

## RESPONSE TO COMMENTS

### OWENS CORNING COMPOSITE MATERIALS, LLC PERMIT #0747-AOP-R4 AFIN: 66-00294

On September 30, 2014, the Director of the Arkansas Department of Environmental Quality gave notice of a draft permitting decision for the above referenced facility. During the comment period, written comments on the draft permitting decision were submitted by Trinity Consultants on behalf of the facility. The Department's response to these issues follows.

*Note: The following page numbers and condition numbers refer to the draft permit. These references may have changed in the final permit based on changes made during the comment period.*

**Comment #1:** SC-32. The tpy limit should be 8.8 tpy (not 8.9).

**Response to Comment #1:** The permit has been updated as requested.

**Comment #2:** PC-8. It is requested that the language be clarified as follows:

*The permittee shall conduct periodic stack testing to verify the emission rates for all pollutants established by this permit for sources SN-03, SN-04, SN-05 and SN-07. This testing shall be performed a minimum of once every five (5) years. While performing the tests, the equipment shall be operating at least 90% of the maximum throughput rate, unless otherwise approved by the Department. If testing is conducted at a rate lower than 90%, the facility shall be limited to an operating rate of 110% of the tested rate until compliance at a higher rate is demonstrated. If a ~~any~~ test results indicates emissions in excess of a ~~any~~ permitted rate, the permittee shall conduct a new stack test for that pollutant within 90 days of the date of the last failing stack test, or shall submit a corrective permit application within 60 days of permittee receipt of the testing results. Testing shall be conducted in accordance with Plantwide Condition # 3. The results of these tests shall be submitted to the Department at the address listed in General Provision #7. . .*

**Response to Comment #2:** The Department cannot pre-authorize exceedances of an emission rate and corrective actions. The other requested changes are acceptable. Therefore, Plantwide Condition # 8 has also been updated to read as follows:

"The permittee shall conduct periodic stack testing to verify the emission rates for all pollutants established by this permit for sources SN-03, SN-04, SN-05 and SN-07. This testing shall be performed a minimum of once every five (5) years. While performing the tests, the equipment shall be operating at least 90% of the maximum throughput rate, unless otherwise approved by the Department. If testing is conducted at a rate lower than 90%, the facility shall be limited to an operating rate of 110% of the tested rate until compliance at a higher rate is demonstrated. If a test result indicates emissions in excess of a permitted rate, the permittee shall conduct a new stack test for that pollutant within 90 days of the date of the last failing stack test. Testing shall be conducted in accordance with Plantwide Condition #3. The results of

these tests shall be submitted to the Department at the address listed in General Provision #7. The following table outlines the last testing dates."

**Comment #3:** One page 6 of the draft permit, there remains a paragraph in the Process Description for the Coated Veil Process, which was never installed. References to process were successfully removed from the rest of the permit, but was accidentally left in this section. Please remove this paragraph referring to the Coated Veil Process.

**Response to Comment #3:** The permit has been updated as requested.

# ADEQ

ARKANSAS  
Department of Environmental Quality

November 25, 2014

Samantha Stafford  
Environmental Health and Safety Leader  
Owens Corning Composite Materials, LLC  
5520 Planters Road  
Fort Smith, AR 72916


Dear Ms. Stafford:

The enclosed Permit No. 0747-AOP-R4 is your authority to construct, operate, and maintain the equipment and/or control apparatus as set forth in your application initially received on 4/23/2014.

After considering the facts and requirements of A.C.A. §8-4-101 et seq. as referenced by §8-4-304, and implementing regulations, I have determined that Permit No. 0747-AOP-R4 for the construction and operation of equipment at Owens Corning Composite Materials, LLC to be issued and effective on the date specified in the permit, unless a Commission review has been properly requested under Arkansas Department of Pollution Control & Ecology Commission's Administrative Procedures, Regulation 8, within thirty (30) days after service of this decision.

The applicant or permittee and any other person submitting public comments on the record may request an adjudicatory hearing and Commission review of the final permitting decisions as provided under Chapter Six of Regulation No. 8, Administrative Procedures, Arkansas Pollution Control and Ecology Commission. Such a request shall be in the form and manner required by Regulation 8.603, including filing a written Request for Hearing with the APC&E Commission Secretary at 101 E. Capitol Ave., Suite 205, Little Rock, Arkansas 72201. If you have any questions about filing the request, please call the Commission at 501-682-7890.

Sincerely,



Mike Bates  
Chief, Air Division

Enclosure: Final Permit

# ADEQ OPERATING AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program, Regulation 26:

Permit No. : 0747-AOP-R4

IS ISSUED TO:

Owens Corning Composite Materials, LLC  
5520 Planters Road  
Fort Smith, AR 72916  
Sebastian County  
AFIN: 66-00294

THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

November 25, 2014                      AND                      November 24, 2019

THE PERMITTEE IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:



Mike Bates  
Chief, Air Division

November 25, 2014

Date

Owens Corning Composite Materials, LLC  
Permit #: 0747-AOP-R4  
AFIN: 66-00294

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#### List of Acronyms and Abbreviations

|                  |   |
|------------------|---|
| A.C.A.           | Arkansas Code Annotated                     |
| AFIN             | ADEQ Facility Identification Number         |
| CFR              | Code of Federal Regulations                 |
| CO               | Carbon Monoxide                             |
| HAP              | Hazardous Air Pollutant                     |
| lb/hr            | Pound Per Hour                              |
| MVAC             | Motor Vehicle Air Conditioner               |
| No.              | Number                                      |
| NO <sub>x</sub>  | Nitrogen Oxide                              |
| PM               | Particulate Matter                          |
| PM <sub>10</sub> | Particulate Matter Smaller Than Ten Microns |
| SNAP             | Significant New Alternatives Program (SNAP) |
| SO <sub>2</sub>  | Sulfur Dioxide                              |
| SSM              | Startup, Shutdown, and Malfunction Plan     |
| Tpy              | Tons Per Year                               |
| UTM              | Universal Transverse Mercator               |
| VOC              | Volatile Organic Compound                   |

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**SECTION I: FACILITY INFORMATION**

PERMITTEE: Owens Corning Composite Materials, LLC

AFIN: 66-00294

PERMIT NUMBER: 0747-AOP-R4

FACILITY ADDRESS: 5520 Planters Road  
Fort Smith, AR 72916

MAILING ADDRESS: 5520 Planters Road  
Fort Smith, AR 72916

COUNTY: Sebastian County

CONTACT NAME: Samantha Stafford

CONTACT POSITION: Environmental Health and Safety Leader

TELEPHONE NUMBER: 479-648-5327

REVIEWING ENGINEER: Jude Jean-Francois

UTM North South (Y): Zone 15: 3907621.15 m

UTM East West (X): Zone 15: 375347.30 m

## SECTION II: INTRODUCTION

### Summary of Permit Activity

Owens Corning owns and operates a fiberglass mat manufacturing facility at 5520 Planters Road in Fort Smith, Arkansas 72916. The facility uses chopped fiberglass and a chemical binder to produce fiberglass mat primarily for use in the roofing products industry. This is the facility's second Title V Renewal. With this Title V Renewal, the facility requested emission sources SN-10 through SN-18 to be removed from the permit as well as Specific Conditions 41 through 71 and Specific Condition 36. The Coated Veil production line permitted in 2008 was never installed. The permitted emission changes include -7.4 tpy of PM/PM10, -0.2 tpy of SO<sub>2</sub>, -11.3 tpy of NO<sub>x</sub>, -9.5 tpy of CO, -3.0 tpy of VOC, and 1.7 tpy of Ammonia.

### Process Description

#### Fiberglass Mat Manufacturing

The fiberglass mat manufacturing process begins in the fiber preparation area. Chopped glass fibers, delivered to the site in containers, are fed into the glass bins, weighed out, and fed into the pulper on conveyor belts. In the pulper, glass fibers, white water (recycled), dispersant, ammonia, and viscosity modifier are mixed in controlled amounts and agitated to disperse the glass fibers and create "thick stock". Once the thick stock batch is complete, the pulper contents are pumped to the holding chest and another batch of thick stock begins.

The holding chest agitates the thick stock to continue the dispersion of the glass fibers. From the holding chest, the thick stock is pumped to the constant level chest and then to the Deltaformer silo. The thick stock is then pumped through the fan pump to the distributor header and into the headbox where it is deposited on a moving wire screen. Excess liquid is removed from the screen through drainage and vacuum and is returned to the process (as white water). The air from the vacuum lines is routed through a series of moisture separators to remove entrained water vapor prior to venting to the atmosphere (SN-03). The fibers remaining on the screen form a mat which is transferred to another conveyor in the binder application section.

A binder is applied to the glass fiber substrate to form a bonded mat. The binder is applied using a flooding weir. Excess binder is removed and recirculated by a combination of natural drainage and vacuum slots. The air from the vacuum lines is routed through a series of moisture separators to remove entrained liquid prior to venting to the atmosphere (SN-04). Fugitive emissions from the mat line exhaust through roof vents over the production line (SN-07).

The mat saturated with binder is conveyed to a heated recirculating air oven where the binder is dried and cured. Heating in the oven is provided by the combustion of natural gas and/or landfill gas. Emissions from the drying/curing oven are controlled in a fume incinerator prior to being emitted to the atmosphere (SN-01). Heat from incinerated vapors can be removed through a waste heat boiler (SN-02) to provide steam for plant operations.



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The cured mat is trimmed, rolled, and packaged prior to storage in the warehouse. Mat trimmings are conveyed pneumatically to the drop-out box (SN-08), and the trimmings are fed to a compactor.

### **Binder Room**

The binder used in the process is the blend of several components mixed in the binder room. The ingredients are delivered to the site in a variety of ways, including tank trucks, drums, and bags. High-volume ingredients are stored in permanent tanks, while minor ingredients are stored in drums or totes. The components are mixed together in the binder mix tank according to the binder recipe which yields the properties desired for the final product.

From the binder mix tank, the binder enters the binder circulation system which continuously cycles binder throughout the process as follows: Binder is initially pumped from the mix tank into one of the two binder circulation tanks. The binder is then pumped from the circulation tanks to the binder seal tank and binder applicator. Excess binder is recovered from the application area and pumped back to the circulation tanks where the cycle begins again. Emissions from the binder mix tank and the binder circulation tanks are collected and vented together (SN-05).

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### Regulations

The following table contains the regulations applicable to this permit.

| Regulations  |
|--|
| Arkansas Air Pollution Control Code, Regulation 18, effective June 18, 2010  |
| Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective July 27, 2013             |
| Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective November 18, 2012                             |
| 40 CFR Part 63, Subpart HHHH – National Emission Standards for Hazardous Air Pollutants for Wet-Formed Fiberglass Mat Production |
| 40 CFR Part 64, Compliance Assurance Monitoring  |

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### Emission Summary

The following table is a summary of emissions from the facility. This table, in itself, is not an enforceable condition of the permit.

| EMISSION SUMMARY          |  |                                      |                |       |
|---------------------------|--|--------------------------------------|----------------|-------|
| Source Number             | Description                                  | Pollutant                            | Emission Rates |       |
|                           |  |                                      | lb/hr          | tpy   |
| Total Allowable Emissions |  | PM                                   | 9.0            | 39.2  |
|                           |  | PM <sub>10</sub>                     | 9.0            | 39.2  |
|                           |  | SO <sub>2</sub>                      | 1.0            | 4.4   |
|                           |  | VOC                                  | 31.0           | 135.8 |
|                           |  | CO                                   | 50.0           | 219.0 |
|                           |  | NO <sub>x</sub>                      | 10.0           | 43.8  |
| HAPs                      |  | Acrylic Acid*                        | 4.10           | 17.96 |
|                           |  | Formaldehyde*                        | 5.20           | 22.78 |
|                           |  | Methanol*                            | 6.60           | 28.91 |
|                           |  | Styrene*                             | 0.50           | 2.20  |
|                           |  | Triethylamine*                       | 0.50           | 2.20  |
| Air Contaminants **       |  | Ammonia                              | 7.20           | 31.54 |
| 01                        | Oven Vapor Incinerator<br>(Thermal Oxidizer) | PM                                   | 6.0            | 26.3  |
|                           |  | PM <sub>10</sub>                     | 6.0            | 26.3  |
|                           |  | SO <sub>2</sub>                      | 1.0            | 4.4   |
|                           |  | VOC                                  | 3.0            | 13.2  |
|                           |  | CO                                   | 50.0           | 219.0 |
|                           |  | NO <sub>x</sub>                      | 10.0           | 43.8  |
|                           |  | Acrylic Acid*                        | 0.50           | 2.19  |
|                           |  | Formaldehyde*                        | 1.00           | 4.38  |
|                           |  | Methanol*                            | 1.00           | 4.38  |
|                           |  | Styrene*                             | 0.10           | 0.44  |
|                           |  | Triethylamine*                       | 0.10           | 0.44  |
|                           |  | Ammonia**                            | 4.00           | 17.60 |
| 02                        | Waste Heat Boiler                            | Emissions are accounted for at SN-01 |                |       |
| 03                        | Deltaformer Vacuums                          | PM                                   | 0.5            | 2.2   |
|                           |  | PM <sub>10</sub>                     | 0.5            | 2.2   |
|                           |  | VOC                                  | 3.0            | 13.2  |
|                           |  | Acrylic Acid*                        | 0.10           | 0.44  |
|                           |  | Formaldehyde*                        | 0.10           | 0.44  |

| EMISSION SUMMARY |                                 |                  |                |       |
|------------------|---------------------------------|------------------|----------------|-------|
| Source Number    | Description                     | Pollutant        | Emission Rates |       |
|                  |                                 |                  | lb/hr          | tpy   |
|                  |                                 | Methanol*        | 0.10           | 0.44  |
|                  |                                 | Styrene*         | 0.10           | 0.44  |
|                  |                                 | Triethylamine*   | 0.10           | 0.44  |
|                  |                                 | Ammonia**        | 0.10           | 0.44  |
| 04               | Saturator Vacuums               | PM               | 0.5            | 2.2   |
|                  |                                 | PM <sub>10</sub> | 0.5            | 2.2   |
|                  |                                 | VOC              | 3.0            | 13.2  |
|                  |                                 | Acrylic Acid*    | 0.50           | 2.19  |
|                  |                                 | Formaldehyde*    | 0.50           | 2.19  |
|                  |                                 | Methanol*        | 1.50           | 6.57  |
|                  |                                 | Styrene*         | 0.10           | 0.44  |
|                  |                                 | Triethylamine*   | 0.10           | 0.44  |
|                  |                                 | Ammonia**        | 0.10           | 0.44  |
| 05               | Binder Mix & Run Tanks          | VOC              | 2.0            | 8.8   |
|                  |                                 | Acrylic Acid*    | 0.50           | 2.19  |
|                  |                                 | Formaldehyde*    | 0.10           | 0.44  |
|                  |                                 | Methanol*        | 1.00           | 4.38  |
|                  |                                 | Styrene*         | 0.10           | 0.44  |
|                  |                                 | Triethylamine*   | 0.10           | 0.44  |
|                  |                                 | Ammonia**        | 0.50           | 2.20  |
| 07               | Mat Line Uncontrolled Emissions | PM               | 1.0            | 4.4   |
|                  |                                 | PM <sub>10</sub> | 1.0            | 4.4   |
|                  |                                 | VOC              | 20.0           | 87.6  |
|                  |                                 | Acrylic Acid*    | 2.50           | 10.95 |
|                  |                                 | Formaldehyde*    | 3.50           | 15.33 |
|                  |                                 | Methanol*        | 3.00           | 13.14 |
|                  |                                 | Styrene*         | 0.10           | 0.44  |
|                  |                                 | Triethylamine*   | 0.10           | 0.44  |
|                  |                                 | Ammonia**        | 2.50           | 11.00 |
| 08               | Trim Drop-Out Box               | PM               | 1.0            | 4.1   |
|                  |                                 | PM <sub>10</sub> | 1.0            | 4.1   |

\*HAPs included in the VOC totals. Other HAPs are not included in any other totals unless specifically stated.

\*\*Air Contaminants such as ammonia, acetone, and certain halogenated solvents are not VOCs or HAPs.

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### SECTION III: PERMIT HISTORY

Permit 747-A was not found in the Department records.

Permit 747-AR-1 was issued on October 22, 1991. This permit modified the existing permit to include facing and reinforcement mats. It also added a baghouse dust collection system to the mat line. Permitted emissions were 20.63 tpy PM/PM<sub>10</sub>, 44.46 tpy VOC, 0.04 tpy SO<sub>2</sub>, 1.53 tpy CO, 6.13 tpy NO<sub>x</sub>, and 0.44 tpy ammonia.

Permit 747-AR-2 was issued on January 20, 1993. This modification added a cyclone to the mat area. This change resulted in an increase in PM/PM<sub>10</sub> of 14.32 tpy.

Permit 747-AR-3 was issued on September 3, 1993. Emissions were recalculated based on AP-42 emission factors. This permit allowed emissions of 35 tpy PM/PM<sub>10</sub>, 0.1 tpy SO<sub>2</sub>, 44.4 tpy VOC, 4.9 tpy CO, 19.7 tpy NO<sub>x</sub>, and 0.5 tpy NH<sub>3</sub>.

Permit 747-AR-4 was issued on June 29, 1999. This permit increased production rates, emission rates, and allowed the removal of a source that was no longer being used. It also allowed the incorporation of a landfill gas burning operation.

Permit 747-AOP-R0 was issued on July 13, 2004. Emissions testing and anticipated future production rates indicated that it would be prudent to permit the facility as a Title V major source. This permit modification modified existing permit limits to reflect the results of emissions testing. Also this permit included the requirements of 40 CFR Part 63, Subpart HHHH, a MACT regulation for wet formed fiberglass mat production with an effective date of April 11, 2005. Finally, Owens Corning increased the allowable landfill gas usage limit to 1,216 MMSCF/yr to represent the maximum capacity and worst case emissions.

Permit 0747-AOP-R1 was issued on December 5, 2005. This permit modification modified existing permit limits to reflect the results of the most recent emissions testing performed at the facility. The permitted rates include a safety factor to insure future compliance. Permitted emission rates for SN-07 increased by 61.3 tpy of VOC, 8.8 tpy of acrylic acid, 2.1 tpy of ammonia, and 8.8 tpy of methanol. There were no changes being made in the operation of this facility.

Permit 0747-AOP-R2 was issued on May 22, 2008. This permit modification added a coated veil manufacturing operation. The coated veil manufacturing operation will consist of Coated Veil Curing & Drying Oven (SN-10A), Coated Veil Materials Storage and Mix Tanks (SN-10B), Coated Veil Printing & Drying Oven (SN-11), four (4) Aggregate Silos (SN-12 thru SN-15), two (2) Aggregate Hoppers (SN-16 & SN-17), and a Mat Trim Baghouse (SN-18). The permitted emissions increases include 7.4 tpy PM/PM<sub>10</sub>, 0.2 tpy SO<sub>2</sub>, 13.8 tpy VOC, 9.5 tpy CO, and 11.3 tpy NO<sub>x</sub>.

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Permit 0747-AOP-R3 was issued on October 26, 2009. This initial Title V renewal was to update information pertaining to emission limits based on recent stack test results and updates to the Insignificant Activities list.

**SECTION IV: SPECIFIC CONDITIONS**

SN-01  
 Oven Vapor Incinerator

Source Description

Emissions from the drying/curing oven are controlled by a fume incinerator that vents at this point.

The uncontrolled emissions from SN-01 fulfill the applicability criteria of the Compliance Assurance Monitoring (CAM) Rule (40 Code of Federal Regulations (CFR) Part (§) 64). Accordingly, the (CAM) Plan for the facility is provided in Appendix B. Per §64.2(a), the aforementioned source is regulated under the CAM Rule because it meets the following criteria: (1) the unit is subject to emission limitations for VOC, (2) the source is equipped with a control device (i.e., baghouse, filter), and (3) the unit has potential pre-control emissions of VOC that exceed the applicable major source threshold (i.e., 100 tons per year). In accordance with §64.3, Owens Corning has developed a CAM Plan for this source. The Plan establishes the operating parameters that will be monitored in order to demonstrate compliance with the VOC emission limit at this source.

Specific Conditions

1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 5 and 6. [Regulation 19, §19.501 et seq., and 40 CFR Part 52, Subpart E]

| SN | Description                               | Pollutant        | lb/hr | Tpy   |
|----|---|------------------|-------|-------|
| 01 | Oven Vapor Incinerator (Thermal Oxidizer) | PM <sub>10</sub> | 6.0   | 26.3  |
|    |   | SO <sub>2</sub>  | 1.0   | 4.4   |
|    |   | VOC              | 3.0   | 13.2  |
|    |   | CO               | 50.0  | 219.0 |
|    |   | NO <sub>x</sub>  | 10.0  | 43.8  |

2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions 5 and 6. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

| SN | Description                               | Pollutant    | lb/hr | tpy  |
|----|---|--------------|-------|------|
| 01 | Oven Vapor Incinerator (Thermal Oxidizer) | PM           | 6.0   | 26.3 |
|    |   | Acrylic Acid | 0.50  | 2.19 |
|    |   | Formaldehyde | 1.00  | 4.38 |
|    |   | Methanol     | 1.00  | 4.38 |

| SN | Description | Pollutant     | lb/hr | tpy   |
|----|-------------|---------------|-------|-------|
|    |             | Styrene       | 0.10  | 0.44  |
|    |             | Triethylamine | 0.10  | 0.44  |
|    |             | Ammonia       | 4.00  | 17.60 |

3. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9

| SN | Limit | Regulatory Citation                                  |
|----|-------|--|
| 01 | 20%   | Regulation 19, §19.503 and 40 CFR Part 52, Subpart E |

4. The permittee shall conduct weekly observations of the opacity from sources SN-01 and keep a record of these observations. These observations shall be conducted by a person familiar with the permittee’s visible emissions. If visible emissions which appear to be in excess of the permitted opacity are detected, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear to be in excess of the permitted opacity following the corrective action. If after corrective action is taken the emissions still appear to exceed the permitted opacity, a Method 9 reading shall be performed. The permittee shall maintain records of the cause of any visible emissions and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [Regulation 19, §19.503 and 40 CFR Part 52, Subpart E]
5. The permittee shall only combust natural gas at this source. [Regulation 19, §19.705; Regulation 18, §18.1004; A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311; and 40 CFR Part 70.6]
6. The permittee shall comply with the CAM plan outlined in Appendix D of this permit for source SN-01, with the thermal oxidizer to maintain a minimum temperature of 1,385 °F (3-hour block average) in the incinerator while product is flowing to the curing oven. Compliance shall be demonstrated through compliance with Specific Condition # 7 and the CAM plan. [Regulation 19, §19.304 and §19.705; A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311; 40 CFR Part 64; and 40 CFR Part 70.6]
7. The permittee shall monitor the incinerator temperature continuously only while product is flowing to the curing oven and record the incinerator temperature on 15-minute and 3-hour block averages. [Regulation 19, §19.703, 40 CFR Part 52, Subpart E, 40 CFR Part 64 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

**40 CFR Part 63, Subpart HHHH Conditions**



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8. This source is subject to regulation under 40 CFR Part 63, *National Emission Standards for Hazardous Air Pollutants for Wet-Formed Fiberglass Mat Production* and must comply with the following provisions by April 11, 2005. These provisions include, but are not limited to, Specific Condition 9 - 23. [Regulation 19, §19.304 and 40 CFR Part 63, Subpart HHHH]
9. §63.2983 - What emission limits must I meet?
  - (a) You must limit the formaldehyde emissions from each drying and curing oven by either:
    - (1) Limiting emissions of formaldehyde to 0.03 kilograms or less per megagram (0.05 pounds per ton) of fiberglass mat produced; or
    - (2) Reducing uncontrolled formaldehyde emissions by 96 percent or more.
  - (b) [Reserved]
10. §63.2984 - What operating limits must I meet?
  - (a) You must maintain operating parameters within established limits or ranges specified in your operation, maintenance, and monitoring (OMM) plan described in §63.2987. If there is a deviation of any of the specified parameters from the limit or range specified in the OMM plan, you must address the deviation according to paragraph (b) of §63.2984. You must comply with the operating limits specified in paragraphs (a)(1) through (4) of §63.2984:
    - (1) You must operate the thermal oxidizer so that the average operating temperature in any 3-hour block period does not fall below the temperature established during your performance test and specified in your OMM plan.
    - (2) You must not use a resin with a free-formaldehyde content greater than that of the resin used during your performance test and specified in your OMM plan.
    - (3) You must operate the wet-formed fiberglass mat production process so that the average urea formaldehyde resin solids application rate in any 3-hour block period does not exceed the average application rate achieved during your performance test and specified in your OMM plan.
    - (4) If you use an add-on control device other than a thermal oxidizer or wish to monitor an alternative parameter and comply with a different operating limit, you must obtain approval for the alternative monitoring under §63.8(f). You must include the approved alternative monitoring and operating limits in the OMM plan specified in §63.2984.
  - (b) When during a period of normal operations you detect that an operating parameter deviates from the limit or range established in paragraph (a) of §63.2984, you must initiate corrective actions within 1 hour according to the provisions of your OMM plan. During periods of start up, shut down, or malfunction you must follow your start up, shut down and malfunction plan (SSMP). The corrective action actions must be completed in an expeditious manner as specified in the OMM plan or SSMP.

(c) You must maintain and inspect control devices according to the procedures specified in the OMM plan.

(d) You must include the operating limits specified in paragraphs (a)(1) through (4) of §63.2984 and their allowable ranges or levels in your OMM plan. Your 40 CFR part 70 operating permit for the drying and curing oven must contain a requirement that you develop and operate according to an OMM plan at all times.

(e) If you use a thermal oxidizer or other control device to achieve the emission limits in §63.2983, you must capture and convey the formaldehyde emissions from each drying and curing oven according to the procedures in chapters 3 and 5 of "Industrial Ventilation: A Manual of Recommended Practice" (23rd Edition). This publication is incorporated by reference in §63.3003.

11. §63.2985 - When do I have to comply with these standards?

(a) Existing drying and curing ovens must be in compliance with this subpart no later than April 11, 2005.

12. §63.2986 - How do I comply with the standards?

(a) You must install, maintain, and operate a thermal oxidizer or other control device or implement a process modification that reduces formaldehyde emissions from each drying and curing oven to the emission limits specified in §63.2983.

(b) You must comply with the operating limits specified in §63.2984. The operating limits prescribe the requirements for demonstrating continuous compliance based on the OMM plan. You must begin complying with the operating limits on the date by which you must complete the initial performance test.

(c) You must conduct a performance test according to §63.2991, 63.2992, and 63.2993 to demonstrate compliance for each drying and curing oven subject to the emission limits in § 63.2983, and to establish or modify the operating limits or ranges for process or control device parameters that will be monitored to demonstrate continuous compliance.

(d) You must install, calibrate, maintain, and operate devices that monitor the parameters specified in your OMM plan at the frequency specified in the plan. All continuous parameter monitoring systems must be installed and operating no later than the applicable compliance date specified in §63.2985.

(e) You must prepare and follow a written OMM plan as specified in §63.2987.

(f) You must comply with the monitoring, recordkeeping, notification, and reporting requirements of this subpart as required by §63.2996 through 63.3000.

- (g) You must comply with the requirements in paragraphs (g)(1) through (3) of §63.2986.
- (1) You must be in compliance with the emission limits in §63.2983 and the operating limits in §63.2984 at all times, except during periods of startup, shutdown, or malfunction.
- (2) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in §63.6(e)(1).
- (3) You must develop and implement a written SSMP according to the provisions in §63.6(e)(3). The SSMP must address the startup, shutdown, and corrective actions taken for malfunctioning process and air pollution control equipment.

13. §63.2987 - What must my operation, maintenance, and monitoring (OMM) plan include?

(a) You must prescribe the monitoring that will be performed to ensure compliance with these emission limitations. Minimum monitoring requirements are listed in table 1 of this subpart. Your plan must specify the items listed in paragraphs (a)(1) through (3) of §63.2987:

- (1) Each process and control device to be monitored, the type of monitoring device that will be used, and the operating parameters that will be monitored.
- (2) A monitoring schedule that specifies the frequency that the parameter values will be determined and recorded.
- (3) The operating limits or ranges for each parameter that represent continuous compliance with the emission limits in §63.2983. Operating limits and ranges must be based on values of the monitored parameters recorded during performance tests.

(b) You must establish routine and long-term maintenance and inspection schedules for each control device. You must incorporate in the schedules the control device manufacturer's recommendations for maintenance and inspections or equivalent procedures. If you use a thermal oxidizer, the maintenance schedule must include procedures for annual or more frequent inspection of the thermal oxidizer to ensure that the structural and design integrity of the combustion chamber is maintained. At a minimum, you must meet the requirements of paragraphs (b)(1) through (10) of §63.2987:

- (1) Inspect all burners, pilot assemblies, and pilot sensing devices for proper operation. Clean pilot sensor if necessary.
- (2) Ensure proper adjustment of combustion air and adjust if necessary.
- (3) Inspect, when possible, all internal structures (such as baffles) to ensure structural integrity per the design specifications.
- (4) Inspect dampers, fans, and blowers for proper operation.
- (5) Inspect motors for proper operation.
- (6) Inspect, when possible, combustion chamber refractory lining. Clean and repair or replace lining if necessary.
- (7) Inspect the thermal oxidizer shell for proper sealing, corrosion, and hot spots.
- (8) For the burn cycle that follows the inspection, document that the thermal oxidizer is operating properly and make any necessary adjustments.
- (9) Generally observe whether the equipment is maintained in good operating condition.

(10) Complete all necessary repairs as soon as practicable.

(c) You must establish procedures for responding to operating parameter deviations. At a minimum, the procedures must include the information in paragraphs (c)(1) through (3) of §63.2987.

(1) Procedures for determining the cause of the operating parameter deviation.

(2) Actions for correcting the deviation and returning the operating parameters to the allowable ranges or limits.

(3) Procedures for recording the date and time that the deviation began and ended, and the times corrective actions were initiated and completed.

(d) Your plan must specify the recordkeeping procedures to document compliance with the emissions and operating limits. Table 1 of this subpart establishes the minimum recordkeeping requirements.

14. §63.2991 - When must I conduct performance tests?

You must conduct a performance test for each drying and curing oven subject to this subpart according to the provisions in paragraphs (a) through (c) of §63.2991:

(a) Initially. You must conduct an initial performance test no later than 180 days after the applicable compliance date specified in §63.2985 (April 11, 2005). The initial performance test is used to demonstrate initial compliance and establish operating parameter limits and ranges to be used to demonstrate continuous compliance with the emission standards.

(b) Every 5 years. You must conduct a performance test every 5 years as part of renewing your 40 CFR part 70 operating permit.

(c) To change your OMM plan. You must conduct a performance test according to the requirements specified in §63.2992 to change the limit or range for any operating limit specified in your OMM plan established during a previous compliance test.

15. §63.2992 - How do I conduct a performance test?

(a) You must verify the performance of monitoring equipment as specified in §63.2994 before performing the test.

(b) You must conduct the performance test according to the procedures in §63.7.

(c) You must conduct the performance test under the conditions specified in paragraphs (c)(1) and (2) of §63.2992.

(1) The resin must have the highest specified free-formaldehyde content that will be used.

(2) You must operate at the maximum feasible urea-formaldehyde resin solids application rate (pounds urea-formaldehyde resin solids applied per hour) that will be used.

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(d) During the performance test, you must monitor and record the operating parameters that you will use to demonstrate continuous compliance after the test. These parameters are listed in table 1 of this subpart.

(e) You may not conduct performance tests during periods of startup, shutdown, or malfunction as specified in §63.7(e)(1).

(f) You must conduct three separate test runs for each performance test as specified in §63.7(e)(3), and each test run must last at least 1 hour.

16. §63.2993 - What test methods must I use in conducting performance tests?

(a) Use EPA Method 1 (40 CFR part 60, appendix A) for selecting the sampling port location and the number of sampling ports.

(b) Use EPA Method 2 (40 CFR part 60, appendix A) for measuring the volumetric flow rate.

(c) Use EPA Method 316 or 318 (40 CFR part 63, appendix A) for measuring the concentration of formaldehyde.

(d) Use the method contained in appendix A of this subpart or the resin purchase specification and the vendor specification sheet for each resin lot for determining the free-formaldehyde content in the urea-formaldehyde resin.

(e) Use the method in appendix B of this subpart for determining product loss-on-ignition.

17. §63.2994 - How do I verify the performance of monitoring equipment?

(a) Before conducting the performance test, you must take the steps listed in paragraphs (a)(1) and (2) of §63.2994:

(1) Install and calibrate all process equipment, control devices, and monitoring equipment.

(2) Conduct a performance evaluation of the continuous monitoring system (CMS) according to § 63.8(e) which specifies the general requirements and requirements for notifications, the site-specific performance evaluation plan, conduct of the performance evaluation, and reporting of performance evaluation results.

(b) If you use a thermal oxidizer, the temperature monitoring device must meet the performance and equipment specifications listed in paragraphs (b)(1) through (3) of §63.2994:

(1) The temperature monitoring device must be installed either at the exit of the combustion zone of each thermal oxidizer, or at the location specified by the manufacturer. The temperature monitoring device must also be installed in a location

before any heat recovery or heat exchange equipment, and it must remain in the same location for both the performance test and the continuous monitoring of temperature.  
(2) The recorder response range must include zero and 1.5 times the average temperature required in §63.2984(a)(1).  
(3) The measurement method or reference method for calibration must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or an alternate reference subject to the approval of the Administrator.

18. §63.2996 - What must I monitor?

You must monitor the parameters listed in table 1 of this subpart and any other parameters specified in your OMM plan. The parameters must be monitored, at a minimum, at the corresponding frequencies listed in table 1 of this subpart (see Appendix A).

19. §63.2997 - What are the requirements for monitoring devices?

(a) If formaldehyde emissions are controlled using a thermal oxidizer, you must meet the requirements in paragraphs (a)(1) and (2) of §63.2997:

(1) Install, calibrate, maintain, and operate a device to monitor and record continuously the thermal oxidizer temperature at the exit of the combustion zone before any substantial heat exchange occurs or at the location consistent with the manufacturer's recommendations.

(2) Continuously monitor the thermal oxidizer temperature and determine and record the average temperature in 15-minute and 3-hour block averages. You may determine the average temperature more frequently than every 15 minutes and every 3 hours, but not less frequently.

20. §63.2998 - What records must I maintain?

You must maintain records according to the procedures of §63.10. You must maintain the records listed in paragraphs (a) through (g) of §63.2998.

(a) All records required by §63.10. Table 2 of this subpart presents the applicable requirements of the general provisions.

(b) The OMM plan.

(c) Records of values of monitored parameters listed in table 1 of this subpart to show continuous compliance with each operating limit specified in table 1 of this subpart.

(d) Records of maintenance and inspections performed on the control devices.

(e) If an operating parameter deviation occurs, you must record:

- (1) The date, time, and duration of the operating parameter deviation;
- (2) A brief description of the cause of the operating parameter deviation;
- (3) The dates and times at which corrective actions were initiated and completed;

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(4) A brief description of the corrective actions taken to return the parameter to the limit or to within the range specified in the OMM plan; and

(5) A record of whether the deviation occurred during a period of startup, shutdown, or malfunction.

(f) Keep all records specified in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(g) If you operate your process or control device under alternative operating condition and have established operating limits for each condition as specified in §63.2989(c), then you must keep records of the date and time you changed operations from one condition to another, the condition under which you are operating, and the applicable operating limits for that condition.

21. §63.2999 - In what form and for how long must I maintain records?

(a) You must maintain each record required by this subpart for 5 years. You must maintain the most recent 2 years of records at the facility. The remaining 3 years of records may be retained offsite.

(b) Your records must be readily available and in a form so they can be easily inspected and reviewed. You can keep the records on paper or an alternative media, such as microfilm, computer, computer disks, magnetic tape, or on microfiche.

22. §63.3000 - What notifications and reports must I submit?

(a) You must submit all notifications and reports required by the applicable general provisions and §63.3000. Table 2 of this subpart presents the applicable requirements of the general provisions.

(b) Notification of compliance status. You must submit the notification of compliance status, including the performance test results, the operating limits or ranges as determined during the performance test, and other information specified in §63.9(h), before the close of business on the 60th calendar day after you complete the performance test according to §63.10(d)(2).

(c) Semiannual compliance reports. You must submit semiannual compliance reports according to the requirements of paragraphs (c)(1) through (5) of §63.3000.

(1) Dates for submitting reports. Unless the Administrator has agreed to a different schedule for submitting reports under §63.10(a), you must deliver or postmark each semiannual compliance report no later than 30 days following the end of each semiannual reporting period. The first semiannual reporting period begins on the compliance date for your affected source and ends on June 30 or December 31, whichever date immediately follows your compliance date. Each subsequent semiannual reporting period for which you must submit a semiannual compliance report begins on July 1 or January 1 and ends

6 calendar months later. As required by §63.10(e)(3), you must begin submitting quarterly compliance reports if you deviate from the emission limits in §63.2983 or the operating limits in §63.2984.

(2) Inclusion with Title V report. For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and for which the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 71.6 (a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraph (c)(1) of §63.3000.

(3) Contents of reports. The semiannual compliance report must contain the information in paragraphs (c)(3)(i) through (vi) of §63.3000:

(i) Company name and address.

(ii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(iii) Date of report and beginning and ending dates of the reporting period.

(iv) A summary of the total duration of continuous parameter monitoring system downtime during the semiannual reporting period and the total duration of continuous parameter monitoring system downtime as a percent of the total source operating time during that semiannual reporting period.

(v) The date of the latest continuous parameter monitoring system certification or audit.

(vi) A description of any changes in the wet-formed fiberglass mat manufacturing process, continuous parameter monitoring system, or add-on control device since the last semiannual reporting period.

(4) No deviations. If there were no deviations from the emission limit in §63.2983 or the operating limits in §63.2984, the semiannual compliance report must include a statement to that effect. If there were no periods during which the continuous parameter monitoring systems were out-of-control as specified in §63.8(c)(7), the semiannual compliance report must include a statement to that effect.

(5) Deviations. If there was a deviation from the emission limit in §63.2983 or an operating limit in §63.2984, the semiannual compliance report must contain the information in paragraphs (c)(5)(i) through (ix) of §63.3000:

(i) The date and time that each malfunction started and stopped.

(ii) The date and time that each continuous parameter monitoring system was inoperative, except for zero (low-level) and high-level checks.

(iii) The date, time, and duration that each continuous parameter monitoring system was out-of-control, including the information in §63.8(c)(8).

(iv) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(v) The date and time that corrective actions were taken, a description of the cause of the deviation, and a description of the corrective actions taken.

(vi) A summary of the total duration of each deviation during the semiannual reporting period and the total duration as a percent of the total source operating time during that semiannual reporting period.



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(vii) A breakdown of the total duration of the deviations during the semiannual reporting period into those that were due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(viii) A brief description of the process units.

(ix) A brief description of the continuous parameter monitoring system.

(d) Performance test reports. You must submit reports of performance test results for add-on control devices no later than 60 days after completing the tests as specified in §63.10(d)(2). You must include in the performance test reports the values measured during the performance test for the parameters listed in table 1 of this subpart and the operating limits or ranges to be included in your OMM plan. For the thermal oxidizer temperature, you must include 15-minute averages and the average for the three 1-hour test runs.

(e) Startup, shutdown, malfunction reports. If you have a startup, shutdown, or malfunction during the semiannual reporting period, you must submit the reports specified §63.10(d)(5).

23. §63.3001 - What sections of the general provisions apply to me?

You must comply with the requirements of the general provisions of 40 CFR Part 63, subpart A, as specified in table 2 of this subpart.

SN-03  
 Deltaformer Vacuums

Source Description

Vacuum is used to remove excess liquid from the thick stock. Air from the vacuum lines is routed through a series of moisture separators to remove entrained water prior to being emitted to the atmosphere at this source.

Specific Conditions

24. The permittee shall not exceed the emission rates set forth in the following table. Emission rates are based on stack testing and are considered to represent worst case. [Regulation 19 §19.501 et seq. and 40 CFR Part 52, Subpart E]

| SN | Description         | Pollutant        | lb/hr | tpy  |
|----|---------------------|------------------|-------|------|
| 03 | Deltaformer Vacuums | PM <sub>10</sub> | 0.5   | 2.2  |
|    |                     | VOC              | 3.0   | 13.2 |

25. The permittee shall not exceed the emission rates set forth in the following table. Emission rates are based on stack testing and are considered to represent worst case. [Regulation 18 §18.801 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

| SN | Description         | Pollutant     | lb/hr | tpy  |
|----|---------------------|---------------|-------|------|
| 03 | Deltaformer Vacuums | PM            | 0.5   | 2.2  |
|    |                     | Acrylic Acid  | 0.10  | 0.44 |
|    |                     | Formaldehyde  | 0.10  | 0.44 |
|    |                     | Methanol      | 0.10  | 0.44 |
|    |                     | Styrene       | 0.10  | 0.44 |
|    |                     | Triethylamine | 0.10  | 0.44 |
|    |                     | Ammonia       | 0.10  | 0.44 |

26. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

| SN | Limit | Regulatory Citation  |
|----|-------|--|
| 03 | 5%    | Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 |

27. The permittee shall conduct weekly observations of the opacity from source SN-03 and keep a record of these observations. These observations shall be conducted by a person familiar with the permittee's visible emissions. If visible emissions which appear to be in excess of the permitted opacity are detected, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document

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that visible emissions did not appear to be in excess of the permitted opacity following the corrective action. If after corrective action is taken the emissions still appear to exceed the permitted opacity, a Method 9 reading shall be performed. The permittee shall maintain records of the cause of any visible emissions and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN-04  
 Saturator Vacuums

Source Description

Vacuum is used to remove excess liquid from the mat. Air from the vacuum lines is routed through a series of moisture separators to removed entrained water prior to being emitted to the atmosphere at this source.

Specific Conditions

28. The permittee shall not exceed the emission rates set forth in the following table. Emission rates are based on stack testing and are considered to represent worst case. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

| SN | Description       | Pollutant        | lb/hr | tpy  |
|----|-------------------|------------------|-------|------|
| 04 | Saturator Vacuums | PM <sub>10</sub> | 0.5   | 2.2  |
|    |                   | VOC              | 3.0   | 13.2 |

29. The permittee shall not exceed the emission rates set forth in the following table. Emission rates are based on stack testing and are considered to represent worst case. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

| SN | Description       | Pollutant     | lb/hr | tpy  |
|----|-------------------|---------------|-------|------|
| 04 | Saturator Vacuums | PM            | 0.5   | 2.2  |
|    |                   | Acrylic Acid  | 0.50  | 2.19 |
|    |                   | Formaldehyde  | 0.50  | 2.19 |
|    |                   | Methanol      | 1.50  | 6.57 |
|    |                   | Styrene       | 0.10  | 0.44 |
|    |                   | Triethylamine | 0.10  | 0.44 |
|    |                   | Ammonia       | 0.10  | 0.44 |

30. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

| SN | Limit | Regulatory Citation  |
|----|-------|--|
| 04 | 5%    | Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 |

31. The permittee shall conduct weekly observations of the opacity from source SN-04 and keep a record of these observations. These observations shall be conducted by a person familiar with the permittee's visible emissions. If visible emissions which appear to be in

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excess of the permitted opacity are detected, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear to be in excess of the permitted opacity following the corrective action. If after corrective action is taken the emissions still appear to exceed the permitted opacity, a Method 9 reading shall be performed. The permittee shall maintain records of the cause of any visible emissions and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [Regulation, §18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

SN-05  
 Binder Mix & Run Tanks

Source Description

Emissions resulting from binder moving throughout the process are emitted at this source.

Specific Conditions

32. The permittee shall not exceed the emission rates set forth in the following table. Emission rates are based on stack testing and are considered to represent worst case. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

| SN | Description            | Pollutant | lb/hr | tpy |
|----|------------------------|-----------|-------|-----|
| 05 | Binder Mix & Run Tanks | VOC       | 2.0   | 8.8 |

33. The permittee shall not exceed the emission rates set forth in the following table. Emission rates are based on stack testing and are considered to represent worst case. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

| SN | Description            | Pollutant     | lb/hr | tpy  |
|----|------------------------|---------------|-------|------|
| 05 | Binder Mix & Run Tanks | Acrylic Acid  | 0.50  | 2.19 |
|    |                        | Formaldehyde  | 0.10  | 0.44 |
|    |                        | Methanol      | 1.00  | 4.38 |
|    |                        | Styrene       | 0.10  | 0.44 |
|    |                        | Triethylamine | 0.10  | 0.44 |
|    |                        | Ammonia       | 0.50  | 2.20 |

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SN-07

Mat Line Uncontrolled Emissions

Source Description

Uncontrolled emissions from the mat line are exhausted through roof vents.

Specific Conditions

34. The permittee shall not exceed the emission rates set forth in the following table. Emission rates are based on stack testing and are considered to represent worst case. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

| SN | Description                     | Pollutant        | lb/hr | tpy  |
|----|---------------------------------|------------------|-------|------|
| 07 | Mat Line Uncontrolled Emissions | PM <sub>10</sub> | 1.0   | 4.4  |
|    |                                 | VOC              | 20.0  | 87.6 |

35. The permittee shall not exceed the emission rates set forth in the following table. Emission rates are based on stack testing and are considered to represent worst case. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

| SN | Description                     | Pollutant     | lb/hr | tpy   |
|----|---------------------------------|---------------|-------|-------|
| 07 | Mat Line Uncontrolled Emissions | PM            | 1.0   | 4.4   |
|    |                                 | Acrylic Acid  | 2.50  | 10.95 |
|    |                                 | Formaldehyde  | 3.50  | 15.33 |
|    |                                 | Methanol      | 3.00  | 13.14 |
|    |                                 | Styrene       | 0.10  | 0.44  |
|    |                                 | Triethylamine | 0.10  | 0.44  |
|    |                                 | Ammonia       | 2.50  | 11.00 |

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SN-08

Trim Drop-Out Box

Source Description

Mat trimmings are conveyed pneumatically to the drop-out box. Conveying air exhausts from the sides of the drop-out box.

Specific Conditions

36. The permittee shall not exceed the emission rates set forth in the following table. Emissions are based on equipment maximum and are considered to be worst case. [Regulation 19, §19.501 et seq. and 40 CFR Part 52, Subpart E]

| SN | Description       | Pollutant        | lb/hr | tpy |
|----|-------------------|------------------|-------|-----|
| 08 | Trim Drop-Out Box | PM <sub>10</sub> | 1.0   | 4.1 |

37. The permittee shall not exceed the emission rates set forth in the following table. Emissions are based on equipment maximum and are considered to be worst case. [Regulation 18, §18.801, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

| SN | Description       | Pollutant | lb/hr | tpy |
|----|-------------------|-----------|-------|-----|
| 08 | Trim Drop-Out Box | PM        | 1.0   | 4.1 |

38. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

| SN | Limit | Regulatory Citation  |
|----|-------|--|
| 08 | 20%   | Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311 |

39. The permittee shall conduct daily observations of the opacity from source SN-08 and keep a record of these observations. These observations shall be conducted by a person familiar with the permittee's visible emissions. If visible emissions which appear to be in excess of the permitted opacity are detected, the permittee shall immediately take action to identify the cause of the visible emissions, implement corrective action, and document that visible emissions did not appear to be in excess of the permitted opacity following the corrective action. If after corrective action is taken the emissions still appear to exceed the permitted opacity, a Method 9 reading shall be performed. The permittee shall maintain records of the cause of any visible emissions and the corrective action taken. The permittee must keep these records onsite and make them available to



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Department personnel upon request. [Regulation 18, §18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

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#### **SECTION V: COMPLIANCE PLAN AND SCHEDULE**

Owens Corning Composite Materials, LLC will continue to operate in compliance with those identified regulatory provisions. The facility will examine and analyze future regulations that may apply and determine their applicability with any necessary action taken on a timely basis.

## SECTION VI: PLANTWIDE CONDITIONS

1. The permittee shall notify the Director in writing within thirty (30) days after commencing construction, completing construction, first placing the equipment and/or facility in operation, and reaching the equipment and/or facility target production rate. [Regulation 19, §19.704, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
2. If the permittee fails to start construction within eighteen months or suspends construction for eighteen months or more, the Director may cancel all or part of this permit. [Regulation 19, §19.410(B) and 40 CFR Part 52, Subpart E]
3. The permittee must test any equipment scheduled for testing, unless otherwise stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) new equipment or newly modified equipment within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial start up of the permitted source or (2) operating equipment according to the time frames set forth by the Department or within 180 days of permit issuance if no date is specified. The permittee must notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. The permittee shall submit the compliance test results to the Department within thirty (30) days after completing the testing. [Regulation 19, §19.702 and/or Regulation 18 §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
4. The permittee must provide:
  - a. Sampling ports adequate for applicable test methods;
  - b. Safe sampling platforms;
  - c. Safe access to sampling platforms; and
  - d. Utilities for sampling and testing equipment.

[Regulation 19, §19.702 and/or Regulation 18, §18.1002 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee shall maintain the equipment in good condition at all times. [Regulation 19, §19.303 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
6. This permit subsumes and incorporates all previously issued air permits for this facility. [Regulation 26 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
7. The permittee must maintain and operate according to the Startup, Shutdown, and Malfunction Plan (SSM) for SN-01 that was required in Permit No. 0747-AOP-R0. If the Department requests a review of the SSM, the permittee will make the SSM available for

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review. The permittee must keep a copy of the SSM at the source's location and retain all previous versions of the SSM plan for five years. [Regulation 19, §19.304 and 40 CFR 63.6(e)(3)]

8. The permittee shall conduct periodic stack testing to verify the emission rates for all pollutants established by this permit for sources SN-03, SN-04, SN-05 and SN-07. This testing shall be performed a minimum of once every five (5) years. While performing the tests, the equipment shall be operating at least 90% of the maximum throughput rate, unless otherwise approved by the Department. If testing is conducted at a rate lower than 90%, the facility shall be limited to an operating rate of 110% of the tested rate until compliance at a higher rate is demonstrated. If a test result indicates emissions in excess of a permitted rate, the permittee shall conduct a new stack test for that pollutant within 90 days of the date of the last failing stack test. Testing shall be conducted in accordance with Plantwide Condition #3. The results of these tests shall be submitted to the Department at the address listed in General Provision #7. The following table outlines the last testing dates. [Regulation 19, §19.702; 40 CFR Part 52, Subpart E; Regulation 18, §18.1002; and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

| SN      | Description                        | Pollutant           | Last Test Date |
|---------|------------------------------------|---------------------|----------------|
| 03      | Deltaformer<br>Vacuums             | PM/PM <sub>10</sub> | 10/2013        |
|         |                                    | VOC                 | 10/2013        |
|         |                                    | Acrylic Acid        | 10/2013        |
|         |                                    | Formaldehyde        | 10/2013        |
|         |                                    | Methanol            | 10/2013        |
|         |                                    | Styrene             | 10/2013        |
|         |                                    | Triethylamine       | 10/2013        |
|         |                                    | Ammonia             | 10/2013        |
| 04      | Saturator<br>Vacuums               | PM/PM <sub>10</sub> | 10/2013        |
|         |                                    | VOC                 | 10/2013        |
|         |                                    | Acrylic Acid        | 10/2013        |
|         |                                    | Formaldehyde        | 10/2013        |
|         |                                    | Methanol            | 10/2013        |
|         |                                    | Styrene             | 10/2013        |
|         |                                    | Triethylamine       | 10/2013        |
|         |                                    | Ammonia             | 10/2013        |
| 05      | Binder Mix &<br>Run Tanks<br>Vents | VOC                 | 10/2013        |
|         |                                    | Acrylic Acid        | 10/2013        |
|         |                                    | Formaldehyde        | 10/2013        |
|         |                                    | Methanol            | 10/2013        |
|         |                                    | Styrene             | 10/2013        |
|         |                                    | Triethylamine       | 10/2013        |
| Ammonia | 10/2013                            |                     |                |

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| SN | Description           | Pollutant           | Last Test Date |
|----|-----------------------|---------------------|----------------|
| 07 | Mat Line<br>Fugitives | PM/PM <sub>10</sub> | 10/2013        |
|    |                       | VOC                 | 10/2013        |
|    |                       | Acrylic Acid        | 10/2013        |
|    |                       | Formaldehyde        | 10/2013        |
|    |                       | Methanol            | 10/2013        |
|    |                       | Styrene             | 10/2013        |
|    |                       | Triethylamine       | 10/2013        |
|    |                       | Ammonia             | 10/2013        |

**SECTION VII: INSIGNIFICANT ACTIVITIES**

The following sources are insignificant activities. Any activity that has a state or federal applicable requirement shall be considered a significant activity even if this activity meets the criteria of §26.304 of Regulation 26 or listed in the table below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated April 22, 2014.

| Description   | Category     |
|---|--------------|
| Empty Storage Tank (910 gal) – B1                           | Group A, #13 |
| Latex/Resin Tank (7,059 gal) – B2                           | Group A, #13 |
| Latex/Resin Storage Tank (32,682 gal ) – B4                 | Group A, #13 |
| Latex/Resin Storage Tank (14,362 gal ) – B5                 | Group A, #13 |
| (2) Latex/Resin Storage Tanks (22,800 gal each) – B3 and B6 | Group A, #13 |
| Small Cooling Tower   | Group A, #13 |
| Wastewater Treatment Plant                                  | Group A, #13 |
| Comfort Heaters   | Group A, #13 |
| Water Heaters (non-process)                                 | Group A, #13 |
| Laboratory Equipment  | Group A, #13 |
| Diesel Tank (55 gal) (mower & tractor fuel)                 | Group A, #13 |
| Empty Silo (23,952 gal) – B7                                | Group A, #13 |
| Ammonia Storage Tote ( 2,200 lb)                            | Group A, #13 |
| Ferric Chloride Storage Tank W1 (8,221 gal)                 | Group A, #13 |
| Lime Silo W4  | Group A, #13 |
| Lime Slurry Mix Tank W5                                     | Group A, #13 |
| Polymer Storage Tank W17                                    | Group A, #13 |
| Soda Ash Bin W18  | Group A, #13 |

### SECTION VIII: GENERAL PROVISIONS

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute. [40 CFR 70.6(b)(2)]
2. This permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later. [40 CFR 70.6(a)(2) and §26.701(B) of the Regulations of the Arkansas Operating Air Permit Program (Regulation 26)]
3. The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due. [Regulation 26, §26.406]
4. Where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, et seq. (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, the permit incorporates both provisions into the permit, and the Director or the Administrator can enforce both provisions. [40 CFR 70.6(a)(1)(ii) and Regulation 26, §26.701(A)(2)]
5. The permittee must maintain the following records of monitoring information as required by this permit.
  - a. The date, place as defined in this permit, and time of sampling or measurements;
  - b. The date(s) analyses performed;
  - c. The company or entity performing the analyses;
  - d. The analytical techniques or methods used;
  - e. The results of such analyses; and
  - f. The operating conditions existing at the time of sampling or measurement.

[40 CFR 70.6(a)(3)(ii)(A) and Regulation 26, §26.701(C)(2)]

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6. The permittee must retain the records of all required monitoring data and support information for at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [40 CFR 70.6(a)(3)(ii)(B) and Regulation 26, §26.701(C)(2)(b)]
7. The permittee must submit reports of all required monitoring every six (6) months. If permit establishes no other reporting period, the reporting period shall end on the last day of the anniversary month of the initial Title V permit. The report is due within thirty (30) days of the end of the reporting period. Although the reports are due every six months, each report shall contain a full year of data. The report must clearly identify all instances of deviations from permit requirements. A responsible official as defined in Regulation No. 26, §26.2 must certify all required reports. The permittee will send the reports to the address below:

Arkansas Department of Environmental Quality  
Air Division  
ATTN: Compliance Inspector Supervisor  
5301 Northshore Drive  
North Little Rock, AR 72118-5317

[40 C.F.R. 70.6(a)(3)(iii)(A) and Regulation 26, §26.701(C)(3)(a)]

8. The permittee shall report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.
  - a. For all upset conditions (as defined in Regulation 19, § 19.601), the permittee will make an initial report to the Department by the next business day after the discovery of the occurrence. The initial report may be made by telephone and shall include:
    - i. The facility name and location;
    - ii. The process unit or emission source deviating from the permit limit;
    - iii. The permit limit, including the identification of pollutants, from which deviation occurs;
    - iv. The date and time the deviation started;
    - v. The duration of the deviation;
    - vi. The average emissions during the deviation;
    - vii. The probable cause of such deviations;
    - viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future; and
    - ix. The name of the person submitting the report.



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The permittee shall make a full report in writing to the Department within five (5) business days of discovery of the occurrence. The report must include, in addition to the information required by the initial report, a schedule of actions taken or planned to eliminate future occurrences and/or to minimize the amount the permit's limits were exceeded and to reduce the length of time the limits were exceeded. The permittee may submit a full report in writing (by facsimile, overnight courier, or other means) by the next business day after discovery of the occurrence, and the report will serve as both the initial report and full report.

- b. For all deviations, the permittee shall report such events in semi-annual reporting and annual certifications required in this permit. This includes all upset conditions reported in 8a above. The semi-annual report must include all the information as required by the initial and full reports required in 8a.

[Regulation 19, §19.601 and §19.602, Regulation 26, §26.701(C)(3)(b), and 40 CFR 70.6(a)(3)(iii)(B)]

9. If any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity will not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable. [40 CFR 70.6(a)(5), Regulation 26, §26.701(E), and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
10. The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation 26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. §7401, et seq. and is grounds for enforcement action; for permit termination, revocation and reissuance, for permit modification; or for denial of a permit renewal application. [40 CFR 70.6(a)(6)(i) and Regulation 26, §26.701(F)(1)]
11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit. [40 CFR 70.6(a)(6)(ii) and Regulation 26, §26.701(F)(2)]
12. The Department may modify, revoke, reopen and reissue the permit or terminate the permit for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 CFR 70.6(a)(6)(iii) and Regulation 26, §26.701(F)(3)]
13. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 CFR 70.6(a)(6)(iv) and Regulation 26, §26.701(F)(4)]
14. The permittee must furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for

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modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee must also furnish to the Director copies of records required by the permit. For information the permittee claims confidentiality, the Department may require the permittee to furnish such records directly to the Director along with a claim of confidentiality. [40 CFR 70.6(a)(6)(v) and Regulation 26, §26.701(F)(5)]

15. The permittee must pay all permit fees in accordance with the procedures established in Regulation 9. [40 CFR 70.6(a)(7) and Regulation 26, §26.701(G)]
16. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes provided for elsewhere in this permit. [40 CFR 70.6(a)(8) and Regulation 26, §26.701(H)]
17. If the permit allows different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the permitted facility a record of the operational scenario. [40 CFR 70.6(a)(9)(i) and Regulation 26, §26.701(I)(1)]
18. The Administrator and citizens may enforce under the Act all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, unless the Department specifically designates terms and conditions of the permit as being federally unenforceable under the Act or under any of its applicable requirements. [40 CFR 70.6(b) and Regulation 26, §26.702(A) and (B)]
19. Any document (including reports) required by this permit must contain a certification by a responsible official as defined in Regulation 26, §26.2. [40 CFR 70.6(c)(1) and Regulation 26, §26.703(A)]
20. The permittee must allow an authorized representative of the Department, upon presentation of credentials, to perform the following: [40 CFR 70.6(c)(2) and Regulation 26, §26.703(B)]
  - a. Enter upon the permittee's premises where the permitted source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
  - b. Have access to and copy, at reasonable times, any records required under the conditions of this permit;
  - c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
  - d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for assuring compliance with this permit or applicable requirements.

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21. The permittee shall submit a compliance certification with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The permittee must submit the compliance certification annually within 30 days following the last day of the anniversary month of the initial Title V permit. The permittee must also submit the compliance certification to the Administrator as well as to the Department. All compliance certifications required by this permit must include the following: [40 CFR 70.6(c)(5) and Regulation 26, §26.703(E)(3)]
  - a. The identification of each term or condition of the permit that is the basis of the certification;
  - b. The compliance status;
  - c. Whether compliance was continuous or intermittent;
  - d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit; and
  - e. Such other facts as the Department may require elsewhere in this permit or by §114(a)(3) and §504(b) of the Act.
  
22. Nothing in this permit will alter or affect the following: [Regulation 26, §26.704(C)]
  - a. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
  - b. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
  - c. The applicable requirements of the acid rain program, consistent with §408(a) of the Act; or
  - d. The ability of EPA to obtain information from a source pursuant to §114 of the Act.
  
23. This permit authorizes only those pollutant emitting activities addressed in this permit. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
  
24. The permittee may request in writing and at least 15 days in advance of the deadline, an extension to any testing, compliance or other dates in this permit. No such extensions are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion in the following circumstances:
  - a. Such an extension does not violate a federal requirement;
  - b. The permittee demonstrates the need for the extension; and
  - c. The permittee documents that all reasonable measures have been taken to meet the current deadline and documents reasons it cannot be met.

[Regulation 18, §18.314(A), Regulation 19, §19.416(A), Regulation 26, §26.1013(A), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

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25. The permittee may request in writing and at least 30 days in advance, temporary emissions and/or testing that would otherwise exceed an emission rate, throughput requirement, or other limit in this permit. No such activities are authorized until the permittee receives written Department approval. Any such emissions shall be included in the facility's total emissions and reported as such. The Department may grant such a request, at its discretion under the following conditions:
- a. Such a request does not violate a federal requirement;
  - b. Such a request is temporary in nature;
  - c. Such a request will not result in a condition of air pollution;
  - d. The request contains such information necessary for the Department to evaluate the request, including but not limited to, quantification of such emissions and the date/time such emission will occur;
  - e. Such a request will result in increased emissions less than five tons of any individual criteria pollutant, one ton of any single HAP and 2.5 tons of total HAPs; and
  - f. The permittee maintains records of the dates and results of such temporary emissions/testing.

[Regulation 18, §18.314(B), Regulation 19, §19.416(B), Regulation 26, §26.1013(B), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

26. The permittee may request in writing and at least 30 days in advance, an alternative to the specified monitoring in this permit. No such alternatives are authorized until the permittee receives written Department approval. The Department may grant such a request, at its discretion under the following conditions:
- a. The request does not violate a federal requirement;
  - b. The request provides an equivalent or greater degree of actual monitoring to the current requirements; and
  - c. Any such request, if approved, is incorporated in the next permit modification application by the permittee.

[Regulation 18, §18.314(C), Regulation 19, §19.416(C), Regulation 26, §26.1013(C), A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, and 40 CFR Part 52, Subpart E]

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**APPENDIX A**

**40 CFR 63 HHHH**

*National Emission Standards for Hazardous Air Pollutants for Wet-Formed Fiberglass Mat  
Production*

Owens Corning Composite Materials, LLC  
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## Electronic Code of Federal Regulations

e-CFR Data is current as of August 22, 2014

[Title 40](#) → [Chapter I](#) → [Subchapter C](#) → [Part 63](#) → Subpart HHHH

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Title 40: Protection of Environment

[PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES \(CONTINUED\)](#)

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## Subpart HHHH—National Emission Standards for Hazardous Air Pollutants for Wet-Formed Fiberglass Mat Production

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SOURCE: 67 FR 17835, Apr. 11, 2002, unless otherwise noted.

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## **What This Subpart Covers**

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## **§63.2980 What is the purpose of this subpart?**

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for emissions from facilities that produce wet-formed fiberglass mat. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations.

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## **§63.2981 Does this subpart apply to me?**

You must comply with this subpart if you meet the criteria in paragraphs (a) and (b) of this section:

- (a) You own or operate a drying and curing oven at a wet-formed fiberglass mat production facility.
- (b) Your drying and curing oven or the facility at which your drying and curing oven is located is a major source of hazardous air pollutants (HAP). A major source is any stationary source or group of stationary sources located within a contiguous area and under common control that emits or can potentially emit, considering controls, in the aggregate, 9.07 megagrams (10 tons) or more per year of a single HAP or 22.68 megagrams (25 tons) or more per year of any combination of HAP.

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## **§63.2982 What parts of my plant does this subpart cover?**

- (a) This subpart applies to each new, reconstructed, or existing affected source. The affected source (the portion of your plant covered by this subpart) is each wet-formed fiberglass mat drying and curing oven.
- (b) An affected source is a new affected source if you commenced construction of the affected source after May 26, 2000, and you meet the applicability criteria in §63.2981 at start-up.
- (c) An affected source is reconstructed if you meet the criteria as defined in §63.2.
- (d) An affected source is existing if it is not new or reconstructed.

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## **Emission Limitations**

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### **§63.2983 What emission limits must I meet?**

(a) You must limit the formaldehyde emissions from each drying and curing oven by either:

(1) Limiting emissions of formaldehyde to 0.03 kilograms or less per megagram (0.05 pounds per ton) of fiberglass mat produced; or

(2) Reducing uncontrolled formaldehyde emissions by 96 percent or more.

(b) [Reserved]

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### **§63.2984 What operating limits must I meet?**

(a) You must maintain operating parameters within established limits or ranges specified in your operation, maintenance, and monitoring (OMM) plan described in §63.2987. If there is a deviation of any of the specified parameters from the limit or range specified in the OMM plan, you must address the deviation according to paragraph (b) of this section. You must comply with the operating limits specified in paragraphs (a)(1) through (4) of this section:

(1) You must operate the thermal oxidizer so that the average operating temperature in any 3-hour block period does not fall below the temperature established during your performance test and specified in your OMM plan.

(2) You must not use a resin with a free-formaldehyde content greater than that of the resin used during your performance test and specified in your OMM plan.

(3) You must operate the wet-formed fiberglass mat production process so that the average urea formaldehyde resin solids application rate in any 3-hour block period does not exceed the average application rate achieved during your performance test and specified in your OMM plan.

(4) If you use an add-on control device other than a thermal oxidizer or wish to monitor an alternative parameter and comply with a different operating limit, you must obtain approval for the alternative monitoring under §63.8(f). You must include the approved alternative monitoring and operating limits in the OMM plan specified in §63.2987.

(b) When during a period of normal operations you detect that an operating parameter deviates from the limit or range established in paragraph (a) of this section, you must initiate corrective actions within 1 hour according to the provisions of your OMM plan. The corrective actions must be completed in an expeditious manner as specified in the OMM plan.

(c) You must maintain and inspect control devices according to the procedures specified in the OMM plan.

(d) You must include the operating limits specified in paragraphs (a)(1) through (4) of this section and their allowable ranges or levels in your OMM plan. Your 40 CFR part 70 operating permit for the drying and curing oven must contain a requirement that you develop and operate according to an OMM plan at all times.

(e) If you use a thermal oxidizer or other control device to achieve the emission limits in §63.2983, you must capture and convey the formaldehyde emissions from each drying and curing oven according to the procedures in chapters 3 and 5 of “Industrial Ventilation: A Manual of Recommended Practice” (23rd Edition). This publication is incorporated by reference in §63.3003.

[67 FR 17835, Apr. 11, 2002, as amended at 71 FR 20464, Apr. 20, 2006]

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## **§63.2985 When do I have to comply with these standards?**

(a) Existing drying and curing ovens must be in compliance with this subpart no later than April 11, 2005.

(b) New or reconstructed drying and curing ovens must be in compliance with this subpart at startup or by April 11, 2002, whichever is later.

(c) If your facility is an area source that increases its emissions or its potential to emit such that it becomes a major source of hazardous air pollutants, the following apply:

(1) Any portion of the existing facility that is a new affected source or a new reconstructed affected source must be in compliance upon startup.

(2) All other parts of the source must be in compliance with this subpart 1 year after becoming a major source or by April 11, 2005, whichever is later.

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## **§63.2986 How do I comply with the standards?**

(a) You must install, maintain, and operate a thermal oxidizer or other control device or implement a process modification that reduces formaldehyde emissions from each drying and curing oven to the emission limits specified in §63.2983.

(b) You must comply with the operating limits specified in §63.2984. The operating limits prescribe the requirements for demonstrating continuous compliance based on the OMM plan. You must begin complying with the operating limits on the date by which you must complete the initial performance test.

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(c) You must conduct a performance test according to §§63.2991, 63.2992, and 63.2993 to demonstrate compliance for each drying and curing oven subject to the emission limits in §63.2983, and to establish or modify the operating limits or ranges for process or control device parameters that will be monitored to demonstrate continuous compliance.

(d) You must install, calibrate, maintain, and operate devices that monitor the parameters specified in your OMM plan at the frequency specified in the plan. All continuous parameter monitoring systems must be installed and operating no later than the applicable compliance date specified in §63.2985.

(e) You must prepare and follow a written OMM plan as specified in §63.2987.

(f) You must comply with the monitoring, recordkeeping, notification, and reporting requirements of this subpart as required by §§63.2996 through 63.3000.

(g) You must comply with the requirements in paragraphs (g)(1) through (3) of this section.

(1) You must be in compliance with the emission limits in §63.2983 and the operating limits in §63.2984 at all times, except during periods of startup, shutdown, or malfunction.

(2) You must always operate and maintain your affected source, including air pollution control and monitoring equipment, according to the provisions in §63.6(e)(1).

(3) You must develop a written SSMP according to the provisions in §63.6(e)(3). The SSMP must address the startup, shutdown, and corrective actions taken for malfunctioning process and air pollution control equipment.

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## **Operation, Maintenance, and Monitoring Plan**

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### **§63.2987 What must my operation, maintenance, and monitoring (OMM) plan include?**

(a) You must prescribe the monitoring that will be performed to ensure compliance with these emission limitations. Minimum monitoring requirements are listed in table 1 of this subpart. Your plan must specify the items listed in paragraphs (a)(1) through (3) of this section:

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(1) Each process and control device to be monitored, the type of monitoring device that will be used, and the operating parameters that will be monitored.

(2) A monitoring schedule that specifies the frequency that the parameter values will be determined and recorded.

(3) The operating limits or ranges for each parameter that represent continuous compliance with the emission limits in §63.2983. Operating limits and ranges must be based on values of the monitored parameters recorded during performance tests.

(b) You must establish routine and long-term maintenance and inspection schedules for each control device. You must incorporate in the schedules the control device manufacturer's recommendations for maintenance and inspections or equivalent procedures. If you use a thermal oxidizer, the maintenance schedule must include procedures for annual or more frequent inspection of the thermal oxidizer to ensure that the structural and design integrity of the combustion chamber is maintained. At a minimum, you must meet the requirements of paragraphs (b)(1) through (10) of this section:

(1) Inspect all burners, pilot assemblies, and pilot sensing devices for proper operation. Clean pilot sensor if necessary.

(2) Ensure proper adjustment of combustion air and adjust if necessary.

(3) Inspect, when possible, all internal structures (such as baffles) to ensure structural integrity per the design specifications.

(4) Inspect dampers, fans, and blowers for proper operation.

(5) Inspect motors for proper operation.

(6) Inspect, when possible, combustion chamber refractory lining. Clean and repair or replace lining if necessary.

(7) Inspect the thermal oxidizer shell for proper sealing, corrosion, and hot spots.

(8) For the burn cycle that follows the inspection, document that the thermal oxidizer is operating properly and make any necessary adjustments.

(9) Generally observe whether the equipment is maintained in good operating condition.

(10) Complete all necessary repairs as soon as practicable.

(c) You must establish procedures for responding to operating parameter deviations. At a minimum, the procedures must include the information in paragraphs (c)(1) through (3) of this section.

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- (1) Procedures for determining the cause of the operating parameter deviation.
- (2) Actions for correcting the deviation and returning the operating parameters to the allowable ranges or limits.
- (3) Procedures for recording the date and time that the deviation began and ended, and the times corrective actions were initiated and completed.
- (d) Your plan must specify the recordkeeping procedures to document compliance with the emissions and operating limits. Table 1 of this subpart establishes the minimum recordkeeping requirements.

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## **§63.2988 [Reserved]**

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## **§63.2989 How do I change my OMM plan?**

Changes to the operating limits or ranges in your OMM plan require a new performance test.

(a) In order to revise the ranges or levels established for your operating limits in §63.2984, you must meet the requirements in paragraphs (a)(1) and (2) of this section:

- (1) Submit a notification of performance test to the Administrator as specified in §63.7(b) to revise your operating ranges or limits.
  - (2) After completing the performance test to demonstrate that compliance with the emissions limits can be achieved at the revised levels of the operating limits, you must submit the performance test results and the revised operating limits as part of the notification of compliance status required under §63.9(h).
- (b) If you are revising the inspection and maintenance procedures in your plan that are specified in §63.2987(b), you do not need to conduct a new performance test.
- (c) If you plan to operate your process or control device under alternative operating conditions and do not wish to revise your OMM plan when you change operating conditions, you can perform a separate compliance test to establish operating limits for each condition. You can then include the operating limits for each condition in your OMM plan. After completing the performance tests, you must record the date and time when you change operations from one condition to another, the condition under which you are operating, and the operating limits that apply under that condition. If you can perform a single performance test that establishes the most

stringent operating limits that cover all alternative operating conditions, then you do not need to comply with the provisions of this paragraph.

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## **§63.2990 Can I conduct short-term experimental production runs that cause parameters to deviate from operating limits?**

With the approval of the Administrator, you may conduct short-term experimental production runs during which your operating parameters deviate from the operating limits. Experimental runs may include, but are not limited to, runs using resin with a higher free-formaldehyde content than specified in the OMM plan, or using experimental pollution prevention techniques. To conduct a short-term experimental production run, you must complete the requirements in paragraphs (a) and (b) of this section.

(a) Prepare an application to the Administrator for approval to conduct the experimental production runs. Your application must include the items listed in paragraphs (a)(1) through (6) of this section.

(1) The purpose of the experimental production run.

(2) Identification of the affected line.

(3) An explanation of how the operating parameters will deviate from the previously approved ranges and limits.

(4) The duration of the experimental production run.

(5) The date and time of the experimental production run.

(6) A description of any emission testing to be performed during the experimental production run.

(b) Submit the application to the Administrator for approval at least 30 days before you conduct the experimental production run.

(c) If you conduct such experimental production runs without first receiving approval from the Administrator, then you must conduct a performance test under those same experimental production run conditions to show that you were in compliance with the formaldehyde emission limits in §63.2983.

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## Testing and Initial Compliance Requirements

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### §63.2991 When must I conduct performance tests?

You must conduct a performance test for each drying and curing oven subject to this subpart according to the provisions in paragraphs (a) through (c) of this section:

(a) *Initially.* You must conduct an initial performance test no later than 180 days after the applicable compliance date specified in §63.2985. The initial performance test is used to demonstrate initial compliance and establish operating parameter limits and ranges to be used to demonstrate continuous compliance with the emission standards.

(b) *Every 5 years.* You must conduct a performance test every 5 years as part of renewing your 40 CFR part 70 operating permit.

(c) *To change your OMM plan.* You must conduct a performance test according to the requirements specified in §63.2992 to change the limit or range for any operating limit specified in your OMM plan established during a previous compliance test.

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### §63.2992 How do I conduct a performance test?

(a) You must verify the performance of monitoring equipment as specified in §63.2994 before performing the test.

(b) You must conduct the performance test according to the procedures in §63.7.

(c) You must conduct the performance test under the conditions specified in paragraphs (c)(1) and (2) of this section.

(1) The resin must have the highest specified free-formaldehyde content that will be used.

(2) You must operate at the maximum feasible urea-formaldehyde resin solids application rate (pounds urea-formaldehyde resin solids applied per hour) that will be used.

(d) During the performance test, you must monitor and record the operating parameters that you will use to demonstrate continuous compliance after the test. These parameters are listed in table 1 of this subpart.

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(e) You may not conduct performance tests during periods of startup, shutdown, or malfunction as specified in §63.7(e)(1).

(f) You must conduct three separate test runs for each performance test as specified in §63.7(e)(3), and each test run must last at least 1 hour.

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### **§63.2993 What test methods must I use in conducting performance tests?**

(a) Use EPA Method 1 (40 CFR part 60, appendix A) for selecting the sampling port location and the number of sampling ports.

(b) Use EPA Method 2 (40 CFR part 60, appendix A) for measuring the volumetric flow rate.

(c) Use EPA Method 316 or 318 (40 CFR part 63, appendix A) for measuring the concentration of formaldehyde.

(d) Use the method contained in appendix A of this subpart or the resin purchase specification and the vendor specification sheet for each resin lot for determining the free-formaldehyde content in the urea-formaldehyde resin.

(e) Use the method in appendix B of this subpart for determining product loss-on-ignition.

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### **§63.2994 How do I verify the performance of monitoring equipment?**

(a) Before conducting the performance test, you must take the steps listed in paragraphs (a)(1) and (2) of this section:

(1) Install and calibrate all process equipment, control devices, and monitoring equipment.

(2) Conduct a performance evaluation of the continuous monitoring system (CMS) according to §63.8(e) which specifies the general requirements and requirements for notifications, the site-specific performance evaluation plan, conduct of the performance evaluation, and reporting of performance evaluation results.

(b) If you use a thermal oxidizer, the temperature monitoring device must meet the performance and equipment specifications listed in paragraphs (b)(1) through (3) of this section:



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(1) The temperature monitoring device must be installed either at the exit of the combustion zone of each thermal oxidizer, or at the location specified by the manufacturer. The temperature monitoring device must also be installed in a location before any heat recovery or heat exchange equipment, and it must remain in the same location for both the performance test and the continuous monitoring of temperature.

(2) The recorder response range must include zero and 1.5 times the average temperature required in §63.2984(a)(1).

(3) The measurement method or reference method for calibration must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or an alternate reference subject to the approval of the Administrator.

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## §63.2995 What equations must I use to determine compliance?

(a) *Percent reduction for formaldehyde.* To determine compliance with the percent reduction formaldehyde emission standard, use equation 1 of this section as follows:

$$E_f = \frac{M_i - M_o}{M_i} \times 100 \quad (\text{Eq. 1})$$

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Where:

$E_f$  = Formaldehyde control efficiency, percent.

$M_i$  = Mass flow rate of formaldehyde entering the control device, kilograms (pounds) per hour.

$M_o$  = Mass flow rate of formaldehyde exiting the control device, kilograms (pounds) per hour.

(b) *Formaldehyde mass emissions rate.* To determine compliance with the kilogram per megagram (pound per ton) formaldehyde emission standard, use equation 2 of this section as follows:

$$E = \frac{M}{P} \quad (\text{Eq. 2})$$

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Where:

E = Formaldehyde mass emissions rate, kilograms (pounds) of formaldehyde per megagram (ton) of fiberglass mat produced.

M = Formaldehyde mass emissions rate, kilograms (pounds) per hour.

P = The wet-formed fiberglass mat production rate during the emissions sampling period, including any material trimmed from the final product, megagrams (tons) per hour.

(c) *Urea-formaldehyde (UF) resin solids application rate.* To determine the UF resin solids application rate, use equation 3 of this section as follows:

$$\frac{UF \text{ Solids}}{Hour} = LOI \times UFL \times MW \times SQ \quad (Eq. 3)$$

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Where:

UF solids/hour = UF resin solids application rate (pounds per hour).

LOI = loss on ignition (weight fraction), or pound of organic binder per pound of mat.

UFL = UF-to-latex ratio in the binder (mass fraction of UF resin solids in total combined resin solids for UF and latex), or pound of UF solids per pound of total resin solids (UF and latex).

MW = weight of the final mat per square (pounds per roofing square).

SQ = roofing squares produced per hour.

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## Monitoring Requirements

### §63.2996 What must I monitor?

You must monitor the parameters listed in table 1 of this subpart and any other parameters specified in your OMM plan. The parameters must be monitored, at a minimum, at the corresponding frequencies listed in table 1 of this subpart.

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## **§63.2997 What are the requirements for monitoring devices?**

(a) If formaldehyde emissions are controlled using a thermal oxidizer, you must meet the requirements in paragraphs (a)(1) and (2) of this section:

(1) Install, calibrate, maintain, and operate a device to monitor and record continuously the thermal oxidizer temperature at the exit of the combustion zone before any substantial heat exchange occurs or at the location consistent with the manufacturer's recommendations.

(2) Continuously monitor the thermal oxidizer temperature and determine and record the average temperature in 15-minute and 3-hour block averages. You may determine the average temperature more frequently than every 15 minutes and every 3 hours, but not less frequently.

(b) If formaldehyde emissions are controlled by process modifications or a control device other than a thermal oxidizer, you must install, calibrate, maintain, and operate devices to monitor the parameters established in your OMM plan at the frequency established in the plan.

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## **Notifications, Reports, and Records**

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## **§63.2998 What records must I maintain?**

You must maintain records according to the procedures of §63.10. You must maintain the records listed in paragraphs (a) through (g) of this section.

(a) All records required by §63.10. Table 2 of this subpart presents the applicable requirements of the general provisions.

(b) The OMM plan.

(c) Records of values of monitored parameters listed in table 1 of this subpart to show continuous compliance with each operating limit specified in table 1 of this subpart.

(d) Records of maintenance and inspections performed on the control devices.

(e) If an operating parameter deviation occurs, you must record:

(1) The date, time, and duration of the operating parameter deviation;

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- (2) A brief description of the cause of the operating parameter deviation;
- (3) The dates and times at which corrective actions were initiated and completed;
- (4) A brief description of the corrective actions taken to return the parameter to the limit or to within the range specified in the OMM plan; and
- (5) A record of whether the deviation occurred during a period of startup, shutdown, or malfunction.
- (f) Keep all records specified in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.
- (g) If you operate your process or control device under alternative operating condition and have established operating limits for each condition as specified in §63.2989(c), then you must keep records of the date and time you changed operations from one condition to another, the condition under which you are operating, and the applicable operating limits for that condition.

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## **§63.2999 In what form and for how long must I maintain records?**

- (a) You must maintain each record required by this subpart for 5 years. You must maintain the most recent 2 years of records at the facility. The remaining 3 years of records may be retained offsite.
- (b) Your records must be readily available and in a form so they can be easily inspected and reviewed. You can keep the records on paper or an alternative media, such as microfilm, computer, computer disks, magnetic tape, or on microfiche.

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## **§63.3000 What notifications and reports must I submit?**

- (a) You must submit all notifications and reports required by the applicable general provisions and this section. Table 2 of this subpart presents the applicable requirements of the general provisions.
- (b) *Notification of compliance status.* You must submit the notification of compliance status, including the performance test results, the operating limits or ranges as determined during the performance test, and other information specified in §63.9(h), before the close of business on the 60th calendar day after you complete the performance test according to §63.10(d)(2).

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(c) *Semiannual compliance reports.* You must submit semiannual compliance reports according to the requirements of paragraphs (c)(1) through (5) of this section.

(1) *Dates for submitting reports.* Unless the Administrator has agreed to a different schedule for submitting reports under §63.10(a), you must deliver or postmark each semiannual compliance report no later than 30 days following the end of each semiannual reporting period. The first semiannual reporting period begins on the compliance date for your affected source and ends on June 30 or December 31, whichever date immediately follows your compliance date. Each subsequent semiannual reporting period for which you must submit a semiannual compliance report begins on July 1 or January 1 and ends 6 calendar months later. As required by §63.10(e)(3), you must begin submitting quarterly compliance reports if you deviate from the emission limits in §63.2983 or the operating limits in §63.2984.

(2) *Inclusion with title V report.* For each affected source that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and for which the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 71.6 (a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraph (c)(1) of this section.

(3) *Contents of reports.* The semiannual compliance report must contain the information in paragraphs (c)(3)(i) through (vi) of this section:

(i) Company name and address.

(ii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(iii) Date of report and beginning and ending dates of the reporting period.

(iv) A summary of the total duration of continuous parameter monitoring system downtime during the semiannual reporting period and the total duration of continuous parameter monitoring system downtime as a percent of the total source operating time during that semiannual reporting period.

(v) The date of the latest continuous parameter monitoring system certification or audit.

(vi) A description of any changes in the wet-formed fiberglass mat manufacturing process, continuous parameter monitoring system, or add-on control device since the last semiannual reporting period.

(4) *No deviations.* If there were no deviations from the emission limit in §63.2983 or the operating limits in §63.2984, the semiannual compliance report must include a statement to that effect. If there were no periods during which the continuous parameter monitoring systems were out-of-control as specified in §63.8(c)(7), the semiannual compliance report must include a statement to that effect.

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(5) *Deviations.* If there was a deviation from the emission limit in §63.2983 or an operating limit in §63.2984, the semiannual compliance report must contain the information in paragraphs (c)(5)(i) through (ix) of this section:

(i) The date and time that each malfunction started and stopped.

(ii) The date and time that each continuous parameter monitoring system was inoperative, except for zero (low-level) and high-level checks.

(iii) The date, time, and duration that each continuous parameter monitoring system was out-of-control, including the information in §63.8(c)(8).

(iv) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(v) The date and time that corrective actions were taken, a description of the cause of the deviation, and a description of the corrective actions taken.

(vi) A summary of the total duration of each deviation during the semiannual reporting period and the total duration as a percent of the total source operating time during that semiannual reporting period.

(vii) A breakdown of the total duration of the deviations during the semiannual reporting period into those that were due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.

(viii) A brief description of the process units.

(ix) A brief description of the continuous parameter monitoring system.

(d) *Performance test reports.* You must submit reports of performance test results for add-on control devices no later than 60 days after completing the tests as specified in §63.10(d)(2). You must include in the performance test reports the values measured during the performance test for the parameters listed in table 1 of this subpart and the operating limits or ranges to be included in your OMM plan. For the thermal oxidizer temperature, you must include 15-minute averages and the average for the three 1-hour test runs.

(e) *Startup, shutdown, malfunction reports.* If you have a startup, shutdown, or malfunction during the semiannual reporting period, you must submit the reports specified §63.10(d)(5).

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## Other Requirements and Information

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### **§63.3001 What sections of the general provisions apply to me?**

You must comply with the requirements of the general provisions of 40 CFR part 63, subpart A, as specified in table 2 of this subpart.

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### **§63.3002 Who implements and enforces this subpart?**

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority, such as your State, local, or tribal agency. If the Administrator has delegated authority to your State, local, or tribal agency, then that agency is the primary enforcement authority. If the Administrator has not delegated authority to your State, only EPA enforces this subpart. You should contact your U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under section 40 CFR part 63, subpart E, the authorities contained in paragraphs (b)(1) through (4) of this section are retained by the Administrator of U.S. EPA and are not transferred to the State, local, or tribal agency.

(1) The authority under §63.6(g) to approve alternatives to the emission limits in §63.2983 and operating limits in §63.2984 is not delegated.

(2) The authority under §63.7(e)(2)(ii) and (f) to approve of major alternatives (as defined in §63.90) to the test methods in §63.2993 is not delegated.

(3) The authority under §63.8(f) to approve major alternatives (as defined in §63.90) to the monitoring requirements in §§63.2996 and 63.2997 is not delegated.

(4) The authority under §63.10(f) to approve major alternatives (as defined in §63.90) to recordkeeping, notification, and reporting requirements in §§63.2998 through 63.3000 is not delegated.

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### **§63.3003 Incorporation by reference.**

(a) The following material is incorporated by reference and referred to at §63.2984: chapters 3 and 5 of “Industrial Ventilation: A Manual of Recommended Practice,” American Conference of Governmental Industrial Hygienists, (23rd edition, 1998). The incorporation by reference of this material is approved by the Director of the Office of the Federal Register as of the date of publication of the final rule according to 5 U.S.C. 552(a) and 1 CFR part 51. This material is incorporated as it exists on the date of approval and notice of any change in the material will be published in the FEDERAL REGISTER.

(b) The materials referenced in this section are incorporated by reference and are available for inspection at the National Archives and Records Administration (NARA); and at the Air and Radiation Docket and Information Center, U.S. EPA, 401 M Street SW, Washington, DC. For information on the availability of this material at NARA, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html). The material is also available for purchase from the following address: Customer Service Department, American Conference of Governmental Industrial Hygienists (ACGIH), 1330 Kemper Meadow Drive, Cincinnati, OH 45240, telephone number (513) 742-2020.

[67 FR 17835, Apr. 11, 2002, as amended at 69 FR 18803, Apr. 9, 2004]

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### **§63.3004 What definitions apply to this subpart?**

Terms used in this subpart are defined the Clean Air Act, in §63.2, and in this section as follows:

*Administrator* means the Administrator of the United States Environmental Protection Agency or his or her authorized representative (e.g., a State that has been delegated the authority to implement the provisions of this part).

*Binder application vacuum exhaust* means the exhaust from the vacuum system used to remove excess resin solution from the wet-formed fiberglass mat before it enters the drying and curing oven.

*Deviation* means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limit, or operating limit, or work practice standard;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or



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(3) Fails to meet any emission limit, or operating limit, or work practice standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

*Drying and curing oven* means the process section that evaporates excess moisture from a fiberglass mat and cures the resin that binds the fibers.

*Emission limitation* means an emission limit, operating limit, or work practice standard.

*Fiberglass mat production rate* means the weight of finished fiberglass mat produced per hour of production including any trim removed after the binder is applied and before final packaging.

*Loss-on-ignition* means the percentage decrease in weight of fiberglass mat measured before and after it has been ignited to burn off the applied binder. The loss-on-ignition is used to monitor the weight percent of binder in fiberglass mat.

*Nonwoven wet-formed fiberglass mat manufacturing* means the production of a fiberglass mat by bonding glass fibers to each other using a resin solution. Nonwoven wet-formed fiberglass mat manufacturing is also referred to as wet-formed fiberglass mat manufacturing.

*Roofing square* means the amount of finished product needed to cover an area 10 feet by 10 feet (100 square feet) of finished roof.

*Thermal oxidizer* means an air pollution control device that uses controlled flame combustion inside a combustion chamber to convert combustible materials to noncombustible gases.

*Urea-formaldehyde content in binder formulation* means the mass-based percent of urea-formaldehyde resin in the total binder mix as it is applied to the glass fibers to form the mat.

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## §§63.3005-63.3079 [Reserved]

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### Table 1 to Subpart HHHH of Part 63—Minimum Requirements for Monitoring and Recordkeeping

As stated in §63.2998(c), you must comply with the minimum requirements for monitoring and recordkeeping in the following table:

| You must monitor these parameters: | At this frequency: | And record for the monitored parameter: |
|------------------------------------|--------------------|---|
|------------------------------------|--------------------|---|

|   |  |   |
|---|--|---|
| 1. Thermal oxidizer temperature <sup>a</sup>  | Continuously   | 15-minute and 3-hour block averages.                                  |
| 2. Other process or control device parameters specified in your OMM <sup>b</sup> plan.                    | As specified in your OMM plan  | As specified in your OMM plan.  |
| 3. Urea-formaldehyde resin solids application rate.   | On each operating day, calculate the average lb/hr application rate for each product manufactured during that day. | The average lb/hr value for each product manufactured during the day. |
| 4. Resin free-formaldehyde content  | For each lot of resin purchased  | The value for each lot used during the operating day.                 |
| 5. Loss-on-ignition <sup>c</sup>  | Measured at least once per day, for each product manufactured during that day                                      | The value for each product manufactured during the operating day.     |
| 6. UF-to-latex ratio in the binder <sup>c</sup>   | For each batch of binder prepared the operating day.   | The value for each batch of binder prepared during the operating day. |
| 7. Weight of the final mat product per square (lb/roofing square) <sup>c</sup>                            | Each product manufactured during the operating day.  | The value for each product manufactured during the operating day.     |
| 8. Average nonwoven wet-formed fiberglass mat production rate (roofing squares per the hour) <sup>c</sup> | For each product manufactured during the operating day.  | The average value for each product manufactured during operating day. |

<sup>a</sup>Required if a thermal oxidizer is used to control formaldehyde emissions.

<sup>b</sup>Required if process modifications or a control device other than a thermal oxidizer is used to control emissions.

<sup>c</sup>These parameters must be monitored and values recorded, but no operating limits apply.

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## **Table 2 to Subpart HHHH of Part 63—Applicability of General Provisions (40 CFR Part 63, Subpart A) to Subpart HHHH**

As stated in §63.3001, you must comply with the applicable General Provisions requirements according to the following table:

| Citation          | Requirement   | Applies to subpart HHHH | Explanation                         |
|-------------------|---|-------------------------|-------------------------------------|
| §63.1(a)(1)-(4)   | General Applicability   | Yes                     |                                     |
| §63.1(a)(5)       |   | No                      | [Reserved].                         |
| §63.1(a)(6)-(8)   |   | Yes                     |                                     |
| §63.1(a)(9)       |   | No                      | [Reserved].                         |
| §63.1(a)(10)-(14) |   | Yes                     |                                     |
| §63.1(b)          | Initial Applicability Determination                           | Yes                     |                                     |
| §63.1(c)(1)       | Applicability After Standard Established                      | Yes                     |                                     |
| §63.1(c)(2)       |   | Yes                     | Some plants may be area sources.    |
| §63.1(c)(3)       |   | No                      | [Reserved].                         |
| §63.1(c)(4)-(5)   |   | Yes                     |                                     |
| §63.1(d)          |   | No                      | [Reserved].                         |
| §63.1(e)          | Applicability of Permit Program                               | Yes                     |                                     |
| §63.2             | Definitions   | Yes                     | Additional definitions in §63.3004. |
| §63.3             | Units and Abbreviations                                       | Yes                     |                                     |
| §63.4(a)(1)-(3)   | Prohibited Activities   | Yes                     |                                     |
| §63.4(a)(4)       |   | No                      | [Reserved].                         |
| §63.4(a)(5)       |   | Yes                     |                                     |
| §63.4(b)-(c)      | Circumvention/Severability                                    | Yes                     |                                     |
| §63.5(a)          | Construction/Reconstruction                                   | Yes                     |                                     |
| §63.5(b)(1)       | Existing/Constructed/Reconstruction                           | Yes                     |                                     |
| §63.5(b)(2)       |   | No                      | [Reserved].                         |
| §63.5(b)(3)-(6)   |   | Yes                     |                                     |
| §63.5(c)          |   | No                      | [Reserved].                         |
| §63.5(d)          | Application for Approval of Construction/Reconstruction       | Yes                     |                                     |
| §63.5(e)          | Approval of Construction/Reconstruction                       | Yes                     |                                     |
| §63.5(f)          | Approval of Construction/Reconstruction Based on State Review | Yes                     |                                     |
| §63.6(a)          | Compliance with Standards and Maintenance—Applicability       | Yes                     |                                     |
| §63.6(b)(1)-(5)   | New and Reconstructed Sources-Dates                           | Yes                     |                                     |

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|                  |   |     |  |
|------------------|---|-----|--|
| §63.6(b)(6)      |   | No  | [Reserved].  |
| §63.6(b)(7)      |   | Yes |  |
| §63.6(c)(1)-(2)  | Existing Sources Dates  | Yes | §63.2985 specifies dates.  |
| §63.6(c)(3)-(4)  |   | No  | [Reserved].  |
| §63.6(c)(5)      |   | Yes |  |
| §63.6(d)         |   | No  | [Reserved].  |
| §63.6(e)         | Operation and Maintenance Requirements.                       | Yes | §§63.2984 and 63.2987 specify additional requirements.               |
| §63.6(f)         | Compliance with Emission Standards                            | Yes |  |
| §63.6(g)         | Alternative Standard  | Yes | EPA retains approval authority.                                      |
| §63.6(h)         | Compliance with Opacity/Visible Emissions Standards.          | No  | Subpart HHHH does not specify opacity or visible emission standards. |
| §63.6(i)(1)-(14) | Extension of Compliance                                       | Yes |  |
| §63.6(i)(15)     |   | No  | [Reserved].  |
| §63.6(i)(16)     |   | Yes |  |
| §63.6(j)         | Exemption from Compliance                                     | Yes |  |
| §63.7(a)         | Performance Test Requirements—Applicability and Dates.        | Yes |  |
| §63.7(b)         | Notification of Performance Test                              | Yes |  |
| §63.7(c)         | Quality Assurance Program/Test Plan                           | Yes |  |
| §63.7(d)         | Testing Facilities  | Yes |  |
| §63.7(e)         | Conduct of Tests  | Yes | §63.2991-63.2994 specify additional requirements.                    |
| §63.7(f)         | Alternative Test Method                                       | Yes | EPA retains approval authority                                       |
| §63.7(g)         | Data Analysis   | Yes |  |
| §63.7(h)         | Waiver of Tests   | Yes |  |
| §63.8(a)(1)-(2)  | Monitoring Requirements—Applicability                         | Yes |  |
| §63.8(a)(3)      |   | No  | [Reserved].  |
| §63.8(a)(4)      |   | Yes |  |
| §63.8(b)         | Conduct of Monitoring   | Yes |  |
| §63.8(c)(1)-(3)  | Continuous Monitoring System (CMS) Operation and Maintenance. | Yes |  |

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|                 |   |     |  |
|-----------------|---|-----|--|
| §63.8(c)(4)     |   | Yes |  |
| §63.8(c)(5)     |   | No  | Subpart HHHH does not specify opacity or visible emission standards                            |
| §63.8(c)(6)-(8) |   | Yes |  |
| §63.8(d)        | Quality Control   | Yes |  |
| §63.8(e)        | CMS Performance Evaluation                                      | Yes |  |
| §63.8(f)(1)-(5) | Alternative Monitoring Method                                   | Yes | EPA retains approval authority   |
| §63.8(f)(6)     | Alternative to Relative Accuracy Test                           | No  | Subpart HHHH does not require the use of continuous emissions monitoring systems (CEMS)        |
| §63.8(g)(1)     | Data Reduction  | Yes |  |
| §63.8(g)(2)     | Data Reduction  | No  | Subpart HHHH does not require the use of CEMS or continuous opacity monitoring systems (COMS). |
| §63.8(g)(3)-(5) | Data Reduction  | Yes |  |
| §63.9(a)        | Notification Requirements—<br>Applicability                     | Yes |  |
| §63.9(b)        | Initial Notifications   | Yes |  |
| §63.9(c)        | Request for Compliance Extension                                | Yes |  |
| §63.9(d)        | New Source Notification for Special<br>Compliance Requirements. | Yes |  |
| §63.9(e)        | Notification of Performance Test.                               | Yes |  |
| §63.9(f)        | Notification of Visible<br>Emissions/Opacity Test               | No  | Subpart HHHH does not specify opacity or visible emission standards.                           |
| §63.9(g)(1)     | Additional CMS Notifications                                    | Yes |  |
| §63.9(g)(2)-(3) |   | No  | Subpart HHHH does not require the use of COMS or CEMS.   |
| §63.9(h)(1)-(3) | Notification of Compliance Status                               | Yes | §63.3000(b) specifies additional requirements.   |
| §63.9(h)(4)     |   | No  | [Reserved].  |
| §63.9(h)(5)-(6) |   | Yes |  |

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|                    |  |     |  |
|--------------------|--|-----|--|
| §63.9(i)           | Adjustment of Deadlines                                      | Yes |  |
| §63.9(j)           | Change in Previous Information                               | Yes |  |
| §63.10(a)          | Recordkeeping/Reporting—Applicability                        | Yes |  |
| §63.10(b)          | General Recordkeeping Requirements                           | Yes | §63.2998 includes additional requirements.                               |
| §63.10(c)(1)       | Additional CMS Recordkeeping                                 | Yes |  |
| §63.10(c)(2)-(4)   |  | No  | [Reserved].  |
| §63.10(c)(5)-(8)   |  | Yes |  |
| §63.10(c)(9)       |  | No  | [Reserved].  |
| §63.10(c)(10)-(15) |  | Yes |  |
| §63.10(d)(1)       | General Reporting Requirements                               | Yes | §63.3000 includes additional requirements.                               |
| §63.10(d)(2)       | Performance Test Results                                     | Yes | §63.3000 includes additional requirements                                |
| §63.10(d)(3)       | Opacity or Visible Emissions Observations.                   | No  | Subpart HHHH does not specify opacity or visible emission standards.     |
| §63.10(d)(4)-(5)   | Progress Reports/Startup, Shutdown, and Malfunction Reports. | Yes |  |
| §63.10(e)(1)       | Additional CMS Reports—General                               | No  | Subpart HHHH does not require CEMS.                                      |
| §63.10(e)(2)       | Reporting results of CMS performance evaluations.            | Yes |  |
| §63.10(e)(3)       | Excess Emission/CMS Performance Reports.                     | Yes |  |
| §63.10(e)(4)       | COMS Data Reports  | No  | Subpart HHHH does not specify opacity or visible emission standards.     |
| §63.10(f)          | Recordkeeping/Reporting Waiver                               | Yes | EPA retains approval authority   |
| §63.11             | Control Device Requirements—Applicability.                   | No  | Facilities subject to subpart HHHH do not use flares as control devices. |
| §63.12             | State Authority and Delegations                              | Yes |  |
| §63.13             | Addresses  | Yes |  |
| §63.14             | Incorporation by Reference                                   | No  |  |

|        |   |     |  |
|--------|---|-----|--|
| §63.15 | Availability of Information/Confidentiality | Yes |  |
|--------|---|-----|--|

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## **Appendix A to Subpart HHHH of Part 63—Method for Determining Free-Formaldehyde in Urea-Formaldehyde Resins by Sodium Sulfite (Iced & Cooled)**

### **1.0 Scope**

This procedure corresponds to the Housing and Urban Development method of determining free-formaldehyde in urea-formaldehyde resins. This method applies to samples that decompose to yield formaldehyde under the conditions of other free-formaldehyde methods. The primary use is for urea-formaldehyde resins.

### **2.0 Part A—Testing Resins**

Formaldehyde will react with sodium sulfite to form the sulfite addition products and liberate sodium hydroxide (NaOH); however, at room temperature, the methanol groups present will also react to liberate NaOH. Titrate at 0 degrees Celsius (( °deg;C) to minimize the reaction of the methanol groups.

#### *2.1 Apparatus Required.*

- 2.1.1 Ice crusher.
- 2.1.2 One 100-milliliter (mL) graduated cylinder.
- 2.1.3 Three 400-mL beakers.
- 2.1.4 One 50-mL burette.
- 2.1.5 Analytical balance accurate to 0.1 milligrams (mg).
- 2.1.6 Magnetic stirrer.
- 2.1.7 Magnetic stirring bars.
- 2.1.8 Disposable pipettes.
- 2.1.9 Several 5-ounce (oz.) plastic cups.

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2.1.10 Ice cube trays (small cubes).

## 2.2 *Materials Required.*

2.2.1 Ice cubes (made with distilled water).

2.2.2 A solution of 1 molar (M) sodium sulfite ( $\text{Na}_2\text{SO}_3$ ) (63 grams (g)  $\text{Na}_2\text{SO}_3$ /500 mL water ( $\text{H}_2\text{O}$ ) neutralized to thymolphthalein endpoint).

2.2.3 Standardized 0.1 normal (N) hydrochloric acid (HCl).

2.2.4 Thymolphthalein indicator (1.0 g thymolphthalein/199 g methanol).

2.2.5 Sodium chloride (NaCl) (reagent grade).

2.2.6 Sodium hydroxide (NaOH).

## 2.3 *Procedure.*

2.3.1 Prepare sufficient quantity of crushed ice for three determinations (two trays of cubes).

2.3.2 Put 70 cubic centimeters (cc) of 1 M  $\text{Na}_2\text{SO}_3$  solution into a 400-mL beaker. Begin stirring and add approximately 100 g of crushed ice and 2 g of NaCl. Maintain 0 °C during test, adding ice as necessary.

2.3.3 Add 10-15 drops of thymolphthalein indicator to the chilled solution. If the solution remains clear, add 0.1 N NaOH until the solution turns blue; then add 0.1 N HCl back to the colorless endpoint. If the solution turns blue upon adding the indicator, add 0.1 N HCl to the colorless endpoint.

2.3.4 On the analytical balance, accurately weigh the amount of resin indicated under the “Resin Sample Size” chart (see below) as follows.

### Resin Sample Size

| Approximate free HCHO<br>(percent) | Sample weight<br>(gram(s)) |
|------------------------------------|----------------------------|
| <0.5                               | 10                         |
| 0.5-1.0                            | 5                          |
| 1.0-3.0                            | 2                          |
| 3.0                                | 1                          |

2.3.4.1 Pour about 1 inch of resin into a 5 oz. plastic cup.



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2.3.4.2 Determine the gross weight of the cup, resin, and disposable pipette (with the narrow tip broken off) fitted with a small rubber bulb.

2.3.4.3 Pipette out the desired amount of resin into the stirring, chilled solution (approximately 1.5 to 2 g per pipette-full).

2.3.4.4 Quickly reweigh the cup, resin, and pipette with the bulb.

2.3.4.5 The resultant weight loss equals the grams of resin being tested.

2.3.5 Rapidly titrate the solution with 0.1 N HCl to the colorless endpoint described in Step 3 (2.3.3).

2.3.6 Repeat the test in triplicate.

#### 2.4 Calculation.

2.4.1 The percent free-formaldehyde (%HCHO) is calculated as follows:

$$\%HCHO = \frac{(mL\ 0.1\ N\ HCl)\ (N\ of\ Acid)\ (3.003)}{Weight\ of\ Sample}$$

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2.4.2 Compute the average percent free-formaldehyde of the three tests.

(NOTE: If the results of the three tests are not within a range of  $\pm 0.5$  percent or if the average of the three tests does not meet expected limits, carry out Part B and then repeat Part A.)

### 3.0 Part B—Standard Check

Part B ensures that test reagents used in determining percent free-formaldehyde in urea-formaldehyde resins are of proper concentration and that operator technique is correct. Should any doubts arise in either of these areas, the formaldehyde standard solution test should be carried out.

#### 3.1 Preparation and Standardization of a 1 Percent Formalin Solution.

Prepare a solution containing approximately 1 percent formaldehyde from a stock 37 percent formalin solution. Standardize the prepared solution by titrating the hydroxyl ions resulting from the formation of the formaldehyde bisulfite complex.

#### 3.2 Apparatus Required.

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NOTE: All reagents must be American Chemical Society analytical reagent grade or better.

- 3.2.1 One 1-liter (L) volumetric flask (class A).
- 3.2.2 One 250-mL volumetric flask (class A).
- 3.2.3 One 250-mL beaker.
- 3.2.4 One 100-mL pipette (class A).
- 3.2.5 One 10-mL pipette (class A).
- 3.2.6 One 50-mL graduated cylinder (class A).
- 3.2.7 A pH meter, standardized using pH 7 and pH 10 buffers.
- 3.2.8 Magnetic stirrer.
- 3.2.9 Magnetic stirring bars.
- 3.2.10 Several 5-oz. plastic cups.
- 3.2.11 Disposal pipettes.
- 3.2.12 Ice cube trays (small cubes).

### *3.3 Materials Required.*

- 3.3.1 A solution of 37 percent formalin.
- 3.3.2 Anhydrous  $\text{Na}_2\text{SO}_3$ .
- 3.3.3 Distilled water.
- 3.3.4 Standardized 0.100 N HCl.
- 3.3.5 Thymolphthalein indicator (1.0 g thymolphthalein/199 g methanol).

### *3.4 Preparation of Solutions and Reagents.*

- 3.4.1 Formaldehyde Standard Solution (approximately 1 percent). Measure, using a graduated cylinder, 27.0 mL of analytical reagent 37 percent formalin solution into a 1-L volumetric flask. Fill the flask to volume with distilled water.

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(NOTE: You must standardize this solution as described in section 3.5. This solution is stable for 3 months.)

3.4.2 Sodium Sulfite Solution 1.0 M (used for standardization of Formaldehyde Standard Solution). Quantitatively transfer, using distilled water as the transfer solvent, 31.50 g of anhydrous  $\text{Na}_2\text{SO}_3$  into a 250-mL volumetric flask. Dissolve in approximately 100 mL of distilled water and fill to volume.

(NOTE: You must prepare this solution daily, but the calibration of the Formaldehyde Standard Solution needs to be done only once.)

3.4.3 Hydrochloric Acid Standard Solution 0.100 M. This reagent should be readily available as a primary standard that only needs to be diluted.

### 3.5 Standardization.

#### 3.5.1 Standardization of Formaldehyde Standard Solution.

3.5.1.1 Pipette 100.0 mL of 1 M sodium sulfite into a stirred 250-mL beaker.

3.5.1.2 Using a standardized pH meter, measure and record the pH. The pH should be around 10. It is not essential the pH be 10; however, it is essential that the value be accurately recorded.

3.5.1.3 To the stirring  $\text{Na}_2\text{SO}_3$  solution, pipette in 10.0 mL of Formaldehyde Standard Solution. The pH should rise sharply to about 12.

3.5.1.4 Using the pH meter as a continuous monitor, titrate the solution back to the original exact pH using 0.100 N HCl. Record the milliliters of HCl used as titrant. (NOTE: Approximately 30 to 35 mL of HCl will be required.)

3.5.1.5 Calculate the concentration of the Formaldehyde Standard Solution using the equation as follows:

$$\%HCHO = \frac{(mL\ HCl) (N\ HCl) (3.003)}{mL\ sample}$$

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### 3.6 Procedure.

3.6.1 Prepare a sufficient quantity of crushed ice for three determinations (two trays of cubes).

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3.6.2 Put 70 cc of 1 M Na<sub>2</sub>SO<sub>3</sub> solution into a 400-mL beaker. Begin stirring and add approximately 100 g of crushed ice and 2 g NaCl. Maintain 0 °C during the test, adding ice as necessary.

3.6.3 Add 10-15 drops of thymolphthalein indicator to the chilled solution. If the solution remains clear, add 0.1 N NaOH until the solution turns blue; then add 0.1 N HCl back to the colorless endpoint. If the solution turns blue upon adding the indicator, add 0.1 N HCl to the colorless endpoint.

3.6.4 On the analytical balance, accurately weigh a sample of Formaldehyde Standard Solution as follows.

3.6.4.1 Pour about 0.5 inches of Formaldehyde Standard Solution into a 5-oz. plastic cup.

3.6.4.2 Determine the gross weight of the cup, Formaldehyde Standard Solution, and a disposable pipette fitted with a small rubber bulb.

3.6.4.3 Pipette approximately 5 g of the Formaldehyde Standard Solution into the stirring, chilled Na<sub>2</sub>SO<sub>3</sub> solution.

3.6.4.4 Quickly reweigh the cup, Formaldehyde Standard Solution, and pipette with the bulb.

3.6.4.5 The resultant weight loss equals the grams of Formaldehyde Standard Solution being tested.

3.6.5 Rapidly titrate the solution with 0.1 N HCl to the colorless endpoint in Step 3 (3.6.3).

3.6.6 Repeat the test in triplicate.

### 3.7 *Calculation for Formaldehyde Standard Solution.*

3.7.1 The percent free-formaldehyde (% HCHO) is calculated as follows:

$$\%HCHO = \frac{(mL\ 0.1\ N\ HCl)(N\ Acid)(3.003)}{Weight\ of\ Formaldehyde\ Standard\ Solution}$$

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3.7.2 The range of the results of three tests should be no more than ±5 percent of the actual Formaldehyde Standard Solution concentration. Report results to two decimal places.

### 3.8 *Reference.*

West Coast Adhesive Manufacturers Trade Association Test 10.1.

## **Appendix B to Subpart HHHH of Part 63—Method for the Determination of Loss-on-Ignition**

### **1.0 Purpose**

The purpose of this test is to determine the loss-on-ignition (LOI) of wet-formed fiberglass mat.

### **2.0 Equipment**

2.1 Scale sensitive to 0.001 gram (g).

2.2 Drying oven equipped with a means of constant temperature regulation and mechanical air convection.

2.3 Furnace designed to heat to at least 625 °C (1,157 °F) and controllable to  $\pm 25$  °C ( $\pm 45$  °F).

2.4 Crucible, high form, 250 milliliter (mL).

2.5 Desiccator.

2.6 Pan balance (see Note 2 in 4.9)

### **3.0 Sample Collection Procedure**

3.1 Obtain a sample of mat in accordance with Technical Association of the Pulp and Paper Industry (TAPPI) method 1007 “Sample Location.”

3.2 Use a 5- to 10-g sample cut into pieces small enough to fit into the crucible.

3.3 Place the sample in the crucible. (NOTE 1: To test without the use of a crucible, see Note 2 after Section 4.8.)

3.4 Condition the sample in the furnace set at  $105 \pm 3$  °C ( $221 \pm 9$  °F) for 5 minutes  $\pm 30$  seconds.

### **4.0 Procedure**

4.1 Condition each sample by drying for 5 minutes  $\pm 30$  seconds at  $105 \pm 3$  °C ( $22 \pm 5$  °F).

4.2 Remove the test sample from the furnace and cool in the desiccator for 30 minutes in the standard atmosphere for testing glass textiles.

4.3 Place the empty crucible in the furnace at  $625 \pm 25$  °C ( $1,157 \pm 45$  °F). After 30 minutes, remove and cool the crucible in the standard atmosphere (TAPPI method 1008) for 30 minutes.

- 4.4 Identify each crucible with respect to each test sample of mat.
- 4.5 Weigh the empty crucible to the nearest 0.001 g. Record this weight as the tare mass, T.
- 4.6 Place the test sample in the crucible and weigh to the nearest 0.001 g. Record this weight as the initial mass, A.
- 4.7 Place the test sample and crucible in the furnace and ignite at  $625 \pm 25$  °C ( $1,157 \pm 45$  °F).
- 4.8 After ignition for at least 30 minutes, remove the test sample and crucible from the furnace and cool in the desiccator for 30 minutes in the standard atmosphere (TAPPI method 1008).
- 4.9 Remove each crucible, and test each sample separately from the desiccator, and immediately weigh each sample to the nearest 0.001 g. Record this weight as the ignited mass, B. (NOTE 2: When it is known that no ash residue separates from the test sample during the weighing and igniting processes, you may weigh the sample separately without the crucible. When this occurs, the tare mass (T) equals zero. With appropriate care, you can dry and weigh a single piece of mat and place with tongs into the ignition oven on appropriate refractory supports. When the ignition time is over, remove the sample as an intact fragile web and weigh it directly on a pan balance.)

## 5.0 Calculation

- 5.1 Calculate the LOI for each sample as follows:

$$\% \text{ LOI} = 100 \times (A - B) / (A - T)$$

Where:

A = initial mass of crucible and sample before ignition (g);

B = mass of crucible and glass residue after ignition (g); and

T = tare mass of crucible, (g) (see Note 2).

- 5.2 Report the percent LOI of the glass mat to the nearest 0.1 percent.

## 6.0 Precision

The repeatability of this test method for measurements on adjacent specimens from the same sample of mat is better than 1 percent.

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**APPENDIX B**  
Compliance Assurance Monitoring (CAM) Plan

## 2.4. COMPLIANCE ASSURANCE MONITORING

The CAM rule (40 CFR Part 64) requires monitoring plans (CAM plans) for certain emissions units with control devices at Part 70 major sources. The Mat Line Oven Thermal Oxidizer is the only control device at the facility subject to CAM, due to uncontrolled VOC emissions potentially being greater than 100 tons/year.

### 2.4.1. CAM Plan- Mat Line Oven with Thermal Oxidizer (SN-01)

The CAM Plan below addresses VOC emissions. Note that the HAP emissions are not required to be addressed by the CAM Plan since they are already addressed by the MACT rule (40 CFR Part 63, Subpart HHHH). The thermal oxidizer controls both VOC and organic HAP emissions. In effect, the monitoring requirements of the MACT regulation also act as CAM requirements for VOCs.

| <b>CAM Plan<br/>SN-01 For VOC Control</b>  |
|--|
| <p><b>I. Background</b></p> <p>A. <u>Emissions Unit</u></p> <ul style="list-style-type: none"><li>• Facility: Owens Corning Composite Materials - Fort Smith, Arkansas</li><li>• Description: Mat Line Thermal Oxidizer (SN-01)</li></ul> <p>B. <u>Applicable Regulation, Emission Limit, &amp; Monitoring Requirements</u></p> <ul style="list-style-type: none"><li>• Applicable Regulation: ADEQ Permit 747-AOP-R3</li><li>• Proposed Emission Limits: 3.0 lb/hr VOC</li><li>• Proposed Monitoring Requirements: Continuous monitoring of thermal oxidizer temperature.</li></ul> <p>C. <u>Control Technology</u></p> <ul style="list-style-type: none"><li>• Thermal oxidizer combusts organic compounds contained in exhausts from mat line oven.</li></ul> |
| <p><b>II. Monitoring Approach</b></p> <p>A. <u>Indicator</u></p> <ul style="list-style-type: none"><li>• Thermal oxidizer temperature.</li></ul> <p>B. <u>Measurement Approach</u></p> <ul style="list-style-type: none"><li>• Continuous monitoring of thermal oxidizer temperature.</li></ul> <p>C. <u>Indicator Range</u></p> <ul style="list-style-type: none"><li>• Thermal oxidizer temperature no less than 1385 °F, 3-hour block average.</li></ul> <p>D. <u>QIP Threshold</u></p> <ul style="list-style-type: none"><li>• The QIP threshold is 5% duration of the process operating time over a 6-month period.</li></ul>   |



**E. Performance Criteria**

- **Data Representativeness:** Minimum thermal oxidizer temperature and compliance with VOC emission limit has been verified through stack testing.
- **Verification of Operational Status:** Thermal oxidizer temperature is continuously monitored electronically.
- **QA/QC Practices:** Thermal oxidizer is inspected periodically to ensure integrity.
- **Monitoring Frequency and Data Collection Procedure:** The thermal oxidizer is classified as a small PSEU, therefore the minimum required monitoring frequency is once per day (when process is in operation). Thermal oxidizer temperature is continuously monitored electronically as per the MACT regulation, so the daily monitoring requirement is automatically met.

**III. Justification**

**A. Background**

- The thermal oxidizer is a typical emissions control technology for the destruction of organic compounds.

**B. Rationale for Selection of Performance Indicator**

- Monitoring of thermal oxidizer temperature is a widely accepted method of verifying proper operation.

**C. Rationale for Selection of Indicator Level**

- Minimum thermal oxidizer temperature and compliance with VOC emission limit has been verified through stack testing.

**CERTIFICATE OF SERVICE**

I, Pamela Owen, hereby certify that a copy of this permit has been mailed by first class mail to Owens Corning Composite Materials, LLC, 5520 Planters Road, Fort Smith, AR, 72916, on this 25<sup>th</sup> day of November, 2014.



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Pamela Owen, ASIII, Air Division