Florida Department of
Environmental Protection
Southwest District
13051 N. Telecom Parkway
Temple Terrace, Florida 33637-0926

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

FINAL PERMIT

PERMITTEE

Owens Corning Insulating Systems, LLC
2222 W. Bella Vista Street
Lakeland, FL 33810

Authorized Representative:
Mr. John McClellan, Plant Manager

Air Permit No. 1050375-008-AC
Permit Expires: 11/30/2013
Minor Air Construction Permit
Modifications to Process and
Emission Control Equipment

This is the final air construction permit, which authorizes a change in an emission limitation, and modifications to process and emission control equipment at the fiberglass insulation manufacturing facility (Standard Industrial Classification No. 3296) located in Polk County at 2222 W. Bella Vista Street in Lakeland, Florida. The UTM coordinates are Zone 17, 403.6 km East, and 3104.74 km North. As noted in the Final Determination provided with this final permit, no changes or only minor changes and clarifications were made to the draft permit.

This final permit is organized by the following sections:

Section 1. General Information

Section 2. Administrative Requirements

Section 3. Facility-wide and Emissions Unit Specific Conditions

Section 4. Appendices

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

This air pollution permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by

the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Hillsborough County, Florida

_____ _____

Cindy Zhang-Torres, P.E. Effective Date
Air Permitting Manager
Southwest District

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination, Final Permit and the Appendices) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on _____ to the persons listed below.

John McClellan, Plant Manager, Owens Corning Insulating Systems, LLC
(john.mcclellan@owenscorning.com)

Brad James, P.E., Trinity Consultants
(bjames@trinityconsultants.com)

Aubrey Jones, Trinity Consultants
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Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

_____ _____

(Clerk) (Date)

FACILITY AND PROJECT DESCRIPTION

Existing Facility

As described in more detail in the specific emission unit sections below (Section 3.), this fiberglass insulation manufacturing facility (facility SIC code 3296 – Mineral Wool Manufacturing) consisted of raw material handling, glass melting and refining operations, glass fiber forming operations, and curing and cooling operations*, as well as associated support operations. The products produced are low density (0.5 to 1.5 lb/cuft) loose fill (unbonded) and mat roll (bonded)* insulation products intended for the housing market (R factor range R11 to R38).

*(*Construction Permit Permitting Note – The mat roll (bonded) insulation products, and the associated curing and cooling operations, are being removed from the facility as part of this modification project.)*

The existing facility consists of the following emissions units.

Facility ID No. 1050375	
ID No.	**Emission Unit Description**
001	Raw Material Handling
002	Melting in Cold Top Electric Furnaces (2)
003	Rotary Spin Forming, Curing, and Cooling Processes

Project Description and Affected Emission

Units

This project will modify the following emissions units.

ID No.	Emission Unit Description
001	Raw Material Handling
002	Melting in Cold Top Electric Furnaces (2)
003	Rotary Spin Forming Process

The modifications included in the project, along with the effect on potential emissions and the affected EU, are listed and described below.

Emission Limit Change *(decrease in potential particulate matter (PM) emissions)*

- The forming process scrubbers common stack (EU No. 003) particulate matter (PM) emission limitation is being reduced from 4.88 lbs/ton to 4.5 lbs/ton at the request of the applicant in order to reduce potential PM emissions from this emission unit *(potential to emit will be reduced from 94.1 to 86.7 tons/year)*.

Additions *(increase in particulate matter (PM) emissions from new baghouse)*

- Installing a new furnace dust storage bin in the batch house. *(EU No. 001)*.

- Installing a new baghouse dust collector to control PM emissions from the existing ingredient scale (weigh) hopper and batch mixer; and act as a filter/receiver and control device for the new furnace dust storage bin (EU No. 001).

- Lubricant, pigment, and anti-static compound needed for production of ULF product now will all be stored and dispensed from portable totes. *(Exempt from permitting.)*

Replacements *(Increase in potential combustion emissions from increased natural gas combustion in the new fiberizers and no change (or decrease) in emission from replacement baghouses.)*

- Replacing all four (4) of the unbonded product line fiberizers with seven (7) new fiberizers for the unbonded loosefill (ULF) product line. *(The eight (8) old fiberizers (4 on unbonded product lines and 4 on the bonded product lines), only 7 of which were permitted to be operated at any one time, each included a 1.25 MMBtu/hr burner. The new fiberizers will each include a 2.0 MMBtu/hr burner. The increase in MMBtu/hr capacity will be (7 x 2.0) - (7 x 1.25) = 14.0 – 9.75 = 4.25 MMBtu/hr.) (EU No. 003)*
- Replacing the two (2) existing baghouse dust collectors that control PM emissions from the two (2) existing furnaces with two (2) new baghouse dust collectors. *(EU No. 002)*

Reconfigurations *(No change in emissions (forming zones) or better emission capture and control resulting in decreased emission to atmosphere (furnace shrouding).)*

- The two bonded product forming zones (Bonded Zones A and B) will now become unbonded loosefill (ULF) product forming zones (ULF Zones A and B), and the current unbonded line forming zone (Unbonded Zone A), will become ULF Zone C. *(EU No. 003)*
- The existing shrouds located around the tops of the two furnaces will be redesigned and modified to improve the dust containment and capture efficiency of the air that is drawn in by the furnace dust collector fans. *(EU No. 002)*

Removals *(Decrease in potential emissions – including elimination of almost all HAP emissions which occurred from use of use of phenol-formaldehyde binder on the bonded product line.)*

- Removing the existing bonded product line – including the flowing equipment:
  - Bonded Line Forming Section (including 4 bonded product line fiberizers) *(previously part of EU 003)*;
  - Bonded Line Curing Oven *(previously part of EU 003)*;
  - Bonded Line Cooling Section *(previously part of EU 003)*;
  - 8,500 gallon Phenol-Formaldehyde Resin Storage Tank, along with various small binder mixing and storage tanks *(was exempt from permitting)*;
  - 8,500 gallon Mulrex oil storage tank *(was exempt from permitting)*;
  - Bonded Scrap Hammermill and Bagging system *(was exempt from permitting).*

There will be no changes to the permitted glass fiber production capacity (remains at 38,550 tons/year, which will now all be unbonded loosefill fiberglass (ULF) insulation product).

Exempt Emission Units/Activities

Raw material Handling Area

Mixed glass batch material from the scale (weighing) and mixing operation is emptied into a batch transporter vessel which is pressurized with compressed air after it is loaded. This batch is transferred from the transporter to a working bin above the glass furnaces via the slow depressurization of the transporter tank. This dense phase pneumatic transfer operation involves a 45 second long transfer stage, a 5 second long purge stage, and a 5 second long depressurization stage. The batch transporter vessel is equipped with a small baghouse dust collector. Potential particulate matter (PM) emissions from this transfer operation are estimated at 0.01 TPY (before control PTE is less than 1 TPY). This emission source is exempt from air permitting in accordance with the provisions of Rule 62-210.300(3)(b)(1), F.A.C.

Other Miscellaneous Emission Sources/Activities at this facility which are exempt from air permitting in accordance with the provisions of Rules 62-4.040(1)(b), 62-210.300(3)(b)(1), and 62-210.300(3)(a)35., F.A.C., include the following:

- 8,500 gallon mineral oil storage tank
- Electric fore hearths
- Cullet (scrap solid glass) piles
- Cooling towers
- 300 kW diesel-fired emergency generator
- Miscellaneous operation support activities

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is not a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.
- This facility is a synthetic non-Title V and synthetic non-PSD* source for the pollutant particulate matter (PM/PM_{10}).

  (PSD Major Source Level Note -This facility is in one of the 26 listed categories (glass fiber processing plants) for which the PSD major source level is 100 tons/year of any regulated pollutant (Rule 62-210.200, F.A.C. - Definition of Major Source).)*

- This facility is subject to federal New Source Performance Standards (NSPS) 40 CFR 60 Subpart PPP – Wool Fiberglass Insulation Manufacturing Plants. Subpart PPP applies to the unbonded loosefill (ULF) fiberglass insulation forming section of Emission Unit (EU) No. 003 only.

PERMIT HISTORY/AFFECTED PERMITS

This construction permit modifies and replaces Construction Permit 1050375-005-AC. Reference also current facility Operation Permit 1050375-006-AO.

SECTION 2. ADMINISTRATIVE REQUIREMENTS (FINAL)

1. Permitting Authority - The permitting authority for this project is the Florida Department of Environmental Protection (Department), Southwest District's Air Resource Management Section. The Southwest District's mailing address and phone number is:

   Florida Department of Environmental Protection
   Southwest District Office
   Air Resource Management Section
   13051 North Telecom Parkway
   Temple Terrace, Florida 33637-0926
   Telephone: 813-632-7600

   All documents related to applications for permits shall be submitted to the above address.

2. Compliance Authority - All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Southwest District Office's Air Resource Management Section (see above mailing address and phone number).

3. Appendices - The following Appendices are attached as part of this permit:

   a. Appendix A. Citation Formats and Glossary of Common Terms;
   b. Appendix B. General Conditions;
   c. Appendix C. Common Conditions; and
   d. Appendix D. Common Testing Requirements.
   e. Appendix E. Appendix NSPS 40 CFR 60 Subpart PPP (Standard of Performance for Wool Fiberglass Insulation Manufacturing Plants)
   f. Appendix F. Appendix NSPS 40 CFR 60 Subpart A (General Provisions for 40 CFR 60 New Source Performance Standards)

4. Applicable Regulations, Forms and Application Procedures - Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions - For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.
   [Rule 62-4.080, F.A.C.]

6. Modifications - Unless otherwise exempt by rule, the permittee shall not initiate any construction, reconstruction, or modification at the facility and shall not install/modify any pollution control device at the facility without obtaining prior authorization from the Department. Modification is defined as: Any physical change or changes in the method of operations or addition to a facility that would result in an increase in the actual emissions of any air pollutant subject to air regulations, including any not previously emitted, from any emission unit or facility.
   [Rules 62-210.200 - Definition of "Modification" and 62-210.300(1)(a), F.A.C.]

7. Annual Operating Report - On or before **April 1** of each year, the permittee shall submit a completed DEP Form 62-210.900(5), "Annual Operating Report for Air Pollutant Emitting Facility" (AOR) for the preceding calendar year. The report may be submitted electronically in accordance with the instructions received with the AOR package sent by the Department, or a hardcopy may be sent to the Compliance Authority.
[Rule 62-210.370(3), F.A.C.]

8. Operation Permit Revision Application – This permit authorizes construction or modification of the permitted emissions units and initial operation to determine compliance with Department rules. A Non-Title V air operation permit revision is required for continued operation of the permitted emissions units. The permittee shall apply for a Non-Title V air operation permit revision at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation of all the new or replacement equipment as authorized by this permit *(see Specific Condition Nos. B.6. and C.12. for start of operation notification requirements)*. Commencing operation means setting into operation of any emissions unit for any purpose. To apply for a Non-Title V air operation permit, the applicant shall submit the following:

   a. the appropriate permit application form *(see current version of Rule 62-210.900, F.A.C. (Forms and Instructions), and/or FDEP Division of Air Resource Management website at: http://www.dep.state.fl.us/air/)*;

   b. the appropriate operation permit application fee from Rule 62-4.050(4)(a), F.A.C.;

   c. specific information on the three new or replacement baghouse emission control devices that were installed (i.e., the new Scale Hopper/Mixer/Furnace Dust Bin Baghouse dust collector, and the two replacement baghouse dust collectors for the furnaces (Furnace No. 1 Baghouse and Furnace No. 2 Baghouse), including manufacturer, model number, maximum design air flow rate and air-to-cloth ratio;

   d. copies of the initial visible emissions (VE) compliance test reports required by Specific Condition Nos. B.2. and B.8. for each of the new or replacement baghouse dust collectors *(see c. above)*, if not previously submitted; and

   e. ac copy of the initial PM compliance test report required by Specific Condition Nos. C.6. and C.17., for the forming process scrubbers common stack, if not previously submitted.

   [Rules 62-4.030, 62-4.050, 62-4.070(3), 62-4.090, 62-210.300(2), and 62-210.900, F.A.C.]

A. Facility-Wide Conditions

The requirements of this section of the permit apply facility-wide.

PERFORMANCE RESTRICTIONS

A.1. Operating Hours - This facility is permitted for continuous operation (i.e., 8,760 hours per year).
[Rule 62-210.200, F.A.C. (Potential to Emit); Construction Permits 1050375-003-AC and 1050375-005-AC]

EMISSIONS STANDARDS

A.2. General Visible Emissions (VE) Standard - Except for emissions units that are subject to a unit-specific visible emission (VE) limit set forth in a specific condition in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than 20 percent opacity. This includes all building openings and vents. The test method for visible emissions shall be EPA Method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C.
[Rules 62-296.320(4)(b)1. and 4.a., F.A.C.; Construction Permit 1050375-003-AC]

(Permitting Note – The above condition expands on the requirements of Item 8 of Appendix C (Common Conditions).)

A.3. General Pollutant Emission Limiting Standards: VOC Emissions - No person shall store, pump, handle process, load, unload, or use in any process or installation, volatile organic compounds (VOC) or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary by the Department. All equipment, pipes, hoses, lids, fittings, etc., shall be operated and maintained in such a manner as to minimize leaks, fugitive emissions and spills of paints and solvent materials. All solvents from solvent washings shall be directed into containers that prevent evaporation into the atmosphere.
[Rule 62-296.320(1)(a), F.A.C.; Construction Permits 1050375-003-AC and 1050375-005-AC]

(Permitting Note – The above condition expands on the requirements of Item 6 of Appendix C (Common Conditions).)

B. EU Nos. 001 & 002 – Raw Material Handling (EU 001) and Melting in Electric Furnaces (EU 002)

This section of the permit addresses the following emissions units (EUs) and associated emission control devices.

EU ID No.	Emission Unit EU Description	Baghouse ID	Baghouse Location & Function	Bin Vent Filter Baghouse Emission Control Device Description
001	Raw Material Handling	Baghouse No. 1	located on top of Bin No. 1 and controls emissions from Bin Nos. 1 and 2B	Model No. 49S-8-20-TR-B Mikropul–Mikro-Pulsaire Bin Vent fabric filter baghouse
		Baghouse No. 2	located on top of Bin No. 2A and controls emissions only from Bin No. 2A	Model No. 49S-8-20-TR-B Mikropul–Mikro-Pulsaire Bin Vent fabric filter baghouse
		Baghouse No. 3	located on top of Bin No. 3 and controls emissions from Bin Nos. 3, 4, 7, 10 and 11	Model 16AVS6 AirLanco Bin Vent fabric filter baghouse
		Scale Hopper/Mixer /Furnace Dust Bin Baghouse	(used to control emissions from ingredient scale hopper, mixer, and transfer of collected dust material to furnace dust bin)	*(new)* fabric filter baghouse dust collector
002	Melting in Cold Top Electric Furnaces (2)	Furnace No. 1 and Furnace No. 2 Baghouses	control emissions from furnaces	two (2) *(replacement)* high temperature fabric filters baghouses (one for each furnace)

<u>More Detailed Emission Unit (EU) Descriptions</u> -

<u>Raw Material Handling (EU No. 001)</u>

The primary raw material used to manufacture the glass is sand. Other raw material such as anhydrous borax, silica, limestone, dolomite, sodium sulfate, soda ash, and cullet (recycled waste glass material) are mixed with the sand in varying quantities. *(Note: Niter will not be used as an ingredient in the mixed glass formulation.)* To the extent possible, raw materials will be free of arsenic and sulfates. Raw materials are delivered via rail car or truck for large volume supplies and in drums or bags for smaller volume supplies. Pneumatic and vibrator/gravity systems are used to unload the bulk raw materials to eight (8) storage silos/bins (Bin Nos. 1, 2A, 2B, 3, 4, 7, 10, and 11). *(Note- There are a total of eighteen (18) existing bins at the facility but only the referenced eight are in use.)* Bulk raw materials are gravity-fed through a fabric tube to a scale (weigh) hopper and then dropped to a mixer for blending. A furnace dust bin receives dust collected by the furnace baghouse dust collectors (EU No. 002) for recycling back as a batch ingredient. These operations take place inside the manufacturing building.

B. EU Nos. 001 & 002 – Raw Material Handling (EU 001) and Melting in Electric Furnaces (EU 002)

Particulate matter (PM/PM_{10}) emissions from the bulk raw material transfer operations to the material storage silos/bins are controlled by two (2) Model No. 49S-8-20-TR-B Mikropul–Mikro-Pulsaire Bin Vent fabric filter baghouses each with a design maximum gas flow rate of 2,800 acfm*; and one (1) Model 16AVS6 AirLanco Bin Vent fabric filter baghouse with a design maximum gas flow rate of 1,250 acfm* Each baghouse sits on the top of one silo/bin which it controls emissions from, but the duct system that connects the silo/bin vents to the baghouses is such that two of the baghouses can serve more than one baghouse silo/bin exhaust vent (*see EU information table above)*.

(Baghouse Air Flow Rates Note - These values represent baghouse capacities only, not the air flow rate at which the baghouses are actually operated. The pneumatic transfer system used to deliver glass batch material to the silos/bins transfers material using a maximum airflow rate of 500 acfm.)*

Dust that is evolved from filling the scale (weigh) hopper and filling the mixer is contained and collected by a ventilation system which exhausts to a (new) fabric filter baghouse dust collector with a design maximum air flow rate of approximately 2,800 dscfm (2,500 acfm**). (This new baghouse dust collector also acts as a as filter receiver for transfer of material from the furnace baghouse dust collectors (EU No. 002) to the furnace dust bin, and as a filter receiver /baghouse dust collector for the furnace raw material running bins (EU No. 002) .

*(** New Baghouse Dust Collector Note - This construction permit authorizes the addition of this new baghouse dust control device. At the time of the submittal of the application for this permit the specific baghouse to be installed had not yet been determined. The specific manufacturer, model number and maximum design air flow rate for the baghouse actually installed will be included in the operation permit when it is revised to incorporate these new replacement baghouses. (See Section 2., Condition No. 8.c.))*

Melting in Cold Top Electric Furnaces (2) (EU No. 002)

After weighing and mixing, the raw materials are conveyed pneumatically to two (2) running bins. From the running bins the material is mechanically charged via augers and chutes into the two (2) cold top electric melting furnaces where molten glass is formed. The raw materials are dropped into the furnace within sealed tubes that extend to a point very close to the batch-molten glass interface, thereby minimizing splashing effect and batch turbulence within the melter. The molten glass leaves the furnace and passes through the enclosed riser and the forehearth where it is cooled to the proper temperature for forming. The risers and the forehearths are sealed to eliminate emissions.

Particulate matter (PM/PM_{10}) emissions from raw material transfer to and operation of each melting furnace are controlled by a high temperature fabric filter baghouse dust collector with a design maximum air flow rate of approximately 19,450 acfm**. These baghouses each have the air flow capacity to control emissions from both furnaces should one of the baghouses be out of service for any reason. Dust collected in the furnace baghouses is transferred to the furnace dust bin for recycling back into the process. The new weigh hopper/mixer baghouse (EU No. 001) also acts as a filter receiver/dust collector for the material transfer to the furnace dust bin and for the furnace running bins.

*(** Furnace Baghouses Permitting Note - This construction permit authorizes the replacement of the two (2) existing Model No. 64S-8-20-TR-B Mikropul–Mikro-Pulsaire high temperature fabric filter baghouses (one for each furnace). At the time of the submittal of the application for this permit the specific baghouses to be installed had not yet been determined. The specific manufacturer, model number and maximum design air flow rate for the baghouses actually installed will be included in the operation permit when it is revised to incorporate these new replacement baghouses. (See Section 2., Condition No. 8.c.))*

The Following Specific Conditions Apply To The Above Emission Units

PERFORMANCE RESTRICTIONS AND EMISSIONS STANDARDS

B.1. Baghouse Emission Control Device Circumvention and Operation - The permittee shall not circumvent any air pollution control device or allow the emissions of air pollutants without the applicable air pollution control device (baghouses) operating properly. The raw material handling (EU No. 001) bin vent filter baghouses (Baghouse Nos. 1, 2, and 3) shall be operating any time raw materials are being transferred to a silo controlled by that baghouse. The Scale Hopper/Mixer/Furnace Dust Bin Baghouse (EU No. 001) shall be operating any time that the scale hopper or mixer is in operation, or material is being transferred to the furnace dust bin. The melting furnace (EU No. 002) baghouses (Furnace No. 1 Baghouse and Furnace No. 2 Baghouse) shall be in service and operating properly any time the cold top electric melt furnaces are in operation. In order to provide reasonable assurance the baghouses are being maintained and operated properly, visible emissions from each of the baghouse exhaust stacks/vents shall not exceed 5% opacity.
[Rules 62-4.070(3) and 62-210.650, F.A.C.; Construction Permits 1050375-003-AC and 1050375-005-AC]

COMPLIANCE TESTING REQUIREMENTS

B.2. Initial VE Compliance Tests for New and Replacement Baghouses - The exhaust stacks/vents for the one (1) new and two (2) replacement baghouse emission control devices (i.e., the Scale Hopper/Mixer/Furnace Dust Bin Baghouse, and the Furnace No. 1 and Furnace No. 2 Baghouses) shall each be tested to demonstrate initial compliance with the visible emissions (VE) standard of Specific Condition No. B.1. The initial compliance tests shall be conducted no later than 90 days after initial operation of the baghouse.
[Rules 62-4.070(3) and 62-297.310(7)(a)1, F.A.C.]

B.2. Annual Visible Emissions (VE) Compliance Tests - During each federal fiscal year (October 1st to September 30th), each of the baghouse exhaust stacks/vents shall be tested to demonstrate compliance with the visible emissions (VE) standard of Specific Condition No. B.1.
[Rule 62-297.310(7)(a)4., F.A.C.]

B.3 Compliance Test Requirements - Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit.
[Rule 62-297.310, F.A.C.]

B.4. Test Method - Required compliance tests shall be performed in accordance with the following reference method.

EPA Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources The visible emissions test shall be a minimum of thirty (30) minutes in duration.

The above method is described in Appendix A of 40 CFR 60 and is adopted by reference in Rule 62-204.800, F.A.C. No other method may be used unless prior written approval is received from the Department.
[Rules 62-204.800 and 62-297.100, F.A.C.; and Appendix A of 40 CFR 60]

B.5. Operation During Baghouse Exhaust Stack VE Compliance Testing - Visible emissions (VE) testing of baghouse emission control device exhaust stacks shall be conducted during normal operation and shall include the period during which the highest opacity can reasonably be expected to occur. Operations to be conducted during the testing shall be as shown in the table below.

EU ID No.	EU Description	Baghouse ID	Operations during testing
001	Raw Material Handling	Baghouse No. 1	transfer of material to Bin Nos. 1 or 2B
		Baghouse No. 2	transfer of material to Bin No. 2A
		Baghouse No. 3	transfer of material to Bin. Nos. 3, 4, 7, 10 or 11
		Scale Hopper /Mixer /Furnace Dust Bin Baghouse	normal batch operation of scale hopper and mixer, and normal transfer of material to the Furnace Dust Bin
002	Melting in Cold Top Electric Furnaces (2)	Furnace No. 1 and Furnace No. 2 Baghouses	operation of furnace being controlled by the baghouse

[Rule 62-297.310(4)(a)2., F.A.C.]

(Permitting Note – The above condition expands on the requirements of Item 2 of Appendix D (Common Testing Requirements).)

NOTIFICATION REQUIREMENTS

B.6. Notification of Commencement of Operation of New and Replacement Baghouses - The permittee shall notify the Compliance Authority in writing of the date of commencing operation of the one (1) new and two (2) replacement baghouse emission control devices (i.e., the Scale Hopper/Mixer/Furnace Dust Bin Baghouse, and the Furnace No. 1 and Furnace No. 2 Baghouses), no later than fifteen (15) days after that date. Commencing operation means setting into operation of the baghouse emission control device during operation of the process for which it controls emissions.
[Rule 62-4.070, F.A.C.]

B.7. Compliance Test Notification - The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required compliance tests. The notification must include the following information: the date, time, and location of each test; the name and telephone number of the facility's contact person who will be responsible for coordinating the test; and the name, company, and the telephone number of the person conducting the test.

(*Permitting Note - The notification should also include the relevant emission unit ID No. (EU 001 or EU 002), identification of the baghouse to be tested, test method to be used (EPA Method 9), and pollutants to be tested (VE).*)

[Rules 62-4.070(3) and 62-297.310(7)(a)9., F.A.C.]

REPORTING REQUIREMENTS

B.8. Compliance Test Reports - The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. The report shall include description of material handling or production equipment in operation during the testing period, along with estimated operating/transfer rate (tons or pounds/hour).
[Rule 62-297.310(8), F.A.C.; Construction Permits 1050375-003-AC and 1050375-005-AC]

C. EU No. 003 Forming Process

This section of the permit addresses the following emissions unit.

ID No.	Emission Unit Description
003	Rotary Spin Forming Processes controlled by venturi scrubbers (3)

In the forming process, the molten glass then enters the fiberizers where glass fibers are formed by a rotary spin process that uses centrifugal force to move the glass through small holes in the walls of a swiftly moving cylinder. An air stream then breaks the fibers into pieces. The fiberizers each include a 2.0 MMBtu/hour natural gas fired burner to provide heat. There will be a total of seven (7) fiberizers, each with a production capacity of 1,250 pounds of glass fibers per hour.

The unbonded glass fiber's formed pack does not have to be cured or cooled, and therefore is sent directly from forming to the fabrication and packaging area. A light spray coating (mineral oil, silicon, anti-static material, pigment and possibly a coupling agent) is sprayed on the unbonded glass fibers. In order to minimize particulate matter emissions, this application will be done in the transport (from forming area to hammermill) duct if feasible (otherwise it is applied in the forming area).

In the Product Packaging area, the product is placed in a hammermill under negative pressure and the chopped product is pneumatically transported to a separator which separates the fiberglass wool from the air and drops the product into an enclosed bagging system located below the separator. The transport air is exhausted through the forming hood. All of the above fabrication (milling) and packaging operations take place in an enclosed building under negative pressure created by the forming fans, which route approximately 100,000 acfm of ambient air into the building and then out through the venturi scrubbers (3) and common exhaust stack.

Cullet material (scrap solid glass) material is recycled back into the melt furnaces to be reformed into molten glass (furnaces batches can use up to 40% cullet).

Emissions (particulate matter (PM)) from the forming operations are controlled by three (3) venturi scrubbers - Scrubber No. 1 (Unbonded Zone A), Scrubber No. 2 (Unbonded Zone B), and Scrubber No. 3 (Unbonded Zone C). Two of the scrubbers (Scrubber Nos. 1 and 3) have a design air flow rate of 60,000 acfm, while the other scrubber (Scrubber No. 3) has a design air flow rate of 44,000 acfm. All three scrubbers are ducted together and discharge to one 130-foot tall, 11-foot diameter common exhaust stack. (Note - The scrubbers were built in-house based on fiberglass insulation industry standard designs for these applications.)

PERFORMANCE RESTRICTIONS

C.1. Production Limitation – Production of glass fibers from the fiberizers shall not exceed 38,550 tons of glass pulled per any 12 consecutive month period.
[Rule 62-210.200, F.A.C. (Potential to Emit); as requested by applicant in electronic construction permit application (EPSAP) submitted 11/09/11]

(Permitting Note - The above production limitation, in conjunction with the lb/ton of glass pulled particulate matter (PM) emission limitation (Specific Condition C.4.a.), and control equipment requirements contained in this permit, results in potential emission from this facility less than the PSD/Title V major source levels as defined in Rule 62-210.200, F.A.C.)

C. EU No. 003 Forming Process

C.2. 40 CFR 60 NSPS (New Source Performance Standards) Requirements – This emission unit is subject to and shall comply with the applicable requirements *(as identified below*)* of 40 CFR 60 Subpart PPP (Standard of Performance for Wool Fiberglass Insulation Manufacturing Plants), which is adopted and incorporated by reference in Rule 62-204.800(8)(b)65., F.A.C., and contained in the attached Appendix NSPS 40 CFR 60 Subpart PPP (Standard of Performance for Wool Fiberglass Insulation Manufacturing Plants); and the 40 CFR 60 Subpart A General Provisions requirements contained in the attached Appendix NSPS 40 CFR 60 Subpart A (General Provisions for 40 CFR 60). This NSPS applies to the rotary spin wool fiberglass insulation manufacturing line (EU No. 003), which consists of the manufacturing equipment comprising the forming section, where molten glass is fiberized and a fiberglass pack is formed.

* 40 CFR 60 Subpart PPP Applicable Provision References **
(Entire section applies unless otherwise noted.)

§ 60.680 Applicability and designation of affected facility.

§ 60.681 Definitions.

§ 60.682 Standard for particulate matter.

§ 60.683 Monitoring of Operations
60.683(a) and (c)

§ 60.684 Recordkeeping and reporting requirements (all except 60.684(b))

§ 60.685 Test methods and procedures.

*(** NSPS Applicability Note - These applicability references are based upon the operations as reflected in the construction modification application submitted on 11/09/11. Any change in operations may change the applicable provisions.)*

(NSPS 40 CFR 60 Subpart PPP Permitting Note - For accessibility, the key emission limitation, testing, recordkeeping and reporting requirements from Subpart PPP are also shown in the specific conditions of this permit. The permittee must meet all of the 40 CFR 60 Subpart PPP and Subpart A requirements included in the attached appendices regardless of whether they are also shown in the permit specific conditions.)

[Rule 62-204.800(8)(b), F.A.C.; NSPS 40 CFR 60 Subpart PPP and Subpart A]

C.3. Emission Control System Circumvention and Operation (Venturi Scrubbers) – The permittee shall not circumvent any air pollution control devices or allow the emissions of air pollutants without the applicable air pollution control devices (wet venturi scrubbers) operating properly. The forming process venturi scrubbers (Scrubber Nos. 1, 2, and 3) shall be in service and operating properly at all times that the forming zone controlled by the scrubber is in operation. In order to provide reasonable assurance the scrubbers are being maintained and operated properly, the following control device operating parameters shall be maintained at or above the following minimum levels during all periods of process operation*;

a. Minimum pressure drop across each scrubber - 70% of the lowest pressure recorded for that scrubber during the most recent successful (i.e., showed compliance with all permit limitations) compliance stack test**.

(continued)

C.3. *(continued)*

b. Minimum scrubbing water flow rate for each scrubber - 70% of the lowest water flow rate recoded for that scrubber during the most recent successful compliance stack test**.

(Recordkeeping Note: See Specific Condition C.14. for scrubber parameter recordkeeping.)*

*(** NSPS Note - For the purposes of compliance with 40 CFR 60 Subpart PPP, scrubber control device operating parameter 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 of the operating parameters recorded during the most recent compliance test. (See exceedance reporting requirement in Specific Condition C.18. and 40 CFR 60.684(d) in Appendix NSPS 40 CFR 60 Subpart PPP).)*

[Rules 62-4.070(3), 62-204.800(8)(b), and 62-210.650, F.A.C.; NSPS Subpart PPP 40 CFR 60.684(d); as established in Construction Permit 1050375-003-AC]

EMISSIONS STANDARDS

C.4. Particulate Matter (PM) Emission Limitations - Emissions of particulate matter (PM) from the forming process scrubbers common exhaust stack shall not exceed the following levels:

a. Requested by Permittee to Limit Potential to Emit* - 4.5 pounds/ton of glass pulled; [Rule 62-210.200, F.A.C. (Potential to Emit); as requested by applicant in 12/06/11 email from their consultant]

(Permitting Note - The above emission limitation, in conjunction with the production limitation (Specific Condition C.1.) and control equipment requirements contained in this permit, limit the potential after-control emissions of PM from the forming process to 86.7 tons/year.)*

b. NSPS Subpart PPP Emission Standard - 11.0 pounds/ton of glass pulled**. [Rule 62-204.800(8)(b), F.A.C.; NSPS Subpart PPP 40 CFR 60.682]

*(**NSPS 40 CFR 60 Subpart PPP Note - The 4.5 pounds/ton limit contained in Specific Condition C.4.a. above requested by the permittee is more stringent than the 11.0 pounds/ton of glass pulled NSPS Subpart PPP limitation, and therefore compliance with the 4.5 pounds/ton of glass pulled standard will also show compliance with the NSPS Subpart PPP standard of Specific Condition No. C.4.b.)*

C.5. Emission Limit Averaging Time - The averaging time for the pounds/ton emission limitations shall be the averaging time in the applicable compliance stack test method. [Rule 62-4.070(3), F.A.C.]

(HAP Emission Limit Permitting Note – This facility previously had tons/year emission limits for total and individual hazardous air pollutants (HAPs) in order to make the facility a synthetic non-Title V major source for HAPs. The HAP emissions came almost exclusively from production of bonded (mat) fiberglass insulation products which used a binder which contained several HAPs. As a part of this construction permit, the bonded production line is being removed from the permit (as well as being physically removed from the plant), and therefore the HAP emission limitations are no longer necessary and have been removed from the permit.)*

C. EU No. 003 Forming Process

TESTING REQUIREMENTS

C.6. Initial Forming Process Scrubbers Common Stack PM Compliance Performance Tests - In order to document initial compliance with the emission limitations of Specific Condition C.4., after completion of installation of the new fiberizers, the forming process scrubbers common exhaust stack shall be tested for particulate matter (PM) emissions. The initial performance compliance test shall be conducted within 60 days after achieving the maximum fiberizers production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the fiberizers.
[Rules 62-204.800(8) and 62-297.310(7)(a)1, F.A.C.; NSPS Subpart A 40 CFR 60.8(a)]

C.7. Forming Process Scrubbers Common Stack PM Testing After Initial Testing – In order to document continuing compliance with the emission limitations of Specific Condition C.4, the forming process scrubbers common exhaust stack shall be tested for particulate matter (PM) once every 2 years sometime during every other calendar year.
[Rules 62-4.070(3) and 62-297.310(7), F.A.C.; Air Permit 1050375-003-AC/1050375-002-AO, as amended by Permit Amendment 1050375-004-AO]

C.8. Compliance Test Requirements - Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit.
[Rule 62-297.310, F.A.C.]

C.9. Compliance Test Method(s) - Required tests shall be performed in accordance with the following reference method(s).

Method(s)	Description of Method and Comments
EPA 1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
EPA 5E	Determination of Particulate Matter Emissions from the Wool Fiberglass Insulation Manufacturing Industry. The sampling time and sample volume shall be at least 120 minutes and 2.55 dscm (90.1 dscf). The probe and filter holding heating system may be set to provide a gas temperature of no greater than 177 + 14 ° C (350 ± 25 °F). [NSPS Subpart PPP 40 CFR 60.685(c)(2)]

The above EPA method(s) are described in Appendix A of 40 CFR 60 (Methods 1-4, and 5E), and are adopted by reference in Rule 62-204.800, F.A.C. No other method(s) may be used unless prior written approval is received from the Department.
[Rules 62-204.800 and 62-297.100, F.A.C.; NSPS Subpart PPP 40 CFR 60.685(c)(2); Appendix A of 40 CFR 60]

C.10. Operation During Forming Process Scrubbers Common Stack Compliance Testing – Compliance tests on the forming process scrubbers common stack shall be conducted while the product with the highest loss on ignition (LOI) expected to be produced by that line is being manufactured, unless prior written approval is received from the Department for alternative testing conditions. If feasible, testing shall be conducted while operating at 90-100% of the total production (pull) rate of 8,750 pounds glass per hour. The tested fiberizers production (pull) rate shall be the average pounds per hour production rate over the actual test period.

Compliance tests submitted for rates less than 90% of either of the maximum permitted production rates listed above shall automatically amend the permit to reflect the tested rate(s) plus 10% as the currently permitted production rate*. Once the unit is so limited, operation at a higher production rate is allowed for no more than 15 consecutive days for the purposes of additional compliance testing to regain the authority to operate at a higher rate.

(Clarification: When a unit is limited to an operating rate of 110% of the test rate, the permittee may provide a 15-day notice of its intent to conduct an additional test (as per Condition C.13.). The notice may specify a 15-day period during which the unit will be allowed to operate at a higher rate for the purposes of testing. For example, the first five days of the 15-day period may be used to bring the unit up to a higher production level; the next five days may be used for the testing itself.)*

The test results shall be submitted to the Compliance Authority within 45 days of testing. Upon submittal of the most recent results to the Compliance Authority, the unit may then operate at 110% of the most recent successfully (i.e., in compliance with the permit limitations) tested rate, not to exceed the maximum permitted rate. The actual production rates during the test shall be included in each test report.

Failure to include the actual process or production rates with the test report, or operating at conditions which do not reflect the normal operating conditions, may invalidate the test. In addition, the test report shall include the values of any scrubber control device operating parameters as specified elsewhere in this permit to be included with the test reports. *(See Specific Condition C.17. below for test report information requirements.)*
[Rules 62-4.070(3), 62-204.800(8)(b), 62-297.310(2), F.A.C.; NSPS Subpart PPP 40 CFR 60.685(b)]

MONITORING REQUIREMENTS

C.11. Monitoring of Operations (NSPS 40 CFR 60 Subpart PPP) - An owner or operator 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. All monitoring devices are to be recalibrated quarterly in accordance with procedures under 40 CFR 60.13(b).
[Rule 62-204.800(8)(b), F.A.C.; NSPS Subpart PPP 40 CFR 60.683(a) and (c),)]

NOTIFICATION REQUIREMENTS

C.12. Notification of Commencement of Operation of New ULF Line Fiberizers - The permittee shall notify the Compliance Authority in writing of the date of commencing operation of the each of the seven (7) new unbonded loosefill (ULF) line fiberizers, no later than fifteen (15) days after that date. Commencing operation means setting into operation of any emission unit for any purpose.
[Rule 62-4.070, F.A.C.]

C.13. Compliance Test Notification - The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. The notification must include the following information: the date, time, and location of each test; the name and telephone number of the facility's contact person who will be responsible for coordinating the test; and the name, company, and the telephone number of the person conducting the test.

(*Permitting Note - The notification should also include the relevant emission unit ID No. (EU No. 003), test method(s) to be used, and pollutants to be tested.*)

[Rules 62-4.070(3) and 62-297.310(7)(a)9., F.A.C.]

RECORDKEEPING REQUIREMENTS

C.14. Forming Process Scrubber Operating Parameter Records – The permittee shall record the measurements required by 40 CFR 60.683(a) (i.e., pressure drop across each forming process scrubber (i.e., Scrubber Nos. 1, 2, and 3) and the scrubbing liquid flow rate to each scrubber *(see Specific Condition C.11.)* at the following frequency:

a. during compliance testing - at 30-minute intervals during each 2-hour test run of each performance test of a wet scrubber control device;

b. during normal production - at least once every 4 hours.

[Rule 62-204.800(8)(b), F.A.C.; 40 CFR 60.684(a), *(see App. NSPS 40 CFR 60 Subpart PPP)*]

C.15. Forming Process Production Records - In order to document compliance with the production/operating rate limitations of Specific Conditions C.1. and C.10., the permittee shall maintain records of the following:

Daily *(if required*)*

a. date of record;

b. total production of fiberglass (glass pulled) from all fiberizers;

(Note - Daily recordkeeping is only required if the production rate during the most recent PM compliance testing was less than 90-100% of the total production rate of 8,750 pounds glass/hour, which would establish a daily operating rate limitation of 110% of the tested rate (see Specific Condition C.10.).)*

C.15. *(continued)*

Monthly

c. calendar month of record;

d. total fiberglass production (glass pulled) for the month, and for the most recent 12-consecutive month period (tons/month and tons/12 consecutive months).

[Rule 62-4.070(3), F.A.C.]

C.16. General Recordkeeping Requirements – All required records shall be recorded on-site in a permanent form suitable for inspection and made available to the Department upon request, and shall be retained at the facility for at least a three (3) year period.
[Rules 62-4.070(3), and 62-204.800(8)(b), F.A.C.; NSPS Subpart PPP 40 CFR 60.684(c)]

REPORTING REQUIREMENTS

C.17. Compliance Test Reports - The permittee shall prepare and submit reports for all required compliance tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit. The forming process scrubbers common stack particulate matter (PM) compliance test reports shall also include the following operating and control device data for the period during which the testing was being conducted.

a. Operating Information:

1). number of fiberizers in operation during test;

2). glass production rate (pounds of glass pulled/hour) for the fiberizers; and [40 CFR 60.685(c)(3)]

3). the location where the light coating spray was applied to the unbonded product during the test period (i.e., in the forming area or in the Forming area to hammermill transport duct), and, if it is applied in the Forming area, the rate of application (in whatever units are standard for way that the application rate is quantified and controlled).

b. Scrubber Operating Parameter Data (for each scrubber)* *(see also Condition C.18.)*:

1). scrubber pressure drop (inches H_2O) taken at 30 minute intervals during each run of compliance test; [40 CFR 60.685(d)]

2). scrubber liquid flow rate (gallons/minute) taken at 30 minute intervals during each run of compliance test; [40 CFR 60.685(d)]

3). a description of the type of water/scrubber liquid being used in the scrubbers during the stack test (e.g., once-through water; recycled untreated closed loop water; cleaned and/or treated recycled water (with a description of any chemical(s) added to the water; etc).

(continued)

C.17. b. (continued)

4). the average scrubber pressure drop (inches H_2O) and liquid flow rate (gallons/minute) for each scrubber for the test period based on 1). and 2). above*.

(Note - The average scrubber operating values for each scrubber during the compliance testing will be used to establish the minimum required operating values during subsequent production (see Specific Condition C.3.).)*

Failure to include the above data with the test report, or operating at conditions which do not reflect the normal operating conditions, may invalidate the test.
[Rules 62-4.070(3), 62-204.800(8)(b), and 62-297.310(8), F.A.C.; NSPS Subpart PPP 40 CFR 60.685; as established in Construction Permit 1050375-003-AC]

C.18. Control Device Operating Parameter Exceedances (NSPS 40 CFR 60 Subpart PPP) - The permittee shall submit written semiannual reports of exceedances of control device operating parameters required to be monitored by paragraphs (a) and (b) of 40 CFR 60.684 and written documentation of, and a report of corrective maintenance required as a result of, quarterly calibrations of the monitoring devices required in 40 CFR 60.683(c) *(i.e., monitoring devices that measure the gas pressure drop across each forming process scrubber and the scrubbing liquid flow rate to each scrubber).* For the purpose of these reports, exceedances are defined as any forming process scrubber operating parameter 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 compliance test.
[Rule 62-204.800(8)(b), F.A.C.; NSPS Subpart PPP 40 CFR 60.684(d)]