State of Ohio Environmental Protection Agency

Street Address:
Lazarus Gov. Center
50 West Town Street, Suite 700
Columbus, OH 43215

TELE: (614) 644-3020 **FAX:** (614) 644-2329

Mailing Address:
Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

CERTIFIED MAIL

RE: FINAL PERMIT TO INSTALL MODIFICATION
LICKING COUNTY
Application No: 01-08902
Fac ID: 0145020185

	TOXIC REVIEW
	PSD
Y	SYNTHETIC MINOR
	CEMS
	MACT
PPP	NSPS
NNN	NESHAPS
Y	NETTING
	MAJOR NON-ATTAINMENT
	MODELING SUBMITTED
	GASOLINE DISPENSING FACILITY

DATE: 10/30/2007

Owens Corning
David Jacobs
Post Office Box 3012
Newark, OH 43058-3012

Enclosed Please find a modification to the Ohio EPA Permit To Install referenced above which will modify the terms and conditions.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 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. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of $70.00 which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

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

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: **USEPA** **CDO**

FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 01-08902

Application Number: 01-08902

Facility ID: 0145020185

Permit Fee: **$6750**

Name of Facility: Owens Corning

Person to Contact: David Jacobs

Address: Post Office Box 3012
Newark, OH 43058-3012

Location of proposed air contaminant source(s) [emissions unit(s)]:
400 Case Ave
Newark, **Ohio**

Description of proposed emissions unit(s):
A-4 forming machine P130.

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification 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 source(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 included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director

Part I - GENERAL TERMS AND CONDITIONS

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

1. Monitoring and Related Recordkeeping and Reporting Requirements

a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:

i. The date, place (as defined in the permit), and time of sampling or measurements.

ii. The date(s) analyses were performed.

iii. The company or entity that performed the analyses.

iv. The analytical techniques or methods used.

v. The results of such analyses.

vi. The operating conditions existing at the time of sampling or measurement.

b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:

i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

ii. Quarterly written reports of (i) any deviations from federally enforceable <u>emission limitations</u>, <u>operational restrictions</u>, <u>and control device operating parameter limitations</u>, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to

the appropriate Ohio EPA District Office or local air agency. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See B.9 below if no deviations occurred during the quarter.

iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.

iv. If this permit is for an emissions unit located at a Title V facility, then each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

d. The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

2. Scheduled Maintenance/Malfunction Reporting

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

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

3. Risk Management Plans

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

4. Title IV Provisions

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

5. Severability Clause

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

6. General Requirements

a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification

b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.

c. This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.

d. This permit does not convey any property rights of any sort, or any exclusive privilege.

e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.

iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.

ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit-To-Operate Application

a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be <u>obtained before</u> the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this permit is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the source(s) covered by this permit.

11. Best Available Technology

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

12. Air Pollution Nuisance

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

13. Permit-To-Install

A permit-to-install must be obtained pursuant to OAC Chapter 3745-31 prior to "installation" of "any air contaminant source" as defined in OAC rule 3745-31-01, or "modification", as defined in OAC rule 3745-31-01, of any emissions unit included in this permit.

B. State Only Enforceable Permit-To-Install General Terms and Conditions

1. Compliance Requirements

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

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

a. Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

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

3. Permit Transfers

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

4. Authorization To Install or Modify

If applicable, authorization to install or modify any new or existing emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

5. Construction of New Sources(s)

This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. 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 this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

6. Public Disclosure

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

7. Applicability

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

8. Construction Compliance Certification

If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) that the facility has been constructed in accordance with the permit-to-install application and the terms and conditions of the permit-to-install.

The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

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

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

C. Permit-To-Install Summary of Allowable Emissions

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

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

Pollutant	Tons Per Year
PE	242.4
NOx	419.0
SOx	39.9
CO	199.4
VOC	108.6
Formaldehyde	22.7
Phenol	29.3
Methanol	28.4
Ammonia	227.6
Hydrogen chlorides	2.7

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

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

1. This permit to install shall cover the Newark Upgrade Project which includes the C-4 Rebuild Project and Molded Pipe Expansion Project. The C-4 Rebuild Project consists of physical modifications to the C-4 furnace (P005), C-4 Conditioning channel/for hearth (P020), C-4 Forming (P027), C-4 Curing oven (P055) and C-4 Cooling (P073) which will increase the capacity of each of these emission units. The Molded Pipe Expansion Project consists of non-physical modifications to the A-3 Furnace (P129), A-3 Conditioning channel/forehearth (P025) and A-4 Forming (P130) which will increase the capacity of each of these emission units.

   The federally enforceable terms and conditions of this PTI have been included for the purpose of netting out of Non-Attainment New Source Review (NNSR) and corresponding Ohio Administrative Code (OAC) regulations for nitrogen oxides (NOx) and volatile organic compounds (VOC) and netting out of Prevention of Significant Deterioration (PSD) and corresponding OAC regulations for particulate/ PM-10, sulfur dioxide (SO2) and carbon monoxide (CO). In order to verify that the emissions of these pollutants do not exceed the allowable emission rates described in the netting table below, the permittee must comply with the limitations specified in each emission unit's respective terms and conditions

   The five year contemporaneous period is from May, 15, 2000 to June 15, 2005. The period begins five years prior to the start of the construction project, which is scheduled to occur May 15, 2005. The end of the contemporaneous period is when the project will begin normal operation, which is planned for June 15, 2005. Baseline emissions should be based on a consecutive 24 month period within 10 years prior to contemporaneous changes or shutdowns.. Owens Corning-Newark Plant used years 1998-1999 as baseline emissions for all contemporaneous and shutdown emission calculations.

   The following tables summarize the netting project and include all emissions units at the Owens Corning-Newark Plant that are being used to demonstrate a net decrease in particulate/PM-10, NOx, SO2, CO and VOC emissions.

Table	Title
I	Emission units, applicable PTIs and associated issue dates
II	Actual emission rate based on 2002/2003 average production rate - Pre 01-08902 In accordance with OAC rule 3745-31-01(O)(2)
III	Future potential/allowable emission rate - Post 01-08902 In accordance with OAC rule 3745-31-01(III)
IV	Future potential/allowable emission rate (post 01-08902) minus actual emission rate (pre 01-08902)

V	Contemporaneous emission increases during five year period In accordance with OAC rule 3745-31-01(SSS)
VI	Contemporaneous emission decreases during five year period In accordance with OAC rule 3745-31-01(SSS)
VII	Shutdowns during five year period In accordance with OAC rule 3745-31-01(SSS)
IIX	Summary table of all net emission changes, contemporaneous increases and contemporaneous decreases

Table I: Newark Upgrade
Emission units, applicable PTIs and associated issue dates

EU ID	EU description	Current PTI	PTI issue date
P005	C-4 Furnace	01-010	April 2, 1974
P020	C-4 Conditioning channel/forehearth	-	-
P027	C-4 Forming	01-08329	June 26, 2001
P055	C-4 Curing oven	01-08329	June 26, 2001
P073	C-4 Cooling	01-08329	June 26, 2001
P129	A-3 Furnace	01-425	July 17, 1981
P025	A-4 Conditioning channel/forehearth	-	-
P130	A-4 Forming	01-5600	June 17, 1995

Table II: Newark Upgrade
Actual emission rate based on 2002/2003 average production rate - Pre 01-08902
In accordance with OAC rule 3745-31-01(O)(2)

EU ID	EU description	PM-10 (TPY)	TSP (TPY)	NOx (TPY)	SOx (TPY)	CO (TPY)	VOC (TPY)
P005	C-4 Furnace	3.17	3.17	224.04	2.50	-	-
P020	C-4 Conditioning channel/forehearth	18.84	18.84	0.80	0.17	0.672	0.04
P027	C-4 Forming	68.43	68.43	11.85	18.40	34.18	21.11
P055	C-4 Curing oven	1.96	1.96	29.52	1.66	49.60	0.55
P073	C-4 Cooling	9.97	9.97	-	-	-	1.96
P129	A-3 Furnace	0.74	0.74	2.35	0.30	1.97	0.14
P025	A-4 Conditioning channel/forehearth	4.38	4.38	0.61	0.03	0.51	0.04
P130	A-4 Forming	25.19	25.19	1.73	1.06	6.12	5.84

P172	C-4 batch transfer raw materials (transfer and conveyor)	0.55	0.55	-	-	-	-
P168	C-4 mixed batch bin (transfer from conveyor into bin)	0.55	0.55	-	-	-	--
P174	C-4 batch transfer mixed batch (transfer from bin onto batch charger into furnace)	1.1	1.1	-	-	-	-
-	Pipe mixed batch can feed bin (transfer from batch bin onto screw conveyor)	0.55	0.55	-	-	-	-
-	Pipe mixed batch can feed bin (transfer from screw conveyor into rotary drum)	0.55	0.55	-	-	-	-
-	Pipe mixed batch can feed bin (transfer from rotary drum onto batch charger)	0.55	0.55	-	-	-	-
-	Pipe mixed batch can feed bin (transfer from batch charger into furnace)	0.55	0.55	-	-	-	-
P088	C-4 Asphalt coating and flexographic printer	0.0	0.0	-	-	-	0.00
Z065	C-4 inkjet printer	-	-	-	-	-	0.20
P118	C-4 edge trim penclone	0.03	0.03	-	-	-	-
Z057	C-4 belt rollup penclone	0.16	0.16	-	-	-	-
Z070	#1 rotary separator and penclone	0.02	0.02	-	-	-	-
Z071	#2 rotary separator and penclone	0.16	0.16	-	-	-	-
Z076	#3 rotary separator and penclone	0.14	0.14	-	-	-	-
Z052	#2 repack and bagger penclone	0.11	0.11	-	-	-	-
Z075	Offware penclone	0.02	0.02	-	-	-	-
-	Pipe binder prep area	-	-	-	-	-	-
-	Unmodified off line processes	61.53	61.53	1.64	1.23	21.53	4.69
Total		**199.25**	**199.25**	**272.54**	**25.35**	**114.58**	**34.57**

Table III: Newark Upgrade
Future potential/allowable emission rate - Post 01-08902
In accordance with OAC rule 3745-31-01(III)

Emission increases are either PTE increase or allowable emission rate as specified in PTI 01-08902.

EU ID	EU description	PM-10 (TPY)	TSP (TPY)	NOx (TPY)	SOx (TPY)	CO (TPY)	VOC (TPY)
P005	C-4 Furnace	15.60	15.60	288.30	7.67	-	-
P020	C-4 Conditioning channel/forehearth	33.97	33.97	2.46	0.58	2.06	0.13
P027	C-4 Forming	122.70	122.70	19.20	24.70	66.97	69.88

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P055	C-4 Curing oven	13.20	13.20	66.97	3.20	100.48	0.79
P073	C-4 Cooling	16.90	16.90	-	-	-	4.00
P129	A-3 Furnace	3.50	3.50	38.40	3.10	3.40	0.23
P025	A-4 Conditioning channel/forehearth	4.99	4.99	1.6 0	0.23	1.26	0.09
P130	A-4 Forming	31.54	31.54	1.98	1.21	25.14	33.86
P168	C-4 mixed batch bin (transfer from conveyor into bin)	0.60	0.60	-	-	-	-
P174	C-4 batch transfer mixed batch (transfer from bin onto batch charger into furnace)	1.2	1.2	-	-	-	-
-	Pipe mixed batch can feed bin (transfer from batch bin onto screw conveyor)	0.60	0.60	-	-	-	-
-	Pipe mixed batch can feed bin (transfer from screw conveyor into rotary drum)	0.60	0.60	-	-	-	-
-	Pipe mixed batch can feed bin (transfer from rotary drum onto batch charger)	0.60	0.60	-	-	-	-
-	Pipe mixed batch can feed bin (transfer from batch charger into furnace)	0.60	0.60	-	-	-	-
P088	C-4 Asphalt coating and flexographic printer	1.27	1.27	-	-	-	5.36
Z065	C-4 inkjet printer	-	-	-	-	-	1.53
P118	C-4 edge trim penclone	0.18	0.18	-	-	-	-
Z057	C-4 belt rollup penclone	0.31	0.31	-	-	-	-
Z070	#1 rotary separator and penclone	0.18	0.18	-	-	-	-
Z071	#2 rotary separator and penclone	0.18	0.18	-	-	-	-
Z076	#3 rotary separator and penclone	0.18	0.18	-	-	-	-
Z052	#2 repack and bagger penclone	0.18	0.18	-	-	-	-
Z075	Offware penclone	0.18	0.18	-	-	-	-
-	Pipe binder prep area	-	-	-	-	-	-
-	Unmodified off line processes	66.09	66.09	1.76	1.32	23.13	5.04
Total		**315.35**	**315.35**	**420.67**	**42.01**	***222.44***	**120.91**

Owens Corning **Facility ID: 014502018**
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Modification Issued: 10/30/2007

Table IV: Newark Upgrade
Future potential/allowable emission rate (post 01-08902) minus actual emission rate (pre 01-08902)

EU ID	EU description	PM-10 (TPY)	TSP (TPY)	NOx (TPY)	SOx (TPY)	CO (TPY)	VOC (TPY)
P005	C-4 Furnace	12.43	12.43	64.26	5.17	-	-
P020	C-4 Conditioning channel/forehearth	15.13	15.13	1.66	0.41	1.39	0.09
P027	C-4 Forming	54.27	54.27	7.35	6.30	32.79	48.77
P055	C-4 Curing oven	11.24	11.24	37.45	1.54	50.88	0.24
P073	C-4 Cooling	6.93	6.93	-	-	-	2.04
P129	A-3 Furnace	2.76	2.76	36.05	2.80	1.43	0.09
P025	A-4 Conditioning channel/forehearth	0.61	0.61	0.99	0.20	0.75	0.05
P130	A-4 Forming	6.35	6.35	0.25	0.15	19.02	28.02
P168	C-4 mixed batch bin (transfer from conveyor into bin)	0.05	0.05	-	-	-	-
P174	C-4 batch transfer mixed batch (transfer from bin onto batch charger into furnace)	0.10	0.10	-	-	-	-
-	Pipe mixed batch can feed bin (transfer from batch bin onto screw conveyor)	0.05	0.05	-	-	-	-
-	Pipe mixed batch can feed bin (transfer from screw conveyor into rotary drum)	0.05	0.05	-	-	-	-
-	Pipe mixed batch can feed bin (transfer from rotary drum onto batch charger)	0.05	0.05	-	-	-	-
-	Pipe mixed batch can feed bin (transfer from batch charger into furnace)	0.05	0.05	-	-	-	-
P088	C-4 Asphalt coating and flexographic printer	1.27	1.27	-	-	-	5.36
Z065	C-4 inkjet printer	-	-	-	-	-	1.33
P118	C-4 edge trim penclone	0.15	0.15	-	-	-	-
Z057	C-4 belt rollup penclone	0.15	0.15	-	-	-	-
Z070	#1 rotary separator and penclone	0.16	0.16	-	-	-	-
Z071	#2 rotary separator and penclone	0.02	0.02	-	-	-	-
Z076	#3 rotary separator and penclone	0.04	0.04	-	-	-	-
Z052	#2 repack and bagger penclone	0.07	0.07	-	-	-	-
Z075	Offware penclone	0.16	0.16	-	-	-	-

-	Pipe binder prep area	-	-	-	-	-	-
-	Unmodified off line processes	4.56	4.56	0.12	0.09	1.60	0.35
Total		**116.65**	**116.65**	**148.13**	**16.66**	***107.86***	**86.34**

Table V: Newark Upgrade
Contemporaneous emission increases during five year period
In accordance with OAC rule 3745-31-01(SSS)

EU ID	EU description	PM-10 (TPY)	TSP (TPY)	NO_x (TPY)	SO_x (TPY)	CO (TPY)	VOC (TPY)
P027	C-4 Forming	0.00	0.00	1.65	0.00	1.50	0.00
P055	C-4 Curing	0.00	0.00	0.92	0.43	0.00	0.00
P184	C-4 Edge Trim Penclone	0.00	0.00	0.00	0.00	0.00	0.00
P165	F-5 Batch Charging	0.05	0.05	0.00	0.00	0.00	0.00
P173	Batch Charge Area	0.07	0.07	0.00	0.00	0.00	0.00
P001	Furnace (includes combustion)	1.99	1.99	92.38	6.80	3.08	0.00
P022	Conditioning	9.07	9.07	0.00	0.40	0.00	0.00
P021	Forehearth (includes combustion)	2.36	2.36	0.17	0.10	0.14	0.00
P031	Forming (includes combustion)	44.38	44.38	4.99	3.05	17.64	30.15
P066	Curing Oven (includes combustion)	1.63	1.63	4.94	1.16	13.71	0.00
P128	Total Cooling (includes smoke stripper)	3.51	3.51	0.83	0.00	0.70	0.00
Total		**63.06**	**63.06**	**105.88**	**11.94**	**36.77**	**30.15**

Table VI: Newark Upgrade
Contemporaneous emission decreases during five year period
In accordance with OAC rule 3745-31-01(SSS)

EU ID	EU description	PM-10 (TPY)	TSP (TPY)	NO_x (TPY)	SO_x (TPY)	CO (TPY)	VOC (TPY)
P027	C-4 Forming	-2.30	-2.30	0.00	-4.07	0.00	-20.68
P055	C-4 Curing	-4.08	-4.08	0.00	0.00	-3.53	0.00
P073	C-4 Cooling	-1.30	-1.30	0.00	0.00	0.00	0.00
P088	C-4 Backing, Application and Printing	-0.41	-0.41	0.00	0.00	0.00	0.00
P007	D-6 Furnace	-2.63	-2.63	-9.35	-0.06	-7.85	-0.51
P019	D-6 Channel and Forehearth	-12.99	-12.99	-0.67	0.00	-0.56	-0.04

P029	D-6 Forming	-68.92	-68.92	-8.33	-9.69	-33.14	-18.14
P065	D-6 Curing	-31.53	-31.53	-8.01	-1.16	-26.75	-7.48
P074	D-6 Cooling	-2.91	-2.91	0.00	0.00	0.00	-0.80
P118	D-6 External Trim Penclone	-0.80	-0.80	0.00	0.00	0.00	0.00
Z074	D-6 Edge Trim and Repack Penclone	-0.24	-0.24	0.00	0.00	0.00	0.00
P008	F-5 Furnace	-15.44	-15.44	-32.22	-0.15	-4.06	-0.34
P021	F-5 Channel and Forehearth	-10.20	-10.20	0.46	-0.05	-0.39	-0.03
P031	F-5 Forming	-82.73	-82.73	-11.17	-10.97	-37.88	-36.43
P066	F-5 Curing	-6.04	-6.04	-27.91	-1.20	-49.84	-0.96
P128	F-5 Cooling	-8.67	-8.67	-1.00	-0.01	-0.84	-1.66
P182	F-5 Inkjet Printing Operation	-0.03	-0.03	0.00	0.00	0.00	-0.10
Z068	F-5 Edge Trim Penclone	0.00	0.00	0.00	0.00	0.00	-0.31
Z017	F-5 Rollup Penclone	-0.24	-0.24	0.00	0.00	0.00	0.00
P001	F-6 Furnace	-18.47	-18.47	-224.84	-1.65	-6.18	0.00
P022	F-6 Channel and Forehearth	-15.35	-15.35	-0.81	-0.08	-0.68	0.00
P002	F-6 Forming	-44.43	-44.43	-8.48	-8.97	-28.47	-58.60
P003	F-6 Curing	-1.26	-1.26	-23.83	-0.69	-40.83	0.00
P115	F-6 Cooling	-28.11	-28.11	-0.62	-0.01	-0.52	0.00
Z029	F-6 Backing, Application and Printing	-0.07	-0.07	0.00	0.00	0.00	0.00
Varies	Miscellaneous Batch House Sources	-0.21	-0.21	0.00	0.00	0.00	0.00
Z070	#1 Rotary Separator and Penclone	-0.02	-0.02	0.00	0.00	0.00	0.00
Z071	#2 Rotary Separator and Penclone	-0.15	-0.15	0.00	0.00	0.00	0.00
Z076	#3 Rotary Separator and Penclone	-0.13	-0.13	0.00	0.00	0.00	0.00
Z052	#4 Rotary Separator and Penclone	-0.13	-0.13	0.00	0.00	0.00	0.00
Z075	Offware Penclone	-0.02	-0.02	0.00	0.00	0.00	0.00
P026	B-4 Forming	0.00	0.00	0.00	0.00	0.00	-2.35
P028	D-5 Forming	0.00	0.00	0.00	0.00	0.00	-9.80
P130	A-4 Forming	0.00	0.00	0.00	0.00	0.00	-2.54
P143	A-5 Forming	0.00	0.00	0.00	0.00	0.00	-0.54
P038	Flex 1	0.00	0.00	0.00	0.00	0.00	-4.96
P039	Flex 2	0.00	0.00	0.00	0.00	0.00	-3.46

Total		**-359.81**	**-359.81**	**-357.70**	**-38.76**	**-241.52**	**-169.73**

Table VII: Newark Upgrade
Shutdowns during five year period
In accordance with OAC rule 3745-31-01(SSS)

EU ID	EU description	Shutdown Date	PM-10 (TPY)	TSP (TPY)	NOx (TPY)	SOx (TPY)	CO (TPY)	VOC (TPY)
P033	Aeromat Forming	05/04	-7.22	-7.22	0.00	0.00	0.00	-2.86
P051	Aeromat Oven	05/04	-12.49	-12.49	-2.67	-8.53	-8.55	-5.36
P145	Aeromat Trim and Penclone	05/04	-0.05	-0.05	0.00	0.00	0.00	0.00
P048	Aeroflex Coater Oven	02/04	-3.14	-3.14	-0.47	-1.52	-1.52	-2.68
P069	Aeroflex Cooling	02/04	-1.78	-1.78	0.00	0.00	0.00	-1.23
B001	Boiler #10	10/14/02	-0.29	-0.29	-5.24	-0.03	-4.40	-0.29
B002	Boiler #9	06/01/02	-0.50	-0.50	-9.13	-0.05	-7.67	-0.50
B003	Boiler #8	03/19/01	-0.13	-0.13	-2.45	-0.01	-2.06	-0.13
PXXX	E-II Baggers		-2.10	-2.10	0.00	0.00	0.00	0.00
Total			**-27.70**	**-27.70**	**-19.96**	**-10.14**	**-24.20**	**-13.05**

Table IIX: Newark Upgrade
Summary table of all net emission changes, contemporaneous increases and contemporaneous decreases

Summary of Changes	PM-10 (TPY)	TSP (TPY)	NOx (TPY)	SOx (TPY)	CO (TPY)	VOC (TPY)
Contemporaneous Increases	**63.06**	**63.06**	**105.88**	**11.94**	**36.77**	**30.15**
Contemporaneous Decreases (excluding shutdowns)	**-359.81**	**-359.81**	**-357.70**	**-38.76**	**-241.52**	**-169.73**
Shutdown emission units	**-27.70**	**-27.70**	**-19.96**	**-10.14**	**-24.20**	**-13.05**
New Emission Increases	**116.65**	**116.65**	**148.13**	**16.66**	***107.86***	**86.34**
Total Emission Changes	**-207.80**	**-207.80**	**-123.65**	**-20.30**	***-121.09***	**-66.29**
PSD/NNSR Significant Emissions Level	15	-	40	40	100	40

2. The following sources are subject to the applicable provisions of the New Source Performance Standards (NSPS) as promulgated by the U.S. EPA, 40 CFR Part 60:

Source Number	Source Description	NSPS Regulation
P027	C-4 Forming	PPP
P055	C-4 Curing	PPP
P073	C-4 Cooling	PPP

The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

a. construction date (no later than 30 days after such date);
b. anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
c. actual start-up date (within 15 days after such date); and
d. date of performance testing (if required, at least 30 days prior to testing).

Reports are to be sent to:

Ohio Environmental Protection Agency
DAPC - Air Quality Modeling and Planning
P.O. Box 1049
Columbus, OH 43216-1049

and

Central District Office
Division of Air Pollution Control
3232 Alum Creek Drive
Columbus, OH 43207-3417

3. The following sources are subject to the applicable provisions of the Maximum Achievable Control Technology (MACT) standards as promulgated by the U.S. EPA, 40 CFR Part 63:

Source Number	Source Description	MACT Regulation
P005	C-4 Furnace	NNN
P027	C-4 Forming	NNN
P055	C-4 Curing	NNN
P073	C-4 Cooling	NNN
P129	A-3 Furnace	NNN

The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

Pursuant to the MACT, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

a. construction date (no later than 30 days after such date);
b. anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
c. actual start-up date (within 15 days after such date); and
d. date of performance testing (if required, at least 30 days prior to testing).

Reports are to be sent to:

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3232 Alum Creek Drive
Columbus, OH 43207-3417

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

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P005 - 8.33 tons of batch per hour, 170 tons of glass per day, C-4 cold-top electric glass melt furnace, (stack nos. 08-99 and 08-100). Terms in this permit supercede those identified in PTI 01-010 issued 04/02/74.	OAC rule 3745-31-05(A)(3)	Nitrogen oxides (NOx) emissions shall not exceed 90.10 pounds per hour. Filterable and condensable particulate emissions (PE) shall not exceed 3.54 pounds per hour and 15.6 tons per year. Sulfur dioxide (SO2) emissions shall not exceed 1.75 pounds per hour and 7.7 tons per year. Hydrogen chloride (HCl) emissions shall not exceed 0.60 pound per hour and 2.7 tons per year. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-21-08(B), 3745-23-06(B) and 40 CFR Part 63, Subpart NNN. See A.I.2.e below.
	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
	OAC rule 3745-17-11(B)(1)	The emission limitation specified by this rule is less stringent than the emission

OAC rules 3745-21-08(B) and 3745-23-06(B) 40 CFR Part 63, Subpart NNN	limitation established pursuant to 40 CFR Part 63, Subpart NNN. See A.I.2.a-b below.
OAC rule 3745-18-06(E)(2)	See A.I.2.c-d, A.II.1, A.III.1 and A.IV.1.
OAC rule 3745-31-05(C) (synthetic minor to avoid non-attainment NSR)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). Nitrogen oxides emissions from niter usage shall not exceed 288.3 tons per rolling, 12-month summation. See A.II.4 below.

2. Additional Terms and Conditions

2.a The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

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

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

2.c The permittee shall demonstrate compliance with 40 CFR Part 63, Subpart NNN as described in the operating, monitoring, record keeping, reporting and testing requirements included in Part II - Specific Facility Terms and Conditions of the applicable Title V permit.

2.d In accordance with 40 CFR Part 63.1382(a)(1), the permittee shall not discharge or cause to be discharged into the atmosphere in excess of 0.5 pound of particulate per ton of glass pulled for P005.

(The maximum hourly allowable particulate emission rate of 3.54 pounds per hour is calculated by multiplying the maximum glass pull rate of 7.08 tons per hour by 0.5 pound of particulate per ton of glass throughput.)

2.e The hourly NOx, SO2 and HCl emission limitations and annual SO2 and HCl emission limitations for this emissions unit were established to reflect the potentials to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

1. In accordance with 40 CFR Part 63.1382(b)(5)(i), the permittee must initiate corrective action within 1 hour when the average glass pull rate of any 4-hour block period for glass melting furnaces equipped with continuous glass pull rate monitors, or daily glass pull rate for glass melting furnaces not so equipped, exceeds the average glass pull rate established during the performance test as specified in section 63.1384, by greater than 20 percent and complete corrective actions in a timely manner according to the procedures in the operations, maintenance, and monitoring plan.

   In accordance with 40 CFR Part 63.1382(b)(5)(ii), the permittee must implement a QIP consistent with the compliance assurance monitoring provisions of 40 CFR part 64, subpart D when the glass pull rate exceeds, by more than 20 percent, the average glass pull rate established during the performance test as specified in section 63.1384 for more than 5 percent of the total operating time in a 6-month block reporting period.

   In accordance with 40 CFR Part 63.1382(b)(5)(iii), the permittee must operate each glass-melting furnace such that the glass pull rate does not exceed, by more than 20 percent, the average glass pull rate established during the performance test as specified in section 63.1384 for more than 10 percent of the total operating time in a 6-month block reporting period.

2. The permittee shall employ a "batch boom spray" or other equivalent batch wetting device for the control of particulate emissions for all batches processed in this emissions unit.

3. The permittee shall maintain a minimum batch wetting water flow rate of 0.6 gpm or other flow rate established during the most recent emission test that demonstrated compliance with the particulate emission limitation. The permittee shall record the batch wetting flow rate once per shift.

4. The maximum annual niter usage for P005 shall not exceed 533 tons, based upon a rolling, 12-month summation of the niter usage. A table delineating the niter usage during the first 12-months is not necessary because the permittee has maintained records which demonstrate past compliance with this limitation.

III. Monitoring and/or Record keeping Requirements

1. a. Because the facility employs add-on controls (batch wetting to control particulate emissions) for this cold top electric furnace, the permittee is not required to measure and record the air temperature above the molten glass.

   b. In accordance with 40 CFR Part 63.1383(f)(1), the permittee of an existing glass-melting furnace equipped with continuous glass pull rate monitors must monitor and record the glass pull rate on an hourly basis. For glass-melting furnaces that are not equipped with continuous glass pull rate monitors, the glass pull rate must be monitored and recorded once per day.

   In accordance with 40 CFR Part 63.1383(f)(2), the permittee, on any new glass-melting furnace, must install, calibrate, and maintain a continuous glass pull rate monitor that monitors and records on an hourly basis the glass pull rate.

   c. In accordance with 40 CFR Part 63.1386(d)(ix), the permittee shall record the glass pull rate, including any period when the pull rate exceeded the average pull rate established during the most recent emission test that demonstrated compliance with the particulate emission limitation by more than 20 percent, the date and time of the exceedance, when corrective actions were initiated, the cause of the exceedance, an explanation of the corrective actions taken, and when the cause of the exceedance was corrected.

   d. In accordance with 40 CFR Part 63.1383, on and after the date on which the performance test required to be conducted by sections 63.7 and 63.1384 is completed, the permittee must monitor all affected control equipment and processes according to the following requirements:

      i. The permittee of each wool fiberglass manufacturing facility must prepare for each glass-melting furnace and rotary spin manufacturing line subject to the provisions of this subpart, a written operations, maintenance, and monitoring plan. The plan must be submitted to the Administrator for review and approval as part of the application for a part 70 permit. The plan must include the following information:

         (a) Procedures for the proper operation and maintenance of process modifications and add-on control devices used to meet the emission limits in section 63.1382;

         (b) Procedures for the proper operation and maintenance of monitoring devices used to determine compliance, including quarterly calibration and certification of accuracy of each monitoring device according to the manufacturers's instructions; and

(c) Corrective actions to be taken when process parameters or add-on control device parameters deviate from the limit(s) established during initial performance tests.

In accordance with 40 CFR Part 63.1383(m), for all control device and process operating parameters measured during the initial performance tests, the permittee of the identified glass-melting furnaces and rotary spin manufacturing lines subject to this subpart may change the limits established during the initial performance tests if additional performance testing is conducted to verify that, at the new control device or process parameter levels, they comply with the applicable emission limits in section 63.1382. The permittee shall conduct all additional performance tests according to the procedures in this part 63, subpart A and in section 63.1384.

2. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from either stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

   a. the color of the emissions;
   b. whether the emissions are representative of normal operations;
   c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
   d. the total duration of any visible emission incident; and
   e. any corrective actions taken to eliminate the visible emissions.

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

3. The permittee shall maintain daily records that document any time periods when the "batch boom spray"is not maintained at the minimum batch wetting flow rate specified in Section A.II.3 above.

4. The permittee shall maintain monthly records of the following information:

   a. the amount of niter used (tons);

b. the total Nitrogen oxides emissions from niter usage, in tons, using the following formula: {tons of niter used per month} x 0.541 pound of Nitrogen oxides formed per pound of niter used; and

c. the rolling, 12-month summation of Nitrogen oxides emissions from niter usage (tons) and the rolling, 12-month summation of niter usage (tons).

0.541 is derived from the percent of complete dissociation from niter (sodium nitrate) to nitrogen dioxide which is 54.1%.

IV. Reporting Requirements

1. In accordance with 40 CFR Part 63.1386(e), the permittee shall submit semiannual reports if measured emissions are in excess of all applicable standards or monitored parameters deviate from the levels established during the performance test. Each report shall contain the information specified in CFR 63.10(c) of this part as well as the additional records required by the record keeping requirements of paragraph (d) of 63.1386, as described in Part II.A.9 of the applicable Title V permit. When no deviations have occurred, the permittee shall submit a report stating that no excess emissions occurred during the reporting period.

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from either stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

3. The permittee shall submit quarterly deviation (excusion) reports that identify all exceedances of the batch wetting flow rate restriction.

   The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Term and Condition A.1.c.ii.

4. The permittee shall notify the Ohio EPA, Central District Office in writing of any daily record showing that the "batch boom spray" or other equivalent batch wetting device was not in service when the emissions unit was in operation. The notification shall include a copy of such record and shall be sent to the Ohio EPA, Central District Office within 30 days after the event occurs.

5. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month niter usage rate limitation and all exceedances of the rolling, 12-month nitrogen oxides emission limitation.

   The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Term and Condition A.1.c.ii.

6. The permittee shall also submit annual reports that specify nitrogen oxides emissions from niter usage from emissions unit P005 for the previous calendar year. The reports shall be submitted by April 15th of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

V. Testing Requirements

1. Compliance with the emission limitations in Section A.I. of these terms and conditions shall be determined in accordance with the following methods:

   a. Emission Limitation:
   NOx emissions shall not exceed 90.10 pounds per hour.

   Applicable Compliance Method:
   The permittee shall conduct, or have conducted, emission testing for emission unit P005 in accordance with the following requirements:

      i. The emission testing shall be conducted within 6 months of startup.

      ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for nitrogen oxides.

      iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7E. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

      iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

   b. Emission Limitation:
   NOx emissions from niter usage shall not exceed 288.3 tons per rolling, 12-month summation.

   Applicable Compliance Method:
   Compliance may be demonstrated by the record keeping specified in Section A.III.4 above.

   c. Emission Limitations:
   Filterable and condensable particulate emissions shall not exceed 3.54 pounds per hour.
   0.5 pound of particulates per ton of glass pulled.

   Applicable Compliance Method:
   The permittee shall conduct emission testing for emission unit P005 in accordance with the following requirements:

      i. The emission testing shall be conducted within 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the lb/hr particulate emission limitation and emission standard for particulate from 40 CFR Part 63, Subpart NNN.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rates: 40 CFR Part 60, Appendix A, Methods 1 through 5. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. Concurrent visible emission observations at the stack egress point shall be conducted during the emission testing in accordance with 40 CFR Part 60, Method 9.

v. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

d. Emission Limitation:
Filterable and condensable particulate emissions (PE) shall not exceed 15.6 tons per year.

Applicable Compliance Method:
Compliance may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

e. Emission Limitation:
SO2 emissions shall not exceed 1.75 pounds per hour.

Applicable Compliance Method:
This emission limitation was established as the emission units' potential to emit using the worst case batch formulation supplied by the company (PTI application submitted 09/29/04).

If required, the permittee shall demonstrate compliance with the allowable mass emission rate for SO2 in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

f. Emission Limitation:
SO2 emissions shall not exceed 7.7 tons per year.

Applicable Compliance Method:
Compliance may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s).

Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

g. Emission Limitation:
Hydrogen chloride emissions shall not exceed 0.60 pounds per hour.

Applicable Compliance Method:
This emission limitation was established as the emission units' potential to emit using the worst case batch formulation supplied by the company (PTI application submitted 09/29/04).

If required, the permittee shall demonstrate compliance with the allowable mass emission rate for HCl in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 26. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

h. Emission Limitation:
Hydrogen chloride emissions shall not exceed 2.7 tons per year.

Applicable Compliance Method:
Compliance may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

i. Emission Limitation:
Visible emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Method 9 and the procedures in OAC rule 3745-17-03(B)(1).

2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Central District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Central District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Central District Office.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P005 - 8.33 tons of batch per hour, 170 tons of glass per day, C-4 cold-top electric glass melt furnace, (stack nos. 08-99 and 08-100). Terms in this permit supercede those identified in PTI 01-010 issued 04/02/74.	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P020 - 7.08 tons of glass per hour, C-4 forehearth, with 5.6 MMCF/hr natural gas-fired burner (stack no. 08-136)	OAC rule 3745-31-05(A)(3)	Particulate emissions (PE) shall not exceed 7.76 pounds per hour and 34.0 tons per year. Nitrogen oxides (NOx) emissions shall not exceed 0.56 pound per hour and 2.46 tons per year. Carbon monoxide (CO) emission shall not exceed 0.47 pound per hour and 2.1 tons per year. Visible particulate emissions shall not exceed 20% opacity, as a three-minute average. See A.I.2.a below.
	OAC rules 3745-17-07(B) and 3745-17-08(B)	This facility is not located in an Appendix A area as described in OAC rule 3745-17-08; therefore, OAC rules 3745-17-07 and 3745-17-08 do not apply to this fugitive emissions unit.
	OAC rules 3745-21-08(B) and 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The hourly and annual emission limitations for this emissions unit were established to reflect the potentials to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limits.

2.b The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

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

II. Operational Restrictions

1. The permittee shall only burn natural gas in this emissions unit.

III. Monitoring and/or Record keeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

   a. the location and color of the emissions;
   b. whether the emissions are representative of normal operations;
   c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
   d. the total duration of any visible emission incident; and
   e. any corrective actions taken to minimize or eliminate the visible emissions.

   If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the

observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

2. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible fugitive particulate emissions were observed from this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

V. Testing Requirements

1. Compliance with the emission limitations in Section A.I. of these terms and conditions shall be determined in accordance with the following methods:

   a. Emission Limitation:
   PE emissions shall not exceed 7.76 pounds per hour.

   Applicable Compliance Method:
   The hourly emission limitation was established by multiplying the maximum tons of molten glass per hour (7.08 tons) by an emission factor of 1.095 lbs/ton based on testing 08/08/02 and an adjustment for throughput.

   If required, the permittee shall demonstrate compliance with the hourly emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

   b. Emission Limitation:
   PE shall not exceed 34.0 tons per year.

   Applicable Compliance Method:

Compliance may be established by multiplying the emission factor of 1.095 lbs/ton (testing 08/08/02 and adjustment for throughput) by the maximum glass pull rate of 62,050 tons per year and dividing by 2000 pounds per ton.

c. Emission Limitation:
NOx emissions shall not exceed 0.56 pound per hour.

Applicable Compliance Method:
Compliance may be demonstrated by multiplying the rated input capacity of 5.6 MMBTU per hour by the AP-42 emission factor for natural gas combustion (100 lbs Nitrogen oxides/MMCF) from Table 1.4-1, 7/98, and then dividing by the conversion factor of 1000 MMBTU per MMCF.

If required, the permittee shall demonstrate compliance with the allowable mass emission rate for NOx in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. Emission Limitation:
NOx emissions shall not exceed 2.46 tons per year.

Applicable Compliance Method:
Compliance may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

e. Emission Limitation:
CO emissions shall not exceed 0.47 pound per hour.

Applicable Compliance Method:
Compliance may be demonstrated by multiplying the rated input capacity of 5.6 MMBTU per hour by the AP-42 emission factor for natural gas (84 lbs carbon monoxide/MMCF) from Table 1.4-1, 7/98, and then divide by the conversion factor of 1000 MMBTU per MMCF.

If required, the permittee shall demonstrate compliance with the allowable mass emission rate for CO in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

f. Emission Limitation:
CO emissions shall not exceed 2.1 tons per year.

Applicable Compliance Method:
Compliance may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s).

Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

g. Emission Limitation:
Visible emissions shall not exceed 20% opacity, as a three-minute average, except as provided by rule.

Applicable Compliance Method:

Based upon the physical characteristics of this emissions unit, expected emissions and previous compliance history, compliance testing is not specified herein.

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Method 22 and the procedures in OAC rule 3745-17-03(B)(3).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P020 - 7.08 tons of glass per hour, C-4 forehearth, with 5.6 MMCF/hr natural gas-fired burner (stack no. 08-136)	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P025 - 1.55 tons of glass per hour, A-4 conditioning channel/forehearth with 3.5 MMCF/hr natural gas-fired burner	OAC rule 3745-31-05(A)(3)	Particulate emissions (PE) shall not exceed 1.14 pounds per hour and 4.99 tons per year. Nitrogen oxides (NOx) emissions shall not exceed 0.35 pound per hour and 1.6 tons per year. Carbon monoxide (CO) emission shall not exceed 0.30 pound per hour and 1.3 tons per year. Visible particulate emissions shall not exceed 20% opacity, as a three-minute average. See A.I.2.a below.
	OAC rules 3745-17-07(B) and 3745-17-08(B)	This facility is not located in an Appendix A area as described in OAC rule 3745-17-08; therefore, OAC rules 3745-17-07 and 3745-17-08 do not apply to this fugitive emissions unit.
	OAC rules 3745-21-08(B) and 3745-23-06(B)	See A.I.2.b below.

2. Additional Terms and Conditions

2.a The hourly and annual emission limitations for this emissions unit were established to reflect the potentials to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these limits.

2.b The permittee has satisfied the "best available control techniques and operating practices" and "latest available control techniques and operating practices" required pursuant to OAC rules 3745-21-08 and 3745-23-06, respectively by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

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

II. Operational Restrictions

1. The permittee shall only burn natural gas in this emissions unit.

III. Monitoring and/or Record keeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

   a. the location and color of the emissions;
   b. whether the emissions are representative of normal operations;
   c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
   d. the total duration of any visible emission incident; and
   e. any corrective actions taken to minimize or eliminate the visible emissions.

   If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the

observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

2. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible fugitive particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

V. Testing Requirements

1. Compliance with the emission limitations in Section A.I. of these terms and conditions shall be determined in accordance with the following methods:

   a. Emission Limitation:
   PE shall not exceed 1.14 pounds per hour.

   Applicable Compliance Method:
   This emission limitation was established as the emission units' potential to emit using the worst case batch formulation supplied by the company (PTI application submitted 09/29/04).

   If required, the permittee shall demonstrate compliance with the allowable mass emission rate for PE in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

   b. Emission Limitation:
   PE shall not exceed 4.99 tons per year.

   Applicable Compliance Method:
   Compliance may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s).

Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

c. Emission Limitation:
NOx emissions shall not exceed 0.35 pounds per hour.

Applicable Compliance Method:
Compliance may be demonstrated by multiplying the rated input capacity of 3.5 MMBTU per hour by the AP-42 emission factor for natural gas combustion (100 lbs Nitrogen oxides/MMCF) from Table 1.4-1, 7/98, and then dividing by the conversion factor of 1000 MMBTU per MMCF.

If required, the permittee shall demonstrate compliance with the allowable mass emission rate for NOx in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. Emission Limitation:
NOx emissions shall not exceed 1.6 tons per year.

Applicable Compliance Method:
Compliance may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

e. Emission Limitation:
CO emissions shall not exceed 0.30 pounds per hour.

Applicable Compliance Method:
Compliance may be demonstrated by multiplying the rated input capacity of 3.5 MMBTU per hour by the AP-42 emission factor for natural gas combustion (84 lbs carbon monoxide/MMCF) from Table 1.4-1, 7/98, and then dividing by the conversion factor of 1000 MMBTU per MMCF.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 10. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

f. Emission Limitation:
CO emissions shall not exceed 1.3 tons per year.

Applicable Compliance Method:
Compliance may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

g. Emission Limitation:
Visible emissions shall not exceed 20% opacity, as a three-minute average.

Applicable Compliance Method:
Based upon the physical characteristics of this emissions unit, expected emissions and previous compliance history, compliance testing is not specified herein.

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Method 22 and the procedures in OAC rule 3745-17-03(B)(3).

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P025 - 1.55 tons of glass per hour, A-4 conditioning channel/forehearth with 3.5 MMCF/hr natural gas-fired burner	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P027 - 13.97 tons per hour, C-4 fiber and pack forming with cyclonic separators and penthouse (stack no. 08-125). Terms in this permit supercede those identified in PTI 01-08329m1 issued 06/24/04.	OAC rule 3745-31-05(A)(3)	Filterable and condensable particulate emissions (PE) shall not exceed 28.00 pounds per hour and 122.7 tons per year. Nitrogen oxides (NOx) emissions shall not exceed 4.37 pounds per hour and 19.2 tons per year. Sulfur dioxide (SO2) emissions shall not exceed 5.63 pounds per hour and 24.7 tons per year. Carbon monoxide (CO) emissions shall not exceed 15.29 pounds per hour and 67.0 tons per year. Volatile organic compound (VOC) emissions shall not exceed 30.11 pounds per hour. Formaldehyde emissions shall not exceed 4.0 pounds per hour and 17.6 tons per year. Methanol emissions shall not exceed 13.0 pounds per hour. Phenol emissions shall not exceed 13.0 pounds per hour.

	See A.I.2.e, A.II.1-2 and A.II.5 below. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-21-07(G)(2), 3745-21-08(B), 3745-23-06(B), 3745-31-05(C), 40 CFR Part 63, Subpart NNN and 40 CFR 60, Subpart PPP.
OAC rule 3745-31-05(C) (synthetic minor to avoid non-attainment NSR)	See A.I.2.e and A.II.1-2 and 5 below. Methanol emissions from P027, P055 and P073 shall not exceed 26.34 tons per rolling 12-month summation. Phenol emissions from P027, P055 and P073 shall not exceed 26.46 tons per rolling 12-month summation. Volatile organic compound emissions from P027, P055 and P073 shall not exceed 74.67 tons per rolling 12-month summation. Ammonia emissions shall not exceed 33 pounds per hour and 144.6 tons per year.
OAC rule 3745-17-11(B)(1)	See A.I.2.a, A.II.4 and A.II.6 below. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
See OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
40 CFR Part 63, Subpart NNN	Formaldehyde emissions shall not exceed 1.2 pounds per ton of glass pulled for P027, P055 and P073, combined.
OAC rule 3745-21-07(G)(2)	

OAC rules 3745-21-08(B) and OAC rule 3745-23-06(B)	See A.I.2.c-d below.
OAC rule 3745-18-06(E)(2)	Exempt, see A.II.3 below.
40 CFR 60, Subpart PPP	See A.I.2.b below.
	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	See A.I.2.f below.

2. Additional Terms and Conditions

2.a The hourly emission limitation for ammonia is established and permitted under OAC rule 3745-31-05(C) in PTI 01-08902. Ammonia is an air toxic, and the hourly emission limitation is established to reflect the status quo ammonia emission rate for this emissions unit for future air toxics evaluations that may involve this emissions unit.

2.b The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

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

2.c In accordance with 40 CFR Part 63.1382(a)(2)(i), the permittee shall not discharge or cause to be discharged into the atmosphere in excess of a total of 1.2 pounds of formaldehyde per ton of glass pulled for the C-4 rotary spin manufacturing line which, consists of P027, P055 and P073.

2.d The permittee shall demonstrate compliance with 40 CFR Part 63, Subpart NNN as described in the operating, monitoring, record keeeping, reporting and testing requirements included in Part II - Specific Facility Terms and Conditions of the applicable Title V permit.

2.e Filterable particulate emissions shall not exceed 21.7 lbs/hr per the 1980 Consent Decree, State of Ohio versus the Owens-Corning Fiberglass Corporation.

2.f In accordance with 40 CFR 60.682, on and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 5.5 kg/Mg (11.0 1b/ton) of glass pulled.

In accordance with 40 CFR 60.681, "Manufacturing line" means the manufacturing equipment comprising the forming section, where molten glass is fiberized and a fiberglass mat is formed; the curing section, where the binder resin in the mat is thermally “set;” and the cooling section, where the mat is cooled.

II. Operational Restrictions

1. The phenol formaldehyde resin delivered to this emissions unit shall not exceed a free methanol content of 1%, by weight.

2. The permittee shall only burn natural gas in this emissions unit.

3. To avoid the emission limitations/control requirements contained in OAC rule 3745-21-07(G)(2), no photochemically reactive materials (i.e., as raw materials or cleanup materials) shall be employed in this emissions unit.

   Note: The definition of "photochemically reactive material" is based upon OAC rule 3745-21-01(C)(5).

4. The combined maximum amount of methanol and phenol in the resin delivered to P027 and P031 shall not exceed 156 tons, based upon a rolling, 12-month summation of the resin delivered. A table delineating the methanol and phenol in resin delivered during the first 12-months is not necessary because the permittee has maintained records which demonstrate past compliance with this limitation.

5. The permittee shall vent all the emissions from this emissions unit through the following particulate control units: cyclonic separators and a penthouse for the elimination of moisture and mixing chamber.

6. The maximum amount of methanol and phenol in the resin delivered to P027 shall not exceed 60.7 tons, based upon a rolling, 12-month summation of the resin delivered. A table delineating the methanol and phenol in resin delivered during the first 12-months is not necessary because the permittee has maintained records which demonstrate past compliance with this limitation.

III. Monitoring and/or Record keeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

   a. the color of the emissions;
   b. whether the emissions are representative of normal operations;
   c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
   d. the total duration of any visible emission incident; and
   e. any corrective actions taken to minimize or eliminate the visible emissions.

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

2. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

3. The permittee shall maintain monthly records of the following information:

   a. the tons of resin delivered to P027;

   b. the methanol concentration in each batch of resin delivered to P027 (as a weighted average of the methanol contents of all the resins employed, as taken from the resin delivery certificates received during the month);

   c. the phenol concentration in each batch of resin delivered to P027 (as a weighted average of the phenol contents of all the resins employed, as taken from the resin delivery certificates received during the month);

   d. total monthly methanol delivered to P027, in tons, calculated as (a)x(b);

   e. total monthly phenol delivered to P027, in tons, calculated as (a)x(c);

   f. total monthly methanol and phenol delivered to P027;

   g. total monthly methanol and phenol delivered to P027 and P031, combined, in tons;

h. the rolling, 12-month summation of the tons of methanol and phenol in the resin delivered to P027 and P031, combined;

i. monthly methanol emitted from P027, P055 and P073, calculated as follows: (d)x[0.87(fraction of delivered methanol estimated to be emitted over the entire C-4 manufacturing line)];

j. monthly phenol emitted from P027, P055 and P073, calculated as follows: (e)x[0.87(fraction of delivered phenol estimated to be emitted over the entire C-4 manufacturing line)];

k. total monthly hours of operations for P027;

l. monthly formaldehyde emissions from P027, calculated as follows: 4 lbs/hr (hourly maximum)x(k)/2000;

m. total monthly VOC emissions from natural gas combustion from P027 (tons), calculated as follows: [(175.2 MMCF/yr) x (5.5 lbs VOC/MMCF) x (k) / (8760 x 2000)];

n. the rolling, 12-month summation of the total VOC emissions from P027, P055 and P073, combined, calculated as follows: i + j + l + m + NGP055 + FP055 + FP073, where NG equals natural gas combustion and F equals formaldehyde;

o. the rolling, 12-month summation of the tons of methanol and phenol in the resin delivered to P027;

p. the rolling, 12-month summation of the total methanol emissions from P027, P055 and P073, combined; and

q. the rolling, 12-month summation of the total phenol emissions from P027, P055 and P073, combined.

4. The permittee shall maintain records for each material employed in this emissions unit that indicate whether or not the material is a photochemically reactive material.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:

a. the cumulative rolling, 12-month tons of methanol and phenol in the resin delivered to P027 and P031 combined, limitation;

b. the rolling, 12-month total VOC emissions from P027, P055 and P073 combined, emission limitation;

c. the rolling, 12-month tons of methanol and phenol in the resin delivered to P027 limitation;

d. the rolling, 12-month total methanol emissions from P027, P055 and P073 combined, emission limitation; and

e. the rolling, 12-month summation of the total phenol emissions from P027, P055 and P073 combined, emission limitation.

These reports are due by the date described in Part I - General Terms and Conditions of this permit under Section A.1.c.ii.

3. The permittee shall also submit annual reports that specify the total methanol, phenol and VOC emissions from P027, P055 and P073, combined. The reports shall be submitted by April 15th of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

4. The permittee shall submit annual reports that specify the total formaldehyde emissions from P027. The reports shall be submitted by April 15th of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

5. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

6. The permittee shall submit deviation (excursion) reports that identify all periods of time when a photochemically reactive material was employed in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

7. The permittee shall submit deviation (excursion) reports that identify all periods of time when the percent of free methanol in the phenol formaldehyde resin exceeds 1%. Each report shall be submitted within 30 days after the deviation occurs.

V. Testing Requirements

1. Compliance with the emission limitations in Section A.I. of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitations:

Filterable particulate emissions shall not exceed 21.7 pounds per hour, whereas filterable and condensable particulate emissions shall not exceed 28.00 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P027 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulate emissions.

iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 5E. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. Concurrent visible emission observations at the stack egress point shall be conducted during the emission testing in accordance with 40 CFR Part 60, Method 9.

v. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

b. Emission Limitations:
PE shall not exceed 122.7 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

c. Emission Limitation:
NOx shall not exceed 4.37 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P027 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for Nitrogen oxides.

iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7E. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

d. Emission Limitation:
NOx shall not exceed 19.2 tons per year.

Applicable Compliance Method:
Compliance may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

e. Emission Limitation:
SO2 emissions shall not exceed 5.63 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P027 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for sulfur dioxide.

iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6C. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

f. Emission Limitation:
SO2 emissions shall not exceed 24.7 tons per year.

Applicable Compliance Method:
Compliance may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

g. Emission Limitations:
CO emissions shall not exceed 15.29 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P027 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for carbon monoxide.

iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

h. Emission Limitations:
CO emissions shall not exceed 67.0 tons per year.

Applicable Compliance Method:
Compliance may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

i. Emission Limitation:
VOC emissions shall not exceed 30.11 pounds per hour.

Applicable Compliance Method:
Compliance with the hourly limitation may be determined by summing the hourly stack test results for formaldehyde, methanol and phenol with the hourly VOC emissions from natural gas combustion for this emissions unit. Hourly VOC emissions from natural gas combustion are derived by multiplying the burner rating of 20 MMBTU per hour by the AP-42 emission factor for natural gas (5.5 lbs VOC/MMCF) from Table 1.4-1, 7/98, and divide by the conversion factor of 1000 MMBTU per MMCF.

If required, the permittee shall demonstrate compliance with the allowable mass emission rate for VOC in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 25. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

j. Emission Limitation:
Formaldehyde emissions shall not exceed 4.0 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P027 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of emissions unit start-up.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for formaldehyde.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 63, Appendix A, Method 316 or 318. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

k. Emission Limitation:
Formaldehyde emissions shall not exceed 17.6 tons per year.

Applicable Compliance Method:
Compliance may be determined by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

l. Emission Limitation:
Methanol emissions shall not exceed 13.0 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P027 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of emissions unit start-up.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for methanol.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 63, Appendix A, Method 308 or 318. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

m. Emission Limitation:
Phenol emissions shall not exceed 13.0 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P027 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of emissions unit start-up.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for phenol.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): 40 CFR Part 60, Appendix A, Method 18 or 40 CFR Part 63, Appendix A, Method 318. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

n. Emission Limitation:
Methanol emissions from P027, P055 and P073 shall not exceed 26.34 tons per rolling, 12-month summation.

Applicable Compliance Method:
For compliance with the rolling limitation, see A.III.3.p.

o. Emission Limitation:
Phenol emissions from P027, P055 and P073 shall not exceed 26.46 tons per rolling, 12-month summation.

Applicable Compliance Method:
For compliance with the rolling limitation, see A.III.3.q.

p. Emission Limitation:
VOC emissions from P027, P055 and P073 shall not exceed 74.67 tons per rolling, 12-month summation.

Applicable Compliance Method:
For compliance with the rolling limitation, see A.III.3.n.

q. Emission Limitation:
1.2 pounds of formaldehyde per ton of glass pulled for the C-4 rotary spin manufacturing line

Applicable Compliance Method:
The permittee shall conduct emission testing for P027, P055 and P073 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the emission standard for formaldehyde from 40 CFR Part 63, Subpart NNN.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission factor: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 40 CFR Part 63, Appendix A, Methods 316 or 318. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

r. Emission Limitation:
Visible emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:
If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Method 9 and the procedures in OAC rule 3745-17-03(B)(1).

s. Emission Limitations:
Ammonia emissions shall not exceed 33.0 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct emission testing for P027 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for ammonia.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): US EPA Method CTM-027 or

alternative U.S. EPA-approved test method may be used with prior approval from the Ohio EPA, Central District Office.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

t. Emission Limitations:
Ammonia emissions shall not exceed 144.6 tons per year.

Applicable Compliance Method:
Compliance may be determined by multiplying the hourly emission rate established in an approved, compliance test (testing required above) by the actual hours of operation per year, and dividing by 2000 to convert to ton(s).

u. Emission Limitation:
In accordance with 40 CFR 60.682, on and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 5.5 kg/Mg (11.0 1b/ton) of glass pulled.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing in accordance with the following requirements:

i. In accordance with 40 CFR Part 60.8 (a), within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulate emissions.

iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 5E. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

v. In accordance with 40 CFR 60.685, testing shall be conducted as follows:

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall conduct performance tests while the product with the highest loss on ignition (LOI) expected to be produced by the affected facility is being manufactured.

(c) The owner or operator shall determine compliance with the particulate matter standard in §60.682 as follows:

(1) The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E = (C_t Q_{sd})/(P_{avg} K)$$

where:

E = emission rate of particulate matter, kg/Mg (lb/ton).

C_t = concentration of particulate matter, g/dscm (gr/dscf).

Q_{sd} = volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

P_{avg} = average glass pull rate, Mg/hr (ton/hr).

K = 1,000 g/kg (7,000 gr/lb).

(2) Method 5E shall be used to determine the particulate matter concentration (C_t) and the volumetric flow rate (Q_{sd}) of the effluent gas. The sampling time and sample volume shall be at least 120 minutes and 2.55 dscm (90.1 dscf).

(3) The average glass pull rate (P_{avg}) for the manufacturing line shall be the arithmetic average of three glass pull rate (P_i) determinations taken at intervals of at least 30 minutes during each run.

The individual glass pull rates (P_i) shall be computed using the following equation:

$$P_i = K' L_s W_m M [1.0 - (LOI/100)]$$

where:

P_i	=	glass pull rate at interval "i", Mg/hr (ton/hr).
L_s	=	line speed, m/min (ft/min).
W_m	=	trimmed mat width, m (ft).
M	=	mat gram weight, g/m^2 (lb/ft^2).
LOI	=	loss on ignition, weight percent.
K'	=	conversion factor, 6×10^{-5} (min-Mg)/ (hr-g) [3×10^{-2} (min-ton)/(hr-lb)].

(i) ASTM D2584–68 (Reapproved 1985) or 94 (incorporated by reference—see §60.17), shall be used to determine the LOI for each run.

(ii) Line speed (L_s), trimmed mat width (W_m), and mat gram weight (M) shall be determined for each run from the process information or from direct measurements.

(d) To comply with §60.684(d), the owner or operator shall record measurements as required in §60.684 (a) and (b) using the monitoring devices in §60.683 (a) and (b) during the particulate matter runs.

2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Central District Office's refusal to accept the results of the emission test(s).

   Personnel from the Ohio EPA, Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

   A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Central District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Central District Office.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P027 - 13.97 tons per hour, C-4 fiber and pack forming with cyclonic separators and penthouse (stack no. 08-125). Terms in this permit supercede those identified in PTI 01-08329m1 issued 06/24/04.	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P055 - 9.18 tons per hour, natural gas-fired, C-4 curing oven, with incinerator (stack no. 08-125). Terms in this permit supercede those identified in PTI 01-08329m1 issued 06/24/04.	OAC rule 3745-31-05(A)(3)	Filterable and condensable particulate emissions shall not exceed 3.0 pounds per hour and 13.2 tons per year. Nitrogen oxides emissions shall not exceed 15.27 pounds per hour and 67.0 tons per year. Sulfur dioxide emissions shall not exceed 0.71 pound per hour and 3.2 tons per year. Carbon monoxide emissions shall not exceed 22.94 pounds per hour and 100.5 tons per year. Volatile organic compound (VOC) emissions shall not exceed 0.38 pound per hour. See A.I.2.e, A.II.1-2 and 5 below. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-21-08(B), 3745-23-06(B), 3745-31-05(C), 40 CFR Part 63, Subpart NNN, and 40 CFR 60, Subpart PPP.
	OAC rule 3745-31-05(C)	

(synthetic minor to avoid non-attainment NSR)	Methanol emissions from P027, P055 and P073 shall not exceed 26.34 tons per rolling 12-month summation. Phenol emissions from P027, P055 and P073 shall not exceed 26.46 tons per rolling 12-month summation. Volatile organic compound emissions from P027, P055 and P073 shall not exceed 74.67 tons per rolling 12-month summation. Ammonia emissions shall not exceed 2.18 pounds per hour and 9.6 tons per year.
OAC rule 3745-17-07(A)	See A.I.2.a, A.II.4 and A.II.6 below.
OAC rule 3745-17-11(B)(1)	Visible particulate emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
OAC rule 3745-21-07(G)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
OAC rules 3745-21-08(B) and OAC rule 3745-23-06(B)	See A.I.2.b below.
40 CFR Part 63, Subpart NNN	Formaldehyde emissions shall not exceed 1.2 pounds per ton of glass pulled for P027, P055 and P071, combined.
OAC rule 3745-18-06(E)(2)	See A.I.2.c-d below. The emission limitation specified by this rule is less stringent than the emission

	40 CFR 60, Subpart PPP	limitation established pursuant to OAC rule 3745-31-05(A)(3). See A.I.2.f below.

2. Additional Terms and Conditions

2.a The hourly emission limitation is established and permitted under OAC rule 3745-31-05(C) in PTI 01-08329. Ammonia is an air toxic, and the hourly emission limitation is established to reflect the status quo ammonia emission rate for this emissions unit for future air toxics evaluations that may involve this emissions unit.

2.b The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

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

The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

2.c In accordance with 40 CFR Part 63.1382(a)(2)(i), the permittee shall not discharge or cause to be discharged into the atmosphere in excess of a total of 1.2 pounds of formaldehyde per ton of glass pulled for the C-4 rotary spin manufacturing line, which consists of P027, P055 and P073.

2.d The permittee shall demonstrate compliance with 40 CFR Part 63, Subpart NNN as described in the operating, monitoring, record keeeping, reporting and testing requirements included in Part II - Specific Facility Terms and Conditions of the applicable Title V permit.

2.e Filterable particulate emissions shall not exceed 2.4 lbs/hr per the 1980 Consent Decree, State of Ohio versus the Owens-Corning Fiberglass Corporation.

2.f In accordance with 40 CFR 60.682, on and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 5.5 kg/Mg (11.0 1b/ton) of glass pulled.

In accordance with 40 CFR 60.681, "Manufacturing line" means the manufacturing equipment comprising the forming section, where molten glass is fiberized and a

fiberglass mat is formed; the curing section, where the binder resin in the mat is thermally "set;" and the cooling section, where the mat is cooled.

II. Operational Restrictions

1. The phenol formaldehyde resin delivered to this emissions unit shall not exceed a free methanol content of 1% by weight.

2. The permittee shall only burn natural gas in this emissions unit.

3. Per 40 CFR Part 63.1382(b)(6), the permittee must operate each incinerator used to control formaldehyde emissions from forming (P027) or curing (P055) such that any 3-hour block average temperature in the firebox does not fall below the average established during the performance test as specified in section 63.1384.

4. The combined maximum amount of methanol and phenol in the resin delivered to P027 and P031 shall not exceed 156 tons, based upon a rolling, 12-month summation of the resin delivered. A table delineating the methanol and phenol in resin delivered during the first 12-months is not necessary because the permittee has maintained records which demonstrate past compliance with this limitation.

5. The permittee shall vent all the emissions from this emissions unit through the incinerator.

6. The maximum amount of methanol and phenol in the resin delivered to P027 shall not exceed 60.7 tons, based upon a rolling, 12-month summation of the resin delivered. A table delineating the methanol and phenol in resin delivered during the first 12-months is not necessary because the permittee has maintained records which demonstrate past compliance with this limitation.

III. Monitoring and/or Record keeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

   a. the color of the emissions;
   b. whether the emissions are representative of normal operations;
   c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
   d. the total duration of any visible emission incident; and
   e. any corrective actions taken to eliminate the visible emissions.

   If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The

observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

2. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

3. a. Per 40 CFR Part 63.1383(g)(1), the permittee shall install, calibrate, maintain and operate a monitoring device that continuously measures and records the operating temperature in the firebox of the incinerator.

   b. Per 40 CFR Part 63.1383(g)(2), the permittee must inspect each incinerator at least once per year according to the procedures in the operations, maintenance and monitoring plan. At a minimum, an inspection must include the following:

      i. inspect all burners, pilot assemblies, and pilot sensing devices for proper operation and clean pilot sensor, as necessary;

      ii. ensure proper adjustment of combustion air and adjust, as necessary;

      iii. inspect, when possible, internal structures, for example, baffles, to ensure structural integrity per the design specifications;

      iv. inspect dampers, fans, and blowers for proper operating;

      v. inspect for proper sealing;

      vi. inspect motors for proper operation;

      vii. inspect combustion chamber refractory lining and clean and repair/replace lining, as necessary;

      viii. inspect incinerator shell for corrosion and/or hot spots;

      ix. for the burn cycle that follows the inspection, document that the incinerator is operating properly and make any necessary adjustments; and

      x. generally observe that the equipment is maintained in good operating condition.

      xi. the permittee shall complete all necessary repairs as soon as practicable.

4. Per 63.1386(d)(2)(viii), in addition to the general records required by section 63.10(b)(2) of this part, the permittee shall maintain records of the incinerator operating temperature and results of periodic inspection of incinerator components, including any period when the temperature fell below the established average or the inspection identified problems with

the incinerator, the date and time of the problem, when corrective actions were initiated, the cause of the problem, an explanation of the corrective actions taken, and when the cause of the problem was corrected.

5. The permittee shall maintain monthly records of the following information:

   a. the tons of resin delivered to P027;

   b. the methanol concentration in each batch of resin delivered to P027 (as a weighted average of the methanol contents of all the resins employed, as taken from the resin delivery certificates received during the month);

   c. the phenol concentration in each batch of resin delivered to P027 (as a weighted average of the phenol contents of all the resins employed, as taken from the resin delivery certificates received during the month);

   d. total monthly methanol delivered to P027, in tons, calculated as (a)x(b);

   e. total monthly phenol delivered to P027, in tons, calculated as (a)x(c);

   f. total monthly methanol and phenol delivered to P027;

   g. total monthly methanol and phenol delivered to P027 and P031, combined, in tons;

   h. the rolling, 12-month summation of the tons of methanol and phenol in the resin delivered to P027 and P031, combined;

   i. monthly methanol emitted from P027, P055 and P073, calculated as follows: (d)x[0.87(fraction of delivered methanol estimated to be emitted over the entire C-4 manufacturing line)];

   j. monthly phenol emitted from P027, P055 and P073, calculated as follows: (e)x[0.87(fraction of delivered phenol estimated to be emitted over the entire C-4 manufacturing line)];

   k. total monthly hours of operations for P055;

   l. monthly formaldehyde emissions from P055, calculated as follows: 0.1 lbs/hr (hourly maximum)x(k)/2000;

   m. total monthly VOC emissions from natural gas combustion from P055 (tons), calculated as follows: [(126.5 MMCF/yr) x (5.5 lbs VOC/MMCF) x (k) / (8760 x 2000)];

   n. the rolling, 12-month summation of the total VOC emissions from P027, P055 and P073, combined, calculated as follows: i + j + l + m + NGP027 + FP027 + FP073, where NG equals natural gas combustion and F equals formaldehyde;

o. the rolling, 12-month summation of the tons of methanol and phenol in the resin delivered to P027;

p. the rolling, 12-month summation of the total methanol emissions from P027, P055 and P073, combined; and

q. the rolling, 12-month summation of the total phenol emissions from P027, P055 and P073, combined.

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any abnormal visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:

   a. the cumulative rolling, 12-month tons of methanol and phenol in the resin delivered to P027 and P031 combined, limitation;

   b. the rolling, 12-month total VOC emissions from P027, P055 and P073 combined, emission limitation;

   c. the rolling, 12-month tons of methanol and phenol in the resin delivered to P027 limitation;

   d. the rolling, 12-month total methanol emissions from P027, P055 and P073 combined, emission limitation; and

   e. the rolling, 12-month summation of the total phenol emissions from P027, P055 and P073 combined, emission limitation.

   These reports are due by the date described in Part I - General Terms and Conditions of this permit under Section A.1.c.ii.

3. The permittee shall also submit annual reports that specify the total methanol, phenol and VOC emissions from P027, P055 and P073, combined. The reports shall be submitted by April 15th of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

4. The permittee shall submit annual reports that specify the total formaldehyde emissions from P027. The reports shall be submitted by April 15th of each year. This reporting

requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

5. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

6. The permittee shall submit deviation (excursion) reports that identify all periods of time when the percent of free methanol in the phenol formaldehyde resin exceeds 1%. Each report shall be submitted within 30 days after the deviation occurs.

7. Per 63.1386(e), as required by section 63.10(e)(3)(v) of 40 CFR Part 63, Subpart NNN, the permittee shall report semiannually if measured emissions are in excess of the applicable standard or a monitored parameter deviates from the levels established during the performance test. The report shall contain the information specified in section 63.10(c) of this part as well as the additional records required by the record keeping requirements of paragraph (d) of 63.1386. When no deviations have occurred, the permittee shall submit a report stating that no excess emissions occurred during the reporting period.

V. Testing Requirements

1. Compliance with the emission limitations in Section A.I. of these terms and conditions shall be determined in accordance with the following methods:

   a. Emission Limitations:
   Filterable particulate emissions shall not exceed 2.4 pounds per hour, whereas filterable and condensable particulate emissions shall not exceed 3.0 pounds per hour.

   Applicable Compliance Method:
   The permittee shall conduct, or have conducted, emission testing for P055 in accordance with the following requirements:

      i. The emission testing shall be conducted within 6 months of startup.

      ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulate emissions.

      iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 5E. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

      iv. Concurrent visible emission observations at the stack egress point shall be conducted during the emission testing in accordance with 40 CFR Part 60, Method 9.

v. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

b. Emission Limitations:
Filterable and condensable particulate emissions shall not exceed 13.2 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

c. Emission Limitations:
Carbon monoxide emissions shall not exceed 22.94 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P055 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for carbon monoxide.

iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

d. Emission Limitations:
Carbon monoxide emissions shall not exceed 100.5 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

e. Emission Limitations:
Sulfur dioxide emissions shall not exceed 0.71 pound per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P055 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for sulfur dioxide.

iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6C. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

f. Emission Limitations:
Sulfur dioxide emissions shall not exceed 3.2 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

g. Emission Limitation:
Nitrogen oxides shall not exceed 15.27 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P055 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for Nitrogen oxides.

iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7E. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

h. Emission Limitation:
Nitrogen oxides shall not exceed 67.0 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

i. Emission Limitation:
VOC emissions shall not exceed 0.38 pound per hour.

Applicable Compliance Method:
The hourly VOC emission limitation was established as the summation of maximum formaldehyde, methanol, phenol and VOC emissions from natural gas combustion. Compliance with the hourly limitation may be demonstrated by summing the hourly stack test results for formaldehyde, methanol and phenol with the hourly VOC emissions from natural gas combustion for this emissions unit. Hourly VOC emissions from natural gas combustion are derived by multiplying the maximum MMCF usage of the natural gas burners (126.5) by the AP-42 emission factor for natural gas (5.5 lbs VOC/MMCF) from Table 1.4-1, 7/98, and then dividing by 8760 to convert from an annual to an hourly emission rate.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 18, 25 or 25A. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

j. Emission Limitation:
Methanol emissions from P027, P055 and P073 shall not exceed 26.34 tons per rolling, 12-month summation.

Applicable Compliance Method:
For compliance with the rolling limitation, see A.III.5.p.

k. Emission Limitation:
Phenol emissions from P027, P055 and P073 shall not exceed 26.46 tons per rolling, 12-month summation.

Applicable Compliance Method:
For compliance with the rolling limitation, see A.III.5.q.

l. Emission Limitation:
Volatile organic compound emissions from P027, P055 and P073 shall not exceed 74.67 tons per rolling, 12-month summation.

Applicable Compliance Method:

For compliance with the rolling limitation, see A.III.5.n.

m. Emission Limitation:
1.2 pounds of formaldehyde per ton of glass pulled for the C-4 rotary spin manufacturing line

Applicable Compliance Method:
The permittee shall conduct emission testing for P027, P055 and P073 in accordance with the following requirements:

i. The emission testing shall be conducted 6 months prior to permit expiration.

ii. The emission testing shall be conducted to demonstrate compliance with the emission standard for formaldehyde from 40 CFR Part 63, Subpart NNN.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission factor: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 40 CFR Part 63, Appendix A, Methods 316 or 318. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office. During emission testing for formaldehyde, the ton(s) of glass pull rate shall be recorded to demonstrate compliance with the 1.2 pounds of formaldehyde per ton of glass pulled limitation specified in 40 CFR Part 63, Subpart NNN.

n. Emission Limitation:
Visible emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:
If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Method 9 and the procedures in OAC rule 3745-17-03(B)(1).

o. Emission Limitations:
Ammonia emissions shall not exceed 2.18 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct emission testing for P055 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for ammonia.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): US EPA Method CTM-027 or alternative U.S. EPA-approved test method may be used with prior approval from the Ohio EPA, Central District Office.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

p. Emission Limitations:
Ammonia emissions shall not exceed 9.6 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

q. Emission Limitation:
In accordance with 40 CFR 60.682, on and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 5.5 kg/Mg (11.0 1b/ton) of glass pulled.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing in accordance with the following requirements:

i. In accordance with 40 CFR Part 60.8 (a), within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulate emissions.

iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 5E. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

v. In accordance with 40 CFR 60.685, testing shall be conducted as follows:

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall conduct performance tests while the product with the highest loss on ignition (LOI) expected to be produced by the affected facility is being manufactured.

(c) The owner or operator shall determine compliance with the particulate matter standard in §60.682 as follows:

(1) The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E = (C_t Q_{sd})/(P_{avg} K)$$

where:

E = emission rate of particulate matter, kg/Mg (lb/ton).

C_t = concentration of particulate matter, g/dscm (gr/dscf).

Q_{sd} = volumetric flow rate of effluent gas, dscm/hr (dscf/hr).

P_{avg} = average glass pull rate, Mg/hr (ton/hr).

K = 1,000 g/kg (7,000 gr/lb).

(2) Method 5E shall be used to determine the particulate matter concentration (C_t) and the volumetric flow rate (Q_{sd}) of the effluent gas. The sampling time and sample volume shall be at least 120 minutes and 2.55 dscm (90.1 dscf).

(3) The average glass pull rate (P_{avg}) for the manufacturing line shall be the arithmetic average of three glass pull rate (P_i) determinations taken at intervals of at least 30 minutes during each run.

The individual glass pull rates (P_i) shall be computed using the following equation:

$$P_i = K' L_s W_m M [1.0 - (LOI/100)]$$

where:

P_i	=	glass pull rate at interval "i", Mg/hr (ton/hr).
L_s	=	line speed, m/min (ft/min).
W_m	=	trimmed mat width, m (ft).
M	=	mat gram weight, g/m^2 (lb/ft^2).
LOI	=	loss on ignition, weight percent.
K'	=	conversion factor, 6×10^{-5} (min-Mg)/ (hr-g) [3×10^{-2} (min-ton)/(hr-lb)].

(i) ASTM D2584–68 (Reapproved 1985) or 94 (incorporated by reference—see §60.17), shall be used to determine the LOI for each run.

(ii) Line speed (L_s), trimmed mat width (W_m), and mat gram weight (M) shall be determined for each run from the process information or from direct measurements.

(d) To comply with §60.684(d), the owner or operator shall record measurements as required in §60.684 (a) and (b) using the monitoring devices in §60.683 (a) and (b) during the particulate matter runs.

2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Central District Office's refusal to accept the results of the emission test(s).

   Personnel from the Ohio EPA, Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

   A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Central District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Central District Office.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P055 - 9.18 tons per hour, natural gas-fired, C-4 curing oven, with incinerator (stack no. 08-125). Terms in this permit supercede those identified in PTI 01-08329m1 issued 06/24/04.	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P073 - 8.53 tons per hour, C-4 cooling section, w/ wet scrubber & smoke stripper (stack nos. 08-20 and 08-32). Terms in this permit supercede those identified in PTI 01-08329m1 issued 06/24/04.	OAC rule 3745-31-05(A)(3)	Filterable and condensable particulate emissions shall not exceed 3.85 pounds per hour and 16.9 tons per year. Volatile organic compound (VOC) emissions shall not exceed 1.22 pounds per hour. Formaldehyde emissions shall not exceed 0.7 pound per hour and 3.1 tons per year. See A.I.2.e and A.II.1 and 5 below. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-21-07(G)(2), 3745-21-08(B), 3745-23-06(B) 3745-31-05(C), 40 CFR Part 63, Subpart NNN and 40 CFR 60, Subpart PPP.
	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
	OAC rule 3745-17-11(B)(1)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

OAC rule 3745-21-07(G)(2)	Exempt, see A.II.3 below.
OAC rules 3745-21-08(B) and OAC rule 3745-23-06(B)	See A.I.2.b below. Methanol emissions from P027, P055 and P073 shall not exceed 26.34 tons per rolling 12-month summation.
OAC rule 3745-31-05(C) (synthetic minor to avoid non-attainment NSR)	Phenol emissions from P027, P055 and P073 shall not exceed 26.46 tons per rolling 12-month summation. Volatile organic compound emissions from P027, P055 and P073 shall not exceed 74.67 tons per rolling 12-month summation. Ammonia emissions shall not exceed 3.5 pounds per hour and 15.3 tons per year.
40 CFR Part 63, Subpart NNN	See A.I.2.a, A.II.4 and A.II.6 below. Formaldehyde emissions shall not exceed 1.2 pounds per ton of glass pulled for P027, P055 and P073, combined.
40 CFR 60, Subpart PPP	See A.I.2.c-d below. See A.I.2.f below.

2. Additional Terms and Conditions

2.a The hourly emission limitation is established and permitted under OAC rule 3745-31-05(C) in PTI 01-08902. Ammonia is an air toxic, and the hourly emission limitation is established to reflect the status quo ammonia emission rate for this emissions unit for future air toxics evaluations that may involve this emissions unit.

2.b The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that

rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the

U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

2.c In accordance with 40 CFR Part 63.1382(a)(2)(i), the permittee shall not discharge or cause to be discharged into the atmosphere in excess of a total of 1.2 pounds of formaldehyde per ton of glass pulled for the C-4 rotary spin manufacturing line, which consists of P027, P055 and P073.

2.d The permittee shall demonstrate compliance with 40 CFR Part 63, Subpart NNN as described in the operating, monitoring, record keeeping, reporting and testing requirements included in Part II - Specific Facility Terms and Conditions of the applicable Title V permit.

2.e Filterable particulate emissions shall not exceed 14.5 lbs/hr per the 1980 Consent Decree, State of Ohio versus the Owens-Corning Fiberglass Corporation.

2.f In accordance with 40 CFR 60.682, on and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 5.5 kg/Mg (11.0 1b/ton) of glass pulled.

In accordance with 40 CFR 60.681, "Manufacturing line" means the manufacturing equipment comprising the forming section, where molten glass is fiberized and a fiberglass mat is formed; the curing section, where the binder resin in the mat is thermally “set;” and the cooling section, where the mat is cooled.

II. Operational Restrictions

1. The phenol formaldehyde resin delivered to this emissions unit shall not exceed a free methanol content of 1%, by weight.

2. The pressure drop across the venturi throat portion of the scrubber shall be maintained within the range of 0.3 - 10.0 inches water column while the emissions unit is in operation. Upon demonstration of compliance with the hourly particulate emission limitation through stack testing, the permittee shall comply with the pressure drop range established during the compliance test that demonstrated compliance with the hourly particulate emission limitation.

3. To avoid the emission limitations/control requirements contained in OAC rule 3745-21-07(G)(2), no photochemically reactive materials (i.e., as raw materials or cleanup materials) shall be employed in this emissions unit.

   Note: The definition of "photochemically reactive material" is based upon OAC rule 3745-21-01(C)(5).

4. The combined maximum amount of methanol and phenol in the resin delivered to P027 and P031 shall not exceed 156 tons, based upon a rolling, 12-month summation of the resin delivered. A table delineating the methanol and phenol in resin delivered during the first 12-months is not necessary because the permittee has maintained records which demonstrate past compliance with this limitation.

5. The permittee shall vent all the emissions from this emissions unit to one of two existing control systems: either a smoke stripper [scrubber followed by a high performance air filter (HPAF)] or a wet scrubber.

6. The maximum amount of methanol and phenol in the resin delivered to P027 shall not exceed 60.7 tons, based upon a rolling, 12-month summation of the resin delivered. A table delineating the methanol and phenol in resin delivered during the first 12-months is not necessary because the permittee has maintained records which demonstrate past compliance with this limitation.

III. Monitoring and/or Record keeping Requirements

1. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack(s) serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

   a. the color of the emissions;
   b. whether the emissions are representative of normal operations;
   c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
   d. the total duration of any visible emission incident; and
   e. any corrective actions taken to eliminate the visible emissions.

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

emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

2. The permittee shall maintain records for each material employed in this emissions unit that indicate whether or not the material is a photochemically reactive material.

3. The permittee shall maintain monthly records of the following information:

   a. the tons of resin delivered to P027;

   b. the methanol concentration in each batch of resin delivered to P027 (as a weighted average of the methanol contents of all the resins employed, as taken from the resin delivery certificates received during the month);

   c. the phenol concentration in each batch of resin delivered to P027 (as a weighted average of the phenol contents of all the resins employed, as taken from the resin delivery certificates received during the month);

   d. total monthly methanol delivered to P027, in tons, calculated as (a)x(b);

   e. total monthly phenol delivered to P027, in tons, calculated as (a)x(c);

   f. total monthly methanol and phenol delivered to P027;

   g. total monthly methanol and phenol delivered to P027 and P031, combined, in tons;

   h. the rolling, 12-month summation of the tons of methanol and phenol in the resin delivered to P027 and P031, combined;

   i. monthly methanol emitted from P027, P055 and P073, calculated as follows: (d)x[0.87(fraction of delivered methanol estimated to be emitted over the entire C-4 manufacturing line)];

   j. monthly phenol emitted from P027, P055 and P073, calculated as follows: (e)x[0.87(fraction of delivered phenol estimated to be emitted over the entire C-4 manufacturing line)];

   k. total monthly hours of operations for P073;

   l. monthly formaldehyde emissions from P073, calculated as follows: 0.7 lbs/hr (hourly maximum)x(k)/2000;

   m. the rolling, 12-month summation of the total VOC emissions from P027, P055 and P073, combined, calculated as follows: i + j + l + NGP027 + NGP055 + FP027 + FP073, where NG equals natural gas combustion and F equals formaldehyde;

n. the rolling, 12-month summation of the tons of methanol and phenol in the resin delivered to P027;

o. the rolling, 12-month summation of the total methanol emissions from P027, P055 and P073, combined; and

p. the rolling, 12-month summation of the total phenol emissions from P027, P055 and P073, combined.

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

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

   a. the pressure drop across the venturi throat portion of the scrubber, in inches of water of water column; and

   b. the operating times for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

5. In accordance with 40 CFR 60.683(a), an owner or operator subject to the provisions of this subpart who uses a wet scrubbing control device to comply with the mass emission standard shall install, calibrate, maintain, and operate monitoring devices that measure the gas pressure drop across each scrubber and the scrubbing liquid flow rate to each scrubber. The pressure drop monitor is to be certified by its manufacturer to be accurate within ±250 pascals (±1 inch water gauge) over its operating range, and the flow rate monitor is to be certified by its manufacturer to be accurate within ±5 percent over its operating range.

6. In accordance with 40 CFR 60.683(c), all monitoring devices required under this section are to be recalibrated quarterly in accordance with procedures under §60.13(b).

IV. Reporting Requirements

1. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack(s) serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the following:

a. the cumulative rolling, 12-month tons of methanol and phenol in the resin delivered to P027 and P031 combined, limitation;

b. the rolling, 12-month total VOC emissions from P027, P055 and P073 combined, emission limitation;

c. the rolling, 12-month tons of methanol and phenol in the resin delivered to P027 limitation;

d. the rolling, 12-month total methanol emissions from P027, P055 and P073 combined, emission limitation; and

e. the rolling, 12-month summation of the total phenol emissions from P027, P055 and P073 combined, emission limitation.

f. all periods of time during which the static pressure drop across the scrubber was not maintained at or above the required level.

These reports are due by the date described in Part I - General Terms and Conditions of this permit under Section A.1.c.ii.

3. The permittee shall also submit annual reports that specify the total methanol, phenol and VOC emissions from P027, P055 and P073, combined. The reports shall be submitted by April 15th of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

4. The permittee shall submit annual reports that specify the total formaldehyde emissions from P027. The reports shall be submitted by April 15th of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

5. The permittee shall submit deviation (excursion) reports that identify all periods of time when the percent of free methanol in the phenol formaldehyde resin exceeds 1%. Each report shall be submitted within 30 days after the deviation occurs.

6. In accordance with 40 CFR 60.684, (a) At 30-minute intervals during each 2-hour test run of each performance test of a wet scrubber control device and at least once every 4 hours thereafter, the owner or operator shall record the measurements required by §60.683(a).

7. In accordance with 40 CFR 60.684, (c) Records of the measurements required in paragraph (a) of this section must be retained for at least 2 years. (d) Each owner or operator shall submit written semiannual reports of exceedances of control device operating parameters required to be monitored by paragraph (a) of this section and written documentation of, and a report of corrective maintenance required as a result of, quarterly calibrations of the monitoring devices required in §60.683(c). For the purpose of these

reports, exceedances are defined as any monitoring data that are less than 70 percent of the lowest value or greater than 130 percent of the highest value of each operating parameter recorded during the most recent performance test.

V. Testing Requirements

1. Compliance with the emission limitations in Section A.I. of these terms and conditions shall be determined in accordance with the following methods:

a Emission Limitations:
Filterable particulate emissions shall not exceed 14.5 pounds per hour, whereas filterable and condensable particulate emissions shall not exceed 3.85 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P073 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulate emissions.

iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 5E. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. Concurrent visible emission observations at the stack egress point shall be conducted during the emission testing in accordance with 40 CFR Part 60, Method 9.

v. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

b. Emission Limitations:
Filterable and condensable particulate emissions shall not exceed 16.9 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

c. Emission Limitation:
Volatile organic compound emissions shall not exceed 1.22 pounds per hour.

Applicable Compliance Method:
The hourly VOC emission limit was established as the summation of the maximum formaldehyde, methanol and phenol emissions. Compliance with the hourly limitation shall be demonstrated as the sum of the hourly stack test results for formaldehyde, methanol and phenol.

The permittee shall conduct, or have conducted, emission testing for P073 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for volatile organic compounds.

iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4, 308 or 318 for methanol, and 18 or 318 for phenol. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

d. Emission Limitation:
Formaldehyde emissions shall not exceed 0.7 pound per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P073 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for volatile organic compounds.

iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4, 316 or 318 for formaldehyde. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

e. Emission Limitation:
Formaldehyde emissions shall not exceed 3.1 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to

ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

f. Emission Limitation:
Methanol emissions from P027, P055 and P073 shall not exceed 26.34 tons per rolling, 12-month summation.

Applicable Compliance Method:
For compliance with the rolling limitation, see A.III.3.o.

g. Emission Limitation:
Phenol emissions from P027, P055 and P073 shall not exceed 26.46 tons per rolling, 12-month summation.

Applicable Compliance Method:
For compliance with the rolling limitation, see A.III.3.p.

h. Emission Limitation:
Volatile organic compound emissions from P027, P055 and P073 shall not exceed 74.67 tons per rolling, 12-month summation.

Applicable Compliance Method:
For compliance with the rolling limitation, see A.III.3.m.

i. Emission Limitation:
1.2 pounds of formaldehyde per ton of glass pulled for the C-4 rotary spin manufacturing line

Applicable Compliance Method:
The permittee shall conduct emission testing for P027, P055 and P073 in accordance with the following requirements:

i. The emission testing shall be conducted 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the emission standard for formaldehyde from 40 CFR Part 63, Subpart NNN.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission factor: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 40 CFR Part 63, Appendix A, Methods 316 or 318. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office. During emission testing for formaldehyde, the ton(s) of glass pull rate shall be recorded to demonstrate compliance

with the 1.2 pounds of formaldehyde per ton of glass pulled limitation specified in 40 CFR Part 63, Subpart NNN.

j. Emission Limitation:
Visible emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:
If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Method 9 and the procedures in OAC rule 3745-17-03(B)(1).

k. Emission Limitations:
Ammonia emissions shall not exceed 3.5 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct emission testing for P073 in accordance with the following requirements:

i. The emission testing shall be conducted 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for ammonia.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): US EPA Method CTM-027 or alternative U.S. EPA-approved test method may be used with prior approval from the Ohio EPA, Central District Office.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

l. Emission Limitations:
Ammonia emissions shall not exceed 15.3 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

m. Emission Limitations:
In accordance with 40 CFR 60.682, on and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 5.5 kg/Mg (11.0 1b/ton) of glass pulled.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing in accordance with the following requirements:

i. In accordance with 40 CFR Part 60.8 (a), within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Administrator under section 114 of the Act, the owner or operator of such facility shall conduct performance test(s) and furnish the Administrator a written report of the results of such performance test(s).

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulate emissions.

iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 5E. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

v. In accordance with 40 CFR 60.685, testing shall be conducted as follows:

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall conduct performance tests while the product with the highest loss on ignition (LOI) expected to be produced by the affected facility is being manufactured.

(c) The owner or operator shall determine compliance with the particulate matter standard in §60.682 as follows:

(1) The emission rate (E) of particulate matter shall be computed for each run using the following equation:

$$E = (C_t Q_{sd})/(P_{avg} K)$$

where:

E = emission rate of particulate matter, kg/Mg (lb/ton).

C_t = concentration of particulate matter, g/dscm (gr/dscf).
Q_{sd} = volumetric flow rate of effluent gas, dscm/hr (dscf/hr).
P_{avg} = average glass pull rate, Mg/hr (ton/hr).
K = 1,000 g/kg (7,000 gr/lb).

(2) Method 5E shall be used to determine the particulate matter concentration (C_t) and the volumetric flow rate (Q_{sd}) of the effluent gas. The sampling time and sample volume shall be at least 120 minutes and 2.55 dscm (90.1 dscf).

(3) The average glass pull rate (P_{avg}) for the manufacturing line shall be the arithmetic average of three glass pull rate (P_i) determinations taken at intervals of at least 30 minutes during each run.

The individual glass pull rates (P_i) shall be computed using the following equation:

$$P_i = K' L_s W_m M [1.0 - (LOI/100)]$$

where:

P_i = glass pull rate at interval "i", Mg/hr (ton/hr).
L_s = line speed, m/min (ft/min).
W_m = trimmed mat width, m (ft).
M = mat gram weight, g/m^2 (lb/ft^2).
LOI = loss on ignition, weight percent.
K' = conversion factor, 6×10^{-5} (min-Mg)/ (hr-g) [3×10^{-2} (min-ton)/(hr-lb)].

(i) ASTM D2584–68 (Reapproved 1985) or 94 (incorporated by reference—see §60.17), shall be used to determine the LOI for each run.

(ii) Line speed (L_s), trimmed mat width (W_m), and mat gram weight (M) shall be determined for each run from the process information or from direct measurements.

(d) To comply with §60.684(d), the owner or operator shall record measurements as required in §60.684 (a) and (b) using the monitoring devices in §60.683 (a) and (b) during the particulate matter runs.

2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Central District Office's refusal to accept the results of the emission test(s).

   Personnel from the Ohio EPA, Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

   A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Central District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Central District Office.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P073 - 8.53 tons per hour, C-4 cooling section, w/ wet scrubber & smoke stripper (stack nos. 08-20 and 08-32). Terms in this permit supercede those identified in PTI 01-08329m1 issued 06/24/04.	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P129 - 2.07 tons of batch per hour, 37.2 tons of glass per day, A-3 pipe natural gas-fired, glass melt furnace, w/ ESP (stack no. 28-94). Terms in this permit supercede those identified in PTI 01-425 issued 07/17/81.	OAC rule 3745-31-05(A)(3)	Filterable and condensable particulate emissions (PE) shall not exceed 0.78 pound per hour and 3.5 tons per year. Nitrogen oxides (NOx) emissions from natural gas combustion and niter usage shall not exceed 23.30 pounds per hour. NOx emissions from natural gas combustion shall not exceed 4.0 tons per year. Sulfur Dioxide (SO2) emissions shall not exceed 0.69 pound per hour and 3.1 tons per year. Carbon Monoxide (CO) emissions shall not exceed 0.76 pound per hour and 3.4 tons per year. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-17-11(B)(1), 3745-21-08(B), 3745-23-06(B) and 40 CFR Part 63, Subpart NNN.
	OAC rule 3745-17-07(A)	See A.I.2.d below

OAC rule 3745-17-11(B)(1)	Visible particulate emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule.
OAC rules 3745-21-08(B) and 3745-23-06(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to 40 CFR Part 63, Subpart NNN.
40 CFR Part 63, Subpart NNN	See A.I.2.a below.
OAC rule 3745-18-06(E)(2)	See A.I.2.b-c below.
OAC rule 3745-31-05(C) (synthetic minor to avoid non-attainment NSR)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3). Nitrogen oxides emissions from niter usage shall not exceed 34.4 tons per rolling, 12-month summation. See A.II.4 below.

2. Additional Terms and Conditions

2.a The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

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

The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

2.b The permittee shall demonstrate compliance with 40 CFR Part 63, Subpart NNN as described in the operating, monitoring, record keeeping, reporting and testing requirements included in Part II - Specific Facility Terms and Conditions of the applicable Title V permit.

2.c In accordance with 40 CFR Part 63.1382(a)(1), the permittee shall not discharge or cause to be discharged into the atmosphere in excess of 0.5 pound of particulate per ton of glass pulled for emissions unit P129.

(The maximum hourly allowable particulate emission rate of 0.78 pound per hour is calculated by multiplying the maximum glass throughput of 1.55 tons per hour by 0.5 pound of particulate per ton of glass pulled.)

2.d The hourly PE, NOx, SO2 and CO emission limitations and annual PE, NOx, SO2 and CO emission limitations for this emissions unit were established to reflect the potentials to emit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these emission limitations.

II. Operational Restrictions

1. The permittee shall only burn natural gas in this emissions unit.

2. The permittee shall vent all the emissions from this emissions unit through an electrostatic precipitator that shall operate during any operation of this emissions unit.

3. The voltage (V) at each field within the ESP shall be maintained within the values specified in the manufacturer's recommendations, instructions, and operating manual(s). These values are:

   a. the primary voltage (V) at each field within the ESP shall be maintained within the manufacturer's recommendations, instructions and operating manuals;
   b. a minimum of two fields out of a total of three must be operating; and
   c. if all three fields are in operation, the third field's secondary voltage must be within the range of 8 kv to 30 kv and the third field's average amperage must be within the range of 5 ma to 25 ma.

   These ranges for the ESP parameters are effective for the duration of this permit unless additional performance testing is conducted which shows that the emissions unit is in compliance with the particulate emission limitation. At that time the test results will be reviewed by the Ohio EPA and the ESP parameter ranges may be adjusted accordingly, provided that written approval of the new ESP parameters is obtained from the Ohio EPA, Central District Office.

4. The maximum annual niter usage for P129 shall not exceed 63.5 tons, based upon a rolling, 12-month summation of the niter usage. A table delineating the niter usage during the first 12-months is not necessary because the permittee has maintained records which demonstrate past compliance with this limitation.

III. Monitoring and/or Record keeping Requirements

1. The permittee shall monitor and record, once each day, the voltage, in kilovolts, to each field and the number of fields operating in the ESP.

2. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

   a. the color of the emissions;
   b. whether the emissions are representative of normal operations;
   c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
   d. the total duration of any visible emission incident; and
   e. any corrective actions taken to eliminate the visible emissions.

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

3. The permittee shall maintain monthly records of the following information:

   a. the amount of niter used (tons);

   b. the total Nitrogen oxides emissions from niter usage, in tons, using the following formula: {tons of niter used per month} x 0.541 pound of Nitrogen oxides formed per pound of niter used; and

   c. the rolling, 12-month summation of Nitrogen oxides emissions from niter usage (tons) and the rolling, 12-month summation of niter usage (tons).

   0.541 is derived from the percent of complete dissociation from niter (sodium nitrate) to nitrogen dioxide which is 54.1%.

4. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

IV. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify any deviations from the secondary voltage and current ranges specified in Section A.II.3.

   The deviation reports shall be submitted in accordance with the requirements specified in Part I - General Terms and Conditions, Section A.1.c.ii.

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

3. The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the rolling, 12-month niter usage rate limitation and all exceedances of the rolling, 12-month Nitrogen oxides emission limitation.

   The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Term and Condition A.1.c.ii.

4. The permittee shall also submit annual reports that specify Nitrogen oxides emissions from niter usage from emissions unit P129 for the previous calendar year. The reports shall be submitted by April 15th of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

5. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

V. Testing Requirements

1. Compliance with the emission limitations in Section A.I. of these terms and conditions shall be determined in accordance with the following methods:

   a. Emission Limitation:
      Filterable and condensable particulate emissions shall not exceed 0.78 pound per hour.

      Applicable Compliance Method:
      Compliance may be established by multiplying the maximum emission rate of 0.5 pound per ton of glass pulled by the maximum glass pull rate of 1.55 tons per hour.

      If required, the permittee shall demonstrate compliance with the allowable mass emission rate for PE in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

b. Emission Limitation:
Filterable and condensable particulate emissions shall not exceed 3.5 tons per year.

Applicable Compliance Method:
Compliance may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

c. Emission Limitation:
Nitrogen oxides (NOx) emissions from natural gas combustion and niter usage shall not exceed 23.30 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P129 in accordance with the following requirements:

i. The emission testing shall be conducted within 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for Nitrogen oxides.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7E. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

d. Emission Limitation:
NOx emissions from natural gas combustion shall not exceed 4.0 tons per year.

Applicable Compliance Method:
Compliance may be determined by multiplying the maximum rated input capacity of 9.0 MMBTU per hour by the AP-42 emission factor for natural gas combustion (100 lbs NOx/MMCF) from Table 1.4-1, 7/98, dividing by the conversion factor of 1000 MMBTU per MMCF, multiplying by 8760 hours of operation per year and dividing by 2000 to convert to ton(s).

e. Emission Limitation:
SO2 emissions shall not exceed 0.69 pound per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1-4 and 6. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

Emissions testing was conducted for this emissions unit on November 25, 2002 prior to the increase in capacity approved by this permit. The results of the emissions test indicate compliance with the new allowable emission rate.

f. Emission Limitation:
SO2 emissions shall not exceed 3.1 tons per year.

Applicable Compliance Method:
Compliance may be established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

g. Emission Limitation:
CO emissions shall not exceed 0.76 pounds per hour.

Emission Limitation:
Compliance may be determined by multiplying the rated input capacity of 9.0 MMBTU per hour by the AP-42 emission factor for natural gas combustion (84 lbs CO/MMCF) from Table 1.4-1, 7/98, and then dividing by the conversion factor of 1000 MMBTU per MMCF.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 10. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

h. Emission Limitation:
CO emissions shall not exceed 3.4 tons per year.

Applicable Compliance Method:
Compliance with the annual limitation may be demonstrated by multiplying the maximum annual MMCF usage of the natural gas burners (77.3) by the AP-42 emission factor for natural gas combustion (84.0 lbs carbon monoxide/MMCF) from Table 1.4-1, 7/98, and then dividing by 2000 to convert to tons per year.

i. Emission Limitation:
Visible emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:
Based upon the physical characteristics of this emissions unit, expected emissions and previous compliance history, compliance testing is not specified herein.

If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Method 9 and the procedures in OAC rule 3745-17-03(B)(1).

j Emission Limitation:
0.5 pound of particulates per ton of glass pulled

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P129 in accordance with the following requirements:

The permittee shall conduct emission testing for P129 in accordance with the following requirements:

i. The emission testing shall be conducted 6 months of startup.

ii. The emission testing shall be conducted to demonstrate compliance with the emission standard for particulate from 40 CFR Part 63, Subpart NNN.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission factor: 40 CFR Part 60, Appendix A, Methods 1 through 5. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

Emissions testing was conducted for this emissions unit on November 26, 2002 which demonstrated compliance with the emission limitations for total particulate emissions.

k. Emission Limitation:
Nitrogen oxides emissions from niter usage shall not exceed 34.4 tons per rolling, 12-month summation.

Applicable Compliance Method:
Compliance may be demonstrated by the record keeping specified in Section A.III.3 above.

2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Central District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to

ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Central District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Central District Office.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P129 - 2.07 tons of batch per hour, 37.2 tons of glass per day, A-3 pipe natural gas-fired, glass melt furnace, w/ ESP (stack no. 28-94). Terms in this permit supercede those identified in PTI 01-425 issued 07/17/81.	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P130 - 3.20 tons per hour, natural gas-fired, pipe A-4 forming, with cyclone (stack no. 28-92). Terms in this permit supercede those identified in PTI 01-5600 issued 06/07/95.	OAC rule 3745-31-05(A)(3)	Filterable and condensable particulate emissions shall not exceed 7.2 pounds per hour and 31.5 tons per year. Nitrogen oxides (NOx) emissions shall not exceed 0.45 pound per hour and 2.0 tons per year. Carbon monoxide (CO) emissions shall not exceed 5.74 pounds per hour and 25.1 tons per year. Sulfur dioxide (SO2) emissions shall not exceed 0.28 pound per hour and 1.2 tons per year. Volatile organic compound (VOC) emissions shall not exceed 7.73 pounds per hour and 33.9 tons per year. Ammonia emissions shall not exceed 13.26 pounds per hour and 58.1 tons per year. Methanol emissions shall not exceed 0.47 pound per hour and 2.1 tons per year Phenol emissions shall not exceed 0.62 pound per hour and 2.8 tons per year.

	Formaldehyde emissions shall not exceed 0.46 pound per hour and 2.0 tons per year. See A.I.2.c below.
OAC rule 3745-17-11(B)(1)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A), 3745-21-07(G)(2), 3745-21-08(B) and 3745-23-06(B).
See OAC rule 3745-17-07(A)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
40 CFR Part 63, Subpart NNN	Visible particulate emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule. See A.I.2.b below. (Exempt)
OAC rule 3745-21-07(G)(2)	Exempt, see A.II.2 below.
OAC rules 3745-21-08(B) and OAC rule 3745-23-06(B)	See A.I.2.a below
OAC rule 3745-18-06(E)(2)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

2.a The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

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

satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in Permit to Install 01-08902.

2.b This emissions unit is exempt from the requirements of 40 CFR Part 63, Subpart NNN since it is a component of a rotary spin wool fiberglass manufacturing line that produces a bonded, heavy-density wool fiberglass building insulation product and therefore does not meet the applicability requirement of 63.1380(a)(2).

2.c The hourly NOx, CO, SO2, Methanol, Phenol and Formaldehyde emission limitations and annual NOx, CO, SO2, Methanol, Phenol and Formaldehyde emission limitations for this emissions unit were established to reflect the potentials to emit as vented through the control equipment. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with these emissions limitations.

II. Operational Restrictions

1. The permittee shall only burn natural gas in this emissions unit.

2. To avoid the emission limitations/control requirements contained in OAC rule 3745-21-07(G)(2), no photochemically reactive materials (i.e., as raw materials or cleanup materials) shall be employed in this emissions unit.

   Note: The definition of "photochemically reactive material" is based upon OAC rule 3745-21-01(C)(5).

3. The permittee shall vent all the emissions from this emissions unit to a cyclone.

III. Monitoring and/or Record keeping Requirements

1. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

2. The permittee shall maintain records for each material employed in this emissions unit that indicate whether or not the material is a photochemically reactive material.

3. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;
b. whether the emissions are representative of normal operations;
c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
d. the total duration of any visible emission incident; and
e. any corrective actions taken to minimize or eliminate the visible emissions.

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

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

2. The permittee shall submit deviation (excursion) reports that identify all periods of time when a photochemically reactive material was employed in this emissions unit. These reports shall be submitted within 30 days after the occurrence.

3. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

V. Testing Requirements

1. Compliance with the emission limitations in Section A.I. of these terms and conditions shall be determined in accordance with the following methods:

   a. Emission Limitation:
   Filterable and condensable particulate emissions shall not exceed 7.2 pounds per hour.

   Applicable Compliance Method:
   The permittee shall conduct, or have conducted, emission testing for P130 in accordance with the following requirements:

i. The emission testing shall be conducted within 24 months after permit issuance.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for particulate.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 1 through 4 and 5E and 40 CFR Part 51, Appendix M, Method 202. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. Concurrent visible emission observations at the stack egress point shall be conducted during the emission testing in accordance with 40 CFR Part 60, Method 9.

v. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

b. Emission Limitation:
Filterable and condensable particulate emissions shall not exceed 31.5 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

c. Emission Limitation:
NOx emissions shall not exceed 0.45 pound per hour.

Applicable Compliance Method:
Compliance may be demonstrated by multiplying the maximum glass pull rate of 1.55 tons per hour by the emission rate of 0.292 lbs per ton of glass pulled (PTI application submitted 09/29/2004).

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

d. Emission Limitation:
NOx emissions shall not exceed 2.0 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to

ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

e. Emission Limitation:
CO emissions shall not exceed 5.74 pounds per hour.

Applicable Compliance Method:
Compliance may be demonstrated by multiplying the maximum glass pull rate of 1.55 tons per hour by the emission rate of 3.7155 lbs per ton of glass pulled (revised PTI application submitted 06/11/2007).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 10. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

f. Emission Limitation:
CO emissions shall not exceed 25.1 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

g. Emission Limitation:
VOC emissions shall not exceed 7.73 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P130 in accordance with the following requirements:

i. The emission testing shall be conducted within 24 months of permit issuance.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable, hourly mass emission rate for organic compounds.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate: 40 CFR Part 60, Appendix A, Methods 18, 25 or 25A. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

h. Emission Limitation:
VOC emissions shall not exceed 33.9 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

i. Emission Limitation:
Ammonia emissions shall not exceed 13.26 pounds per hour.

Applicable Compliance Method:
The permittee shall conduct, or have conducted, emission testing for P130 in accordance with the following requirements:

i. The emission testing shall be conducted within 24 months after permit issuance.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for ammonia.

iii. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s): Conditional Testing Method (CMT-027). Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

iv. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office.

j. Emission Limitation:
Ammonia emissions shall not exceed 58.1 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

k. Emission Limitation:
Methanol emissions shall not exceed 0.47 pound per hour.

Applicable Compliance Method:
Compliance may be demonstrated by multiplying the maximum glass pull rate of 1.55 tons per hour by the emission rate of 0.30 lbs per ton of glass pulled (PTI application submitted 09/29/2004).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A,

Methods 1 - 4 and Method 308 or 318. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

l. Emission Limitation:
Methanol emissions shall not exceed 2.1 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

m. Emission Limitation:
Phenol emissions shall not exceed 0.62 pound per hour.

Applicable Compliance Method:
Compliance may be demonstrated by multiplying the maximum glass pull rate of 1.55 tons per hour by the emission rate of 0.40 lbs per ton of glass pulled (PTI application submitted 09/29/2004).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and Method 18 or 318. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

n. Emission Limitation:
Phenol emissions shall not exceed 2.8 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

o. Emission Limitation:
Formaldehyde emissions shall not exceed 0.46 pounds per hour.

Applicable Compliance Method:
Compliance may be demonstrated by multiplying the maximum glass pull rate of 1.55 tons per hour by the emission rate of 0.291 lbs per ton of glass pulled (PTI application submitted 09/29/2004).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and Method 316 or 318. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

p. Emission Limitation:
Formaldehyde emissions shall not exceed 2.0 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

q. Emission Limitation:
SO2 emissions shall not exceed 0.28 pound per hour.

Applicable Compliance Method:
Compliance may be demonstrated by multiplying the maximum glass pull rate of 1.55 tons per hour by the emission rate of 0.179 lbs per ton of glass pulled (PTI application submitted 09/29/2004).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and Method 6C. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

r. Emission Limitation:
SO2 emissions shall not exceed 1.2 tons per year.

Applicable Compliance Method:
The annual emission limitation was established by multiplying the hourly emission limitation by 8760 hours of operation per year and dividing by 2000 to convert to ton(s). Therefore, compliance with the annual emission limitation shall be assumed if compliance with the hourly emission limitation is maintained.

s. Emission Limitation:
Visible particulate emissions shall not exceed 20% opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:
If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60, Method 9 and the procedures in OAC rule 3745-17-03(B)(1).

2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Central District Office's refusal to accept the results of the emission test(s).

Personnel from the Ohio EPA, Central District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Central District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Central District Office.

VI. Miscellaneous Requirements

1. This emissions unit was once referred to as A-4-5 forming because it is fed molten glass from the A-3 furnace, P129.

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P130 - 3.20 tons per hour, natural gas-fired, pipe A-4 forming, with cyclone (stack no. 28-92). Terms in this permit supercede those identified in PTI 01-5600 issued 06/07/95.	None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Record keeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None