*. Therefore, no hourly or monthly record keeping, deviation reporting, or compliance method calculations are required to demonstrate compliance with this limitation. If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1 - 4, and 18, 25, or 25A of 40 CFR Part 60, Appendix A.

*The potential to emit for this emissions unit was based on a maximum process weight rate of 500 lbs/hr and a worst case organic compound emission factor of 189 lbs OC/10^6 lbs of resin processed.

b. **Emission Limitation:**
0.10 ton OC/yr

Applicable Compliance Method:
Compliance shall be based upon the recordkeeping requirements specified in section C.2. of this permit.

c. **Emission Limitation:**
0.05 lb PE/hr

Applicable Compliance Method:
The permittee shall demonstrate compliance with this emission limitation by multiplying the maximum outlet grain loading of 0.02 gr/dscf by the maximum volumetric air flow of the baghouse (300 acfm) and converting this value to pounds/hour by multiplying by 60 min/hr and dividing by 7000 gr/lbs. If required, the permittee shall demonstrate compliance by testing in accordance with Methods 1 - 5 of 40 CFR Part 60, Appendix A.

d. **Emission Limitation:**
0.22 ton PE/yr

Applicable Compliance Method:
The TPY limit was developed by multiplying the lb/hr limitation by 8760 hrs of operation/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the lb/hr limitation, compliance will also be shown with the annual limitation.

e. **Emission Limitation:**
Visible particulate emissions shall not exceed 0% opacity as a six-minute average

Applicable Compliance Method:
If required, compliance shall be demonstrated in accordance with USEPA Method 9, 40 CFR Part 60, Appendix A.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emission unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC chapter 3745-31 requires permittees to apply for and obtain a new or modified Permit to Install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase above 1.0 ton per year may require the permittee to apply for and obtain a new Permit to Install.

NEW SOURCE REVIEW FORM B

PTI Number: 03-13872 Facility ID: 0386000023

FACILITY NAME Ferro Corporation

FACILITY DESCRIPTION Thermoplastic pellets extrusion line 4. CITY/TWP Stryker

SIC CODE 3087 SCC CODE 03-08-007-99 EMISSIONS UNIT ID P036

EMISSIONS UNIT DESCRIPTION Plastic extrusion line (Line 4).

DATE INSTALLED 9/02

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	Attainment	0.05 lb/hr	0.15	0.05	0.22
PM_{10}					
Sulfur Dioxide					
Organic Compounds	Attainment	0.09 lb/hr	0.07	0.09 lb/hr	0.10
Nitrogen Oxides					
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? N NESHAP? N PSD? N OFFSET POLICY? N

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?
Enter Determination Compliance with the terms and conditions of this permit.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? N

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: N/A