



3. This permit is issued based upon the paint booths being a subject to the VOM emission limitations of 35 Ill. Adm. Code 215.204(j)(5) and 215.204(g). Compliance with these requirements is achieved through the use of compliance coating with VOM content, as applied, not exceeding 3.0 lbs/gallon for metal furniture coating and 3.0 lbs/gallon for all other coatings, excluding water and any compounds which are specifically exempted from the definition of VOM.
4. Emissions and operation from the three coating booths and two powder coating booth (combined) shall not exceed 7.4 tons/month and 73.5 tons/year. The VOM emissions shall be calculated using the following equation:

$$E = [\sum P_i \times C_i] / 2,000$$

where

E - VOM emissions (tons);

P<sub>i</sub> - Coating and solvent usage (gallons);

C<sub>i</sub> - VOM content of coating and solvent used (lbs/gallon);

These limits are based on the maximum production rate. Compliance with annual limits shall be determined from a running total of 12 months of data.

5. The Permittee shall calculate the volume-weighted average emissions of VOC=s in kilograms per liter of coating solids applied (G) each calendar month for each affected facility. [40 CFR 60.313(b)]
6. The following procedures shall be used to calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied (G):
  - a. Calculate the mass of VOC=s used (M<sub>o</sub> + M<sub>d</sub>) during each calendar month for each affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^n L_{ci} D_{ci} W_{oi} + \sum_{j=1}^m L_{dj} D_{dj}$$

Where:

M<sub>d</sub> = The mass of diluent VOC-solvent consumed (kilograms)

M<sub>o</sub> = The mass of VOCs in coatings consumed, as received (kilograms)

L<sub>c</sub> = The volume of each coating consumed, as received (liters)

L<sub>d</sub> = The volume of each diluent VOC-solvent added to coatings (liters)

$D_c$  = Density of each coating, as received (kilograms per liter)

$D_d$  = Density of each diluent VOC-solvent (kilograms per liter)

$W_o$  = The proportion of VOCs in each coating (or input stream), as received (fraction by weight)

$n$  = The number of different coatings used during the calendar month

$m$  = The number of different diluent VOC-solvents used during the calendar month

- b. Calculate the total volume of coating solids used ( $L_s$ ) in each calendar month for each affected facility by the following equation:

$$L_s = \sum_{i=1}^n L_{ci} V_{si}$$

Where:

$L_c$  = The volume of each coating consumed, as received (liters)

$V_s$  = The proportion of solids in each coating (or input stream), as received (fraction by volume)

- c. Calculate the volume-weighted average mass of VOC=s consumed per unit volume of coating solids applied ( $G$ ) during the calendar month for each affected facility by the following equation:

$$G = \frac{M_o + M_d}{L_s T}$$

$T$  = The transfer efficiency (fraction)(for non-rotational electrostatic spray  $T = 0.70$ , manual electrostatic spray  $T = 0.60$ ) for other transfer efficiencies, refer to NSPS 40 CFR 60.313, Table 1.

7. Total natural gas consumption and emissions shall not exceed the following limits:

Natural Gas Usage: 19 mmscf/month, 234.9 mmscf/year

<u>Pollutant</u>	<u>Emission Factor</u> (Lbs/mmscf)	<u>Emissions</u>	
		(Tons/Mo)	(Tons/Yr)
Nitrogen Oxides (NO <sub>x</sub> )	100	2.0	11.74
Carbon Monoxide (CO)	84	1.7	9.90
Particulate Matter (PM)	7.6	0.2	0.90
Volatile Organic Material (VOM)	5.5	0.1	0.70

These limits are based on maximum natural gas consumption and AP-42 emissions factors. Compliance with annual limits shall be determined from a running total of 12 months of data.

8. This permit is issued based on negligible emissions of particulate matter from each emission unit associated with the coating operations. For this purpose, emissions shall not exceed nominal rates of 0.1 lb/hour or 0.44 tons/year.
9. The emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act shall be less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result of this condition, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements to obtain a Clean Air Act Permit Program Permit (CAAPP), and Section 112(G) of the Clean Air Act.
- 10a. Material insulated with polyvinyl chloride or asbestos, or scrap containing the fuming metals tin, zinc, or lead shall not be charged to the ovens.
  - b. The paint burn-off oven afterburner shall be heated to an operating temperature of 1400°F before charging and this temperature shall be maintained during operation.
  - c. The oven shall be equipped with an afterburner temperature indicator.
11. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the pollution control equipment covered under this permit such that the pollution control equipment be kept in proper working condition and not cause a violation of the Environmental Protection Act or regulations promulgated therein.
12. The Permittee shall maintain records of the vendor recommendations at the facility and be available for inspection and copying by the Illinois EPA.
- 13a. The Permittee shall maintain records of the following items for the coating operations:
  - i. The name and identification number of each coating and cleanup solvent as applied.
  - ii. The weight of VOM and HAP content per volume of each coating and cleanup solvent as applied.
  - iii. All coating and solvent usage (gallons/month and gallons/year).
  - iv. VOM and HAP emissions (lbs/month and tons/year).

- b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during a course of a source inspection.
- 14a. The Permittee shall identify, record, and submit a written report to the Illinois EPA's Compliance Section in Springfield, Illinois every calendar quarter of each instance in which the volume-weighted average of the total mass of VOC=s emitted to the atmosphere per volume of applied coating solids (N) is greater than the limit specified under Condition 2(c). If no such instances have occurred during a particular quarter, a report stating this shall be submitted semiannually.[40 CFR 60.315(b)]
- b. If there is an exceedance of or deviation from the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance/deviation. The report shall include the emissions released in accordance with the record keeping requirements, a copy of the relevant records, and a description of the exceedance or deviation and efforts to reduce emissions and future occurrences.
- 15. Two (2) copies of required reports and notifications concerning equipment operation, performance testing, or monitoring shall be sent to the following address, unless otherwise indicated:

Illinois Environmental Protection Agency  
Bureau of Air  
Compliance Section (#40)  
P.O. Box 19276  
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address, unless otherwise indicated:

Illinois Environmental Protection Agency  
Division of Air Pollution Control - Regional Office  
2009 Mall Street  
Collinsville, Illinois 62234

- 16a. The Permittee shall submit the following additional information from the prior calendar year, along with the Annual Emission Report, due May 1st of each year:
  - i. Coating usage (gallons/month and gallons/year);
  - ii. VOM emissions and HAP emissions (lbs/month and tons/year); and

iii. Natural gas usage (mmscf/month and mmscf/year).

- b. If there have been no exceedances during the prior calendar year, the Annual Emission Report shall include a statement to that effect.

It should be noted that this permit was revised to incorporate the Construction Permit #06050061.

If you have any questions on this, please call Dwayne Booker at 217/782-2113.

Edwin C. Bakowski, P.E.  
Acting Manager, Permit Section  
Division of Air Pollution Control

ECB:DLB:psj

cc: Illinois EPA, FOS Region 3  
USEPA

Attachment A - Emissions Summary

This attachment provides a summary of the maximum emission from the metal furniture coating plant operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. The resulting maximum emissions are well below levels e.g., 100 tons per year of VOM, 10 tons/year of any single HAP and 25 tons/year of a combination of all HAPs, at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that material is handled, and control measures are more effective than required in this permit.

<u>Emission Units</u>	E M I S S I O N S (Tons/Year)					
	<u>NO<sub>x</sub></u>	<u>CO</u>	<u>PM</u>	<u>VOM</u>	<u>HAPs</u>	
					<u>Single</u>	<u>Combined</u>
Coating				73.5		
Natural Gas Consumption	<u>11.74</u>	<u>9.9</u>	<u>0.90</u>	<u>0.7</u>		
Totals	<u>11.74</u>	<u>9.9</u>	<u>0.90</u>	<u>74.2</u>	< 10	< 25

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