



Check Sheet

Company Name: Owens - Corning Fiberglas Corporation

Permit Number: AC 16-0216269

PSD Number: \_\_\_\_\_

Permit Engineer: \_\_\_\_\_

Cross References:

- 
- 
- 

**Application:**

- Initial Application
- Incompleteness Letters
- Responses
- Waiver of Department Action
- Department Response
- Other

**Intent:**

- Intent to Issue
- Notice of Intent to Issue
- Technical Evaluation
- BACT or LAER Determination
- Unsigned Permit
- Correspondence with:

- EPA
- Park Services
- Other

- Proof of Publication
- Petitions - (Related to extensions, hearings, etc.)
- Waiver of Department Action
- Other

**Final**

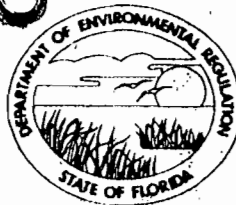
**Determination:**

- Final Determination
- Signed Permit
- BACT or LAER Determination
- Other

**Post Permit Correspondence:**

- Extensions/Amendments/Modifications
- Other

TWIN TOWERS OFFICE BUILDING  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM  
GOVERNOR  
JACOB D. VARN  
SECRETARY

STATE OF FLORIDA  
**DEPARTMENT OF ENVIRONMENTAL REGULATION**

April 11, 1980

Mr. Tom Gibbs, Chief  
Air Facilities Branch  
Air & Hazardous Materials Division  
U.S. Environmental Protection Agency,  
Region IV  
345 Courtland Street, N.E.  
Atlanta, Georgia 30308

Dear Mr. Gibbs:

Attached please find one copy of the Air Construct Permit recently issued to Owens-Corning of Jacksonville.

Sincerely,

Mark Hodges  
Environmental Scientist  
Florida Department of Environmental  
Regulation  
Bureau of Air Quality Management

MH:caa

TWIN TOWERS OFFICE BUILDING  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM  
GOVERNOR  
JACOB D. VARN  
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

April 1, 1980

Mr. M. C. Dillard, Plant Manager  
Owens Corning Fiberglas Corporation  
1035 Talleyrand Avenue  
Jacksonville, Florida

Dear Mr. Dillard:

Enclosed is Permit Number AC 16-26269, dated March 31, 1980,  
to Owens Corning Fiberglas Corporation  
issued pursuant to Section 403, Florida Statutes.

Should you object to this permit, including any and all of the conditions contained therein, you may file an appropriate petition for administrative hearing. This petition must be filed within fourteen (14) days of the receipt of this letter. Further, the petition must conform to the requirements of Section 28-5.15, Florida Administrative Code, (see reverse side of this letter). The petition must be filed with the Office of General Counsel, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301.

If no petition is filed within the prescribed time, you will be deemed to have accepted this permit and waived your right to request an administrative hearing on this matter.

Acceptance of the permit constitutes notice and agreement that the Department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement action for violation of the conditions and requirements thereof.

Sincerely,

Mark G. Hodges  
Environmental Scientist  
FDER/BAQM

Enclosure

RULES OF THE ADMINISTRATIVE COMMISSION  
MODEL RULES OF PROCEDURE  
CHAPTER 28-5  
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

28-5.15 Requests for Formal and Informal Proceedings

- (1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.
- (2) All petitions filed under these rules should contain:
  - (a) The name and address of each agency affected and each agency's file or identification number, if known;
  - (b) The name and address of the petitioner or petitioners;
  - (c) All disputed issues of material fact. If there are none, the petition must so indicate;
  - (d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;
  - (e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;
  - (f) A demand for the relief to which the petitioner deems himself entitled; and
  - (g) Such other information which the petitioner contends is material.





STATE OF FLORIDA  
DEPARTMENT OF  
ENVIRONMENTAL REGULATION

CONSTRUCTION  
PERMIT

NO. DC 16-26269

OWENS-CORNING FIBERGLAS CORPORATION  
LIMESTONE STORAGE AND TRANSFER  
DUVAL COUNTY

DATE OF ISSUANCE

MARCH 31, 1980

DATE OF EXPIRATION

SEPTEMBER 30, 1980

*Jacob D. Varn*  
JACOB D. VARN  
SECRETARY

Final Determination

Owens-Corning Fiberglas Corporation  
Duval County Bulk Limestone Transport and Storage System  
Duval County

Construction Permit  
Application Number:

AC 16-26269

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

March 28, 1980

Owens-County Fiberglass Corporation Duval County  
Bulk Limestone Transport and Storage System

The construction application has been reviewed by the Department. Public notice of the Department's intent to issue was published in the Florida Times-Union on February 2, 1980. The preliminary determination and technical evaluation were available for public inspection at the Duval County Department of Health, Welfare and Bio-Environmental Services, the DER St. Johns River Subdistrict and Bureau of Air Quality Management.

No comments or additional inputs were received nor were any modifications made.

It is recommended that the construction permit be issued as drafted.

Technical Evaluation  
and  
Preliminary Determination

Owens-Corning Fiberglas Corporation  
Duval County

Construction Permit  
Application Number:  
AC 16-26269

Florida Department of Environmental Regulation  
Bureau of Air Quality Management  
Central Air Permitting  
February 27, 1980



## I. PROPOSED DEPARTMENT ACTION

The Department intends to issue the requested construction permit to Owens-Corning Fiberglas Corporation to construct a bulk limestone transport and storage system at their Jacksonville Roofing Products facility, subject to public comment received as a result of this notice.

Any person wishing to file comments on this proposed action, may do so by submitting such comments in writing to:

Bill Thomas  
Florida Department of Environmental  
Regulation  
Bureau of Air Quality Management  
Twin Towers Office Building  
Tallahassee, Florida 32301

Any comments received within thirty days after publication of this notice will be considered and noted in the Department's final determination.

Any persons whose substantial interests would be affected by the issuance or denial of this permit may request an administrative hearing by filing a petition for hearing in accordance with the provisions of Chapter 28-5, specifically as set forth in Section 28-5.15 (copy attached). Such petition must be filed within 14 days of the date of this notice. Such petition is to be filed with:

Mary Clark  
Office of General Counsel  
Florida Department of Environmental  
Regulation  
Twin Towers Office Building  
Tallahassee, Florida 32301

## II. SUMMARY OF EMISSION AND AIR QUALITY ANALYSIS

a. The proposed location is within the area classified as "nonattainment" for the criteria pollutants particulate and ozone. Duval County is classified "attainment" for the remaining criteria pollutants. The proposed construction will be a source of particulate only.

b. The system block diagram shows a filler heater which has a potential for emission of volatile organic compounds (VOC). The heater is actually existing and it is therefore not appropriate to consider it in connection with this application for a permit to construct since it is shown for information. Were it to be considered as a part of this application, its small size together with use of natural gas fuel would exempt it from the nonattainment provisions under 17-2.17(3)(a)1.a.

### III. SYNOPSIS OF APPLICATION

a. Name and Address of Applicant:

Owens-Corning Fiberglas Corp.  
1035 Talleyrand Avenue  
Jacksonville, Florida

b. Description of Project and Controls:

This project is the proposed installation of a bulk crushed limestone handling facility to replace the existing manual handling of bagged limestone. The material will be brought in by truck, unloaded, and conveyed to a storage bin by means of pneumatic conveyor. Maximum handling capacity will be 40,000 lbs/hr. The storage bin vent will be fitted with a Carter-Day type RJ - reverse jet filter.

c. Description of Process, Proposed Process Rates and Emission Rates

Bulk, crushed limestone will be brought in by sealed, hopper trucks. A pneumatic conveyor tube, capped when not in use, will be connected to truck outlet. The crushed limestone will then be conveyed to a storage bin. Air displaced from the bin will be vented through a Carter-Day type RJ filter, model No. 12LRJ37. Blower capacity will be 500 CFM giving an air-to-cloth ratio of 5. Under these conditions emissions will be no more than 0.02 grains/DSCF giving a total annual emission of less than 0.4 tons of particulate. Potential emissions, based on AP-42 figures for screening, conveying and handling for stone quarrying and processing, should be on the order of 2 lbs/ton or 40 lbs/hr. This is only an estimate but the expected 99.9% efficiency of the filter should permit the output specifications to be met with potential of up to 80 lbs/hr. Potential and allowable emissions are listed below.

Pollutant	Potential Emissions		Allowable Emissions	
	lbs/hr.	tons/year	lbs/hr.	tons/yr
Particulate	40-80	175-350	.084	0.4

### IV. RULE APPLICABILITY

The proposed project is located in the Duval County Ozone Nonattainment Area. Since no increase in fuel usage is requested in this application, the source is not subject to 17-2.17 for hydrocarbon emissions.

The proposed project is located in the Jacksonville Particulate Nonattainment Area. Since potential emissions exceed 15 tons/year but allowable emissions are less than 50 tons/year the source is a "Tier 1 source" and subject to 17-2.17(4) requiring compliance with any applicable Environmental Protection Agency Standard of Performance for New Stationary Sources (NSPS) and National Emissions Standards for Hazardous Air Pollutants (NESHAPS) or any applicable emission limiting standard in 17-2.05 whichever is more restrictive.

The source is potentially a major emitting facility as defined in 17-2.02(70) depending on the actual value of potential emissions within the possible range. Due to the low value of allowable emissions after application of the proposed technology the emissions are considered deminimis.

IV. FINDINGS

1. Potential and allowable emissions are projected to be:

Pollutant	Potential Emissions		Allowable Emissions	
	lbs/hr.	tons/year	lbs/hr	tons/year
Particulate	40-80	175-350	.084	0.4

2. No promulgated NSPS presently exist which are specifically applicable to this project. Proposed standards for emissions of particulate matter from non-metallic mineral processing plants offer an indication of technology which could be applied with a proposed limit of .02 grains/DSCF. Applicant has proposed this level of control based on the specifications of the control equipment to be installed.

3. The maximum crushed limestone input shall be 40,000 lbs/hr.

4. The maximum operating schedule will be 8,760 hours per year.

5. It is not technically feasible with existing methods or equipment to determine compliance by measuring stack emissions. It is therefore proposed that the permit specify no visible emissions, defined by 17-2.12(135) as "an emission less than 5% opacity or 1/4 Ringelmann measured by standard methods", be specified in the permit as demonstration of compliance.

VI. PROPOSED ALLOWABLE EMISSIONS AND PERMIT CONDITIONS

See Draft Permit

Attachment: Rule 28-5

TWIN TOWERS OFFICE BUILDING  
2800 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM  
GOVERNOR  
JACOB D. VARN  
SECRETARY

STATE OF FLORIDA

## DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Owens-Corning Fiberglas Corp.  
1035 Talleyrand Avenue  
Jacksonville, Florida

PERMIT/CERTIFICATION  
NO. AC 16-26269

COUNTY: Duval

PROJECT: Bulk crushed Lime-  
stone Handling System

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 & 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

For the installation of a bulk handling, receiving system for crushed limestone filler. Particulate emissions are to be controlled by a Carter-Day Type RJ-Reverse Jet filter, Model No. 12LRJ37 operating at 500 CFM. The plant is located at 1035 Talleyrand Avenue in Jacksonville, Florida. The Universal Transverse Mercator (UTM) coordinates are 7439300E and 3356000N.

Construction shall be in accordance with the attached permit application, attached plans, documents and drawings except as otherwise noted on page 3, "Specific Conditions".

Attachments are as follows:

1. "Application to Construct Air Pollution Sources", DER Form 17-1.122(16).

### GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions", and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed

PERMIT NO.: AC 16-26269

APPLICANT: Owens-Corning Fiberglas Corp.

on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

13. This permit also constitutes:

- Determination of Best Available Control Technology (BACT)
- Determination of Prevention of Significant Deterioration (PSD)
- Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

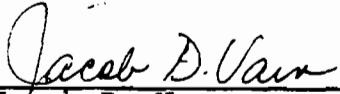
SPECIFIC CONDITIONS:

PERMIT NO.: AC 16-26269  
APPLICANT: Owens-Corning Fiberglas Corp.

Specific Conditions:

1. Maximum allowable emissions from the bulk crushed limestone receiving system shall be:  

Particulate	0.084 lbs/hour	0.4 tons/year
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2. The hours of operation shall be limited to 8760 hours per year.
3. Maximum allowable material input shall be 40,000 lbs/hour.
4. There shall be no visible emissions, defined in 17-2.02(135) as "An emission greater than 5 percent opacity or  $\frac{1}{4}$  Ringelmann measured by standard methods" from this source.
5. A thirty day notice prior to emission testing shall be provided by the applicant to the Bureau of Air Quality Management.
6. Following approval of test results and prior to 90 days before expiration a complete application for an Operation Permit shall be submitted to the DER, St. Johns River Subdistrict office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an Operation Permit.

  
\_\_\_\_\_  
Jacob D. Varn  
Secretary

Expiration Date: September 30, 1980

Issued this 31<sup>ST</sup> day of MARCH, 19 80

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION



send to DEP - SAQM Tel.

# FLORIDA PUBLISHING COMPANY

Publishers

JACKSONVILLE, DUVAL COUNTY, FLORIDA

STATE OF FLORIDA }  
COUNTY OF DUVAL }

Before the undersigned authority personally appeared .....

Ronald W. Keeler, who on oath says that he is

Advertising Manager of The Florida Times-Union, and

Jacksonville Journal, daily newspapers published at Jacksonville in Duval County, Florida; that the attached copy of advertisement, being a

Legal Notice

in the matter of Sulk limestone filler systems

in the ..... Court,

was published in The Florida Times-Union

in the issues of February 2, 1980

Affiant further says that the said The Florida Times-Union and Jacksonville Journal are each newspapers published at Jacksonville, in said Duval County, Florida, and that the said newspapers have each heretofore been continuously published in said Duval County, Florida, The Florida Times-Union each day, and Jacksonville Journal each day except Sundays, and each has been entered as second class mail matter at the postoffice in Jacksonville, in said Duval County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in said newspaper.

Sworn to and subscribed before me this 4th day of

February A.D. 19 80

Maomi S. King  
Notary Public,  
State of Florida at Large

Ronald W. Keeler

Notary Public, State of Florida at Large

My Commission Expires July 9, 1982

Bonded By American Fire & Casualty Company

**NOTICE OF RECEIPT OF APPLICATION FOR PERMIT TO CONSTRUCT/EXPAND AIR POLLUTION SOURCE TO WHOM IT MAY CONCERN**

The Florida Department of Environmental Regulation has received an application from Owens Corning Fiberglas for a permit to construct/expand bulk limestone filler system which is a source of air pollution at 1035 Tallwood Avenue, Jacksonville, Florida 32204.

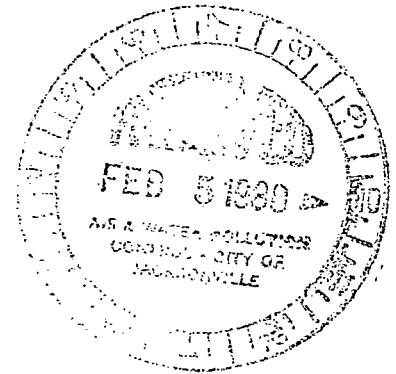
This application has been submitted by Mr. M. C. Billard pursuant to Chapter 17-2, Florida Administrative Code regarding the control of emissions which may affect the maintenance of National Air Quality Standards.

The Department hereby gives notice of its intent to issue said permits. Copies of the aforementioned application and the technical analysis performed by the Department's staff are available for public inspection at the following location(s):

- Florida Department of Environmental Regulation  
3426 Bills Road  
Jacksonville, FL 32207
- City of Jacksonville  
Bio-Environmental Services  
515 W. 6th Street  
Jacksonville, FL 32204

Persons wishing to comment on any aspect of this action are required to submit their comments in writing to the address above within thirty (30) days of publication of this notice on or before March 1, 1980.

THE STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION





**CONSOLIDATED CITY OF JACKSONVILLE, FLORIDA**

OFFICE MEMO

DATE 3/3/80

- TO *Mark Hodges*
- FROM *Ed Balducci*
- SUBJECT *Owens Corning - "Bulk Limestone Filter Systems"*

*FYI*

*Mark,*

*Here is a copy of the public notice  
from the local newspaper. Please note that  
the time period was completed as of March 3, 1980.*

*Please call if you have questions.*



REPLY REQUESTED

*File - Owens Corning  
- if duplicate -  
D destroy*

CONSTRUCTION NOTICE

The Florida Department of Environmental Regulation (DER) has received an application from and intends to issue a Construction Permit to Owens-Corning Fiberglass Co. for the construction of a Bulk Limestone Filler System to be located at 1035 Talleyrand Avenue, Jacksonville, in Duval County, Florida. A determination of Best Available Control Technology was not required. Copies of the Application, Technical Evaluation, and Departmental Intent are available for inspection at the following offices:

DER, St. Johns River Subdistrict  
3426 Bills Road  
Jacksonville, Florida 32207

DER, Bureau of Air Quality Mgt.  
2600 Blair Stone Rd.  
Tallahassee, Florida 32301

Duval County Dept. of Health, Welfare & Bio-Env. Ser.  
Div. of Bio-Env. Serv.  
515 West 6th Street  
Jacksonville, Florida 32206

Comments on this action shall be submitted in writing to Bill Thomas of the Tallahassee office, within 30 days of this notice.

To appear in: Times-Union  
(Jacksonville)

on: 2/24/80

Technical Evaluation  
and  
Preliminary Determination

Owens-Corning Fiberglas Corporation  
Duval County

Construction Permit

Application Number:

AC 16-26269

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

February 27, 1980

## I. PROPOSED DEPARTMENT ACTION

The Department intends to issue the requested construction permit to Owens-Corning Fiberglas Corporation to construct a bulk limestone transport and storage system at their Jacksonville Roofing Products facility, subject to public comment received as a result of this notice.

Any person wishing to file comments on this proposed action, may do so by submitting such comments in writing to:

Bill Thomas  
Florida Department of Environmental  
Regulation  
Bureau of Air Quality Management  
Twin Towers Office Building  
Tallahassee, Florida 32301

Any comments received within thirty days after publication of this notice will be considered and noted in the Department's final determination.

Any persons whose substantial interests would be affected by the issuance or denial of this permit may request an administrative hearing by filing a petition for hearing in accordance with the provisions of Chapter 28-5, specifically as set forth in Section 28-5.15 (copy attached). Such petition must be filed within 14 days of the date of this notice. Such petition is to be filed with:

Mary Clark  
Office of General Counsel  
Florida Department of Environmental  
Regulation  
Twin Towers Office Building  
Tallahassee, Florida 32301

## II. SUMMARY OF EMISSION AND AIR QUALITY ANALYSIS

a. The proposed location is within the area classified as "nonattainment" for the criteria pollutants particulate and ozone. Duval County is classified "attainment" for the remaining criteria pollutants. The proposed construction will be a source of particulate only.

b. The system block diagram shows a filler heater which has a potential for emission of volatile organic compounds (VOC). The heater is actually existing and it is therefore not appropriate to consider it in connection with this application for a permit to construct since it is shown for information. Were it to be considered as a part of this application, its small size together with use of natural gas fuel would exempt it from the nonattainment provisions under 17-2.17(3)(a)1.a.

### III. SYNOPSIS OF APPLICATION

a. Name and Address of Applicant:

Owens-Corning Fiberglas Corp.  
1035 Talleyrand Avenue  
Jacksonville, Florida

b. Description of Project and Controls:

This project is the proposed installation of a bulk crushed limestone handling facility to replace the existing manual handling of bagged limestone. The material will be brought in by truck, unloaded, and conveyed to a storage bin by means of pneumatic conveyor. Maximum handling capacity will be 40,000 lbs/hr. The storage bin vent will be fitted with a Carter-Day type RJ - reverse jet filter.

c. Description of Process, Proposed Process Rates and Emission Rates

Bulk, crushed limestone will be brought in by sealed, hopper trucks. A pneumatic conveyor tube, capped when not in use, will be connected to truck outlet. The crushed limestone will then be conveyed to a storage bin. Air displaced from the bin will be vented through a Carter-Day type RJ filter, model No. 12LRJ37. Blower capacity will be 500 CFM giving an air-to-cloth ratio of 5. Under these conditions emissions will be no more than 0.02 grains/DSCF giving a total annual emission of less than 0.4 tons of particulate. Potential emissions, based on AP-42 figures for screening, conveying and handling for stone quarrying and processing, should be on the order of 2 lbs/ton or 40 lbs/hr. This is only an estimate but the expected 99.9% efficiency of the filter should permit the output specifications to be met with potential of up to 80 lbs/hr. Potential and allowable emissions are listed below.

Pollutant	Potential Emissions		Allowable Emissions	
	lbs/hr.	tons/year	lbs/hr.	tons/yr
Particulate	40-80	175-350	.084	0.4

### IV. RULE APPLICABILITY

The proposed project is located in the Duval County Ozone Nonattainment Area. Since no increase in fuel usage is requested in this application, the source is not subject to 17-2.17 for hydrocarbon emissions.

The proposed project is located in the Jacksonville Particulate Nonattainment Area. Since potential emissions exceed 15 tons/year but allowable emissions are less than 50 tons/year the source is a "Tier 1 source" and subject to 17-2.17(4) requiring compliance with any applicable Environmental Protection Agency Standard of Performance for New Stationary Sources (NSPS) and National Emissions Standards for Hazardous Air Pollutants (NESHAPS) or any applicable emission limiting standard in 17-2.05 whichever is more restrictive.

The source is potentially a major emitting facility as defined in 17-2.02(70) depending on the actual value of potential emissions within the possible range. Due to the low value of allowable emissions after application of the proposed technology the emissions are considered deminimis.

IV. FINDINGS

1. Potential and allowable emissions are projected to be:

Pollutant	Potential Emissions		Allowable Emissions	
	lbs/hr.	tons/year	lbs/hr	tons/year
Particulate	40-80	175-350	.084	0.4

2. No promulgated NSPS presently exist which are specifically applicable to this project. Proposed standards for emissions of particulate matter from non-metallic mineral processing plants offer an indication of technology which could be applied with a proposed limit of .02 grains/DSCF. Applicant has proposed this level of control based on the specifications of the control equipment to be installed.

3. The maximum crushed limestone input shall be 40,000 lbs/hr.

4. The maximum operating schedule will be 8,760 hours per year.

5. It is not technically feasible with existing methods or equipment to determine compliance by measuring stack emissions. It is therefore proposed that the permit specify no visible emissions, defined by 17-2.12(135) as "an emission less than 5% opacity or 1/4 Ringelmann measured by standard methods", be specified in the permit as demonstration of compliance.

VI. PROPOSED ALLOWABLE EMISSIONS AND PERMIT CONDITIONS

See Draft Permit

Attachment: Rule 28-5

TWIN TOWERS OFFICE BUILDING  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM  
GOVERNOR  
JACOB D. VARN  
SECRETARY

STATE OF FLORIDA

## DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICANT: Owens-Corning Fiberglas Corp.  
1035 Talleyrand Avenue  
Jacksonville, Florida

PERMIT/CERTIFICATION  
NO. AC 16-26269

COUNTY: Duval

PROJECT: Bulk crushed Lime-  
stone Handling System

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 & 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

For the installation of a bulk handling, receiving system for crushed limestone filler. Particulate emissions are to be controlled by a Carter-Day Type RJ-Reverse Jet filter, Model No. 12LRJ37 operating at 500 CFM. The plant is located at 1035 Talleyrand Avenue in Jacksonville, Florida. The Universal Transverse Mercator (UTM) coordinates are 7439300E and 3356000N.

Construction shall be in accordance with the attached permit application, attached plans, documents and drawings except as otherwise noted on page 3, "Specific Conditions".

Attachments are as follows:

1. "Application to Construct Air Pollution Sources", DER Form 17-1.122(16).

### GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions", and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed



PERMIT NO.: AC 16-26269

APPLICANT: Owens-Corning Fiberglas Corp.

on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

13. This permit also constitutes:

- Determination of Best Available Control Technology (BACT)
- Determination of Prevention of Significant Deterioration (PSD)
- Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

SPECIFIC CONDITIONS:

PERMIT NO.: AC 16-26269  
APPLICANT: Owens-Corning Fiberglas Corp.

Specific Conditions:

1. Maximum allowable emissions from the bulk crushed limestone receiving system shall be:  

Particulate	0.084 lbs/hour	0.4 tons/year
-------------	----------------	---------------
2. The hours of operation shall be limited to 8760 hours per year.
3. Maximum allowable material input shall be 40,000 lbs/hour.
4. There shall be no visible emissions, defined in 17-2.02(135) as "An emission greater than 5 percent opacity or  $\frac{1}{4}$  Ringelmann measured by standard methods" from this source.
5. A thirty day notice prior to emission testing shall be provided by the applicant to the Bureau of Air Quality Management.
6. Following approval of test results and prior to 90 days before expiration a complete application for an Operation Permit shall be submitted to the DER, St. Johns River Subdistrict office or its designee. Full operation of the source may then be conducted in compliance with the terms of this permit until expiration or receipt of an Operation Permit.

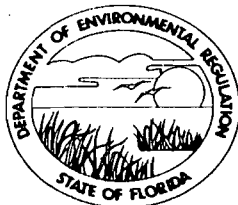
\_\_\_\_\_  
Jacob D. Varn  
Secretary

Expiration Date: September 30, 1980

Issued this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_\_.

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM  
GOVERNOR

JACOB D. VARN  
SECRETARY

STATE OF FLORIDA

**DEPARTMENT OF ENVIRONMENTAL REGULATION**

February 14, 1980

Mr. M. C. Dillard, Plant Manager  
Owens Corning Fiberglass Corp.  
1035 Tallyrand Avenue  
Jacksonville, Florida 32206

Dear Mr. Dillard:

In accordance with our conversation today, I am enclosing a form for limited waiver of the 90 day statutory limit on licensing actions. (Chapter 120.6 F.S.). The existing limit would require final agency action on or before March 16, 1980. If you would, by executing the enclosing form and returning it to us, grant us an extension until March 31, 1980 it would enable compliance with the federal 30 day public comment period requirement prior to issuance of a construction permit in accordance with state requirements.

If you have any questions or comments please contact me.

Thank you for your cooperation.

Sincerely,

William A. Thomas  
Engineer

WT:caa

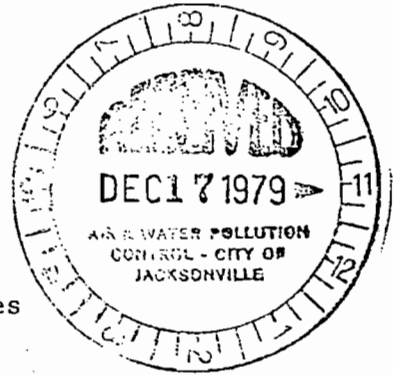
ENCL.



AC16-20269

OWENS-CORNING FIBERGLAS CORPORATION 1035 TALLEYRAND AVENUE, P.O. BOX 3232, STATION F,  
JACKSONVILLE, FL. 32206 PHONE: (904) 353-7361

December 17, 1979




Mr. Wayne E. Tutt  
Associate Pollution Control Engineer  
Dept. of Health, Welfare & Bio-Environmental Services  
515 W. 6th Street  
Jacksonville, FL 32206

Dear Mr. Tutt:

Enclosed please find two copies of an application to construct a bulk limestone transport and storage system for our Jacksonville Roofing Products facility. These are being submitted as you requested in your conversation with our Mr. E. D. Switala of our Toledo office on Oct. 31, 1979. This system will have one exhaust point to the outside atmosphere which is controlled by a ben vent filter. Maximum operation (unloading to storage silo) of this saunce is 3-4 hours daily.

I trust all information needed for your review is included. If you have any questions or comments regarding this sytem, please do not hesitate to contact myself or Mr. Switala in Toledo.

Sincerely,

  
M. C. Dillard  
Plant Manager  
Owens/Corning Fiberglas

cc: D.A. Crawle - BT/552  
J. A. Arduser - T/22  
J. S. Berg -(Jax District)  
R. L. Neighbor - T/18  
S. H. Thomas - BT/5

Encl.

MCD/jc

ROOFING PLANT



STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT  
AIR POLLUTION SOURCES

SOURCE TYPE: Air Pollution (x) New<sup>1</sup> ( ) Existing<sup>1</sup>

APPLICATION TYPE: (x) Construction ( ) Operation ( ) Modification

COMPANY NAME: Owens-Corning Fiberglas Corp COUNTY: Duval

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peeking Unit No. 2, Gas Fired) bulk limestone filler system with Center Day Type RJ dust filters

SOURCE LOCATION: Street 1035 Talleyrand Ave City Jacksonville

UTM: East 7439300 North 3356000

Latitude ° ' "N Longitude ° ' "W

APPLICANT NAME AND TITLE M. C. Dillard Plant Manager

APPLICANT ADDRESS \_\_\_\_\_

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative\* of Owens-Corning Fiberglas Corporation. I certify that the statements made in this application for a construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

Signed: M. C. Dillard  
Plant Manager  
Name and Title (Please Type)

\*Attach letter of authorization Date: 12-15-79 Telephone No. 3517361

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed: D. E. Britt  
D. E. Britt, P. E.  
Name (Please Type)

D. E. BRITT ASSOCIATES, INC.  
Company Name (Please Type)  
533 N. E. 13th Street  
Mailing Address (Please Type)

Florida Registration No. 4795 Date: 12/7/79 Telephone No. 764-6888  
See Section 17-2.02(15) and (22), Florida Administrative Code, (F.A.C.)



**SECTION II: GENERAL PROJECT INFORMATION**

- A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

Replace manual addition of limestone filler with a bulk system including pneumatic transport and storage with Carter Day reverse jet collector environmental.  
This control equipment will assure compliance.

- B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction 11-05-79 Completion of Construction 11-30-79

- C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Entire system cost \$100,000 - no breakdown on control equipment.

- D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

N/A

- E. Is this application associated with or part of a Development of Regional Impact (DRI) pursuant to Chapter 380, Florida Statutes, and Chapter 22F-2, Florida Administrative Code? Yes  No

- F. Normal equipment operating time: hrs/day 4; days/wk 7; wks/yr 52; if power plant, hrs/yr \_\_\_\_\_; if seasonal, describe:

N/A

- G. If this is a new source or major modification, answer the following questions. (Yes or No)

- |   |            |
|---|------------|
| 1. Is this source in a non-attainment area for a particular pollutant?  | <u>yes</u> |
| a. If yes, has "offset" been applied?   | <u>N/A</u> |
| b. If yes, has "Lowest Achievable Emission Rate" been applied?  | <u>N/A</u> |
| c. If yes, list non-attainment pollutants.<br><u>photo-chemical oxidants</u>  |            |
| 2. Does best available control technology (BACT) apply to this source? If yes, see Section VI.                                      | <u>no</u>  |
| 3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI & VII. | <u>no</u>  |
| 4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?  | <u>no</u>  |
| 5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?                                     | <u>no</u>  |

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.





E. Fuels N/A

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

\*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: \_\_\_\_\_ Percent Ash: \_\_\_\_\_

Density: \_\_\_\_\_ lbs/gal Typical Percent Nitrogen: \_\_\_\_\_

Heat Capacity: \_\_\_\_\_ BTU/lb \_\_\_\_\_ BTU/gal

Other Fuel Contaminants (which may cause air pollution): \_\_\_\_\_

F. If applicable, indicate the percent of fuel used for space heating.  
Annual Average \_\_\_\_\_ Maximum \_\_\_\_\_

G. Indicate liquid or solid wastes generated and method of disposal.  
No waste - what is collected is re-input to system.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):  
Stack Height: 70 ft. Stack Diameter: 1 x 1.5 ft.  
Gas Flow Rate: 500 ACFM Gas Exit Temperature: ambient °F.  
Water Vapor Content: none % Velocity: 5.6 FPS

## SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight - show derivation.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, etc.).
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3, and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8½" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8½" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8½" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
9. An application fee of \$20, unless exempted by Section 17-4.05(3), F.A.C. The check should be made payable to the Department of Environmental Regulation.
10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

ATTACHMENT 1 (Section V)

1. Not Applicable.
2. Basis of Emission Estimates

Particulate - Data obtained from Manufacturer's guarantee,  
not to exceed .02 gr/DSCF.  
Assume 500 SCFM, 80°F - 0% Moisture

$$(500) \times \left( \frac{530}{540} \right) \times .02 \times 60 \times \frac{1}{7000} = .084 \text{ lbs/hr}$$

3. Basis of Potential Discharge

No information exist on actual grain loadings; therefore, potential emissions were calculated from the manufacturer's guarantee of emissions not to exceed .02 gr/DSCF and has a 99.9% efficiency.

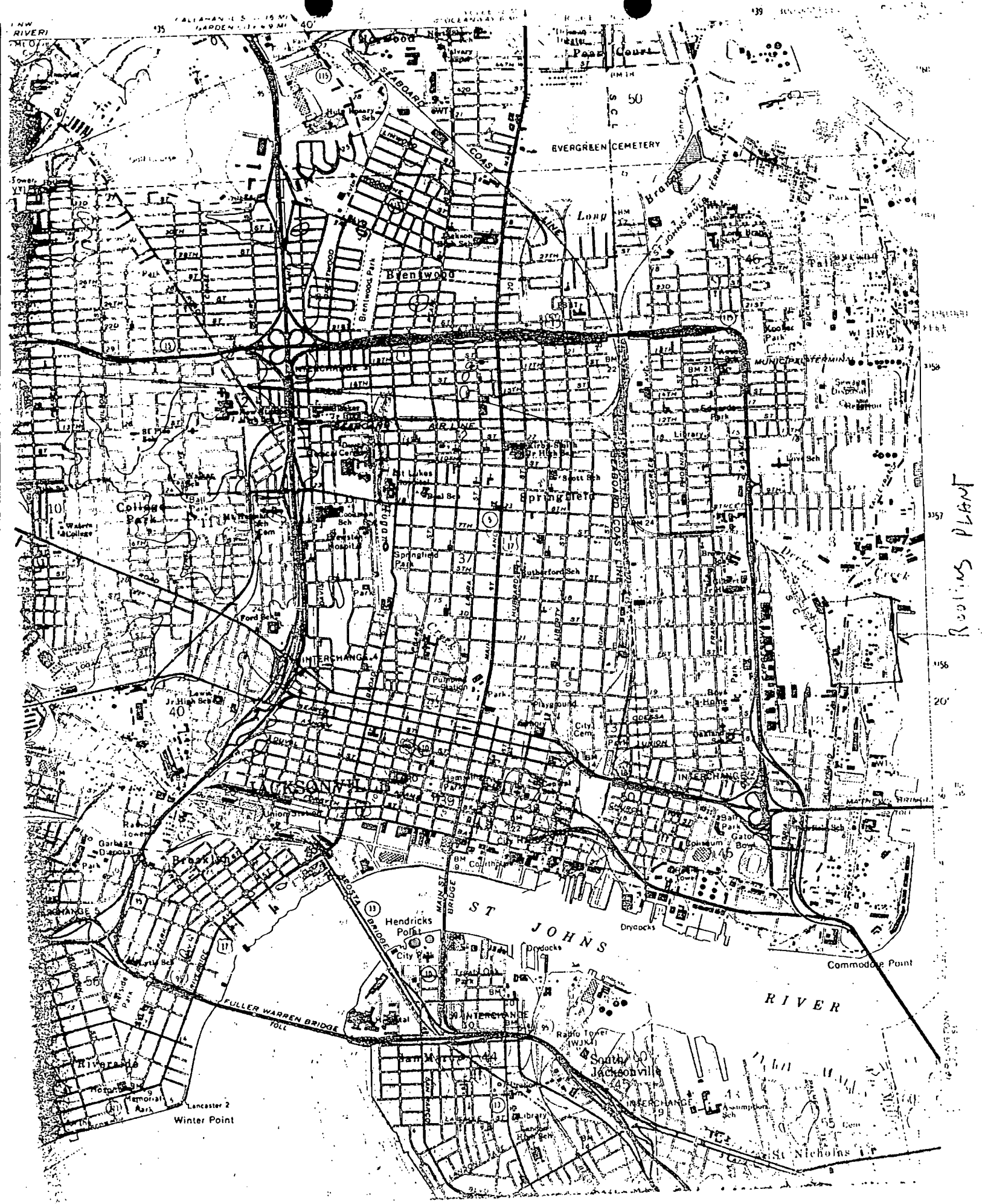
$$\left( \frac{.084}{.001} \right) = 84 \text{ lbs/hr}$$

4. Design details of reverse jet dust filter system are included in enclosed manufacturer's brochure (see attachment 5).

CEA. Carter-Day Industrial Dust Filters Type "RJ" - Reverse Jet

5. Derivation of Control Device Efficiency

Efficiency came from manufacturer's specifications on this control equipment.



Rooting Plant

3156  
3157  
20'

3158  
3159  
3160

TALLEYRAND

AVE.

Location of stack

8" Public Main

6' Fence

Open Plot.  
Typical at  
ends. All  
fire walls

Transfers  
RAG CUTTER  
Wire  
Fence

RAG STORAGE

MACHINE AREA

Wood Roof - HCB - Glass  
Walls - Concrete Floor

High Section of Roof

VOLNEY  
FELT  
MILL

BEATER  
ROOM  
Roof

WAREHOUSE

OFFICE

HCB Walls  
Conc. Floor

WOODMILL

Asphalt on  
St. Legs

TRUMBULL  
ASPHALT  
CO.

BOILER  
HSE.

PREHEATER  
HSE.

FUEL  
OIL

3 Tanks on  
Conc.  
Saddles

PUMP  
HOUSE

Trumbull's  
Asphalt Co.

LAB & OFFICE

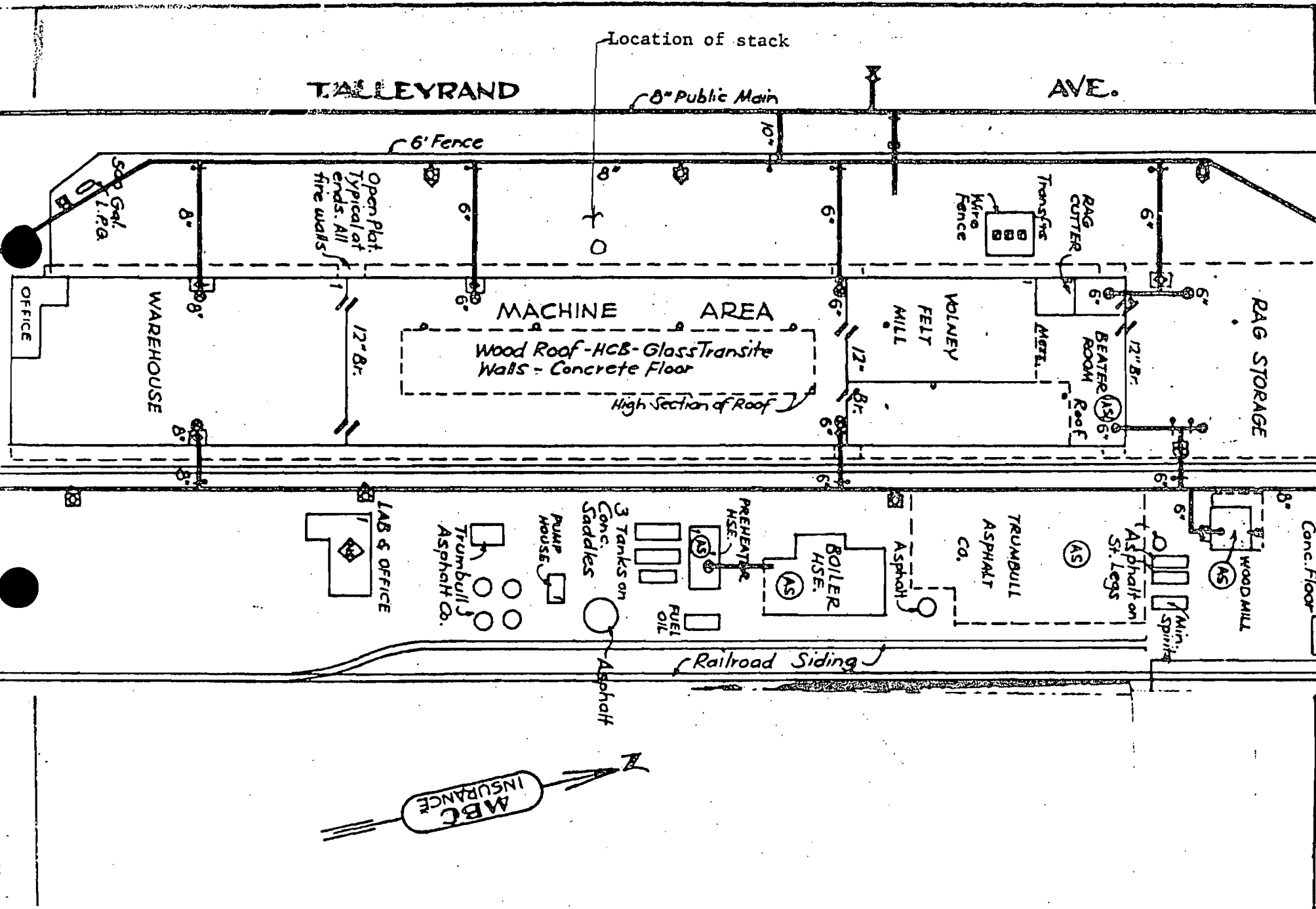
Railroad Siding

Asphalt

ABC  
INSURANCE

Vertical text on left margin: Vacant Several Hundred Ft. 8'

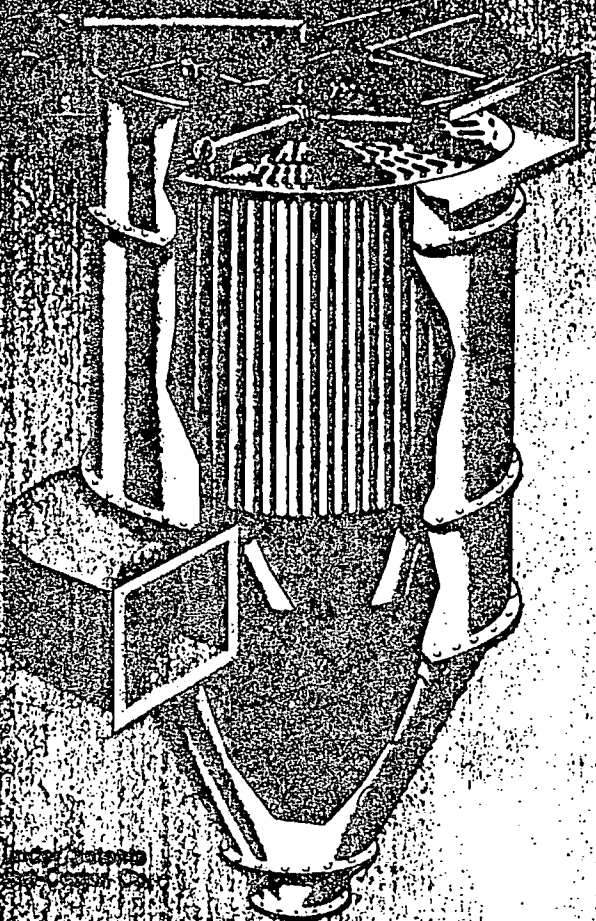
Vertical text on left margin: JACKSONVILLE, FLORIDA



Attachment 5

BEST AVAILABLE COPY

# CEA·Carter·Day Industrial Dust Filters



Reverse Jet

**CEA Carter Day**

Minneapolis, Minnesota 55432

Telephone: (612) 571-1000

Telex: 29-6684 • Cable: CAMACO

COMBUSTION EQUIPMENT ASSOCIATES COMPANY



# Built-in pre-cleaning system, reverse jet action improve performance.

There's more to controlling air pollution than just filtering dust. Once you clean the air, you must also clean the filter media to maintain porosity, and dispose of the collected material.

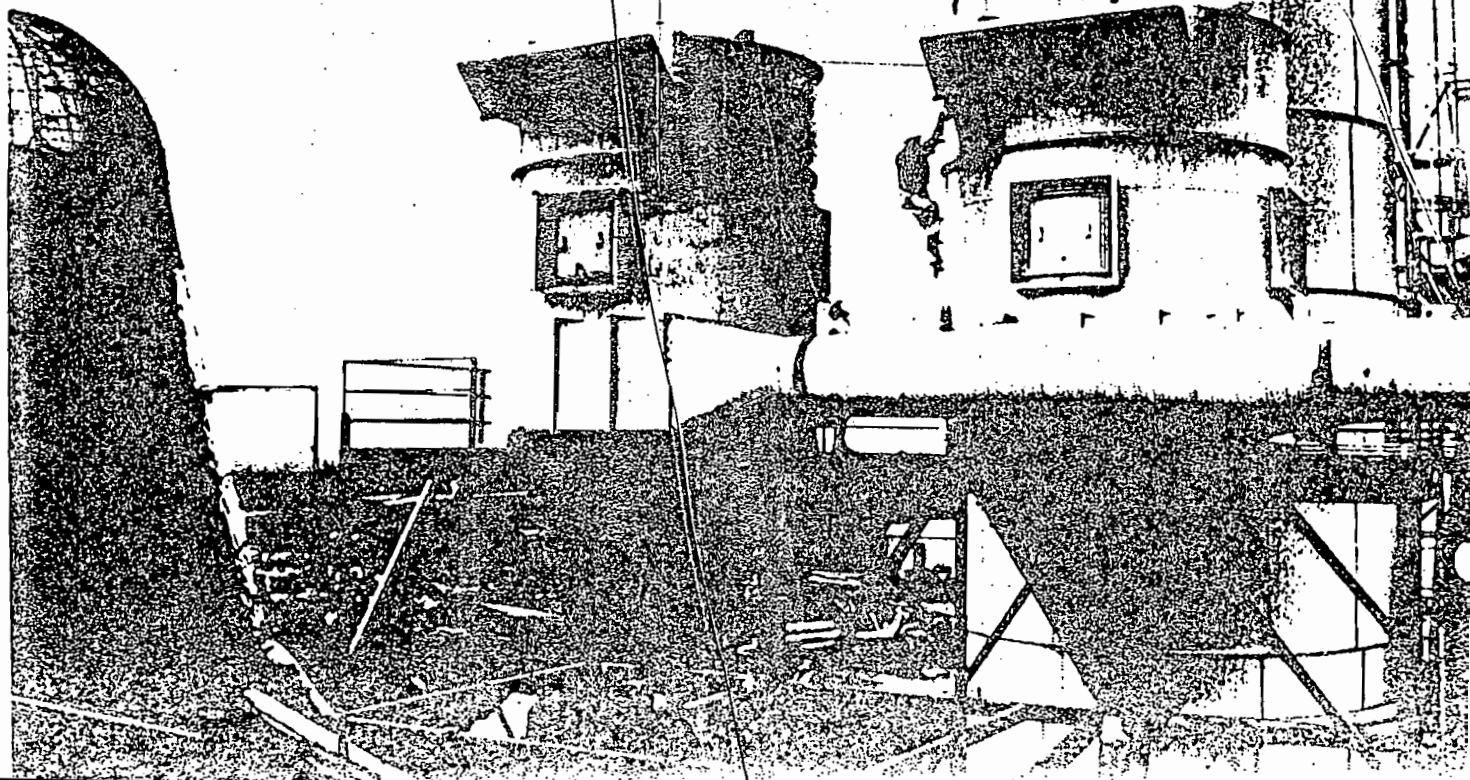
Carter-Day Type "RJ" filters combine built-in pre-cleaning of the incoming dust laden air with positive, reverse jet cleaning of the felted fabric filter tubes to produce an efficiency unmatched by any other filter. You also receive higher air-to-cloth ratios for increased capacity and low cost per CFM.

These features, along with the "RJ's" simple installation, low-cost, trouble-free operation and easy maintenance have made it an air pollution control standard for industries ranging from wood products, food, chemical processing to metallurgical.

Twenty-two sizes, with capacities from 320 CFM to more than 75,000 CFM, insure a wide selection to meet air volume requirements exactly. Or you can select a capacity high enough to handle any system expansions you might make later. Stainless steel models are also available.

Dust loading has virtually no effect upon the performance of "RJ" filters. The "RJ's" pre-cleaning system, round design and tangential inlet placement prevent incoming air from moving directly to the filter tubes. Instead, a baffle (in the 72 and 144 series) sends it spinning around the lower, cylindrical section, creating a cyclone action. This permits heavier particles to fall into the hopper directly.

*These two Carter-Day 144-RJ filters were installed  
in only 3 days; each is handling 30,000 CFM.  
They replaced 8 cyclone collectors.*





# LIMESTONE FILLER SYSTEM

NO. \_\_\_\_\_  
 PAGE \_\_\_\_\_  
 ISSUE \_\_\_\_\_  
 SUPERSEDED \_\_\_\_\_

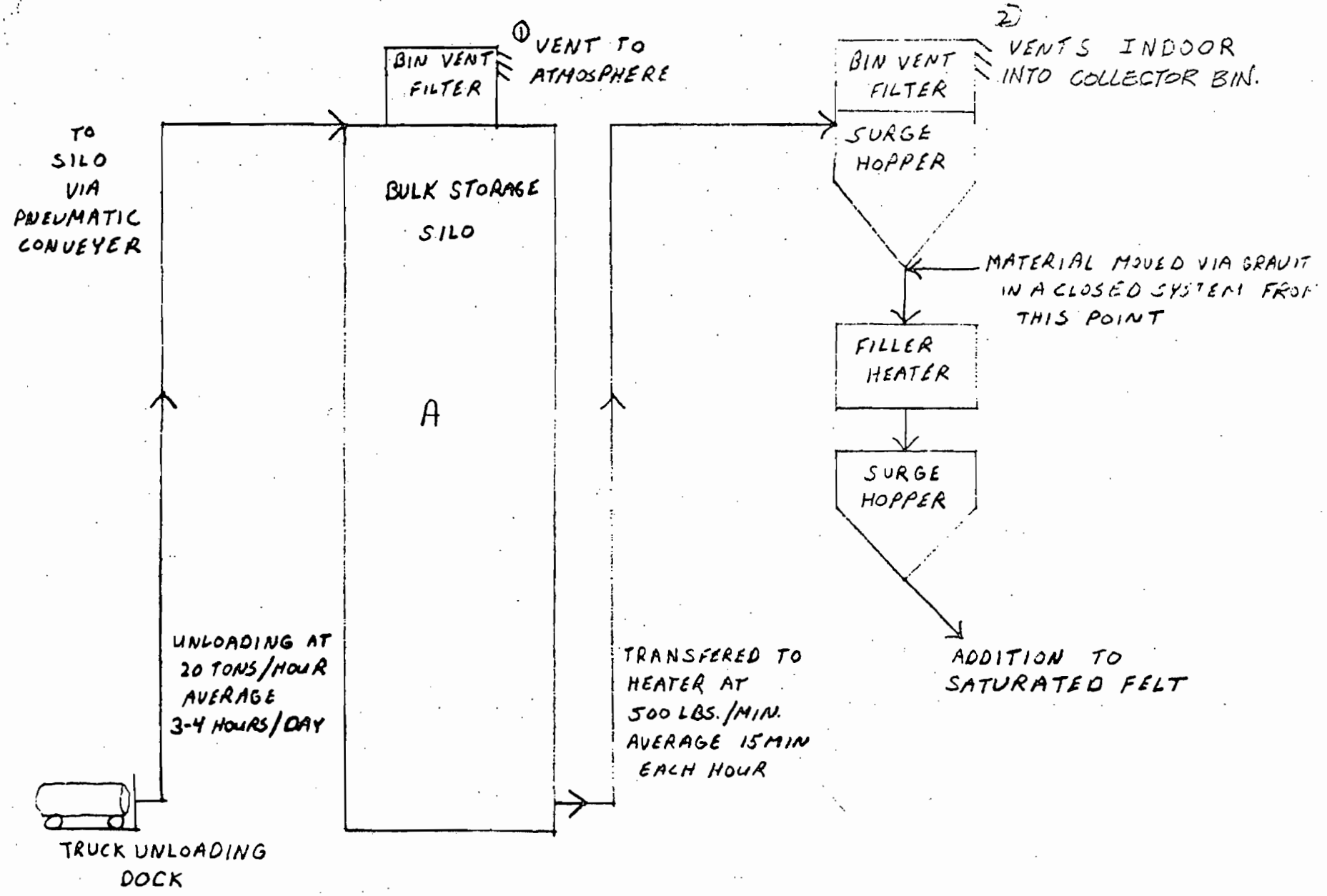
NAME \_\_\_\_\_  
 DATE \_\_\_\_\_

RECORDING DATA

Attachment 2

OWENS/CORNING  
**FIBERGLAS**  
TRADING CO.

PROJECT

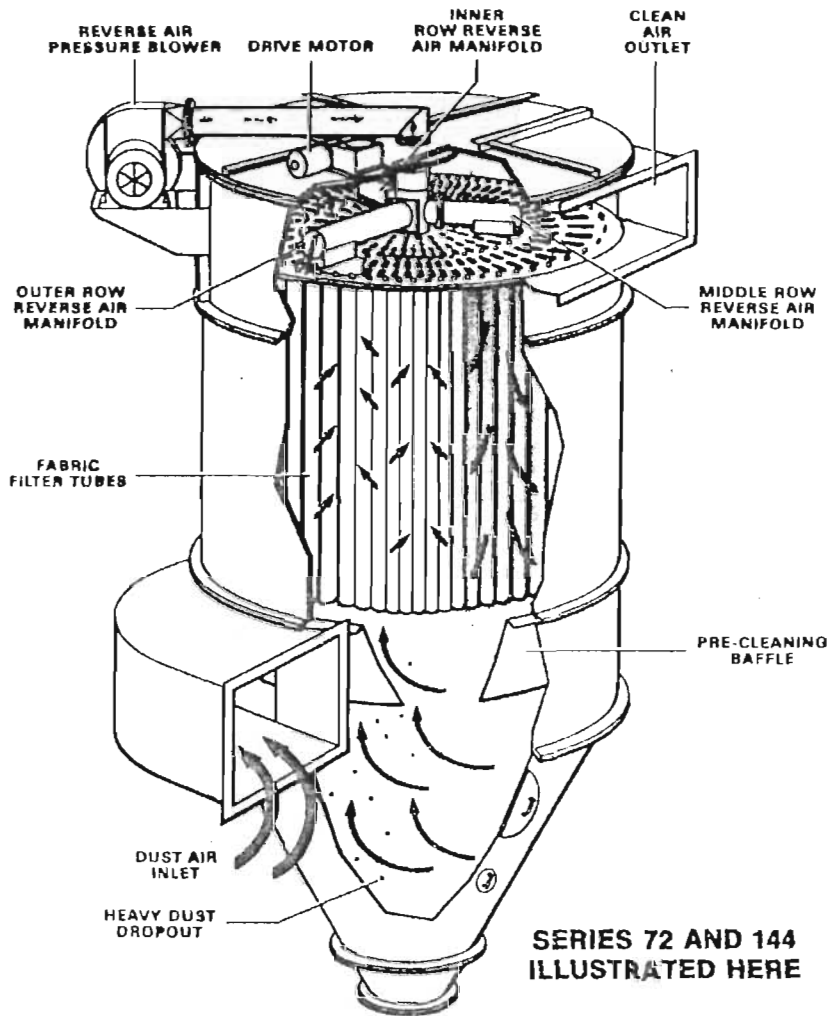


**GENERAL OPERATION.** This cutaway drawing shows how an "RJ" filter operates. Air carrying the dust laden air enters the filter through the air inlet, as shown by the large black arrows. A pre-cleaning system deflects the air and prevents it from moving directly up through the felted filter tubes. Instead, it first spins around in the lower cylindrical section permitting

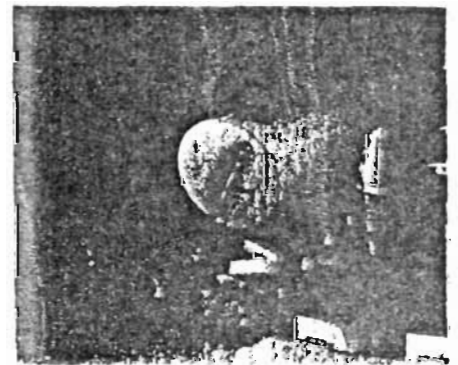
heavier particles to drop into the hopper.

Air carrying the remaining dust moves up through the felt filter tubes, as shown by the small black arrows. The dust particles are deposited on the outside of the filter media and the cleaned air exhausted through the clean air outlet.

To maintain the porosity of the filter tubes, high volume low pressure air is counter-flowed through the filter tubes in reverse of the filtering action. This is shown by the blue arrows. Each filter tube is cleaned approximately once per minute, regardless of the size of the filter. The diagrams at the bottom of this page at left show how this reverse-air, counter-flow works.



*This photo shows plenum moving into open position allowing a pulse of high velocity air to enter filter tubes. Photo below shows plenum cycling between filter tubes (note trigger mechanism in raised position on slotted track).*



*This photo shows the plate which trails the plenum. While the plenum is located over one set of tubes for cleaning, the trailing plate covers the previously cleaned set of tubes, momentarily blocking the immediate air flow through those tubes. This minimizes particle re-entrainment by allowing more time for the dust to fall away from the tubes into the hopper before filtering air flow resumes.*



Reverse air plenum rotates in the top chamber of the filter. The butterfly valve is located in the plenum. The trigger for the valve travels along a slotted track around the inside of the filter body. When the plenum cycles between filter sleeve openings, the butterfly valve is held in the closed position and air pressure is built up in the plenum.



As the plenum centers over a section of filter tube openings, normal air flow from the filter body through those tubes is shut off. The trigger mechanism opens the butterfly valve and a pulse of high velocity air is counter-flowed into the filter tube in reverse of the filtering action. This causes a positive snapping action, dislodging dirt or particles from the tube and causing them to shower into the hopper below for discharge.

With 99.99% efficiency, the "RJ" has successfully handled such exacting problems as atmospheric air cleaning for switch gear rooms and candy manufacturing and the collection of overspray in powder coating operations. It's equally effective on highly abrasive materials such as silica, glass cullet and metallurgical dust.

On such abrasive products, the pre-cleaning provides the added benefit of extending the life of the filter tubes. Removable and replaceable wear plates help protect the filter body.

#### Reverse jet restores porosity

The "RJ's" exclusive reverse jet cleaning action gets dust off the felted fabric filter media to restore porosity with much greater efficiency than conventional systems.

A high volume, low pressure blower provides air to the plenum traveling above the filter tubes in the top chamber of the filter. The plenum covers the tube opening to prevent air flow from the filter body. Inside the plenum, a butterfly valve releases a quick pulse of high velocity counter-flowing air into the tube in reverse of the filtering oper-

ation. This causes a positive snapping action which removes the dust particles entrapped on the filter media.

As the plenum moves, a trailing plate covers the cleaned filter tube to momentarily prevent particle re-entrainment by allowing more time for the dust to shower into the hopper below before normal filtering air flow resumes.

A centrifugal blower produces all the air needed for the reverse jet cleaning operation; no compressed air required which means no costly compressor motors to increase your system's operating costs.

The butterfly valve eliminates the need for complicated electro-mechanical or hydraulic sequencing devices.

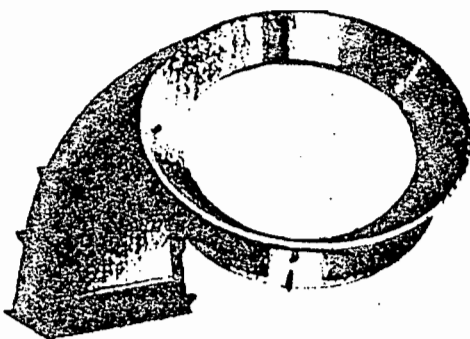
#### Simple installation, easy maintenance

Because of their construction design, Carter-Day "RJ" filters offer simple field installation. Many of the filters are pre-assembled in sections when shipped. There are only three basic sections — upper clean air section, the body and the hopper. (Tubes and tube frames not pre-assembled for 72 and 144 series.) Inlets and outlets can be located in the most convenient position to fit particular installation requirements. Round design takes up less floor space.

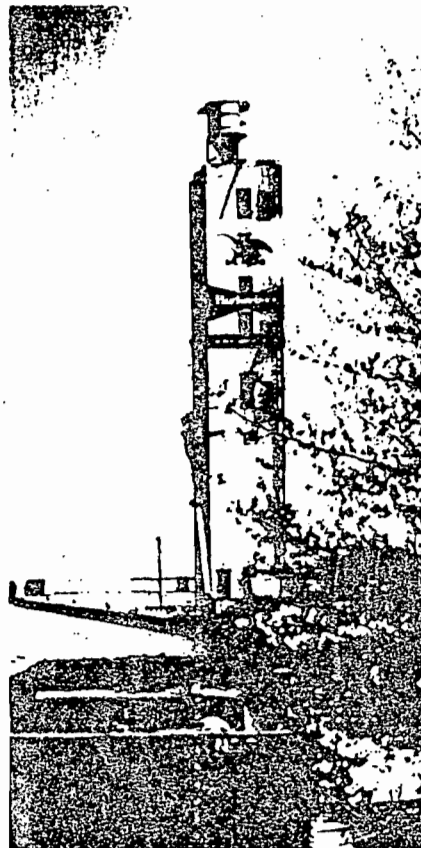
#### Carter-Day Systematics

When you buy an "RJ" filter, you're also buying Carter-Day's Systematics approach to air pollution control. Our experienced application engineers will help you select the proper size filter and provide any assistance you might need with installation and start-up.

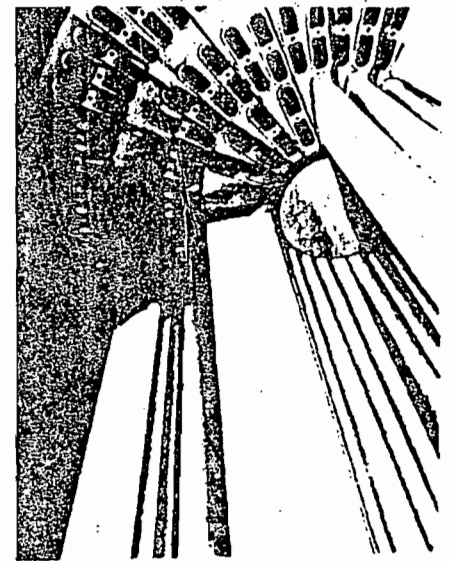
Then you'll continue to get Carter-Day's after-sale service — service which has earned a reputation for dependability and helped make Carter-Day one of the leaders in the field of industrial air pollution control.



Available in the 72 and 144 RJ series is a baffle-type pre-cleaning device pictured here. Located in the lower body section, this permits greater filter efficiency by forcing the heavier dust particles to drop out of the air stream before entering the tube filtering section.

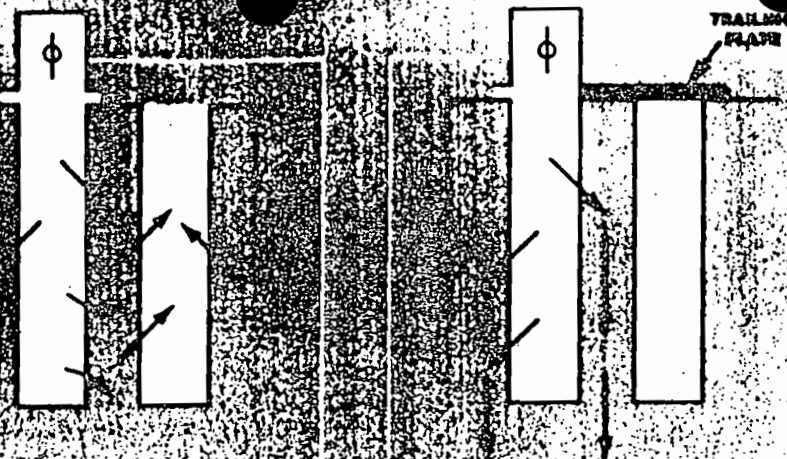


Grain dust created during barge unloading operations by this blower is completely controlled by the 72 series "RJ" filter atop the marine tower. This Carter-Day filter also handles the dust control of the scale weighing within the tower.



View shows the filter tube arrangement in a model 144-RJ filter. Tubes are quickly, easily removed and replaced through an access door in the filter's hopper.

ROTATION OF REVERSE  
JET PLENUM



These drawings show how the trailing plate on Carter-Day "RJ" filters reduce particle re-entrainment. On the left is a reverse air filter tube without a trailing plate. The cycle of cleaning air makes off the dust particles. They fall a short distance before filtering air flow carries them back to the filter media, and into the filter tube previously cleaned.

Without a trailing plate, dust migrates down the filter tube in short hops, approximately 1/4 sec. fall time duration. Only a small amount is able to fall completely away each time the tube is cleaned and some of this dust is redeposited on the previously cleaned tube. Efficiency is lost. On the right is an illustration of a Carter-Day "RJ" filter tube with the

trailing plate. As the cleaning plenum covers one set of tubes, the plate covers the set just cleaned, preventing redeposition to the previously cleaned filter tube. This allows the dust particles more time to fall. Particles move down the tube in longer, extended hops, from 3 to 20 times longer fall time than the tube without the trailing plate. This action maintains a greater constant filter porosity, more efficiency and higher air-to-cloth ratio.

**APPLICATIONS** - Thousands of Carter-Day "RJ" filters and pneumatic receivers have years of successful operation on light, medium and heavy dust concentrations and handling of low bulk density materials. They've handled applications from wood and grain dusts to such difficult materials as clay, metallurgical fumes and carbon black. Abrasive materials such as glass cullet, silica, metallurgical dusts and soda ash are no problem either.

**Here's a partial list of companies using Carter-Day "RJ" Filters on a variety of products:**

General Motors  
Hershey Chocolate Co.  
Kellogg  
Kraft Foods Co.  
Mallinckrodt Chemical Corp.

Minnesota Mining & Manufacturing  
National Biscuit Co.  
Pillsbury Mills  
General Foods  
Proctor & Gamble  
Ralston Purina  
Tasty Baking Co.

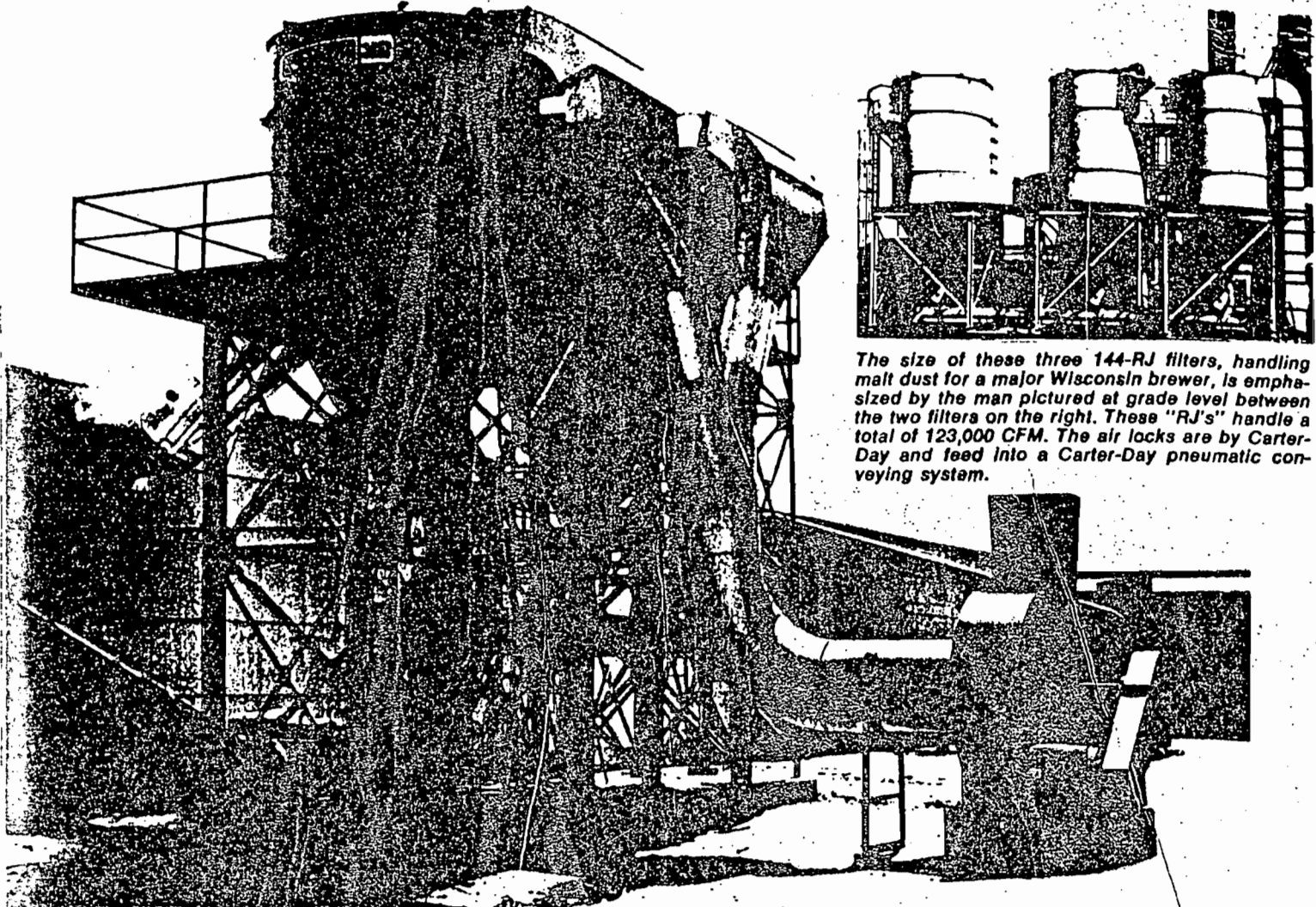
Weyerhaeuser  
Kimberly-Clark  
Campbell Soup  
Union Carbide  
Hercules  
Schlitz Brewing  
Firestone Tire  
R. J. Reynolds  
Andersen Corp.  
Abbott Laboratories  
Owens-Corning

U. S. Plywood  
Broyhill Furniture  
Burlington House Furniture  
Boise Cascade  
U. S. Steel  
Masonite Corp.  
Allied Chemical Corp.  
American Cyanamid Co.  
Anheuser-Busch, Inc.  
Cargill, Inc.  
Central Soya Corp.  
Corn Products Refining  
Dow Chemical Co.  
Dupont, E. I. de Nemours Co.  
Ford Motor Co.  
General Mills, Inc.  
Georgia-Pacific Corp.  
International Paper  
Abitibi



These "RJ" filters keep the air clear and clean during this large grain terminal's loading and unloading operations.





The size of these three 144-RJ filters, handling malt dust for a major Wisconsin brewer, is emphasized by the man pictured at grade level between the two filters on the right. These "RJ's" handle a total of 123,000 CFM. The air locks are by Carter-Day and feed into a Carter-Day pneumatic conveying system.

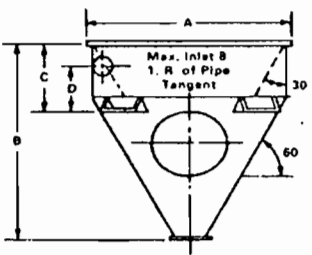
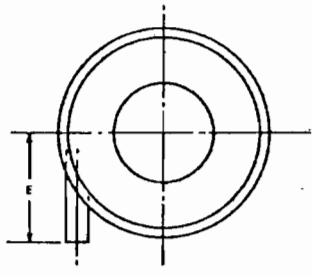
For the forest products industry, these Carter-Day "RJ" filters handle with ease wood dust loadings from straight sander dust to heavy hog surges.

for high flow-rate systems such as Pneumatic Conveying, Pulverizers, etc.

FILTER SIZE	A	B	C	D	E
12L-RJ	4'-9 1/4"	4'-7 1/4"	1'-7 1/4"	12 1/2"	2'-6 1/2"
24-RJ	6'-7 1/4"	6'-1 1/4"	1'-8 1/4"	1'-1 1/4"	3'-5"

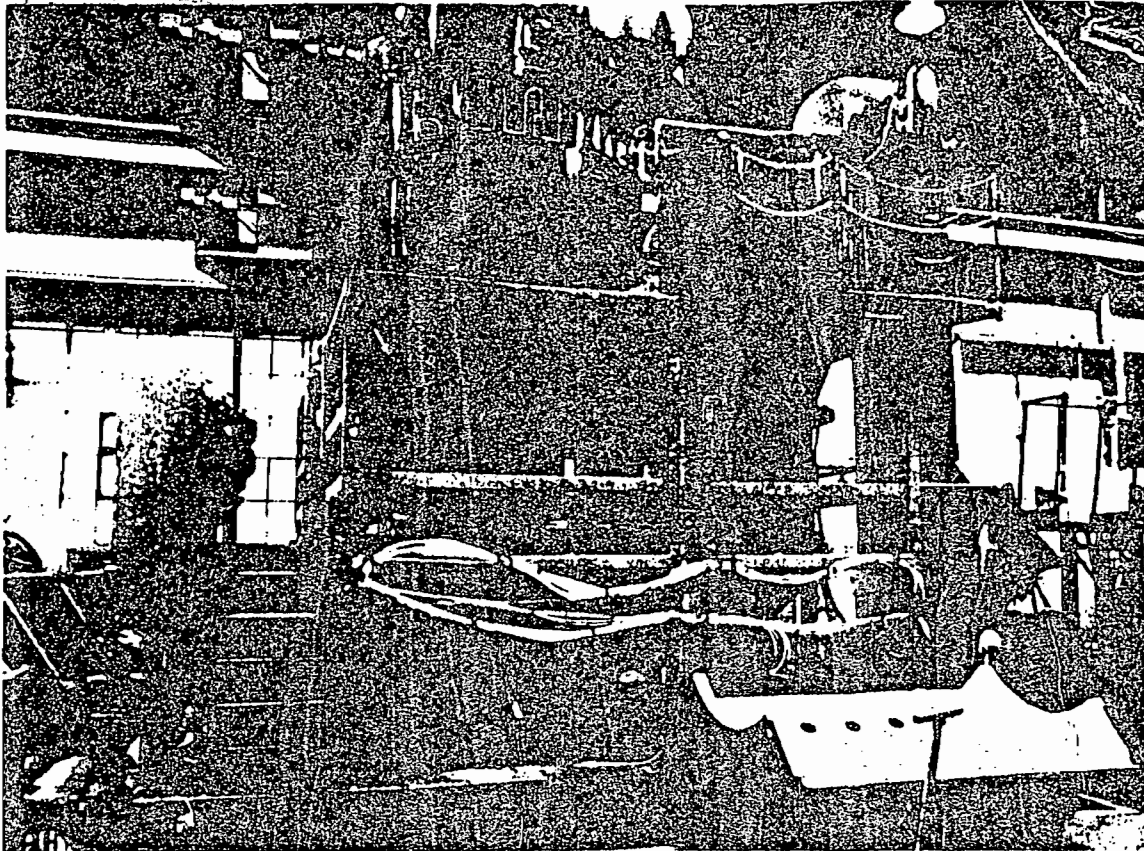
Dimensions and specifications subject to change without notice or obligation. Contact representative or CEA • Carter-Day office for certified drawings.

NOTE: Hopper height depends upon discharge size. Give flange details desired.



### Free lab testing

We can do more than just tell you how efficient Carter-Day "RJ" filters and pneumatic receivers are. We can show you, using actual production size filters. We'll simulate your problem in our lab, including dust loading conditions and the materials you need filtered or conveyed. We can then select equipment best suited to your requirements.

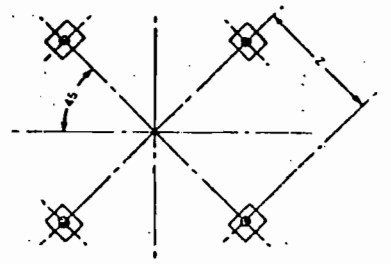
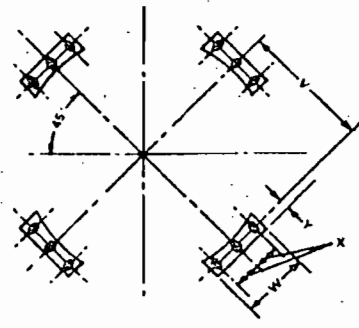
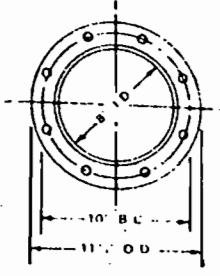
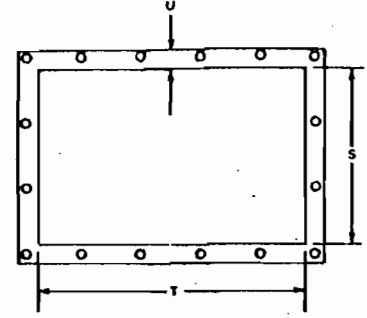
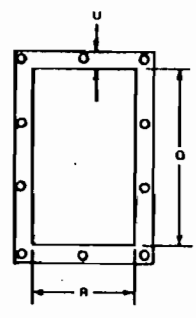
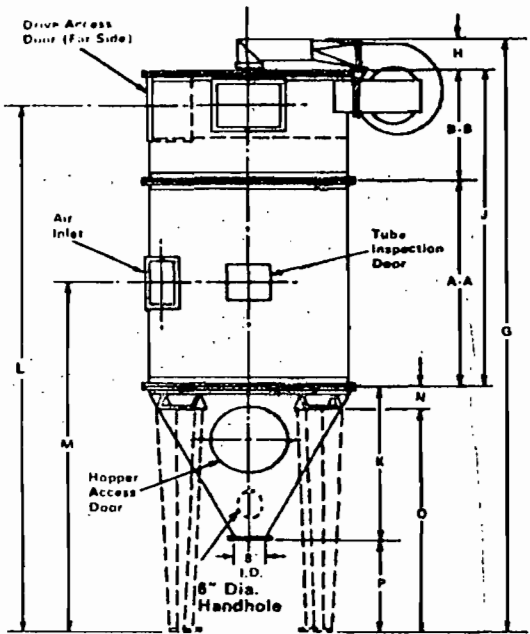
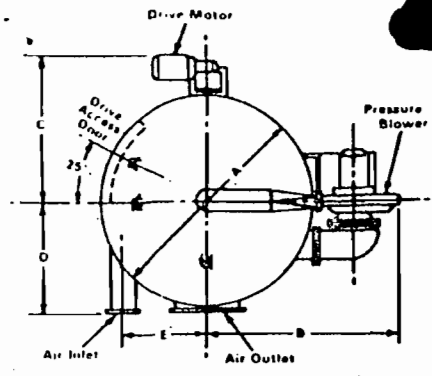


*This 3M powder coating system, exclusively utilizing Carter-Day "RJ" filters, was used in three Alaskan plants of Surtcote, Inc., for powder coating hundreds of miles of pipeline. Carter-Day filters recaptured*

*overspray and returned it to the spraying operations; permitting no outside or inside emissions to violate air pollution codes or OSHA regulations.*

Filter No.	Cloth Area Sq. Ft.	Cubic Feet of Air/Min. (CFM)				No. Sleeves	Sleeve Lgth.	Blower No.	Blower H.P.	Drive H.P.
		Air to Media Ratio								
		5	10	15	20					
12LRJ24	64	320	640	960	1280	12	24	3A6	2	½
12LRJ37	100	500	1000	1500	2000	12	37	3A6	2	½
12LRJ48	127	635	1270	1905	2540	12	48	3A6	2	½
12LRJ60	160	800	1600	2400	3200	12	60	3A6	3	½
12LRJ72	193	965	1930	2895	3860	12	72	4A	5	½
24RJ37	200	1000	2000	3000	4000	24	37	3A3	2	½
24RJ48	255	1300	2600	3900	5200	24	48	3A6	2	½
24RJ80	320	1600	3200	4800	6400	24	60	3A6	3	½
24RJ72	385	1925	3850	5775	7700	24	72	4A	5	½
24RJ84	448	2240	4480	6720	8960	24	84	4A	7½	½
24RJ96	510	2550	5100	7650	10200	24	96	4A	7½	½
72RJ37	600	3000	6000	9000	12000	72	37	4A	5	½
72RJ48	765	3825	7650	11475	15300	72	48	4A	7½	½
72RJ60	960	4800	9600	14400	19200	72	60	4A	7½	½
72RJ72	1155	5775	11550	17325	23100	72	72	4A	10	½
72RJ84	1340	6700	13400	20100	26800	72	84	4B	15	½
72RJ96	1530	7650	15300	22950	30600	72	96	4B	15	½
144RJ80	1920	9600	19200	28800	38400	144	60	4B	15	½
144RJ72	2300	11500	23000	34500	46000	144	72	4B	15	½
144RJ84	2680	13400	26800	40200	53600	144	84	4B	20	½
144RJ96	3060	15300	30600	45900	61200	144	96	4B	20	½
144RJ120	3825	19125	38250	57375	76500	144	120	4B	25	½

**SERIES 12L-RJ**



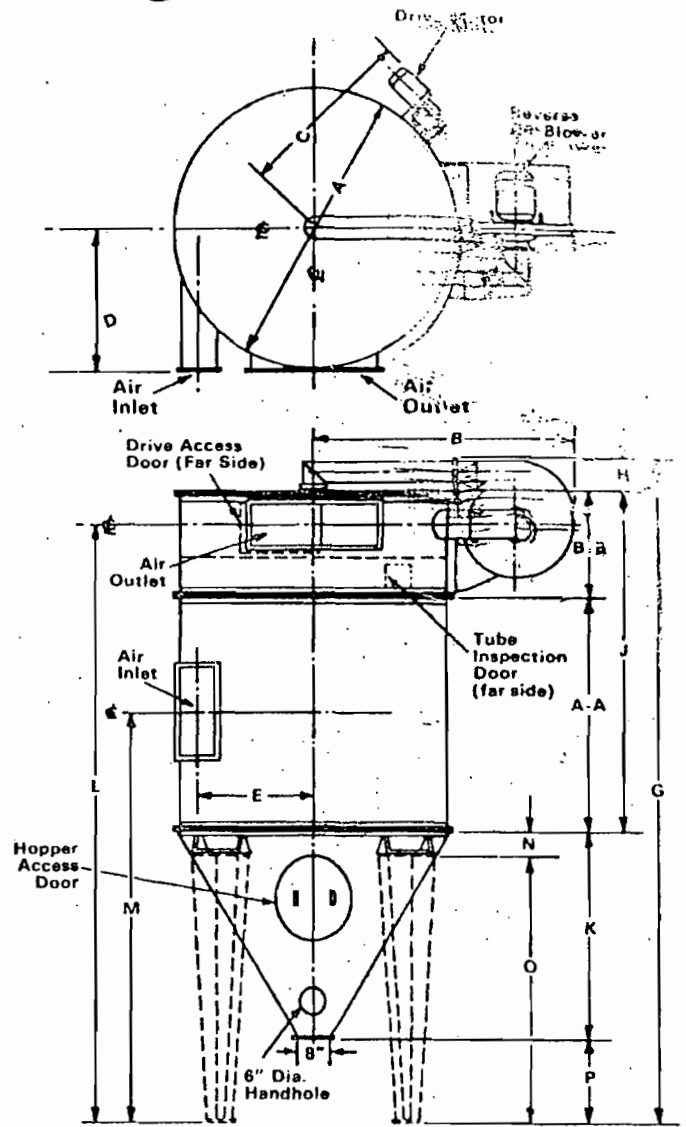
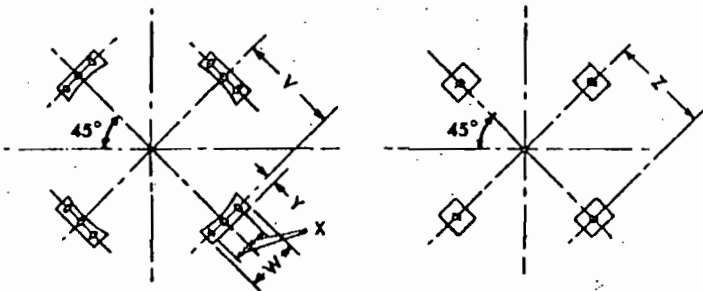
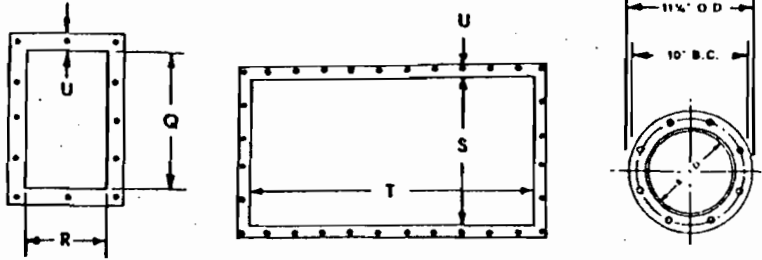
FILTER SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P
12LRJ24	4'-9 1/2"	4'-4 1/2"	3'-3 3/4"	2'-6 1/4"	1'-11 1/2"	—	10'-4 1/8"	8 3/4"	4'-1 1/8"	3'-6"	8'-10 1/2"	6'-4 1/2"	6"	5'-0 1/2"	2'-0 1/2"
12LRJ37	4'-9 1/2"	4'-4 1/2"	3'-3 3/4"	2'-6 1/4"	1'-11 1/2"	—	11'-5 1/8"	8 3/4"	5'-2 1/8"	3'-6"	9'-11 1/2"	6'-11 1/4"	6"	5'-0 1/2"	2'-0 1/2"
12LRJ48	4'-9 1/2"	4'-4 1/2"	3'-3 3/4"	2'-6 1/4"	1'-11 1/2"	—	12'-4 1/8"	8 3/4"	6'-1 1/8"	3'-6"	10'-10 1/2"	7'-4 1/2"	6"	5'-0 1/2"	2'-0 1/2"
12LRJ60	4'-9 1/2"	4'-4 1/2"	3'-3 3/4"	2'-6 1/4"	1'-11 1/2"	—	13'-4 1/8"	8 3/4"	7'-1 1/8"	3'-6"	11'-10 1/2"	7'-10 1/2"	6"	5'-0 1/2"	2'-0 1/2"
12LRJ72	4'-9 1/2"	4'-2 1/2"	3'-3 3/4"	2'-6 1/4"	1'-11 1/2"	—	14'-5 1/4"	9 1/8"	8'-1 1/8"	3'-6"	12'-10 1/2"	8'-4 1/2"	6"	5'-0 1/2"	2'-0 1/2"
24RJ37	6'-7 1/2"	5'-2 1/2"	4'-3 3/4"	3'-5"	2'-8 1/2"	—	12'-11 1/8"	8 3/4"	5'-2 1/8"	5'-0 1/2"	11'-6"	8'-5 1/2"	7"	6'-6"	2'-0 1/2"
24RJ48	6'-7 1/2"	5'-2 1/2"	4'-3 3/4"	3'-5"	2'-8 1/2"	—	13'-10 1/8"	8 3/4"	6'-1 1/8"	5'-0 1/2"	12'-5"	8'-11"	7"	6'-6"	2'-0 1/2"
24RJ80	6'-7 1/2"	5'-2 1/2"	4'-3 3/4"	3'-5"	2'-8 1/2"	—	14'-10 1/8"	8 3/4"	7'-1 1/8"	5'-0 1/2"	13'-5"	9'-5"	7"	6'-6"	2'-0 1/2"
24RJ72	6'-7 1/2"	6'-1"	4'-3 3/4"	3'-5"	2'-8 1/2"	—	16'-0"	9 1/8"	8'-1 1/8"	5'-0 1/2"	14'-5"	9'-11"	7"	6'-6"	2'-0 1/2"
24RJ84	6'-7 1/2"	6'-1"	4'-3 3/4"	3'-5"	2'-8 1/2"	—	17'-0"	9 1/8"	9'-1 1/8"	5'-0 1/2"	15'-5"	10'-5"	7"	6'-6"	2'-0 1/2"
24RJ98	6'-7 1/2"	6'-1"	4'-3 3/4"	3'-5"	2'-8 1/2"	—	18'-0"	9 1/8"	10'-1 1/8"	5'-0 1/2"	16'-5"	10'-11"	7"	6'-6"	2'-0 1/2"

Dimensions and specifications subject to change without notice or obligation. Contact representative or Carter-Day office for certified drawings.

AND SPECIFICATIONS

explosion doors optional.

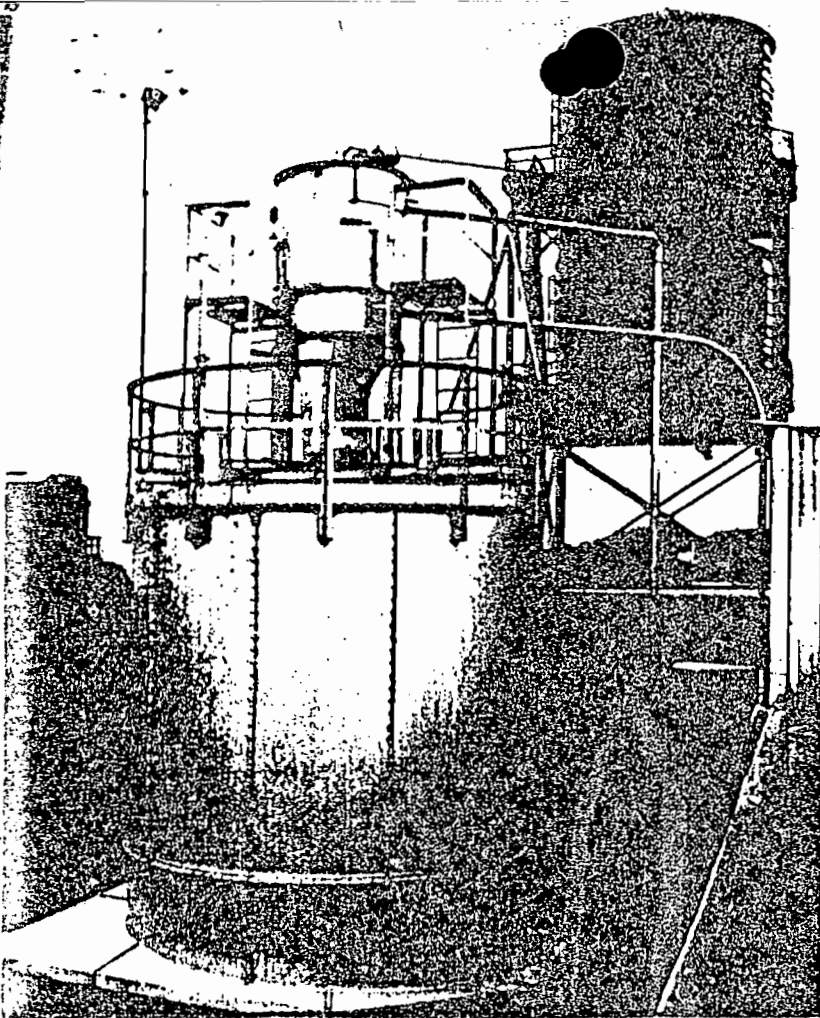
SERIES 24



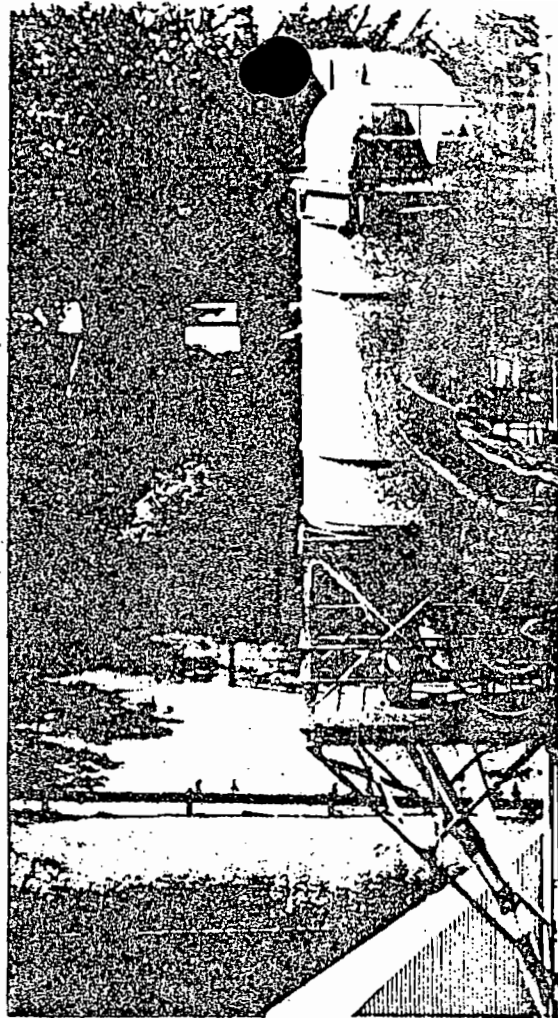
Q	R	S	T	U	V	W	X	Y	Z	A-A	B-B	C-C	HP of DRIVE MOTOR*	HP of BLOWER MOTOR*	FILTER SIZE
1'-0"	7"	1'-0"	1'-6"	1 1/4"	2'-2 1/2"	1'-1 1/2"	5 1/2"	1 1/2"	2'-1 1/4"	1'-8"	2'-5 1/2"	—	1/2	2	12LRJ24
1'-0"	7"	1'-0"	1'-6"	1 1/4"	2'-2 1/2"	1'-1 1/2"	5 1/2"	1 1/2"	2'-1 1/4"	2'-9"	2'-5 1/2"	—	1/2	2	12LRJ37
1'-0"	7"	1'-0"	1'-6"	1 1/4"	2'-2 1/2"	1'-1 1/2"	5 1/2"	1 1/2"	2'-1 1/4"	3'-8"	2'-5 1/2"	—	1/2	2	12LRJ48
1'-0"	7"	1'-0"	1'-6"	1 1/4"	2'-2 1/2"	1'-1 1/2"	5 1/2"	1 1/2"	2'-1 1/4"	4'-8"	2'-5 1/2"	—	1/2	3	12LRJ60
1'-6"	7"	1'-0"	1'-6"	1 1/4"	2'-2 1/2"	1'-1 1/2"	5 1/2"	1 1/2"	2'-1 1/4"	5'-8"	2'-5 1/2"	—	1/2	5	12LRJ72
1'-4 1/2"	10"	1'-0"	2'-0"	1 1/4"	3'-0 1/2"	1'-5 1/2"	7"	2 1/2"	2'-11 1/2"	2'-9"	2'-5 1/2"	—	1/2	2	24RJ37
1'-4 1/2"	10"	1'-0"	2'-0"	1 1/4"	3'-0 1/2"	1'-5 1/2"	7"	2 1/2"	2'-11 1/2"	3'-8"	2'-5 1/2"	—	1/2	2	24RJ48
1'-4 1/2"	10"	1'-0"	2'-0"	1 1/4"	3'-0 1/2"	1'-5 1/2"	7"	2 1/2"	2'-11 1/2"	4'-8"	2'-5 1/2"	—	1/2	3	24RJ60
2'-2"	10"	1'-0"	3'-0"	1 1/4"	3'-0 1/2"	1'-5 1/2"	7"	2 1/2"	2'-11 1/2"	5'-8"	2'-5 1/2"	—	1/2	5	24RJ72
2'-2"	10"	1'-0"	3'-0"	1 1/4"	3'-0 1/2"	1'-5 1/2"	7"	2 1/2"	2'-11 1/2"	6'-8"	2'-5 1/2"	—	1/2	7 1/2	24RJ84
2'-8"	10"	1'-0"	3'-0"	1 1/4"	3'-0 1/2"	1'-5 1/2"	7"	2 1/2"	2'-11 1/2"	7'-8"	2'-5 1/2"	—	1/2	7 1/2	24RJ96

\*Motors: Standard motors are TEFC type for 230-460 volt, 3 phase, 60 cycle current. Other motor types available.

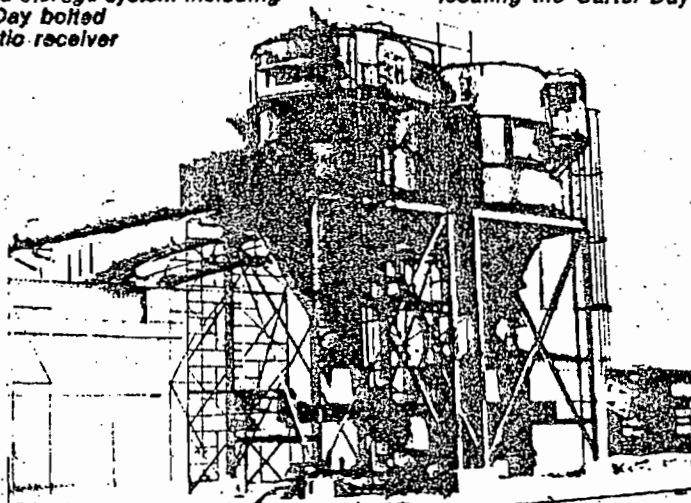




*This New Jersey gelatin producer is equipped with a Carter-Day pneumatic conveying and storage system including the "RJ" receiver atop the Carter-Day bolted steel tank. The Carter-Day pneumatic receiver is handling dicalcium phosphate.*



*This installation economically solves a space problem by locating the Carter-Day dust control system's suction fan on top the Carter-Day "RJ" filter.*



*This wood dust filtration system uses two 144-series "RJ" filters for a particle board plant.*

## **CARTER-DAY COMPANY**

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