



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

5/13/2013

Thomas Competty
M.K. Morse Company
PO BOX 8677
CANTON, OH 44711

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 1576051719
Permit Number: P0101308
Permit Type: OAC Chapter 3745-31 Modification
County: Stark

Certified Mail

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

How to appeal this permit

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Canton City Health Department at (330)489-3385 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: Canton



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
M.K. Morse Company**

Facility ID:	1576051719
Permit Number:	P0101308
Permit Type:	OAC Chapter 3745-31 Modification
Issued:	5/13/2013
Effective:	5/13/2013
Expiration:	5/13/2023



**Division of Air Pollution Control
Permit-to-Install and Operate**

for
M.K. Morse Company

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Final Permit-to-Install and Operate
M.K. Morse Company
Permit Number: P0101308
Facility ID: 1576051719
Effective Date: 5/13/2013

Authorization

Facility ID: 1576051719
Application Number(s): A0033092
Permit Number: P0101308
Permit Description: Chp 31 modification to PTI 15-1324 and first PTIO for K003, Water-based Hole Saw Paint Line, which includes an automated, conveyORIZED paint spray booth, drying oven and cooling tunnel. This permit addresses changes in the method of operation from water-based to solvent-based cleaning materials.
Permit Type: OAC Chapter 3745-31 Modification
Permit Fee: \$200.00
Issue Date: 5/13/2013
Effective Date: 5/13/2013
Expiration Date: 5/13/2023
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

M.K. Morse Company
1101 - 11TH ST. SE
Canton, OH 44711

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

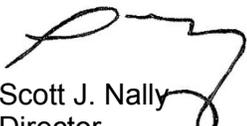
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Canton City Health Department
420 Market Avenue
Canton, OH 44702-1544
(330)489-3385

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Scott J. Nally
Director



Final Permit-to-Install and Operate

M.K. Morse Company

Permit Number: P0101308

Facility ID: 1576051719

Effective Date: 5/13/2013

Authorization (continued)

Permit Number: P0101308

Permit Description: Chp 31 modification to PTI 15-1324 and first PTIO for K003, Water-based Hole Saw Paint Line, which includes an automated, conveyORIZED paint spray booth, drying oven and cooling tunnel. This permit addresses changes in the method of operation from water-based to solvent-based cleaning materials.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Emissions Unit ID:	K003
Company Equipment ID:	HOLE SAW PAINT LINE
Superseded Permit Number:	15-1324
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate

M.K. Morse Company

Permit Number: P0101308

Facility ID: 1576051719

Effective Date: 5/13/2013

A. Standard Terms and Conditions



1. What does this permit-to-install and operate ("PTIO") allow me to do?

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. Who is responsible for complying with this permit?

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. What records must I keep under this permit?

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. What are my permit fees and when do I pay them?

There are two fees associated with permitted air contaminant sources in Ohio:

- PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. When does my PTIO expire, and when do I need to submit my renewal application?

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is



very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. What happens to this permit if my project is delayed or I do not install or modify my source?

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. What reports must I submit under this permit?

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.



10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Canton City Health Department in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting¹ a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

¹ Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).



13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



Final Permit-to-Install and Operate
M.K. Morse Company
Permit Number: P0101308
Facility ID: 1576051719
Effective Date: 5/13/2013

B. Facility-Wide Terms and Conditions



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) 2. below (Definitions)
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) None.
2. Definitions as used in this permit:

As-applied: the formulation of a coating during the application on, or impregnation into a substrate, including any dilution solvents or thinners [or other components] added at the source before application of the coating. [OAC rule 3745-21-01(D)]

As-received: the formulation of a coating material or component (e.g., thinner, catalyst, or additive) as received from the supplier. As-received is equivalent to "as-purchased."

Cleaning material: a solvent used to remove contaminants and other materials such as dirt, grease, oil, and dried (e.g., depainting) or wet coating from a substrate before or after coating application; or from equipment associated with a coating operation, such as spray booths, spray guns, tanks, and hangers. Thus, it includes any cleaning material used on substrates or equipment or both. [OAC rule 3745-21-01(D)]

Exempt solvents: 1. As defined in OAC rule 3745-21-01(B): any of the compounds which are specifically identified in paragraph (B)(16) of this rule as not being volatile organic compounds (VOC). 2. Applicable only if a coating or cleaning material contains volatile matter other than VOC or water, in which case such volatile matter shall be referred to as exempt solvent.[OAC rule 3745-21-10(B)(5)]

Organic compound: any chemical compound containing carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates, ammonium carbonate, methane (except methane from landfill gases), and ethane. [OAC rule 3745-21-01(B)]

Solids: all nonvolatile matter in a coating material. Percent solids + percent volatile matter = 100%.

Volatile matter: all non-solid matter in a coating material, including water. Percent solids + percent volatile matter = 100%.

Volatile organic compounds (VOC): a subset of organic compounds which participate in atmospheric photochemical reactions. Organic compounds which are specifically identified as not being volatile organic compounds are listed under the definition of "volatile organic compound" in OAC rule 3745-21-01(B).



Final Permit-to-Install and Operate

M.K. Morse Company

Permit Number: P0101308

Facility ID: 1576051719

Effective Date: 5/13/2013

C. Emissions Unit Terms and Conditions



1. K003, Hole Saw Paint Line

Operations, Property and/or Equipment Description:

Automated conveyORIZED water-based paint line for coating miscellaneous metal parts, with partially enclosed Water Wash Spray Booth, Model WE-876-S by Global Finishing Solutions, natural gas-fired drying oven (0.4 mmBtu/hr, 190 deg F max.) and cooling tunnel. Particulate emissions from paint overspray are controlled by a waterwash filter system followed by a settling chamber, an aluminum mesh filter, and a polyester fabric pocket filter.

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. b)(2)e.ii., b)(2)e.iii. and e)(3)a.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001 [Best Available Technology (BAT)]	Volatile organic compound (VOC) emissions shall not exceed 9.36 tons per year, based upon a rolling, 12-month summation of the monthly emissions from coatings and cleaning materials combined. See b)(2)b., b)(2)c. and b)(2)d. below. The requirements established pursuant to this rule also include the requirements of OAC rules 3745-21-09(U)(1)(d) and 3745-17-11(C).
b.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)e. below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	[Less than 10 ton/yr BAT exemption]	
c.	OAC rule 3745-21-09(U)(1)(d)	See b)(2)a. below.
d.	OAC rule 3745-17-07(A)	<p>The visible particulate emission limitations established pursuant to paragraph (A)(1) of this rule do not apply to this emissions unit because it qualifies for an exemption pursuant to paragraph (A)(3)(h) of this rule, specifically because it is not subject to any mass emission limitation under any of the rules listed therein.</p> <p>One of the rules listed in 3745-17-07(A)(3)(h) is OAC rule 3745-17-11, but as a surface coating process, this emissions unit is subject to paragraph (C) instead of paragraph (B) of that rule, and paragraph (C) contains no mass emission limitations.</p> <p>See next row, b)(1)e.</p>
e.	OAC rule 3745-17-11(C)	See c)(1) and c)(2), and d)(4) – d)(8) below.

(2) Additional Terms and Conditions

- a. Coatings employed in the coating operations shall not exceed 3.5 pounds of VOC per gallon of coating, excluding water and exempt solvents, as applied.
- b. The potential emissions of particulate matter (PE/PM), nitrogen oxides (NO_x), sulfur dioxide (SO₂), and carbon monoxide (CO) associated with the combustion of natural gas in the drying oven are negligible (less than 0.2 tpy), and therefore emissions limitations for these pollutants have not been established for this emissions unit. The potential emissions of volatile organic compounds (VOC) associated with the combustion of natural gas in the drying oven are also negligible (less than 0.01 tpy), and therefore have not been included in the emissions limitation for VOC for this emissions unit.
- c. Compliance with OAC rule 3745-31-05(A)(3), shall also be demonstrated as follows:
 - i. compliance with Operational Restrictions c)(3) and c)(4) below; and
 - ii. compliance with Monitoring and/or Recordkeeping Requirements d)(1) – d)(3) and d)(9) below.



- d. With the emissions limits and control measures mentioned in term b)(1)a. above, the permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform with ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for sources having potential to emit, taking into account controls, less than ten tons per year of emissions of an NAAQS pollutant or precursor. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirements to satisfy BAT still exist as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, then the emission limits listed above in b)(1)a. no longer apply. Other requirements listed above in b)(1)a. will no longer apply under that rule, but may still apply under different rules (see e. below).
- e. This term only applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan. In that case only, the following Terms and Conditions will apply instead of those listed under b)(1)a.:
 - i. the Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this emissions unit since the calculated annual emissions rate for VOC is less than ten tons per year taking into account the federally enforceable rule limit of 3.5 pounds of VOC per gallon of coating, excluding water and exempt solvents, as applied, under OAC rule 3745-21-09(U)(1)(d);
 - ii. operational restrictions c)(3) and c)(4) shall be applicable, not as BAT requirements, but rather as voluntary restrictions accepted by the permittee; and
 - iii. recordkeeping requirements d)(1) – d)(3) and d)(9) shall be applicable, not as BAT requirements, but rather as voluntary requirements accepted by the permittee.
- c) **Operational Restrictions**
 - (1) The permittee shall install and operate a control system for the control of particulate emissions whenever this emissions unit is in operation. The control system shall consist of a water wash system followed by a settling chamber for larger particles, then an aluminum mesh filter, and finally a polyester pocket filter for progressively smaller particles. The permittee shall operate and maintain each component of the control system in accordance with the manufacturer's recommendations, instructions, and/or operating manual, with any modifications deemed necessary by the permittee.
 - (2) In the event that any component of the particulate control system is not operating in accordance with the manufacturer's recommendations, instructions, and/or operating manual, with any modifications deemed necessary by the permittee, the control system



component shall be expeditiously repaired or otherwise returned to operation in accordance with such requirements.

- (3) Natural gas shall be the only fuel used to supply heat to the drying oven in this emissions unit.
- (4) The maximum operating temperature of the drying oven shall not exceed 190 degrees Fahrenheit.

d) **Monitoring and/or Recordkeeping Requirements**

(1) The permittee shall collect and record the following information each month for the coating materials employed in this emissions unit:

- a. the name and/or identification number of each coating material or coating component employed, as-received from the supplier (examples include coatings, thinners, catalysts and additives);
- b. the volumetric mix ratio for each coating as applied. Also, the name and/or identification number of each coating mixture as-applied, if the as-applied mixture is uniquely identified by the permittee. This requirement does not apply for any coating which is applied in the as-received condition;
- c. the VOC content, in pounds per gallon of coating, excluding the volume of water and exempt solvents, of each coating as applied, calculated in accordance with the procedure described for $C_{VOC,2}$ in g)(1) below, under Miscellaneous Requirements. This record shall be kept for the purpose of demonstrating compliance through the use of compliant coatings, as chosen by the permittee;
- d. the actual VOC content, in pounds per gallon of coating, of each coating as applied, calculated in accordance with the procedure described for $C_{VOC,1}$ in g)(2) below, under Miscellaneous Requirements;
- e. the number of gallons of each coating as applied during the month;
- f. the VOC emissions from each coating applied during the month, in pounds, i.e., "d" times "e" for each coating applied during the month; and
- g. the total VOC emissions from all coatings applied during the month, in pounds, i.e., the summation of the VOC emissions as calculated in "f" for all the individual coatings applied during the month.

(2) The permittee shall collect and record the following information each month for the cleaning materials employed in this emissions unit:

- a. the name and/or identification number of each cleaning material employed;
- b. the VOC content in pounds per gallon for each cleaning material, calculated in accordance with the procedure described for $C_{VOC,1}$ in g)(3) below, under Miscellaneous Requirements;



- c. the number of gallons of each cleaning material employed during the month;
 - d. the number of gallons of each cleaning material recovered and/or sent off-site for disposal during the month;
 - e. the net number of gallons of each cleaning material consumed, i.e., "c" minus "d" for each cleaning material employed during the month;
 - f. the VOC emissions from each cleaning material employed, in pounds, i.e., "b" times "e" for each cleaning material employed during the month; and
 - g. the total VOC emissions from all cleaning materials employed during the month, i.e., the summation of the VOC emissions as calculated in "f" for all cleaning materials employed during the month.
- (3) The permittee shall maintain monthly records of the following information:
- a. the total VOC emissions from coatings applied and cleaning materials employed, in pounds, i.e., the summation of d)(1)g. and d)(2)g. above; and
 - b. the rolling 12-month summation of total VOC emissions calculated in "a."
- (4) The permittee shall maintain documentation of the manufacturer's recommendations, instructions, and/or operating manuals for each component of the particulate control system, along with documentation of any modifications deemed necessary by the permittee.
- (5) The permittee shall conduct periodic inspections of each component of the particulate control system to determine whether it is operating in accordance with the manufacturer's recommendations, instructions, and/or operating manual, with any modifications deemed necessary by the permittee. These inspections shall be performed at a frequency that shall be based upon the recommendation of each component's manufacturer, and the permittee shall maintain a copy of the manufacturer's recommended inspection frequency for each component.
- (6) In addition to the recommended periodic inspections, not less than once each calendar year the permittee shall conduct a comprehensive inspection of the particulate control system while the emissions unit is shut down and perform any needed maintenance and repair to ensure that each component of the control system is able to routinely operate in accordance with the manufacturer's recommendations.
- (7) The permittee shall document each inspection (periodic and annual) of the particulate control system, and shall maintain the following information:
- a. the date of the inspection;
 - b. a description of each/any problem identified and the date it was corrected;
 - c. a description of any maintenance and repairs performed; and
 - d. the name of the person who performed the inspection.



- (8) The permittee shall maintain records that document any time periods when any component of the particulate control system was not in service or was not operated in accordance with the manufacturer's recommendations, instructions, and/or operating manual, with any modifications deemed necessary by the permittee, when the emissions unit was in operation.
- (9) For each day during which the permittee burns a fuel other than natural gas in the drying oven, the permittee shall maintain a record of the type and quantity of fuel burned.

e) Reporting Requirements

- (1) The reports required by this permit may be submitted electronically through the Ohio EPA's "eBusiness Center: Air Services," or they may be mailed or hand-delivered in hardcopy form to the Canton City Health Department, Air Pollution Control Division.
- (2) The permittee shall notify the Canton City Health Department, Air Pollution Control Division in writing (see (1) above) of any monthly record, as recorded in d)(1)c. above, showing the use of noncomplying coatings; i.e., coatings that exceed 3.5 pounds of VOC per gallon of coating, excluding water and exempt solvents. The notification shall include a copy of such record and shall be submitted within 30 days following the end of the calendar month during which the exceedance(s) occurred.
- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Canton City Health Department, Air Pollution Control Division by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit. See (1) above regarding the form and manner for submitting this report. The permittee shall also provide the following information as an attachment to the annual PER for this emissions unit:
 - a. A summary report for the same twelve-month period covered by the annual permit evaluation report, to include the following:
 - i. identification information for each coating employed; e.g., name and/or code number, as applied (as recorded in d)(1)a. and d)(1)b. above);
 - ii. the VOC content of each coating as applied, in pounds per gallon of coating, excluding the volume of water and exempt solvents ($C_{VOC,2}$ as recorded in d)(1)c. above);
 - iii. the actual VOC content of each coating as applied, in pounds per gallon ($C_{VOC,1}$ as recorded in d)(1)d. above);
 - iv. the number of gallons of each coating as applied during the 12-month reporting period, i.e., the summation of the values recorded in d)(1)e. above for all the months in the 12-month reporting period;
 - v. the VOC emissions for each coating as applied during the 12-month reporting period, in pounds, i.e., the summation of the values recorded in d)(1)f. above for all the months in the 12-month reporting period;



- vi. identification information for each cleaning material employed; e.g., name and/or code number (as recorded in d)(2)a. above);
- vii. the VOC content of each cleaning material, in pounds per gallon ($C_{VOC,1}$ as recorded in d)(2)b. above);
- viii. the net number of gallons of each cleaning material consumed during the 12-month reporting period, i.e., the summation of the values recorded in d)(2)e. above for all the months in the 12-month reporting period;
- ix. the VOC emissions for each cleaning material, in pounds, during the 12-month reporting period, i.e., the summation of the values recorded in d)(2)f. above for all the months in the 12-month reporting period; and
- x. the total VOC emissions, in both pounds and tons, from all coatings and cleaning materials employed during the 12-month reporting period (as recorded in d)(3)b. above).

f) **Testing Requirements**

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitation:

3.5 pounds VOC per gallon of coating, excluding water and exempt solvents, of each coating as applied.

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in d)(1)c. above.

b. Emissions Limitation:

If term b)(1)a. above is applicable (BAT limitation), the following limitation applies:

9.36 tons of VOC per year, based upon a rolling, 12-month summation of the monthly emissions from coatings and cleaning materials combined.

Applicable Compliance Method:

Compliance shall be based upon the record keeping specified in d)(3)b. above.

This emissions limitation was established by calculating the maximum annual potential-to-emit for the following processes combined:

- 1. the coating spray process; and
- 2. cleaning material usage.



Coating Spray Process:

The theoretically worst-case coating would have an actual VOC content of 3.5 pounds per gallon as applied ($C_{VOC,1}$), but would contain no water or exempt solvents so that it would still comply with the emissions limitation of 3.5 pounds VOC per gallon of coating, excluding water and exempt solvents, as applied ($C_{VOC,2}$).

According to Thomas Competty of the M.K. Morse Company (letter dated 2/26/2013) the maximum potential coating usage is 4494 gallons per year, which is not based upon the maximum application rate (e.g., gal/hr x 8760 hr/yr), but rather on the upstream bottleneck of maximum manufacturing capacity for the parts to be coated, which is 4.8 million hole saw parts per year. Historical data shows an average requirement of 9.363×10^{-4} gallons of coating per part.

$$(9.363 \times 10^{-4} \text{ gal/part}) \times (4.8 \times 10^6 \text{ parts/yr}) = 4494 \text{ gal/yr}$$

Multiplying the VOC content of the worst-case coating by the maximum coating usage per year:

$$(3.5 \text{ lb}_{VOC}/\text{gal}) \times (4494 \text{ gal/yr}) \div (2000 \text{ lb/ton}) = 7.86 \text{ ton}_{VOC}/\text{yr}$$

Cleaning Material Usage:

In the letter referenced above (Tom Competty, 2/26/2013), the permittee conservatively estimated the maximum net cleanup material usage rate as 440 gal/yr. The VOC content of the cleaning material is 6.80lb/gal(ref Environmental Coatings 12321 Cleaning Thinner).

$$(440 \text{ gal/yr}) \times (6.80 \text{ lb}_{VOC}/\text{gal}) \div (2000 \text{ lb/ton}) = 1.50 \text{ ton}_{VOC}/\text{yr}$$

Summation:

$$(7.86 \text{ ton}_{VOC}/\text{yr})_{COATINGS} + (1.50 \text{ ton}_{VOC}/\text{yr})_{CLEANING MATL} = 9.36 \text{ ton}_{VOC}/\text{yr}$$

g) Miscellaneous Requirements

Values for material properties required in (1) – (3) below shall be determined either by the procedures set forth in U.S. EPA Method 24* or from formulation data provided by the manufacturer of the material.

* Method 24, as described in 40 CFR Part 60, Appendix A, is applicable for the determination of volatile matter content, water content, density, volume solids, and weight solids of paint, varnish, lacquer, or other related surface coatings.

- (1) The following method shall be used to calculate the VOC content of each coating for regulatory compliance purposes, in pounds per gallon of coating excluding water and exempt solvents, as-applied. This value is defined as $C_{VOC,2}$ in paragraph (B)(8) of OAC rule 3745-21-10:



$$C_{VOC,2} = (D_C)(W_{VOC}) / (V_S + V_{VOC})$$

(See below** for an alternative version of the above formula for $C_{VOC,2}$)

where:

D_C = the overall density of the coating, in pounds of coating per gallon of coating.

$$W_{VOC} = W_{VM} - W_W - W_{ES}$$

= the weight fraction of VOC in the coating, in pounds VOC per pound of coating.

where:

W_{VM} = the weight fraction of volatile matter in the coating, in pounds of volatile matter per pound of coating. If this weight fraction is determined by ASTM D2369-04, "Standard Test Method for Volatile Content of Coatings," the drying conditions shall be one hundred ten degrees Celsius for one hour, except where otherwise authorized by the director based on an alternate analytical procedure that is satisfactorily demonstrated to the director by the coating manufacturer to be more representative of the actual cure mechanism of the coating.

W_W = the weight fraction of water in the coating, in pounds of water per pound of coating.

W_{ES} = the weight fraction of exempt solvent in the coating, in pounds of exempt solvent per pound of coating.

V_S = the volume fraction of solids in the coating, in gallons of solids per gallon of coating.

$$V_{VOC} = V_{VM} - V_W - V_{ES}$$

= the volume fraction of VOC in the coating, in gallons VOC per gallon of coating.

where:

V_{VM} = the volume fraction of volatile matter in the coating, in gallons of volatile matter per gallon of coating.

V_W = the volume fraction of water in the coating, in gallons of water per gallon of coating.

V_{ES} = the volume fraction of exempt solvent(s) in the coating, in gallons of exempt solvent(s) per gallon of coating.

** An alternative formula may also be used to calculate $C_{VOC,2}$. Beginning with the standard formula as shown above:

$$C_{VOC,2} = (D_C)(W_{VOC}) / (V_S + V_{VOC})$$



The alternative formula is as follows:

$$C_{VOC,2} = (C_{VOC,1}) / (1 - V_W - V_{ES})$$

where the following substitutions have been made:

$$C_{VOC,1} = (D_C)(W_{VOC}) = \text{the actual VOC concentration in pounds VOC per gallon of coating (see g)(2) below.}$$

and

$$(1 - V_W - V_{ES}) = (V_S + V_{VOC})$$

$$\text{The above substitution is possible because, by definition, } V_S + V_{VOC} + V_W + V_{ES} = 1$$

Notes:

- a. If a coating is applied as-received without the addition of any thinner or any other material, then the “as-applied” value for $C_{VOC,2}$ is the same as the “as-received” value.
- b. If, however, a coating is not applied as-received, but rather is reduced with thinner and/or mixed with a catalyst and/or other additive before application, then the as-applied value, $(C_{VOC,2})_{MIX}$, shall be calculated as shown below based on the mix ratio. Note that the formula for $(C_{VOC,2})_{MIX}$ is *not* a simple volume-weighted average of the $C_{VOC,2}$ values for individual components in the mixture:

$$(C_{VOC,2})_{MIX} = \frac{\sum_{i=1}^n (C_{VOC,2i})(V_i)(V_{Si} + V_{VOCi})}{\sum_{i=1}^n (V_i)(V_{Si} + V_{VOCi})}$$

where:

$i = 1$ refers to the coating material itself as-received.

$i = 2, 3, 4, \dots$ refer to other materials as-received, such as thinners, catalysts, or other additives.

Individual $C_{VOC,2i}$, V_{Si} and V_{VOCi} values should be calculated or obtained for each component material in the coating mixture. For components such as thinners, catalysts, or other additives, the word “coating” used in the general definition for each parameter above should be replaced by the appropriate term for each type of material. For example, for a *thinner* material, V_{VOC} would be defined as “the volume fraction of VOC in the *thinner*, in gallons VOC per gallon of *thinner*.”

V_i = the volume fraction of each component material in the coating mixture as-applied, based on the volumetric mix ratio.



Similarly to what was described above for calculating individual $C_{VOC,2}$ values, substitutions can be made to produce an alternative formula that may be more convenient to use:

$$(C_{VOC,2})_{MIX} = \frac{\sum_{i=1}^n (C_{VOC,1i})(V_i)}{\sum_{i=1}^n (V_i) (1 - V_{Wi} - V_{ESi})}$$

where:

$$C_{VOC,1i} = (C_{VOC,2i})(V_{Si} + V_{VOCI})$$

= $(D_{Ci})(W_{VOCI})$ = the actual VOC concentration in pounds VOC per gallon of coating or other component material (see g)(2) below).

and

$$(1 - V_{Wi} - V_{ESi}) = (V_{Si} + V_{VOCI})$$

- (2) The following method shall be used to calculate the actual VOC content of each coating for emissions calculations purposes, in pounds per gallon of coating, as applied. This value is defined as $C_{VOC,1}$ in paragraph (B)(8) of OAC rule 3745-21-10:

$$C_{VOC,1} = (D_C)(W_{VOC})$$

where:

D_C = the overall density of the coating, in pounds of coating per gallon of coating.

$W_{VOC} = W_{VM} - W_W - W_{ES}$
= the weight fraction of VOC in the coating, in pounds VOC per pound of coating.

where:

W_{VM} = the weight fraction of volatile matter in the coating, in pounds of volatile matter per pound of coating. If this weight fraction is determined by ASTM D2369-04, "Standard Test Method for Volatile Content of Coatings," the drying conditions shall be one hundred ten degrees Celsius for one hour, except where otherwise authorized by the director based on an alternate analytical procedure that is satisfactorily demonstrated to the director by the coating manufacturer to be more representative of the actual cure mechanism of the coating.

W_W = the weight fraction of water in the coating, in pounds of water per pound of coating.



W_{ES} = the weight fraction of exempt solvent(s) in the coating, in pounds of exempt solvent(s) per pound of coating.

Notes:

- a. If a coating is applied as-received without the addition of any thinner or any other material, then the “as-applied” value for $C_{VOC,1}$ is the same as the “as-received” value.
- b. If, however, a coating is not applied as-received, but rather is reduced with thinner and/or mixed with a catalyst and/or other additive before application, then the as-applied value, $(C_{VOC,1})_{MIX}$, shall be calculated as shown below based on the mix ratio. Note that unlike the formula for $(C_{VOC,2})_{MIX}$ in g)(1) above, the formula for $(C_{VOC,1})_{MIX}$ is simply the volume-weighted average of the $C_{VOC,1}$ values for individual components in the mixture:

$$(C_{VOC,1})_{MIX} = \sum_{i=1}^n (C_{VOC,1i})(V_i)$$

where:

$i = 1$ refers to the coating material itself as-received.

$i = 2, 3, 4, \dots$ refer to other materials as-received, such as thinners, catalysts, or other additives.

Individual $C_{VOC,1i}$ values should be calculated or obtained for each component material in the coating mixture. For components such as thinners, catalysts, or other additives, the word “coating” used in the general definition for each parameter above should be replaced by the appropriate term for each type of material. For example, for a *thinner* material, D_C would be defined as “the overall density of the *thinner*, in pounds of *thinner* per gallon of *thinner*.”

V_i = the volume fraction of each component material in the coating mixture as-applied, based on the volumetric mix ratio. (Note that $V_1 + V_2 + V_3 + \dots + V_n = 1.0$)

- (3) The following method shall be used to calculate the actual VOC content for each cleaning material for emissions calculations purposes, in pounds VOC per gallon, based on the definition of $C_{VOC,1}$ in paragraph (B)(8) of OAC rule 3745-21-10 customized for cleaning materials:

$$C_{VOC,1} = (D_{CLEANER})(W_{VOC})$$

where:

$D_{CLEANER}$ = the overall density of the cleaning material, in pounds per gallon.

$$W_{VOC} = W_{VM} - W_W - W_{ES}$$



Final Permit-to-Install and Operate

M.K. Morse Company

Permit Number: P0101308

Facility ID: 1576051719

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= the weight fraction of VOC in the cleaning material, in pounds VOC per pound of cleaning material.

where:

W_{VM} = the weight fraction of volatile matter in the cleaning material, in pounds of volatile matter per pound of cleaning material.

W_W = the weight fraction of water in the cleaning material, in pounds of water per pound of cleaning material.

W_{ES} = the weight fraction of exempt solvents in the cleaning material, in pounds of exempt solvents per pound of cleaning material.