

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION**

May 15, 2015

**PERMIT TO INSTALL**  
44-15

**ISSUED TO**  
Fogel Vault Company

**LOCATED AT**  
1617 Lewis Street  
Bay City, Michigan

**IN THE COUNTY OF**  
Bay City

**STATE REGISTRATION NUMBER**  
N3247

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203:

**March 23, 2015**

DATE PERMIT TO INSTALL APPROVED:

**May 15, 2015**

SIGNATURE:

DATE PERMIT VOIDED:

SIGNATURE:

DATE PERMIT REVOKED:

SIGNATURE:

**PERMIT TO INSTALL**

**Table of Contents**

<b>Section</b>	<b>Page</b>
Alphabetical Listing of Common Abbreviations / Acronyms .....	2
General Conditions .....	3
Special Conditions .....	5
Emission Unit Summary Table.....	5
Flexible Group Summary Table .....	6
Special Conditions for FGCREMATORY123.....	6
Appendix A.....	9

**Common Abbreviations / Acronyms**

<b>Common Acronyms</b>		<b>Pollutant / Measurement Abbreviations</b>	
AQD	Air Quality Division	BTU	British Thermal Unit
BACT	Best Available Control Technology	°C	Degrees Celsius
CAA	Clean Air Act	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
CO <sub>2</sub> e	Carbon Dioxide Equivalent	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H <sub>2</sub> S	Hydrogen Sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
GHGs	Greenhouse Gases	kW	Kilowatt
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure *	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfuction Abatement Plan	NO <sub>x</sub>	Oxides of Nitrogen
MDEQ	Michigan Department of Environmental Quality (Department)	PM	Particulate Matter
MSDS	Material Safety Data Sheet	PM10	PM with aerodynamic diameter ≤10 microns
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM2.5	PM with aerodynamic diameter ≤ 2.5 microns
NSPS	New Source Performance Standards	pph	Pounds per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	psia	Pounds per square inch absolute
PTI	Permit to Install	psig	Pounds per square inch gauge
RACT	Reasonably Available Control Technology	scf	Standard cubic feet
ROP	Renewable Operating Permit	sec	Seconds
SC	Special Condition	SO <sub>2</sub>	Sulfur Dioxide
SCR	Selective Catalytic Reduction	THC	Total Hydrocarbons
SRN	State Registration Number	tpy	Tons per year
TAC	Toxic Air Contaminant	µg	Microgram
TEQ	Toxicity Equivalence Quotient	VOC	Volatile Organic Compound
VE	Visible Emissions	yr	Year

\* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

### GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
  - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
  - b) A visible emission limit specified by an applicable federal new source performance standard.
  - c) A visible emission limit specified as a condition of this Permit to Install.
  
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**
  
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

**SPECIAL CONDITIONS**

**EMISSION UNIT SUMMARY TABLE**

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EUCREMATORY1	Matthews Power Pak II IE43-PPII Fuel Type: Natural Gas Maximum Charge: 300 Pounds Burn Rate: 100 Pounds/Hour Charge Type: Human Remains	June 1994 / May 2015	FGCREMATORY123
EUCREMATORY2	Matthews Power Pak II IE43-PPII Fuel Type: Natural Gas Maximum Charge: 300 Pounds Burn Rate: 100 Pounds/Hour Charge Type: Human Remains	June 1994 / May 2015	FGCREMATORY123
EUCREMATORY3	Matthews Power Pak II IE43-PPII Fuel Type: Natural Gas Maximum Charge: 300 Pounds Burn Rate: 100 Pounds/Hour Charge Type: Human Remains	October 1991 / May 2015	FGCREMATORY123
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.			

**FLEXIBLE GROUP SUMMARY TABLE**

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGCREMATORY123	Three Matthews Power Pak II units installed in 1991 and 1994.	EUCREMATORY1, EUCREMATORY2, EUCREMATORY3

**The following conditions apply to: FGCREMATORY123**

**DESCRIPTION:** Three Matthews Power Pak II units installed in 1991 and 1994.

**Emission Units:** EUCREMATORY1, EUCREMATORY2, EUCREMATORY3

**POLLUTION CONTROL EQUIPMENT:** Secondary combustion chamber with afterburner

**I. EMISSION LIMITS**

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.20 lb /1,000 lbs of gas <sup>a</sup>	Test Protocol*	Each incinerator in FGCREMATORY123	GC 13	R 336.1331
<sup>a</sup> Calculated to 50% excess air. * Test Protocol shall specify averaging time.					

**II. MATERIAL LIMITS**

1. The permittee shall not burn any waste in FGCREMATORY123 other than the following: **(40 CFR 60.51c)**

**Pathological wastes**—As defined in the federal Standards of Performance for New Stationary Sources, 40 CFR 60.51c, pathological waste means waste materials consisting of only human or animal remains, anatomical parts, and/or tissue; the bags/containers used to collect and transport the waste material; and animal bedding. **This flexible group shall burn only HUMAN pathological waste and associated materials.**

2. The permittee shall not charge more than 300 pounds per charge, or any other pound per charge limit specified in the AQD approved Operational Plan, for each incinerator in FGCREMATORY123. The charge is defined as the total weight of the material placed in an incinerator to be combusted. **(R 336.1301, R 336.1331)**

3. The permittee shall not burn any fuel in FGCREMATORY123 other than natural gas. **(R 336.1224, R 336.1225, R 336.1702)**

### **III. PROCESS/OPERATIONAL RESTRICTIONS**

1. No later than 60 days after issuance of this permit, the permittee shall submit to the AQD District Supervisor, for review and approval, an Operation Plan for FGCREMATORY123. The Operational Plan shall include, but is not limited to, items as stated in Appendix A including actions that would be taken during a malfunction or abnormal operating condition. The permittee shall not operate FGCREMATORY123 after the date of submittal unless the Operational Plan is implemented and maintained. **(R 336.1301, R 336.1331, R 336.1910)**
2. The permittee shall not load waste into any incinerator in FGCREMATORY123 unless a minimum temperature of 1250°F and a minimum retention time of 2.3 second in the secondary combustion chamber has been reached, unless otherwise specified in the AQD approved Operational Plan. **(R 336.1301, R 336.1331, R 336.1910)**
3. The permittee shall not allow the temperature in the secondary combustion chamber in any incinerator in FGCREMATORY to fall below 1600°F once that temperature is reached while the load is burning unless otherwise specified in the AQD approved Operational Plan. **(R 336.1301, R 336.1331, R 336.1910)**
4. The permittee shall not modify the air flow to the incinerator except as specified in the AQD approved Operational Plan. **(R 336.1301, R 336.1331, R 336.1910)**
5. Each incinerator and its corresponding pollution control system shall be installed, maintained, and operated in a satisfactory manner to control emissions from FGCREMATORY123. A list of operating and maintenance procedures is specified in Appendix A. **(R 336.1301, R 336.1331, R 336.1910)**

### **IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the temperature in the secondary combustion chamber of each incinerator in FGCREMATORY123 on a continuous basis. **(R 336.1301, R 336.1331)**
2. The permittee shall maintain a scale at the facility for the purpose of verifying the charge weight as required by SC II.2. **(R 336.1301, R 336.1331)**

### **V. TESTING/SAMPLING**

N/A

### **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required records in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1301, R 336.1331, 40 CFR 60.50c(b))**
2. The permittee shall monitor and record the temperature in the secondary combustion chamber of each incinerator in FGCREMATORY123 on a continuous basis during operation. The permittee shall keep, in a manner satisfactory to the AQD District Supervisor, secondary combustion chamber temperature records for each incinerator in FGCREMATORY123. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1301, R 336.1331)**
3. The permittee shall keep, in a satisfactory manner, daily records of the start and stop time (duration of burn), description and weight of the charge combusted in each incinerator in FGCREMATORY123, as required by SC II.2. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1301, R 336.1331)**

4. The permittee shall keep, in a manner satisfactory to the AQD District Supervisor, records on a calendar quarter basis of the periods of time when only pathological waste is burned in the incinerator, as required by 40 CFR 60.50c(b). The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.50c(b))**
5. The permittee shall keep, in a satisfactory manner, a record of all service, maintenance and equipment inspections for each incinerator in FGCREMATORY123. The record shall include the description, reason, date and time of the service, maintenance or inspection. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1301, R 336.1331, R 336.1910)**
6. The permittee shall maintain a log of each time the pollution control system alarm is triggered for any incinerator in FGCREMATORY123. This log shall include any resulting corrective action, which may include updating the Operational Plan. Any modifications to the Operational Plan shall be submitted to the AQD for approval within 45 days of the event triggering the modification. The permittee shall maintain the log records on site and make them available to the Department upon request. **(R 336.1301, R 336.1331, R 336.1910)**
7. The permittee shall maintain all records as required by the AQD approved Operational Plan for FGCREMATORY123. The permittee shall keep these records on file and make them available to the Department upon request. **(R 336.1301, R 336.1331, R 336.1910)**

**VII. REPORTING**

N/A

**VIII. STACK/VENT RESTRICTIONS**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter/ Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVCREMATORY1	20	25	40 CFR 52.21 (c) & (d)
2. SVCREMATORY2	20	25	40 CFR 52.21 (c) & (d)
3. SVCREMATORY3	20	25	40 CFR 52.21 (c) & (d)

**IX. OTHER REQUIREMENTS**

N/A

**APPENDIX A**  
**Incinerator Operation and Maintenance Guidelines**

1. Designate a trained operator for the unit and make that person responsible for compliance with the air pollution control requirements.
2. Clean grates before each day's operation (more often if necessary), and dispose of the ashes properly.
3. Do not load or combust waste until the secondary combustion chamber (afterburner) is at or above the minimum required temperature as specified in SC III. 2 and SC III.3.
4. Do not overload the incinerator. Stay within the given loading rates and follow the manufacturer's instructions.
5. Schedule charges to minimize opening the charging door as infrequently as possible. Opening the charging door lets cold air in and quenches the fire causing smoke.
6. Burn only the type of wastes that the incinerator has been approved to burn. Follow the manufacturer's instructions to maximize the efficiency of the unit, and to properly burn the waste(s).
7. Keep the combustion air adjusted according to the manufacturer's instructions.
8. Observe the stack frequently and adjust the operation as necessary to eliminate smoke and fly ash.
9. Post a copy of the manufacturer's manual and this Guideline near the incinerator.
10. Make quarterly inspections to check and service all of the equipment including the Pollution Control System. If a qualified person is not available for proper inspections, a service contract with a reputable manufacturer is advisable.
11. Follow manufacturer's operation and maintenance guidelines.