

---

EXPIRATION DATE:  
**October 3, 2024**

PERMIT NO:  
**03-TV-01d**

**SHASTA COUNTY  
DEPARTMENT OF RESOURCE MANAGEMENT  
AIR QUALITY MANAGEMENT DISTRICT**

**Knauf Insulation, GmbH**  
(Applicant)

IS HEREBY GRANTED AN  
**TITLE V OPERATING PERMIT**  
SUBJECT TO CONDITIONS NOTED

**FIBERGLASS MANUFACTURING FACILITY**  
(Nature of Activity)

AT **3100 Ashby Road, Shasta Lake, CA**  
(AP# 064-150-079-000)

DATE ISSUED: \_\_\_\_\_

APPROVED: \_\_\_\_\_

Air Pollution Control Officer

---

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

**TABLE OF CONTENTS**

Raw Materials Handling and Mixing.....	3
Glass Melting.....	6
Fiberglass Forming/Curing/Cooling.....	12
Fiberglass Trimming and Packaging.....	20
Emergency Standby Internal Combustion Engines.....	23
Facility Wide Requirements.....	25
Regulatory Agency Correspondence Addresses.....	38
Phenol/Formaldehyde Binder - 40 CFR 63, Subpart NNN Requirements.....	39
Permit Shield.....	43
Insignificant Emissions Sources.....	45

DRAFT

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

**RAW MATERIALS HANDLING AND MIXING**

**EQUIPMENT AUTHORIZED**

- One (1) Raw Material Unloading Dust Collector (Griffen Model JV-9-F)
- Three (3) Sand Bin Dust Collectors (Griffen Model JV-9-F)
- Two (2) Consumer Cullet Bin Dust Collectors (Griffen Model JV-9-F)
- One (1) Dolomite Bin Dust Collector (Griffen Model JV-9-F)
- One (1) Limestone Bin Dust Collector (Griffen Model JV-9-F)
- One (1) (Spare) Bin Dust Collector (Griffen Model JV-9-F)
- One (1) Borax Bin Dust Collector (Griffen Model JV-9-F)
- One (1) Soda Ash Bin Dust Collector (Griffen Model JV-9-F)
- One (1) Feldspar Bin Dust Collector (Griffen Model JV-9-F)
- One (1) Knauf Cullet Dust Collector (Griffen Model JV-9-F)
- One (1) Weigh Scales/Conveyor Dust Collector (Griffen Model JV-9-F)
- One (1) Check Scale/Batch Mixer Dust Collector (Griffen Model JV-9-F)
- One (1) Day Bin #1 Dust Collector (Griffen Model JV-9-F)
- One (1) Day Bin #2 Dust Collector (Griffen Model JV-9-F)
- One (1) Liquid Urea Tank
- Two (2) Phenolic Resin Tanks
- Two (2) Resin-Urea Premix Tanks
- One (1) Outdoor Mineral Oil Tank
- One (1) Outdoor Aqueous Ammonia Tank
- Two (2) Ammonium Sulfate Mix Tanks
- One (1) Organosilane Weigh Tank
- One (1) Binder Mix Tank
- Two (2) Binder Supply Hold Tanks

**EMISSION LIMITS AND STANDARDS**

- A1. The mineral oil tank shall store only distillates having a Reid vapor pressure less than four pounds.
- [District Permit 97-PO-26c, Condition 26]

**OPERATING CONDITIONS**

- A2. All of the material handling vents and tank vents that discharge into the interior of the batch plant building shall be controlled by one of the twelve baghouse dust collectors that shall not allow any fugitive dust emissions from the building. The dust collectors shall be equipped with bag leak detectors which shall be calibrated as recommended by the manufacturer to assure reliability. An audible alarm shall sound in the control room to indicate a torn or leaking bag. Spare bags shall be kept on site for immediate replacement of leaking or torn bags. Day Bin #1 and #2 dust collector emissions in the furnace building shall ultimately be discharged through the forming section exhausts and be controlled by the forming line scrubbers and wet electrostatic precipitator. Emissions from these dust collectors will, therefore, be measured as emissions from the forming line main stack #1. The Permittee must initiate corrective action within 1 hour of an alarm from the bag leak detection system and complete corrective actions immediately. The corrective action may include any one or a combination of the

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

following actions:

- a) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in emissions;
- b) Sealing off defective bags or filter media;
- c) Replacing defective bags or filter media, or otherwise repairing the control device;
- d) Sealing off a defective baghouse compartment;
- e) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; and
- f) Shutting down the process producing the particulate emissions.

[District Permit 97-PO-26c, Condition 25]; [NSR 4-4-4 SAC 03-01, Conditions 12 & 14]; [40 CFR 63.1382]

- A3. All railcar and bottom-dump hopper truck unloading of raw materials shall be done with an adjustable dust boot that seals the gap between the discharge of the hopper and the delivery system. The dust collectors on the material handling system shall be in operation whenever materials are being delivered and shall prevent any and all particulate matter emissions from escaping the batch plant.

[District Permit 97-PO-26c, Condition 27]; [NSR 4-4-4 SAC 03-01, Condition 15]

**TESTING, MONITORING AND REPORTING**

- A4. The Permittee shall retain records of:

- a) Each occurrence of the alarm for the bag leak detection system;
- b) The corrective action(s) taken for each occurrence of the alarm; and
- c) The duration for completing each corrective action(s).

[NSR 4-4-4 SAC 03-01, Condition 13]

- A5. Monthly emission reports shall be required to be submitted to the District by the 15<sup>th</sup> of the month following data recording and shall include:

- a) Notification of all periods the dust collectors were not functioning and the reason for the excursion;
- b) Notification of all dates and times when process exhausts are vented without the use of the required control equipment and the reason for each instance; and
- c) If no permit limitations were exceeded, the report must so state.

(District-only requirement, not Federally enforceable)

[District Permit 97-PO-26c, condition 28]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

A6. The Permittee shall submit a written report of the following actions on a semi-annual basis:

- a) Each occurrence of the alarm for the bag leak detection system;
- b) The corrective action(s) taken for each occurrence of the alarm; and
- c) The duration for the completing each corrective action(s).

The report shall be submitted to Environmental Protection Agency (EPA) and is due on the 30<sup>th</sup> day following the end of each semi-annual period after the effective date of the Title V Operating Permit.

[NSR 4-4-4 SAC 03-01, Condition 16]

DRAFT

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

**GLASS MELTING**

**EQUIPMENT AUTHORIZED**

Electric Glass Melting Furnace  
Two (2) 15 MMBtu North American Gas Burner Systems, (Model 8520)  
One (1) 25,800 ACFM Custom System Dual Chamber Dust Collector (Model WP238-10)  
One (1) Marley NC Series Cooling Tower, Serial No. 169921-001

**EMISSION LIMITS AND STANDARDS**

- B1. The opacity from the furnace stack shall not exceed five (5) percent opacity based on a six (6) minute average and shall apply at all times. An audible alarm shall sound in the control room to indicate an opacity exceeding the above opacity limit.

[District Permit 97-PO-27b, Condition 30]; [NSR 4-4-4 SAC 03-01, Condition 24]

- B2. Streamlined Emission Limit Requirement. PM10 emissions (filterable and condensable) from the Furnace Stack of the combined baghouse discharge exhausts from the glass melting furnace shall not exceed the following emission limitations:

- a) 0.67 lb/hr and 0.07 lb/ton of glass pulled, based on a 3-hour rolling average; and
- b) 2.9 tons per year, based on a 12-month rolling sum.

[NSR 4-4-4 SAC 03-01, Condition 22][40 CFR 63.1382]

- B3. The total emissions of fluoride from the glass melting furnace baghouse exhaust shall not exceed 15 lbs/day (0.625 lbs/hr).

[District Permit 97-PO-27b, Condition 33]; [District Rule 3:2, part 301]

**OPERATING CONDITIONS**

- B4. The glass melting furnace shall be heated only by electricity. No other auxiliary fuels may be used except during cold startup of the melting furnace or during prolonged electrical outages beyond the control of the facility when portable natural gas burners may be used to bring the temperature of the refractory and raw materials up to operating temperature. The EPA and Air Pollution Control Officer (APCO) shall be advised of the intended use of the portable burners at least 24 hours prior to a cold startup and within four (4) hours of an emergency use due to loss of electrical power.

[District Permit 97-PO-27b, Condition 24]; [NSR 4-4-4 SAC 03-01, Condition 17]

- B5. The method of control of particulate matter from the glass melting furnace shall be the use of two baghouse dust collectors capable of meeting the emission standards specified in Condition B2 of this permit. The dust collectors shall be equipped with bag leak detectors which shall be maintained, continuously operated, and calibrated on a regular basis as recommended by the manufacturer to assure reliability. The bag leak detectors shall be equipped with an audible alarm which shall sound

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

automatically in the control room to indicate a torn or leaking bag. Spare bags shall be kept on site for immediate replacement of a leaking or torn bag/s. The Permittee must initiate corrective action within 1 hour of an alarm from the bag leak detection system and complete corrective actions immediately. The corrective action may include any one or a combination of the following actions:

- a) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in emissions;
- b) Sealing off defective bags or filter media;
- c) Replacing defective bags or filter media, or otherwise repairing the control device;
- d) Sealing off a defective baghouse compartment;
- e) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; and
- f) Shutting down the process producing the particulate emissions.

[District Permit 97-PO-27b, Condition 26]; [NSR 4-4-4 SAC 03-01, Condition 19]; [40 CFR 63.1382]

B6. Best Available Control Technology (BACT) for this emissions unit shall be defined as the following emission control technologies capable of meeting the emission standards specified in Condition B2 and B3 of this permit:

- a) Use of a dual-chamber baghouse dust collector for the control of particulate matter on the glass melting furnace; and
- b) Use of an all electric glass melting furnace for the control of NO<sub>x</sub>, CO, SO<sub>x</sub>, and ROG.

[District Permit 97-PO-27b, Condition 27]; [NSR 4-4-4 SAC 03-01, Condition 21]

B7. Under no circumstances shall the owner/operator be allowed to operate the system with operation parameters beyond the limits specified in Condition B2 and B3 other than startup and shutdown conditions as defined in Condition G4. The owner/operator shall take immediate action to bring the operation parameters to within the specified limits. Immediate action for the purpose of this condition shall be defined as initiating corrective action within one hour of the discovery of the operation parameter exceedance.

(District-only requirement, not Federally enforceable)

[District Permit 97-PO-27b, Condition 34]; [40 CFR 63.1382]

B8. No hexavalent chromium containing compounds shall be added to the circulating water of any cooling tower used at this facility.

[District Permit 97-PO-27b, Condition 35]; [40 CFR Part 63.402]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

- B9. During periods of startup and shutdown in a cold-top furnace, the owner/operator must establish the batch cover and operate the furnace according to the following requirements during startup and shutdown:
- The owner/operator must keep records showing that only natural gas or other clean fuels were utilized to heat the furnace,
  - Except after the batch cover is established, the owner/operator must keep records that only cullet was utilized as a raw material during start-up of the cold-top furnace,
  - Once a batch cover is established and the furnace baghouses can be safely operated, the owner/operator must keep records showing that furnace emissions are within the parameters established by the most recent performance test, and
  - During periods of shutdown of the cold-top furnace, until the conditions above the glass reach a point at which the furnace baghouses may be damaged, the owner/operator must retain records showing furnace emissions are within the parameters established by the most recent performance test.

[40 CFR Part 63.1389]

**TESTING, MONITORING AND REPORTING**

- B10. As part of, but not limited to, demonstrating compliance with this provision, the owner/operator shall on and after the date on which the performance test required to be conducted by 40 CFR Part 63, Sections 63.7 is completed, the owner/operator must monitor all control equipment and processes according to a written operations, maintenance and monitoring plan submitted to the Administrator for review and approval.

[District Permit 97-PO-27b, Condition 39]; [40 CFR 63.1385]

- B11. The owner/operator shall record hours of operation of the glass melting furnace on a daily basis and shall install, calibrate, and maintain the following continuous monitors:
- a) Continuous glass pull rate monitor that records glass pull rate on an hourly basis; and
  - b) Continuous dust collector bag leak detection system that records relative particulate matter emissions.

[District Permit 97-PO-27b, Condition 28]; [NSR 4-4-4 SAC 03-01, Condition 23]

- B12. The owner/operator shall maintain and operate a stack gas opacity monitor on the stack combining the baghouse discharge exhausts from the glass melting furnace at a location approved by the Air Quality Management District (District). The continuous opacity monitor shall meet all applicable design and quality assurance requirements specified in the 40 CFR 60.13 and 40 CFR Part 60, Specification 1 of Appendix B. A computer data acquisition system, which has the capability of interpreting the sampling data, providing a graphical trend analysis, and producing a summary report of all six minute averages of opacity readings shall also be provided.

[District Permit 97-PO-27b, Condition 29]; [NSR 4-4-4 SAC 03-01, Condition 25]

- B13. Periodic emission testing, except for particulate matter, shall be required pursuant to District Rule

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

2:11.a.3.(f). The Permittee shall conduct the particulate matter testing annually. Performance testing shall be performed within 30 days after the anniversary of the most recent performance test. The Permittee shall conduct the performance test (as described in 40 CFR 60.8) for PM10 on the stack receiving the combined dust collector exhausts from the glass melting furnace (Furnace Stack). The Permittee shall retain records of performance test measurements.

[District Permit 97-PO-27b, Condition 31]; [NSR 4-4-4 SAC 03-01, Condition 27]

- B14. Performance tests shall be conducted in accordance with EPA Methods 1 through 5, and 202 for particulate matter, and EPA Method 13B shall be used for gaseous fluoride testing.

[District Permit 97-PO-27b, Condition 32]; [NSR 4-4-4 SAC 03-01, Condition 28]; [40 CFR 63.1385]

- B15. For each performance test, the Permittee shall submit a performance test protocol to the District and EPA no later than 30 days prior to the test to allow review of the test plan and to arrange for an observer to be present at the test. The performance test protocol shall be amended if required by the APCO or EPA. The performance test shall be conducted in accordance with the submitted protocol, and any changes required by the APCO or EPA. In lieu of the above-mentioned test methods, equivalent methods may be used with prior written approval from the APCO or EPA.

[District Permit 97-PO-27b, Condition 32]; [NSR 4-4-4 SAC 03-01, Condition 29]; [40 CFR 63.1385]

- B16. Performance tests shall be performed by an independent testing firm. The Permittee shall furnish the District and EPA with a written report of the results of such tests within 60 days after the performance tests are conducted.

[District Permit 97-PO-27b, Condition 32]; [NSR 4-4-4 SAC 03-01, Condition 30]

- B17. During each performance test, the Permittee shall monitor and record the glass pull rate every 15 minutes. The Permittee shall determine the arithmetic average of the recorded glass pull rate measurements for each test run and calculate the average of the three test runs. This shall establish the test glass pull rate until the next performance test. The Permittee shall include the test glass pull rate for each performance test in the written report of the results of such tests for submission to the District and EPA. The Permittee shall retain records of all calculations and measurements.

[NSR 4-4-4 SAC 03-01, Condition 32]

- B18. For each performance test, the Permittee shall include a calculation of the actual PM10 emissions (in lb/hr and lb/ton glass pulled) for the glass melting furnace in the written report of the results of such tests for submission to the District and EPA. The Permittee shall use the emission rate in lb/hr and the test glass pull rate, in average tons of glass pulled per hour, determined from the performance test, to determine the emissions in lb/ton glass pulled. The Permittee shall use the calculated actual PM10 emissions to determine compliance with the lb/ton BACT emission limit for the glass melting furnace (Furnace Stack) in Condition B2 of this permit. The Permittee shall retain records of all calculations and measurements.

[NSR 4-4-4 SAC 03-01, Condition 33]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

B19. The permittee shall determine compliance with the lb/hr emission limit for PM10 in Condition B2 of this permit on an hourly basis. The lb/hr emissions shall be calculated on an hourly basis using the actual glass pull rate for each hour and the PM10 emission factor, in lb/ton of glass pulled, determined from the past performance test (only those within the last five years) that most closely matches the operating glass pull rate. The Permittee shall retain records of all calculations and measurements.

[NSR 4-4-4 SAC 03-01, Condition 34]

B20. Re-Testing: The Permittee shall conduct a performance test within 60 days if the glass pull rate increases by 5 percent or more (as averaged over any daily period) or decreases by 10 percent or more (as averaged over any weekly period) from the test glass pull rate established during any performance test within the last five years. The performance test shall be performed within 5 percent above or below the glass pull rate that triggered this re-testing requirement. The Permittee shall retain records of all calculations and measurements. The performance test is not required if the Permittee tested within 5 percent above or below the new glass pull rate within the last five years and compliance was demonstrated; if a re-bricking of the furnace occurred within the last five years after the performance test, new testing is required.

[NSR 4-4-4 SAC 03-01, Condition 35]

B21. Upon prior written request and adequate justification from the Permittee, the District and EPA may waive the annual performance test. The District and EPA approval shall be in writing. The District and EPA shall give written approval of such waiver. Such request must be submitted to the District and EPA no later than 60 days prior to the annual performance test date.

[NSR 4-4-4 SAC 03-01, Condition 39]

B22. Monthly emission reports shall be required to be submitted to the District by the 15<sup>th</sup> of the month following data recording and shall include:

- a) notification of all periods six minutes and longer in duration when opacity from the combined exhaust stack for the glass melting furnace dust collectors exceeds the specified limit and the reason for the excursion;
- b) notification of all periods that the opacity monitor on the combined exhaust stack for the glass melting furnace dust collectors was not functioning and the reason for the excursion;
- c) notification of all dates and times when process exhausts are vented without the use of the required control equipment and the reason for each instance;
- d) written documentation of corrective action taken to correct each event of malfunctioning operating or control equipment or any condition causing excessive emissions;
- e) if no permit limitations were exceeded, the report must so state; and
- f) written documentation of the duration, cause, number of events, the time (in minutes) to respond with corrective action after initial alarm sounding, and the manner of corrective action, resulting from any audible alarm from a bag leak detection system on baghouse dust collectors located in the glass melting section of the facility.

(District-only requirement, not Federally enforceable)

[District Permit 97-PO-27b, Condition 36]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

B23. The owner/operator must implement a Quality Improvement Plan (QIP) consistent with the compliance assurance monitoring provisions of 40 CFR Part 64.8, when the bag leak detection system alarm is sounded for more than 5 percent of the total operating time in a six-month block reporting period.

[District Permit 97-PO-27b, Condition 37]; [40 CFR 60.1382]

B24. The Permittee shall retain records of:

- a) Each occurrence of the alarm for the bag leak detection system;
- b) The corrective action(s) taken for each occurrence of the alarm; and
- c) The duration for completing each corrective action(s).

[NSR 4-4-4 SAC 03-01, Condition 20]

B25. The Permittee shall submit a written report of all excess emissions and monitoring systems performance to EPA in accordance with 40 CFR 60.7 (c) and (d) on a semi-annual basis. The report is due on the 30<sup>th</sup> day following the end of each semi-annual period after the effective date of this permit. Excess emissions shall be defined as any opacity level exceeding the opacity limitation in condition B1 of this permit. Excess emissions shall be considered violations of the applicable emission limits for the purposes of this Permit.

[NSR 4-4-4 SAC 03-01, Condition 36]; [40 CFR 63.1386]

B26. The Permittee shall submit a written report of all excess emissions for Condition B2 of this Permit in accordance with conditions of B18 and B19 of this permit for the Furnace Stack. Excess emissions shall be defined as any emissions exceeding the maximum emission limits set forth in Condition B2. The report shall be submitted to the District and EPA semi-annually and is due on the 30<sup>th</sup> day following the end of each semi-annual period. Excess emissions shall be considered violations of the applicable emission limits for the purposes of this Permit.

[NSR 4-4-4 SAC 03-01, Condition 37]; [40 CFR 63.1386]

B27. The Permittee shall submit a written report of the following actions on a semi-annual basis:

- a) each occurrence of the alarm for the bag leak detection system;
- b) the corrective action(s) taken for each occurrence of the alarm;
- c) the duration for completing each corrective action(s); and
- d) the glass pull rate on an hourly basis.

The report shall be submitted to the District and EPA and is due on the 30<sup>th</sup> day following the end of each semi-annual period after the effective date of this Permit.

[NSR 4-4-4 SAC 03-01, Condition 38]; [40 CFR 63.1386]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

**FIBERGLASS FORMING/CURING/COOLING**

**EQUIPMENT AUTHORIZED**

- One (1) Natural Gas-Fired Forming Section
- One (1) Natural Gas-Fired Curing Oven w/ Low NOx/CO Burners (Maxon Cyclomax 3.7MM Btu/hr.)
- One (1) Volatile Organic Compound Binder Application Process
- Six (6) 3" P Venturi Scrubbers on Bonded Wool Forming Line (Fisher-Klosterman Model MS1100-H)
- One (1) 3" P Venturi Scrubber on Blowing Wool Forming Line (Fisher-Klosterman Model MS1200-H)
- One (1) 400,000 ACFM, 600 GPM Wet Electrostatic Precipitator (Research Cottrell Dual Chamber)
- Two (2) 1400°F Thermal Oxidizers w/ Low NOx/CO Burners (Maxon-Kinedizer 18M) on Curing Oven
- One (1) Fisher-Klosterman Model MS600L Venturi Scrubber on Cooling Line
- One (1) United McGill Regenerative Thermal Oxidizer

**EMISSION LIMITS AND STANDARDS**

- C1. The opacity of the Main Stack exhaust, excluding condensed water vapor, shall not exceed 20 percent based on a six minute average and shall apply at all times. An audible alarm shall sound in the control room to indicate an opacity exceeding the above opacity limit.

[District Permit 97-PO-28d, Condition 26]; [NSR 4-4-4 SAC 03-01, Condition 44]

- C2. Total emissions from the Main Stack shall not exceed the values shown in Table 1:

Table 1

Emission Limits:	Pounds/hour (3 hr. avg.)
PM10 (as TSP)	21.6*
NOx (as NO <sub>2</sub> )	16.5
CO	22.3
SO <sub>2</sub>	1.0
Non-Methane Hydrocarbon (as CH <sub>4</sub> )	9.0
Ammonia	38.0
Gaseous Fluoride	0.625

\* Average of three Method 5E sampling runs, each at least 120 minutes in duration.

NOx emissions from the Main Stack shall not exceed 1.76 lb/ton of glass pulled and PM10 emissions from the Main Stack shall not exceed 3.03 lb/ton of glass pulled, based on a 3-hour rolling average.

[District Permit 97-PO-28d, Condition 32]; [NSR 4-4-4 SAC 03-01, Condition 43]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

**OPERATING CONDITIONS**

C3. Natural gas shall constitute the only fuel allowed for use in the forming and curing operations.

[District Permit 97-PO-28d, Condition 25]; [NSR 4-4-4 SAC 03-01, Condition 40]

C4. Best Available Control Technology (BACT) for the emissions from the fiberglass forming/curing/and cooling section shall be defined as the following emission control technologies capable of meeting the emission standards as specified in Condition C2 of this permit. The Permittee shall install, and thereafter continuously operate whenever fiberglass is being produced, and maintain the following air pollution control devices:

- a) Forming Sections: Use of combustion controls which minimize peak flame temperatures in the fiber forming process for control of NO<sub>x</sub>, CO, and SO<sub>x</sub>. Use of Knauf process technology, six venturi scrubbers on the bonded wool forming line and one venturi scrubber on the unbonded wool forming line (each with a minimum of 3 inch WC pressure drop), followed by a wet electrostatic precipitator with continuous water spray wash system and four electrical fields (minimum) for the control of particulate matter and reactive organic gases (ROG).
- b) Curing Section: Use of low NO<sub>x</sub>/CO burners burning natural gas for the control of NO<sub>x</sub>, CO, and SO<sub>x</sub>. Use of one regenerative thermal oxidizer with a minimum temperature of 1500°F and a residence time of at least 0.75 second for control of VOC and particulate matter. A lower minimum operating temperature, no less than 1200°F, may be used for the thermal oxidizer if, through emission testing, it is demonstrated to the satisfaction of the APCO and the EPA that a lower temperature offers an equivalent emission control of VOC and particulate matter as provided by the 1500°F minimum temperature.

The Permittee may retain the two existing thermal oxidizers. While the existing thermal oxidizers are in place, the Permittee shall operate the two existing thermal oxidizer during periods when the regenerative thermal oxidizer is shutdown, malfunctioning, or undergoing maintenance. At no time shall the exhaust from the curing oven be vented to the atmosphere, uncontrolled. The two thermal oxidizers shall operate in parallel with a minimum temperature of 1400°F and a residence time of at least 0.5 second for the control of VOC and particulate matter. A lower minimum operating temperature, not less than 1200°F, may be used for the thermal oxidizers if, through emission testing, it is demonstrated to the satisfaction of the APCO and the EPA that the lower temperature offers an equivalent emission control of VOC and particulate matter as provided by the 1400°F minimum temperature.

- c) Cooling Section: Use of a venturi wet scrubber for the control of particulate matter and ROG with exhaust immediately combined with high-temperature exhaust of the thermal oxidizers.

[District Permit 97-PO-28d, Condition 27]; [NSR 4-4-4 SAC 03-01, Condition 42]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

- C5. The owner/operator shall continuously operate and maintain venturi scrubbers for the removal of suspended particulate matter from the cooling section and for the pretreatment of the gas upstream of the wet electrostatic precipitator. The scrubbers prior to the wet electrostatic precipitator shall maintain a minimum gas pressure drop of 3 inches water across the venturi throat and a minimum water flow to each scrubber of 200 gallons/minute. The cooling section scrubber shall maintain a minimum gas pressure drop of 2.0 inches water across the venture throat and a minimum water flow to each scrubber of 50 gallons/minute. The pressure drop and water flow parameters shall be measured and recorded continuously. The solids in the scrubber water shall be removed to the extent necessary and fresh make-up water added as required in order for the Main Stack exhaust to meet the emissions limits in Condition C2 at all times of operation.

[District Permit 97-PO-28d, Condition 28]; [NSR 4-4-4 SAC 03-01, Condition 46]; [40 CFR 63.1383]

- C6. The owner/operator shall continuously operate and maintain a wet electrostatic precipitator for the control of suspended particulate matter from the outlet of the forming zone venturi scrubbers. The wet electrostatic precipitator shall maintain a minimum water flow and minimum primary and secondary current (amperes) and voltage in each electrical field so that the recorded average, which is recorded at least every four hours, of these operating parameters remains greater than 70 percent of the lowest value recorded during the most recent performance test in accordance with 40 CFR 60, Subpart PPP.

[District Permit 97-PO-28d, Condition 29]; [NSR 4-4-4 SAC 03-01, Condition 47]

- C7. The wet electrostatic precipitator inlet water total solids shall be determined daily using reference Method 209A, "Total Residue Dried at 103-105°C," in Standard Methods for the Examination of Water and Wastewater, 15<sup>th</sup> Edition, 1980. The inlet water total solids content shall not exceed two times the amount of the highest value recorded during the most recent performance test in accordance with 40 CFR 60, Subpart PPP.

[District Permit 97-PO-28d, Condition 31]

- C8. Under no circumstances shall the owner/operator be allowed to operate the system with the operation parameters beyond the limits specified in Conditions C1, C2, C4, C5, and C6. The owner/operator shall take immediate action to bring the operation parameters to within the specified limits. Immediate action for the purpose of this condition shall be defined as initiating corrective action within one hour of the discovery of the operational parameter exceedance, except as required by Condition F6.

[District Permit 97-PO-28d, Condition 34]

## **TESTING, MONITORING AND REPORTING**

- C9. The Permittee shall maintain a log of the throughput of molten glass averaged on an hourly, daily, and weekly basis in tons of glass pulled per day. The log shall be available for inspection by the District or EPA.

[NSR 4-4-4 SAC 03-01, Condition 41]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

C10. The Permittee shall continuously operate and maintain a stack gas opacity monitor on the Main Stack. The continuous opacity monitor shall meet all applicable design and quality assurance requirements specified in 40 CFR 60.13 and 40 CFR Part 60, Specification 1 of Appendix B. A computer data acquisition system which has the capability of interpreting the sampling data, providing a graphical trend analysis, and producing a summary report of all six (6) minute averages of opacity readings shall also be provided.

[District Permit 97-PO-28d, Condition 33]; [NSR 4-4-4 SAC 03-01, Condition 45]

C11. The owner/operator shall install, calibrate, maintain, and operate monitoring devices that measure the following parameters at a frequency and accuracy as noted in Table 2. All monitoring devices required for the parameters in Table 2 are to be recalibrated quarterly in accordance with procedures under Section 60.13(b) of 40 CFR 60.

Table 2

Parameters	Recording Frequency	Accuracy
Gas pressure drop across each scrubber (in. H <sub>2</sub> O)	Continuous	±1" WC
Inlet water flow rate to each scrubber (GPM)	Continuous	±5% over range
Wet Electrostatic Precipitator inlet water flowrate (GPM)	Every 15 minutes	±5% over range
Wet Electrostatic Precipitator: Primary current (Amps.) Primary voltage (kV) Secondary current (Amps.) Secondary voltage (kV) Spark rate Corona power/T-R set per field Inlet temperature (°F)	Every 15 minutes	±5% over range
Thermal Oxidizer: Exhaust Temperature (°F)	Continuous	±5% over range

[District Permit 97-PO-28d, Condition 30]; [NSR 4-4-4 SAC 03-01, Condition 48]; [40 CFR 63.1383]

C12. Periodic emission testing shall be required pursuant to District Rule 2:11.a.3.(f), except for ammonia, NO<sub>x</sub>, and particulate matter. The Permittee shall conduct the ammonia, NO<sub>x</sub>, and particulate matter testing annually. Performance testing shall be performed within 30 days after the anniversary of the most recent performance test. The Permittee shall conduct the performance test (as described in 40 CFR 60.8) for the emission limitations that apply to the Main Stack. The Permittee shall retain records of all performance tests measurements.

After achieving the 225 ton/day production rate, if emission testing indicate that the NO<sub>x</sub> is within 20 percent of the permitted level, the District may request the installation of a NO<sub>x</sub> CEM.

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

[District Permit 97-PO-28d, Condition 35] [NSR 4-4-4 SAC 03-01, Condition 53]

C13. The following test methods shall apply when testing for the specific pollutant is required:

Pollutant	Test Methods
PM10 (as TSP)	EPA 5E
NO <sub>x</sub> (as NO <sub>2</sub> )	EPA 7E
CO	EPA 10
SO <sub>2</sub>	EPA 6C
Non-Methane Hydrocarbon (as CH <sub>4</sub> )	CARB 100; EPA 18
Ammonia	Bay Area AQMD ST-1B
Gaseous Fluoride	EPA 13B

\* Average of three Method 5E sampling runs, each at least 120 minutes in duration.

[District Permit 97-PO-28d, Condition 32]; [NSR 4-4-4 SAC 03-01, Condition 43]

C14. For each performance test, the Permittee shall submit a performance test protocol to the District and EPA no later than 30 days prior to the test to allow review of the test plan and to arrange for an observer to be present at the test. The performance test protocol shall include the operating conditions and type of materials or products that are expected to be formed during the performance test. The protocol shall also include a summary of the various materials formed over the past year and the percent of time during which those materials were produced that would have a higher potential emissions. If the test is performed while producing a material that does not have the highest potential emissions, a retest may be required if the test results do not demonstrate a sufficient margin to assure compliance during all operating scenarios. The performance test protocol shall be amended if required by the District or EPA. The performance test shall be conducted in accordance with the submitted protocol, and any changes required by the District or EPA. In lieu of the above mentioned test methods, equivalent methods may be used with prior written approval from the APCO or the EPA

[District Permit 97-PO28b, Condition 35]; [NSR 4-4-4 SAC 03-01, Condition 55]

C15. During each performance test, the Permittee shall monitor and record the glass pull rate every 15 minutes. The Permittee shall determine the arithmetic average of the recorded glass pull rate measurements for each test run and calculate the average of the three test runs. This shall establish the test glass pull rate until the next performance test. The Permittee shall include the test glass pull rate for each performance test in the written report of the results of such tests for submission to the District and EPA. The Permittee shall retain records of all calculations and measurements.

[NSR 4-4-4 SAC 03-01, Condition 57]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

C16. For each performance test, the Permittee shall include a calculation of the all the actual emissions tested (in lb/hr and lb/ton glass pulled, as appropriate) for the forming/curing/cooling operation (Main Stack), in the written report of the results of such tests for submission to the District and EPA. The Permittee shall use the calculated actual emission to determine compliance with the lb/ton BACT emission limit for the Main Stack in Condition C2 of this Permit. The Permittee shall retain records of all calculations and measurements.

[NSR 4-4-4 SAC 03-01, Condition 58]

C17. The Permittee shall determine compliance with the lb/hr emissions limit for the pollutants listed in condition C2 of this Permit on an hourly basis. The lb/hr emissions shall be calculated on an hourly basis using the actual glass pull rate for each hour and the pollutant emission factors, in lb/ton of glass pulled, determined from the past performance test (only those within the last five years) that most closely matches the operating glass pull rate. The Permittee shall retain records of all calculations and measurements.

[NSR 4-4-4 SAC 03-01, Condition 59]

C18. Re-Testing: The Permittee shall conduct a performance test within 60 days if the glass pull rate increases by 5 percent or more (as averaged over any daily period) or decreases by 10 percent or more (as averaged over any weekly period) from the test glass pull rate established during any performance test within the last five years. The performance test shall be performed within 5 percent above or below the glass pull rate that triggered this re-testing requirement. The Permittee shall retain records of all calculations and measurements. The performance test is not required if the Permittee tested within 5 percent above or below the new glass pull rate within the last five years and compliance was demonstrated; if a re-bricking of the furnace occurred within the last five years after the performance test, new testing is required.

[NSR 4-4-4 SAC 03-01, Condition 60]

C19. Monthly emission reports shall be required to be submitted to the District by the 15<sup>th</sup> of the month following data recording and shall include:

- a) notification of all periods six minutes and longer in duration when opacity from stack #1 exceeds the specified limit and the reason for the excursion;
- b) notification of all periods the opacity monitor on main stack was not functioning and the reasons for the malfunction;
- c) notification of all dates and times when process exhausts are vented without the use of the required control equipment and the reason for each instance;
- d) notification of all dates and times of failure to achieve minimum control device operation parameters required by Conditions C1, C4, C5, C6, and C11;
- e) written documentation of the quarterly calibrations of the monitoring devices required in Condition C11 and a report of corrective maintenance required as a result of the calibrations;
- f) written documentation of monthly natural gas fuel consumption for the fiberizing/forming section and the oven/incineration section of the facility on a separate basis;
- g) written documentation of the date and times when the firebox temperature in the thermal oxidizer required in Condition C4.b) is less than 1500°F;

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

- h) written documentation of quantity of glass pulled to fiber on a daily basis and total for the month;
- i) written documentation of corrective action taken to correct each event of malfunctioning operating or control equipment, or any condition causing excessive emissions;
- j) if no permit limitations were exceeded, the report must state so.

(District-only requirement, not Federally enforceable)  
[District Permit 97-PO-28d, Condition 36]

C20. The Permittee shall submit a written report of all excess emissions and monitoring systems performance to EPA and the District in accordance with 40 CFR 60.7 (c) and (d) on a semi-annual basis. The report is due on the 30<sup>th</sup> day following the end of each semi-annual period after the effective date of this permit. Excess emissions shall be defined as any opacity level exceeding the opacity limitation in Condition C1 of this permit. Excess emissions shall be considered violations of the applicable emission limits for the purposes of this Permit.

[NSR 4-4-4 SAC 03-01, Condition 61]; [40 CFR 63.1386]

C21. The Permittee shall submit a written report of all excess emissions for Condition C2 of this permit in accordance with conditions of C16 and C17 of this permit for the Main Stack. Excess emissions shall be defined as any emissions exceeding the maximum emission limits set forth in condition C2. The report shall be submitted to the District and EPA semi-annually and is due on the 30<sup>th</sup> day following the end of each semi-annual period. Excess emissions shall be considered violations of the applicable emission limits for the purposes of this Permit.

[NSR 4-4-4 SAC 03-01, Condition 62]; [40 CFR 63.1386]

C22. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by 40 CFR 60 recorded in a permanent form suitable for inspection. The file shall be retained for at least five (5) years following the date of such measurements, maintenance, reports, and records.

[NSR 4-4-4 SAC 03-01, Condition 63]

C23. The owner/operator must implement a Quality Improvement Plan (QIP) consistent with the compliance monitoring provisions of 40 CFR Part 64.8, when:

- a) any of the monitored wet scrubber parameters is outside the above-referenced limit(s); or
- b) the glass pull rate exceeds, by more than 20 percent, the average glass pull rate established during the performance test; or
- c) any of the monitored process parameters are outside the above-referenced limits(s),

for more than 5 percent of the total operating time in a six-month block reporting period.

[District Permit 97-PO-28d, Condition 37]; [40 CFR 63.1382]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

C24. Upon prior written request and adequate justification from the Permittee, the APCO and EPA may waive the annual performance test. Both APCO and EPA approvals shall be in writing. Such request must be submitted to the APCO and EPA no later than sixty (60) days prior to the annual performance test date.

[NSR 4-4-4 SAC 03-01, Condition 64]

C25. Notification with respect to modifications which could increase emission rates shall be provided (60 days before or as soon as practicable) to the EPA Administrator and the APCO as noted in Condition G43 in accordance with 40 CFR 60.7. In addition, in accordance with Subpart PPP, Section 60.684 (d), the owner/operator shall submit written semiannual reports to the EPA Administrator of exceedances of control device operating parameters required to be monitored for the wet scrubbers and wet electrostatic precipitator under Sections 60.684 (a) and (b) and a report of quarterly calibrations of the monitoring devices required in Section 60.683 (c). For the purpose of these reports, exceedances are defined as any monitoring data that are less than 70 percent of the lowest value or greater than 130 percent of the highest value of each operating parameter recorded during the most recent performance test, except for the following which do not need to be reported:

- a) wet scrubber pressure drop reading exceeding +30 percent of established set point;
- b) wet scrubber water flow readings exceeding +30 percent of established set point;
- c) wet electrostatic precipitator high secondary voltage readings exceeding +30 percent of established set point (low secondary voltage readings less than 70 percent of the lowest value established during performance testing are still required to be reported);
- d) wet electrostatic precipitator high inlet water flow readings exceeding +30 percent of established set point; and
- e) wet electrostatic precipitator low solids readings exceeding -30 percent of established set point or any other percentage exceedance established by EPA.

[District Permits 97-PO-28d Condition 24]; [40 CFR 63.1386]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

**FIBERGLASS TRIMMING AND PACKAGING**

**EQUIPMENT AUTHORIZED**

- One (1) 9874 ACFM Trimming-Packaging Cyclone (1) & Dust Collector Assembly (Farr 48L SPCC)
- One (1) 9874 ACFM Class B Blowing Wool Cyclones (2) & Dust Collector Assembly (Farr 48L SPCC)
  - One (1) 10,000 ACFM Class A Summit Wool Production Condenser
  - One (1) 10,000 ACFM Class A Premier Tech Refeed Condenser
- One (1) 15,708 ACFM Class A Blowing Wool North Dust Collector Assembly (Farr 378 BRF12)
- One (1) 15,708 ACFM Class A Blowing Wool Center Dust Collector Assembly (Farr 378 BRF12)
  - Five (5) High Density Filter Modules (Farr R1GA-FLOW200 Glide/Pack)
- One (1) Pacific Filtration Systems Pulse Jet Cartridge Dust Collector (Model RP-2)

**EMISSION LIMITS AND STANDARDS**

**OPERATING CONDITIONS**

- D1. The method of control of suspended particulate matter from the bonded wool forming line, trimming and packaging areas, the Class A unbonded blowing wool processing area, and the Class B blowing wool processing area of the plant shall be the use of four dust collector assemblies each followed by a high density filter module which shall exhaust inside the Scrap Building and have no outside vent. The performance of the above systems shall be capable of meeting the emission standards specified by California Occupational Safety and Health Administration for air quality inside the Scrap Building. The filter modules shall be monitored on a regular basis by means of a computerized inspection and maintenance schedule which shall assure change-out of the filter modules on a frequency that will maintain adequate efficiency of particulate matter collection of the dust collector/filter module assemblies.

[District Permit 97-PO-29c, Condition 24]; [NSR 4-4-4 SAC 03-01, Condition 65]

- D2. The method of control of suspended particulate matter from the dry powder anti-static unloading stations shall be by the use of a pulse jet cartridge dust collector, and exhaust to the inside of the Scrap Building. The performance of the above system shall be capable of meeting the emission standards specified by the California Occupational Safety and Health Administration for air quality inside the Scrap Building. Spare cartridges shall be kept on site for immediate replacement of leaking dust collector components. The filter modules shall be monitored on a regular basis by means of a computerized inspection and maintenance schedule which shall assure change-out of the filter modules on a frequency that will maintain adequate efficiency of particulate matter collection of the dust collector module assemblies.

[District Permit 97-PO-29c, Condition 25]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

**TESTING, MONITORING AND REPORTING**

- D3. The dust collectors shall be equipped with bag leak detectors which shall be maintained, continuously operated, and calibrated on a regular basis as recommended by the manufacturer to assure reliability.

[District Permit 97-PO-29c, Condition 24]; [NSR 4-4-4 SAC 03-01, Condition 66]

- D4. The bag leak detectors shall be equipped with an audible alarm which shall sound automatically in the control room to indicate a torn or leaking bag. Spare bags shall be kept on site for immediate replacement of leaking or torn bags. The Permittee must initiate corrective action within one (1) hour of an alarm from the bag leak detection system and complete corrective actions immediately. The corrective action may include any one or a combination of the following actions:

- a) Inspecting the baghouse for air leaks, torn or broken bags or filter media, or any other conditions that may cause an increase in emissions;
- b) Sealing off defective bags or filter media;
- c) Replacing defective bags or filter media, or otherwise repairing the control device;
- d) Sealing off a defective baghouse compartment;
- e) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system; and
- f) Shutting down the process producing the particulate emissions.

[District Permit 97-PO-29c, Condition 24]; [NSR 4-4-4 SAC 03-01, Condition 67] ; [40 CFR 63.1382]

- D5. The owner/operator shall monitor and have records available for inspection by the District, CARB, or EPA for the following parameters on a daily basis:

- a) hours of operation;
- b) production rates;
- c) leaks from the dust collectors;
- d) maintenance records for the filter modules;
- e) calibration records for the dust collector leak detectors.

The above records shall be maintained by the owner/operator for a minimum of five (5) years from date of entry and will be made available to the above-mentioned agencies upon request.

[District Permit 97-PO-27b, Condition 28]; [District Permit 97-PO29b, Condition 26];  
[NSR 4-4-4 SAC 03-01, Condition 69]

- D6. The Permittee shall retain records of:

- a) each occurrence of the alarm for the bag leak detection system;
- b) the corrective action(s) taken for each occurrence of the alarm; and
- c) the duration for completing each corrective action(s).

[NSR 4-4-4 SAC 03-01, Condition 68]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

- D7. The Permittee shall submit a written report of the following actions on a semi-annual basis for the leak bag detection system:
- a) each occurrence of the alarm for the bag leak detection system;
  - b) the corrective action(s) taken for each occurrence of the alarm; and
  - c) the duration for completing each corrective action(s).

The report shall be submitted to the APCO and EPA and is due on the 30<sup>th</sup> day following the end of each semi-annual period after the effective date of this Permit.

[NSR 4-4-4 SAC 03-01, Condition 70]; [40 CFR 63.1386]

DRAFT

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

**EMERGENCY STANDBY INTERNAL COMBUSTION ENGINES**

**EQUIPMENT UNDER PERMIT**

One (1) Caterpillar 1108hp Diesel Engine, Model 3412 STA  
One (1) Clark Diesel 95hp, Model PDFP04YT L1212f  
One (1) Clark Diesel 160hp Diesel Engine, Model JU6H-UF30  
One (1) Caterpillar 145hp Natural Gas Engine, Model 3306

**EMISSION LIMITS AND STANDARDS**

E1. Visible emissions from the operation of the engines shall not be discharged for a period or periods aggregating more than three minutes in any one hour which are as dark or darker than Ringelmann 2 or equivalent to 40 percent opacity as determined by EPA method 9.

(District-only requirement, not Federally enforceable)

[District Permit 02-PO-09b, Condition 19]; [District Permit 02-PO-10, Condition 19]

E2. The 160hp Clark diesel engine shall be limited to the following emission limits:

- a) NMHC + NO<sub>x</sub> = 7.8 gr/HP-hr,
- b) CO = 3.7 gr/HP-hr, and
- c) PM = 0.60 gr/HP-hr.

[40 CFR Part 60.4205]

**OPERATING CONDITIONS**

E3. The owner/operator shall install and maintain a non-resetting hour meter on each of the emergency backup engines.

(District-only requirement, not Federally enforceable)

[District Permit 02-PO-09b, Condition 24]; [District Permit 02-PO-10, Condition 24]

E4. Testing and maintenance of the natural gas fired engine shall be limited to no more than 100 hours per year.

(District-only requirement, not Federally enforceable)

[District Permit 02-PO-10, Condition 21]

E5. Testing and maintenance of the diesel fired engines shall be limited to no more than 20 hours per year per engine.

(District-only requirement, not Federally enforceable)

[District Permit 02-PO-09b, Condition 21]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

E6. The 145hp Caterpillar engine shall be fired exclusively on natural gas. Any change in the type of fuel used shall be reviewed and approved by the District.

(District-only requirement, not Federally enforceable)  
[District Permit 02-PO-10, Condition 22]

E7. The 1108hp Caterpillar, the 95 hp Clark Diesel, and the 160hp Clark Diesel engines shall be fired exclusively on CARB approved diesel fuel. Any changes in the type of fuel used shall be reviewed and approved by the District.

(District-only requirement, not Federally enforceable)  
[District Permit 02-PO-09a, Condition 23]

E8. The 1108hp Caterpillar, the 95hp Clark Diesel, and the 160hp Clark Diesel engines shall:

- a) Change oil & filter every 500 hours of operation or annually, whichever comes first.
- b) For the Compression Ignition engines, inspect air cleaner every 1000 hours of operation or annually, whichever comes first.
- c) For the Spark Ignition engine, inspect the spark plugs every 1000 hours of operation or annually, whichever comes first.
- d) Inspect all hoses and belts every 500 hours or annually, whichever comes first and replace as necessary.

[40 CFR Part 63.6603]

**TESTING, MONITORING AND REPORTING**

E9. The operator of any stationary internal combustion engine claiming an exemption from requirements under District Rule 3:28-Stationary Internal Combustion Engines, shall maintain engine operating records, which include hours of operation; quantity of fuel used; and date and type of all maintenance performed, and support documentation necessary to claim this exemption. The operating records shall describe the circumstances of operation (i.e. testing, maintenance, electrical utility power loss, California Independent System Operator (ISO) Stage 3 or Stage 2 Emergency declarations). The records shall be maintained for five years and shall be submitted to the APCO upon request and shall be submitted to the District on the Annual Device Update forms by March 1<sup>st</sup>.

(District-only requirement, not Federally enforceable)  
[District Permit 02-PO-09a, Condition 20]; [District Permit 02-PO-10, Condition 20]

**FACILITY-WIDE REQUIREMENTS**

**EMISSION LIMITS AND STANDARDS**

F1. No person shall discharge contaminants from any single source into the atmosphere in amounts greater than those designated below (unless governed by EPA New Source Performance Standard). All emissions are to be measured by methods approved for use by the Air Pollution Control Officer (APCO). Any method approved by the U.S. Environmental Protection Agency (EPA) and/or the California Air Resources Board (CARB) is approved for use by the APCO:

- a) **Combustion Particulate Matter**<sup>1,2</sup> ..... 0.15 gr/dscf
- b) **Particulate Matter Less Than or Equal to 10 $\mu$  in Size**<sup>1,2</sup> ..... 0.05 gr/dscf  
except for dust collectors C34, D122, D123, E12, E230, E231, G418-1, J321, J345, J390, and J294 which shall not exceed 0.05 grains per dry standard cubic foot.
- c) **All Other Particulate Matter**<sup>1,2</sup> ..... 0.15 gr/dscf
- d) **Maximum Hourly Particulate Matter (E) as a Function of Process Weight (P<sub>i</sub>) in Tons Per Hour**  
Where E = lbs/hr  
Less Than or Equal to 30 Tons/Hour ..... E = 4.1 P<sub>i</sub><sup>67</sup>  
Greater Than 30 Tons/Hour ..... E = 55 P<sub>i</sub><sup>11</sup> - 40
- e) **Oxides of Sulfur (as SO<sub>2</sub>)**<sup>1,2,3</sup> ..... 300 ppm
- f) **Oxides of Nitrogen (as NO<sub>2</sub>)**<sup>1,2,3</sup> ..... 250 ppm
- g) **Opacity**<sup>4</sup>  
Ringelmann #2 and/or 40 percent equivalent opacity pursuant to California Health & Safety Code Section 41701

---

Footnotes:

<sup>1</sup>Calculated at standard conditions: 70° F, one atmosphere, dry gas basis.

<sup>2</sup>When the emissions are generated by a combustion process, the gas volume shall be corrected to 12 percent CO<sub>2</sub> at standard temperature and pressure.

<sup>3</sup>The Air Pollution Control Officer may specify an appropriate correction and/or reporting factor depending upon the type of process involved

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

<sup>4</sup>This requirement does not apply to smoke emissions from burners used to produce energy and fired by forestry and agricultural residues with supplementary fuels when the emission result from startup or shutdown of the combustion process or from the malfunction of emission control equipment. However, this exemption does not apply to emissions which exceed a period or periods of time aggregating more than 30 minutes in any 24-hour period, or which result from the failure to operate and maintain in good working order any emission control equipment.

[SCAQMD Rule 3:2, Specific Air Contaminants, 54 FR 14650, 4/12/89]

F2. A person shall not discharge more than 40 pounds of photochemically reactive solvents into the atmosphere in any one day from any article, machine, equipment, or other contrivance used for employing, applying, evaporating, or drying any photochemically reactive solvent, as defined in District Rule 1:2, or material containing such solvent, unless all photochemically reactive solvents discharged from such article, machine, equipment, or other contrivance have been reduced either by at least 85 percent overall **or** to not more than 40 pounds in any one day. The provisions of this condition shall not apply to:

- a) The spraying or other employment of insecticides, pesticides, or herbicides.
- b) The employment, application, evaporation, or drying of saturated halogenated hydrocarbons or perchloroethylene.
- c) The employment or application of polyester resins or acetone used in a fiberglass reinforced plastics operation.

Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the above groups of organic compounds, it shall be considered as a member of the most reactive chemical groups, i.e., the groups having the least allowable percent of the total of solvents.

No person shall discharge from any device, contrivance, or machine more than 40 pounds per day of any photochemically reactive substance other than those described above unless such discharge is controlled to reduce emissions by 85 percent.

[SCAQMD Rule 3:4, Industrial Use of Organic Solvents, 49 FR 47491, 10/3/84]

F3. The opacity of any stack discharge not subject to a specific opacity standard in this permit shall not exceed a Ringelmann #2 or forty (40) percent equivalent opacity for any period greater than three (3) minutes in any period of sixty (60) consecutive minutes.

[SCAQMD Rule 3:2, Specific Air Contaminants, 54 FR 14650, 4/12/89]

F4. The owner/operator shall not discharge into the atmosphere from any source whatsoever any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three (3) minutes in any one hour which is:

- a) as dark or darker in shade as that designated as No. 2 on the Ringelmann Chart, as published by the United States Bureau of Mines, or

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

- b) of such opacity as to obscure an observer's view to a degree equal to or greater than smoke described in subdivision a).

(District-only requirement, not Federally enforceable)

[District Permit 96-PO-26c, 96-PO-27b, 96-PO-28d, and 96-PO-29c, Condition 18]

## **OPERATING CONDITIONS**

- F5. The owner and operator of the facility shall construct and operate the stationary source in compliance with all other applicable provisions of 40 CFR Parts 52, 60, 61 and 63 and all other applicable Federal, State, or local regulations.

[NSR 4-4-4 SAC 03-01, Condition 8]

## **TESTING, MONITORING AND REPORTING REQUIREMENTS**

- F6. Emissions exceeding any of the limits established in this permit shall be immediately reported to the APCO:

- a) For facility-wide scheduled maintenance, notice shall be provided to the APCO at least twenty-four (24) hours prior to shutdown, whether or not an emission exceedance is expected.
- b) The emission source operator shall notify the APCO within four (4) hours of the occurrence of any excess emission and provide information on the time, duration, cause, and extent of the excess emission. Upon the request of the APCO, a full, written report of each occurrence, including a statement of all known causes and the nature of the actions to be taken pursuant to the requirements of Rule 3:10 or Rule 5 shall be submitted to the District.
- c) Corrective action shall be taken immediately by the operator of the emission source to correct the conditions causing excessive emissions to reduce the frequency of the occurrence of such conditions. In no event shall equipment be operated in a manner that creates excessive emissions beyond the end of the work shift or twenty-four (24) hours, whichever occurs first.
- d) An emergency constitutes an affirmative defense to any action brought for non-compliance with technology-based emission limits if:
  - 1) The emission source operator can identify the cause(s) of the emergency
  - 2) The permitted facility was at the time being properly operated
  - 3) During the period of the emergency, the emission source operator took all reasonable steps to minimize levels of excess emission, and
  - 4) The emission source operator submitted notice of the emergency to the APCO in accordance with this Condition.

(For the purposes of this condition, emergency shall be as defined in Title 40 of the *Code of Federal Regulations*, Part 70, Section 70.6(g); i.e. "any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency.")

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

Within two (2) working days of the emergency event, the permittee shall provide the District with a description of the emergency and any mitigating or corrective actions taken. Within two weeks of an emergency event, the responsible official shall submit to the District a properly signed contemporaneous log or other relevant evidence that contains all the information for what constitutes an emergency (as described above in d.1-4 of this Condition).

In any enforcement proceeding, the permittee has the burden of proof for establishing that an emergency occurred.

- e) An excess emission occurrence may not avoid enforcement action by the APCO if the occurrence is caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
- f) Nothing expressed in this Condition shall be construed to limit enforcement authorities under the Federal Clean Air Act.
- g) Excess emissions of applicable requirements during start-up and shut-down shall be considered an emission violation unless an applicable requirement provides otherwise. Excess emissions of permit conditions shall be considered a violation if the owner or operator cannot demonstrate that the excess emissions are unavoidable when requested to do so by the APCO. The APCO may specify for a particular source the amount, time, duration, and under what circumstances excess emissions are allowed during start-up or shut-down if consistent with an applicable requirement. The owner or operator shall, to the extent practicable, operate the emission source and any associated air pollution control equipment or monitoring equipment in a manner consistent with best practicable air pollution control practices to minimize emissions during start-up and shut-down.

[SCAQMD Rule 3:10, Excess Emissions, SCAQMD Rule 5]; [NSR 4-4-4 SAC 03-01, Condition 3]; [District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c, Condition 9]

- F7. The permittee shall promptly report any deviation from permit requirements, including that attributable to upset conditions (as defined in the permit), to the APCO in accordance with District Rule 3:10 as listed in condition F6. If the deviation is not defined in District Rule 3:10, reporting shall be no longer than ten (10) days after the deviation.

(District-only requirement, not Federally enforceable)  
[SCAQMD Rule 5]

- F8. The permittee shall submit a written monitoring report to the APCO every six months. A copy of the EPA 12-month certification report shall suffice for one of the six month monitoring reports annually. The first reporting period shall consist of the period from Title V issuance date to June 30. The subsequent reporting periods shall be **January 1 through June 30 and July 1 through December 31**. The report shall state whether compliance was continuous or intermittent during the period. These reports shall be submitted within forty-five (45) days of the end of each reporting period. When no deviations have occurred for the reporting period, such information shall be stated in the report. The monitoring report shall include at a minimum:

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

- a) A report for each deviation from a permit requirement that occurred during the reporting period, including emergency events. All reports of a deviation from permit requirements shall include the probable cause of the deviation and any preventative or corrective action taken. The permittee shall use District approved forms to report each deviation from permit requirements.
- b) Results from any emission testing done during the reporting period if not provided earlier to the District immediately following the test.
- c) A Certification Report form (Forms 5-K1a, K1b, K2, and K3), which includes a written statement from the responsible official that certifies the truth, accuracy, and completeness of the report and shall state that "based upon information and belief formed after reasonable inquiry, the statements and information in the documents are true, accurate, and complete".

[SCAQMD Rule 5]

- F9. The permittee shall submit compliance certification reports to the U.S. EPA and the APCO every 12 months. The report shall be submitted within forty-five (45) days of the end of the reporting period. The permittee shall use District approved forms for the compliance certification and shall also include a written statement from the responsible official which certifies the truth, accuracy, and completeness of the report.

Compliance certifications shall be sent to EPA at the following address:

Enforcement Division  
Air, Waste, and Toxics Branch  
US EPA Region IX (ENF-2)  
75 Hawthorne Street  
San Francisco, CA 94105-3901

[SCAQMD Rule 5]

- F10. The owner or operator shall provide written notification to EPA and the District of any physical or operational change to an existing facility (as defined by 40 CFR 60.2) that may increase the emission rate of any air pollutant to which a standard under 40 CFR Part 60 applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR Part 60.14(e). This notice shall be post marked sixty (60) days or as soon as practical before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change.

[40 CFR Part 60.7(a)4]

- F11. The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements, all continuous monitoring system performance evaluations, all continuous monitoring system or monitoring device calibration checks, adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least five (5) years following the date of such measurements, maintenance, reports and records.

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

[40 CFR Part 60.7(f), District Rule 5], [District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c, Condition 16]

F12. The permittee shall provide the APCO at least thirty (30) days prior notice of any performance test, except as specified under other subparts, to afford the APCO the opportunity to have an observer present.

[40 CFR Part 60.8(d)]

F13. The permittee shall provide or cause to be provided, testing facilities as follows:

- a) Sampling ports adequate for test methods applicable to such facility. This includes:
  - 1) Constructing the air pollution control system such that volumetric flow rates and pollution emission rates can be accurately determined by applicable test methods and procedures and,
  - 2) Providing stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
- b) Safe sampling platform(s).
- c) Safe access to sampling platform(s).
- d) Utilities for sampling and testing equipment.

[District Rule 2:14]; [40 CFR Part 60.8.e]

F14. Fugitive and direct emissions, during facility operation including, but not limited to, any of the following, shall be controlled at all times that the permitted emissions units are operating such that a public nuisance is not created beyond the plant property boundaries:

- a) dust from paved or unpaved roads or any non-vegetation covered areas;
- b) dust from materials-handling devices and/or storage areas;
- c) accumulation of dust on outside surfaces including, but not limited to, the buildings, outdoor equipment, support pads, and road areas (Surfaces shall be cleaned on a regular basis as needed to prevent buildup and/or fugitive dust);
- d) dust from waste handling including waste from the water filtration system, wet electrostatic precipitator, dust collectors, and waste containing unusable fiberglass (Waste shall be stored and transported in closed containers and handled at all times in a matter that prevents dust from becoming a public nuisance or a health hazard. It shall be the responsibility of the facility owner/operator to insure that any and all contract or company carriers adhere to this condition); and
- e) odorous chemical releases.

(District-only requirement, not Federally enforceable)

[District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c, Condition 20]

F15. The owner/operator shall install and maintain an on-site meteorological station at the subject facility. The station shall include the capability to measure temperature and wind pattern data (direction and velocity) and record the results on continuous chart paper or retain the data on a data acquisition system.

(District-only requirement, not Federally enforceable)

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

[District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c, Condition 23]

- F16. The owner/operator shall notify the District within four (4) hours of receiving any odor-related or fugitive emission-related complaint and shall provide the following information to the District:
- a) date and time of contact;
  - b) complainant's name, location, and description of the complaint;
  - c) status of plant operations during time of complaint; and
  - d) investigation results and any actions taken to remedy problem.

A log of all complaints received will be maintained by the owner/operator for a minimum of five years from date of entry and will be made available to the District upon request.

(District-only requirement, not Federally enforceable)

[District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c, Condition 23]

- F17. The owner or operator shall conduct the performance tests while the product with the highest loss on ignition (LOI) expected to be produced by the affected facility is being manufactured.

[40 CFR 60.685(b)]

- F18. The permittee shall perform all the monitoring, recordkeeping, and other required functions delineated in the document entitled "Knauf Insulation Compliance Assurance Monitoring Plan" and dated April 1, 2014.

[40.CFR Part 64.6(c)(3)]

- F19. The permittee shall respond to and report as excursions all periods where the conditions as described in the CAM Plan has occurred.

[40.CFR Part 64.(c)(2)]

## **STANDARD CONDITIONS**

- G1. The Air Pollution Control Officer (APCO) reserves the right to amend this permit if the need arises in order to insure compliance of this facility or to abate any public nuisance.

(District-only requirement, not Federally enforceable)

[District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c, Condition 6]

- G2. Acceptance of this permit is deemed acceptance of all conditions as specified. Failure to comply with any condition of this permit shall be grounds for revocation, either by the Air Pollution Control Officer or the Air Quality Management District Hearing Board.

(District-only requirement, not Federally enforceable)

[District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c, Condition 5]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

G3. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility under 40 CFR Part 60, Subpart PPP including associated air pollution control equipment as efficiently as possible and in a manner consistent with good air pollution control practices for minimizing emissions.

[40 CFR Part 60.11(d)]; [NSR 4-4-4 SAC 03-01, Condition 2.a.]

G4. For periods of startup and shutdown, the following definitions shall apply:

- Startup – Startup of the glass melting furnace begins when the wool fiberglass glass-melting furnace has raw materials added and the glass temperature reaches 50 percent of the typical operating temperature. Startup ends when batch cover is established and the temperature of the glass batch cover surface is below 300 °F.
- Shutdown – Shutdown of the glass melting furnace begins when the heat sources to the glass melting furnace are reduced to begin the glass melting shutdown process. Shutdown ends when the glass melting furnace is empty or the contents are sufficiently viscous to preclude glass flow from the glass melting furnace.

G5. No person shall build, erect, install, or use any article, machine, equipment, or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission that would otherwise constitute a violation.

[SCAQMD Rule 3:6, Circumvention, 42 FR 42223, 8/22/77, 40 CFR Part 60.12]

G6. The permittee shall comply with all Permit Conditions of this Title V operating permit.

[SCAQMD Rule 5]

G7. This permit does not convey property rights or exclusive privilege of any sort.

[SCAQMD Rule 5]

G8. The non-compliance with any permit condition herein is grounds for Title V Operating Permit and District Permit to Operate termination, revocation, modification, enforcement action, or denial of permit renewal.

[SCAQMD Rule 5]

G9. This permit may be modified, revoked, reopened and reissued, or terminated for cause as determined by the District.

[SCAQMD Rule 5]

G10. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the Conditions of this Permit.

[SCAQMD Rule 5]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

G11. A pending permit action or notification of anticipated non-compliance does not stay any permit condition.

[SCAQMD Rule 5]

G12. Within a reasonable time period, the permittee shall furnish any information requested by the APCO, in writing, for the purpose of determining: 1) compliance with the Permit, and 2) whether cause exists for a permit or enforcement action.

[SCAQMD Rule 5]

G13. The Regional Administrator of U.S. Environmental Protection Agency (U.S. EPA), the Executive Officer of the California Air Resources Board, the APCO, or their authorized representatives, upon the presentation of credentials, shall be permitted:

- a) To enter the premises where the source is located or where any records are required to be kept under the terms and Conditions of this Permit;
- b) At reasonable times to have access to and to copy any records required to be kept under the terms and Conditions of this Permit;
- c) To inspect any equipment, operation, or method subject to requirements in this Permit; and
- d) To sample emissions from any and all emission sources within the facility.

[SCAQMD Rule 5]; [NSR 4-4-4 SAC 03-01, Condition 4];  
[District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c Condition 11]

G14. The provisions of this Title V Operating Permit are severable, and, if any provision of this Permit is held invalid, the remainder of this Permit shall not be affected thereby.

[SCAQMD Rule 5]; [NSR 4-4-4 SAC 03-01, Condition 6]

G15. This Operating Permit shall become invalid five years from the date of issuance. The owner/operator shall apply for renewal of this permit no earlier than 18 months and no later than six months before the date of expiration. Upon submittal of a timely and complete renewal application, this Operating Permit shall remain in effect until the APCO issues or denies the renewal application.

[SCAQMD Rule 5]

G16. Equipment is to be maintained so that it operates as it did when the permit was issued. Any change in equipment, method of operation, fuel use, or process which may cause an emission increase, shall be reported to the District at least 30 days prior to taking any action or seeking other permits regarding such change in order for the District to determine if an application of an Authority to Construct is necessary.

[District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c, Condition 3]

G17. The permittee shall remit the Title V supplemental annual fee to the District on a timely basis. Failure to remit fees on a timely basis is grounds for forfeiture of this Operating Permit and the District Permit

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

to Operate. Operation without a Permit to Operate subjects the source to potential enforcement action by the District and the U.S. EPA pursuant to section 502(a) of the Clean Air Act.

[SCAQMD Rule 5]

- G18. Any person who is building, erecting, altering, or replacing any article, machine, equipment or other contrivance, or multi-component system including same, portable or stationary, and who is not exempt under Section 42310 of the *California Health and Safety Code*, the use of which may cause the issuance of air contaminants, shall first obtain written authority for such construction from the APCO.

[SCAQMD Rule 2:1A, Permits Required, 54 FR 26381, 6/18/82]

- G19. Before any article, machine, equipment or other contrivance, or multi-component system including same, portable or stationary, not exempt under Section 42310 of the *California Health and Safety Code*, the use of which may cause the issuance of air contaminants, may be operated or used, a written permit shall be obtained from the APCO.

[SCAQMD Rule 2:1A]

- G20. Where an application for or issuance of a permit is pending or in the event of an emergency occurring as a result of an excusable malfunction of a device under permit, the APCO may authorize the operation of the article, machine, equipment, device, or other contrivance or multi-component system for which a permit is sought for periods of time not to exceed 60 days each for the purpose of testing, experimentation, or obtaining necessary data for a permit or correcting a malfunction. No fee or application will be required for such authorization.

[SCAQMD Rule 2:1A]

- G21. No person shall willfully deface, alter, forge, counterfeit, or falsify a Permit to Operate any article, machine, equipment, or other contrivance.

[SCAQMD Rule 2:21, Defacing Permit, 37 FR 19812, 9/22/72 (current Rule 2:24)]

- G22. A person who has been granted a Permit to Operate as described in Rule 2:1A.b. shall firmly affix such permit, an approved facsimile, or other approved identification bearing the permit number upon the article, machine, equipment or other contrivance in such a manner as to be clearly visible and accessible. In the event that the article, machine, equipment or other contrivance is so constructed or operated that the Permit to Operate cannot be so placed, the Permit to Operate shall be mounted so as to be clearly visible in an accessible place within 25 feet of the article, machine, equipment, or other contrivance, or maintained readily available at all times on the operating premises.

[SCAQMD Rule 2:23, Posting of Permit to Operate, 54 FR 14650, 9/22/72]

- G23. This permit is not transferable from either one location to another, or from one person to another, except on the written approval of the APCO. In the event of any changes in control or ownership of the facilities, this permit and any Approval to Construct/Modify shall be binding on all subsequent owners and operators. The applicant shall notify the succeeding owner and operator of the existence of this

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

permit and any Approval to Construct/Modify and its conditions by letter, a copy of which shall be forwarded to the Air Pollution Control Officer, the California State Air Resources Board, and EPA Region IX.

[SCAQMD Rule 2:21, Transfer of Permit] ;[NSR 4-4-4 SAC 03-01, Condition 5]

- G24. All information, analyses, plans, or specifications that disclose the nature, extent, quantity, or degree of air contaminants or other pollution that any article, machine, equipment, or other contrivance will produce and that any air pollution control district or any other state or local agency or District requires any applicant to provide before such applicant builds, erects, alters, replaces, operates, sells, rents, or uses such article, machine, equipment, or other contrivance, are public records.

[SCAQMD Rule 2:25, Public Records -- Trade Secrets, 42 FR 42223, 8/22/77]

- G25. All air or other pollution monitoring data, including data compiled from stationary sources, are public records.

[SCAQMD Rule 2:25, Public Records -- Trade Secrets, 42 FR 42223, 8/22/77]

- G26. Except as otherwise provided in Condition G27 (below), trade secrets are not public records under this Condition. As used in this Condition, "trade secrets" may include (but are not limited to) any formula, plan, pattern, process, tool, mechanism, compound, procedure, production data, or compilation of information that:

- a) Is not patented,
- b) Is known only to certain individuals within a commercial concern who are using it to fabricate, produce, or compound an article of trade or a service having commercial value, and
- c) Gives its user an opportunity to obtain a business advantage over competitors who do not know or use it.

[SCAQMD Rule 2:25, Public Records -- Trade Secrets, 42 FR 42223, 8/22/77]

- G27. Notwithstanding any other provision of law, all air pollution emission data, including those emission data that constitute trade secrets as defined in subdivision c, are public records. Data used to calculate emission data are not emission data for the purposes of this subdivision, and data that constitute trade secrets and that are used to calculate emission data are not public records.

[SCAQMD Rule 2:25, Public Records -- Trade Secrets, 42 FR 42223, 8/22/77]

- G28. Pursuant to District Rule 2:16, the Air Pollution Control Officer (APCO) may revoke an existing Authority to Construct and/or Permit to Operate if the applicant and/or permittee violates the conditions of such permit as specified by the APCO. The APCO may reinstate the permit at such time as the applicant and/or permittee shows that the condition(s) previously violated are now being attained. Such showing shall not bar the APCO from pursuing any legal remedy with respect to any violation that resulted from the failure to meet any permit condition as specified by the APCO.

[SCAQMD Rule 2:26, Revocation of Permit, 54 FR 14650, 4/12/89]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

G29. Each and every applicable provision of Federal or State law or applicable Air Basin Plan now or hereinafter enacted or as amended that regulates the discharge of any air contaminants is incorporated here by reference. Where such provisions conflict with local rules and regulations, the more restrictive provisions shall apply.

[SCAQMD Rule 3:1, Applicability of State Laws, 42 FR 42223, 8/22/77]

G30. Persons performing maintenance, service, repair or disposal of appliances using CFC's, HCFC's, or other ozone-depleting substances must be certified by an approved technician certification program.

[40 CFR Part 82.161, Stratospheric Ozone Protection]

G31. Persons opening appliances using CFC's, HCFC's or other ozone depleting substances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

[40 CFR 82.156, Stratospheric Ozone Protection]

G32. Equipment used during the maintenance, service, repair, or disposal of appliances using CFC's, HCFC's or ozone-depleting substances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

[40 CFR 82.158, Stratospheric Ozone Protection]

G33. The permittee shall obtain the approval of the APCO prior to using a halogenated solvent in the cold cleaning solvent de-greaser.

[40 CFR Part 63, Subpart T, MACT Standards for Halogenated Solvent Cleaning Operations]

G34. Certain equipment listed in this Permit are subject to the applicable New Source Performance Standards codified at *40 CFR Part 60*, Subparts A and PPP.

[40 CFR Part 60]

G35. Certain equipment at this facility may be subject to the applicable National Emission Standards for Hazardous Air Pollutants codified at 40 CFR Part 63, Subpart A and 40 CFR Part 63, Subpart NNN.

[40 CFR Part 63]

G36. The operating staff of this facility shall be advised of and familiar with all the Conditions of this Permit.

(District-only requirement, not Federally enforceable)

[District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c Condition 12]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

- G37. Any anticipated change to equipment subject to applicable rules and regulations shall be reported to the District prior to installation in order for the District to determine if an application for an Authority to Construct is necessary.

[SCAQMD Rule 2:1A]

- G38. This facility is subject to all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act of 1987, as cited in *California Health and Safety Code* Sections 44300 et seq.

(District-only requirement, not Federally enforceable)

[District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c, Condition 10]

- G39. All equipment, facilities, and systems shall be designed to be operated in a manner that minimizes air pollutant emissions and maintains compliance with the Conditions of this Permit and all applicable regulations.

(District-only requirement, not Federally enforceable)

[District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c, Condition 8]

- G40. The owner/operator shall continuously employ at the facility site at least one staff person who has been educated in using EPA Method 22 for determining the presence of visible emissions or who maintains certification as a Visible Emissions Evaluator capable of accurately discerning stack opacity.

During any periods that the Continuous Opacity Monitors are not in service, daily visual opacity inspections of the stack exhaust shall be conducted using EPA Method 22. A minimum of six (6) contiguous minutes of observations shall be made. The owner/operator shall maintain the following records for all visual observations:

- a) Date and time of reading,
- b) Emission point identification,
- c) Method 22 observation result,
- d) Name of person performing the observation.

If excessive emissions are detected, the district shall be notified.

(District-only requirement, not Federally enforceable)

[District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c, Condition 17]

- G41. The owner/operator shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

(District-only requirement, not Federally enforceable)

[District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c, Condition 19]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

G42. References to rules, regulations, etc., within this Permit shall be interpreted as referring to such rules and regulations in their present configuration and language as of the date of issuance of this Permit.

(District-only requirement, not Federally enforceable)

[District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c, Condition 14]

G43. Correspondence shall be forwarded to each of the following agencies by the specific Title V Permit Condition:

- a) Unless otherwise directed by the EPA or this Permit, the owner or operator shall submit a copy of all test plans, reports, certifications, notifications, and other information pertaining to compliance with this Permit to:

Director, Air Division (Attn: A-5)  
U.S. Environmental Protection Agency Region IX  
75 Hawthorne St.  
San Francisco, CA 94105

- b) The owner or operator shall submit permit applications, permit amendments, and other applicable permit information, which includes but not limited to installation of control equipment, replacement of emissions unit, and changes that contravene permit terms, to:

Enforcement Division  
Air, Waste, and Toxics Branch  
US EPA Region IX (ENF-2)  
75 Hawthorne Street  
San Francisco, CA 94105-3901

- c) Copies of all correspondence required by this Title V Permit shall be forwarded to:

Air Pollution Control Officer  
Shasta County Air Quality Management District  
1855 Placer St., Suite 101  
Redding, CA 96001-1759

and, as required by the specific Title V Permit conditions,

Stationary Source Control Division  
California Air Resources Board  
P.O. Box 2815  
Sacramento, CA 95814

[District Permits 97-PO-26c, 97-PO-27b, 97-PO-28d, 97-PO-29c, Condition 15];  
[NSR 4-4-4 SAC 03-01, Condition 11]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

**Phenol/Formaldehyde Binder - 40 CFR 63, Subpart NNN Requirements**

H1. The owner/operator shall submit in writing to EPA and to the APCO a minimum of thirty (30) days prior to switching to a phenol-formaldehyde binder. Upon switching to a phenol-formaldehyde binder, all applicable sections of 40 CFR 63, subpart NNN will be immediately enforced and conditions H2 through H20 of this permit shall be applicable to the owner/operator.

[District Permits 97-PO-26c, Condition 29; 97-PO-27b, Condition 38; 97-PO-28d, Condition 39];  
[40 CFR 63.1380]

**EMISSION LIMITS AND STANDARDS**

H2. Streamlined Emission Limits Requirement. Total emissions from the Main Stack shall not exceed the values shown in the following table:

Emission Limits:	Pounds/hour (3 hr. avg.)
Formaldehyde	2.0
Phenol	6.0

The formaldehyde emissions from the Main Stack shall not exceed 0.21 lb/ton of glass pulled.

[District Permit 97-PO-28d, Condition 41]

**OPERATING CONDITIONS**

H3. This facility is subject to all the applicable provisions of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Wool fiberglass Manufacturing (40 CFR Part 63, Subpart NNN). Emissions limits stated in the above provisions; however, do not supersede more stringent limits found in other conditions of this permit. As part of, but not limited to, demonstrating compliance with this provision, the owner/operator shall comply with the following:

- a) The owner operator must use a resin in the formulation of the binder such that the free-formaldehyde content of the resin used does not exceed the free-formaldehyde range contained in the specification for the resin used during the performance test as specified in 40 CFR 43, Subpart NNN, section 1384. In addition, the owner/operator must use a binder formulation that does not vary from the specification and operating range establish and used during the subject performance test. The owner/operator must monitor and record the free-formaldehyde content of each resin shipment received and used in the formulation of the binder. Additionally, the owner/operator must monitor and record the formulation of each batch of binder used. For the purposes of this provision, adding or increasing the quantity of urea and/or lignin in the binder formulation does not constitute a change in the binder formulation.
- b) On and after the date on which the performance test required to be conducted by 40 CFR Part 63, Subpart NNN, Sections 63.7 and 63.1384 is completed, the owner/operator must monitor all affected control equipment and processes as described in Subpart NNN according to a written operations, maintenance, and monitoring plan submitted to the District as part of the facility's

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

Title V Operating Permit.

[District Permit 97-PO-26c, Condition 30; 97-PO-27b, Condition 39; and 97-PO-28d, Condition 40];  
[40 CFR 63.1382]

H4. Best Available Control Technology (BACT) for the emissions from the fiberglass forming/curing/and cooling section shall be defined as the following emission control technologies capable of meeting the emission standards as specified in Condition H2 of this permit. The Permittee shall install, and thereafter continuously operate whenever fiberglass is being produced, and maintain the following air pollution control devices:

- a) The owner/operator must operate either the regenerative thermal oxidizer or the two existing thermal oxidizer in such a way that any 3-hour block average temperature in the firebox does not fall below the average established during the performance test as specified in 40 CFR Part 63, Subpart NNN, Section 1384.

[District Permit 97-PO-28d, Condition 49]; [40 CFR 63.1382]

H5. The owner/operator must operate each wet scrubber such that the monitored parameter are not outside the limit(s) established during the most recent performance test as specified in 40 CFR 63, Section 1384 for more than 10 percent of the total operating time in a six-month block reporting period.

[District Permit 97-PO-28d, Condition 46]; [40 CFR 63.1382]

H6. The owner/operator must operate each glass melting furnace such that the glass pull rate does not exceed, by more than 20 percent, the average glass pull rate established during the most recent performance test as specified in 40 CFR 63, Section 1384 for more than 10 percent of the total operating time in a six-month block reporting period.

[District Permit 97-PO-28d, Condition 47]; [40 CFR 63.1382]

H7. The owner/operator must operate the process modification being used to control formaldehyde emissions such that the monitored process parameter(s) are not outside the limit(s) established during the most recent performance test as specified in 40 CFR 63, Section 1384 for more than 10 percent of the total operating time in a six-month reporting period.

[District Permit 97-PO-28d, Condition 48]; [40 CFR 63.1382]

H8. Under no circumstances shall the owner/operator be allowed to operate the system with operation parameters beyond the limits specified in Conditions H4, H5, H6, and H7. The owner/operator shall take immediate action to bring the operation parameters to within the specified limits. Immediate action for the purpose of this condition shall be defined as initiating corrective action within one hour of the discovery of the operational parameter exceedance, except as required by Condition F6.

[District Permit 97-PO-28d, Condition 50]; [40 CFR 63.1382]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

H9. The owner/operator must operate the cold top electric furnace such that the temperature does not exceed 120 °C (250 °F) as measured at a location 46 to 61 centimeters (18 to 24 inches) above the molten glass surface, for more than 10 percent of the total operating time in a 6-month period.

[40 CFR 63.1382]

H10. To reduce the emissions of hydrogen chloride and hydrogen fluoride from each existing, new, or reconstructed glass-melting furnace, the owner/operator must either:

- Require cullet providers to provide records of their inspections showing that no glass from industrial fiberglass, cathode ray tubes, computer monitors, and glass from microwave ovens, televisions or other electronics is included in the cullet, or
- Sample the raw materials and maintain records of the sampling showing that the cullet is free of glass from industrial fiberglass, cathode ray tubes, computer monitors, and glass from microwave ovens, televisions or other electronics.

[40 CFR 63.1382]

**TESTING, MONITORING AND REPORTING**

H11. The owner/operator shall perform performance initial testing on the Main Stack for the pollutants specified in Condition H2 using the test methods as specified in Condition H13. The performance testing shall be completed within ninety (90) days after switching to the phenol-formaldehyde binder. An emission testing protocol detailing the methods of sampling and analysis shall be submitted to the APCO and the EPA Administrator for approval 60 days prior to testing.

[District Permit 97-PO-28d, Condition 42]; [40 CFR 63.1386]

H12. The owner/operator must monitor and record the free-formaldehyde content of each resin shipment received and used in the formulation of the binder. Additionally, the owner/operator must monitor and record the formulation of each batch of binder used. For purposes of this provision, adding or increasing the quantity of urea and/or lignin in the binder formulation does not constitute a change in the binder formulation.

[District Permit 97-PO-26c, Condition 30]; [40 CFR 63.1383]

H13. The following test methods shall apply when testing for the specific pollutant is required:

Pollutant	Test Methods
Formaldehyde	EPA 316
Phenol	Bay Area AQMD ST-16

[District Permit 97-PO-28d, Condition 41]; [40 CFR 63.1385]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

- H14. Monthly emission reports shall be required to be submitted to the District by the 15<sup>th</sup> of the month following data recording and shall include:
- a) Written documentation of the duration, cause, number of events, time (in minutes) to respond with corrective action after initial indication of the three-hour block average of the pressure drop, or liquid flow rate, for any wet-scrubbing control device being outside the limit(s) established during the performance test, and the manner of corrective action, resulting from any variance in the subject wet scrubber operating parameter as established in compliance with 40 CFR Part 63, Subpart NNN, Section 63.1384;
  - b) Written documentation of the duration, cause, number of events, the time (in minutes) to respond with corrective action after the initial indication of the three-hour block average of the temperature in the firebox falling below the average temperature established during the performance test, and the manner of corrective action, resulting from any variance in firebox temperature as established in compliance with 40 CFR Part 63, Subpart NNN, Section 63,1384;
  - c) Written documentation of duration, cause, number of events, the time (in minutes) to respond with corrective action after initial indication of the four-hour block average of the glass pull rate exceeding by greater than 20 percent the average glass pull rate established during the performance test, and the manner of corrective action, resulting from any variance in glass pull rate as established in compliance with 40 CFR Part 63, Subpart NNN, Section 63, 1384;
  - d) Written documentation of the duration, cause, number of events, the time (in minutes) to respond with corrective action after initial indication of monitored process parameter level(s) for process modifications being used to control formaldehyde emissions being outside the limit(s) established during the performance test, and the manner of corrective action, resulting from any variance in the monitored process parameter level(s) as established in compliance with 40 CFR Part 63, Subpart NNN, Section 63.1384;

[District Permit 97-PO-28d, Condition 45]; [40 CFR 63.1386]

- H15. The Permittee shall submit a written report of the following actions on a semi-annual basis:
- a) Any periods that the glass pull rate exceeds the average pull rate during the performance test by more than 20%;
  - b) The date and time of each occurrence;
  - c) The corrective action taken; and
  - d) When the exceedance was corrected.

[40 CFR 63.1386]

- H16. The owner/operator of each rotary spin manufacturing line shall conduct the performance testing using the resin with the highest free-formaldehyde content. During each performance test, the owner/operator shall monitor and record the free-formaldehyde content of the resin, the vendor formulation used, and the product LOI and density.

[District Permit 97-PO-28d, Condition 43]; [40 CFR 63.1384]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

H17. The owner/operator shall use the following test methods to determine compliance:

- a) Product LOI: Method contained in appendix A of 40 CFR Part 63, Subpart NNN;
- b) Free-formaldehyde content of the resin: Method contained in appendix B of 40 CFR Part 63, Subpart NNN;
- c) Product Density: Method contained in appendix C of 40 CFR Part 63, Subpart NNN.

[District Permit 97-PO-28d, Condition 44]; [40 CFR 63.1385]

H18. The facility may conduct short term experimental production runs using binder formulations or other process modifications. Such test are not to exceed one week. The APCO and the EPA Administrator must be notified 15 days prior to commencement of experimental production runs. The notifications must include the following information:

- a) Purpose of the test run;
- b) Affected production line;
- c) How affected process parameter(s) will deviate from approved levels;
- d) Duration of experimental production run;
- e) Date and time of each test run; and
- f) Any emission testing to be performed.

[District Permit 97-PO-28d, Condition 51]; [40 CFR 63.1384]

H19. The owner/operator who uses process modifications to control formaldehyde emissions must establish a correlation between formaldehyde emissions and a process parameter(s) to be monitored.

[District Permit 97-PO-28d, Condition 52]; [40 CFR 63.1383]

H20. The owner/operator must monitor and record at least once every eight (8) hours the product LOI and product density of each bonded wool fiberglass product manufactured.

[District Permit 97-PO-28d, Condition 53]; [40 CFR 63.1383]

H21. The owner/operator must continuously monitor and record the feed rate of any chemicals(s) added to the scrubbing liquid.

[40 CFR 63.1384]

H22. The facility may conduct short term experimental production runs using binder formulations or other process modifications. The APCO must be notified 15 days prior to commencement of experimental production runs.

[40 CFR 63.1384]

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

**PERMIT SHIELD**

11. In accordance with 40 CFR Part 70.6, compliance with terms and Conditions of this Permit shall be deemed to be compliant with the following federal laws and regulations regarding air quality as of the date of permit issuance which were considered during the review of the renewal of this Permit and its modification.

For the rotary spin fiberglass production facility, compliance with the conditions of this Permit shall be assumed to be compliance with District SIP Rules numbered 1:2, 2:1A, 2:5, 2:6, 2:7, 2:10, 2:12, 2:14, 2:21, 2:23, 2:25, 3:1, 3:2, 3:4, 3:6, 3:9, 3:11, and 3:17.

For the rotary spin fiberglass production facility, compliance with the Conditions of this Permit shall be assumed to be compliance with federal Clean Air Act regulations contained in 40 CFR at the following sections:

- 40 CFR Part 60 subparts A, PPP, and IIII (NSPS)
- 40 CFR Part 63 subparts A, NNN, and ZZZZ (NESHAP); and
- 40 CFR Part 64 (CAM)

For the facility, compliance with the conditions of this permit shall be assumed to be compliance with 40 CFR Part 68 (RMP) and 40 CFR Part 82 (Stratospheric Ozone Protection).

Compliance with permit conditions in the Title V permit shall be deemed compliance with the following subsumed requirements: NESHAP 40 CFR 63.1382(a) and Shasta County AQMD Rule 3:2. A permit shield is granted from these requirements.

**KNAUF INSULATION, GmbH**  
**Title V Operating Permit # 03-TV-01d**  
**XXX**

**INSIGNIFICANT EMISSIONS SOURCES**

[The following emission devices are determined to be insignificant sources per District Rule 5 Attachment 1.]

<b>EXEMPT EQUIPMENT</b>	<b>DESCRIPTION</b>	<b>BASIS FOR EXEMPTION</b>
Cooling Tower	Process Cooling Tower	Rule 5, Att.1, Section B.10
Welding Equipment	Maintenance Welding and Cutting Torches	Rule 5, Att.1,Section B.17
Propane Storage Tanks	1,000 gallon Propane Tank	Rule 5, Att.1, Section B.10
Fuel Oil Tank	500 gallon Fuel Oil Tank	Rule 5, Att.1, Section B.8.a
Printing Equipment	Inkjet Printer	
Laboratory Fume Hood	Quality Control Laboratory Fume Hood	Rule 5, Att.1, Section B.8.23
Solvent Cleaning Equipment	Cold Solvent Cleaner	Rule 5, Att.1, Section B.15a,b
Portable Propane Heaters	Propane Space Heater	Rule 5, Att.1,Section B.2.d
Aerosol Paint Cans	Consumer Products	Rule 5, Att.1, Section B.14a,b
Painting Operations	Architectural and Equipment Coating	Rule 5, Att.1, Section B.14
Adhesive Application	Equipment Adhesive application	Rule 5, Att.1, Section B.13