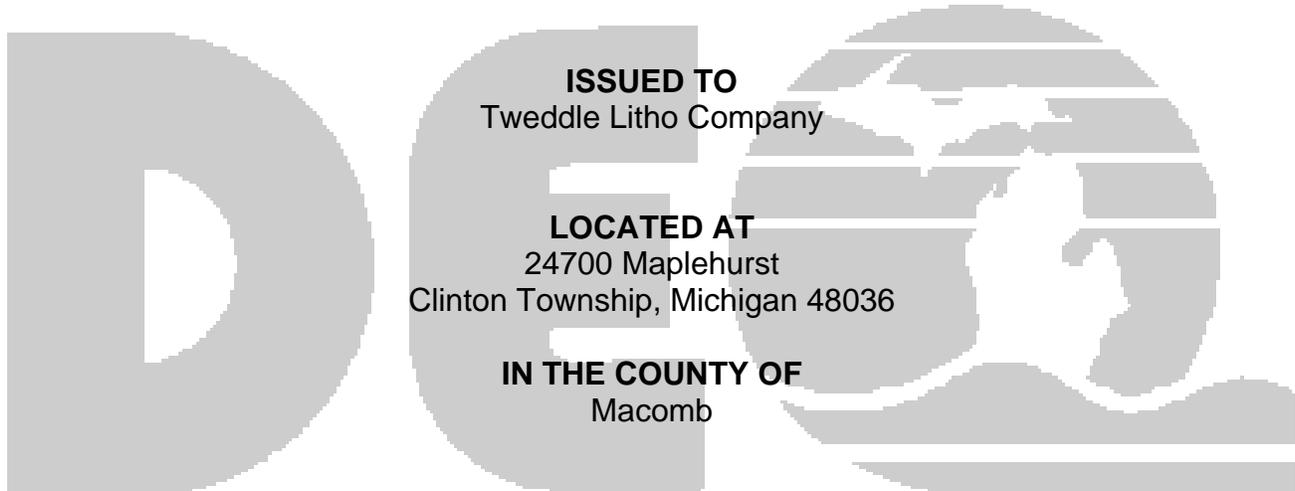


**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION**

July 13, 2007

**PERMIT TO INSTALL  
No. 111-07**



**ISSUED TO**  
Tweddle Litho Company

**LOCATED AT**  
24700 Maplehurst  
Clinton Township, Michigan 48036

**IN THE COUNTY OF**  
Macomb

**STATE REGISTRATION NUMBER**  
N5767

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: <b>5/23/2007</b>	
DATE PERMIT TO INSTALL APPROVED: <b>7/13/2007</b>	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

## NEW SOURCE REVIEW PERMIT TO INSTALL

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**Common Abbreviations / Acronyms Used in this Permit to Install**

<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
COM	Continuous Opacity Monitoring	°F	Degrees Fahrenheit
EPA	Environmental Protection Agency	gr	Grains
EU	Emission Unit	Hg	Mercury
FG	Flexible Group	hr	Hour
GACS	Gallon of Applied Coating Solids	H <sub>2</sub> S	Hydrogen Sulfide
GC	General Condition	HP	Horsepower
HAP	Hazardous Air Pollutant	lb	Pound
HVLP	High Volume Low Pressure *	m	Meter
ID	Identification	mg	Milligram
LAER	Lowest Achievable Emission Rate	mm	Millimeter
MACT	Maximum Achievable Control Technology	MM	Million
MAERS	Michigan Air Emissions Reporting System	MW	Megawatts
MAP	Malfunction Abatement Plan	NO <sub>x</sub>	Oxides of Nitrogen
MDEQ	Michigan Department of Environmental Quality	PM	Particulate Matter
MSDS	Material Safety Data Sheet	PM-10	Particulate Matter less than 10 microns diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	pph	Pound per hour
NSPS	New Source Performance Standards	ppm	Parts per million
NSR	New Source Review	ppmv	Parts per million by volume
PS	Performance Specification	ppmw	Parts per million by weight
PSD	Prevention of Significant Deterioration	psia	Pounds per square inch absolute
PTE	Permanent Total Enclosure	psig	Pounds per square inch gauge
PTI	Permit to Install	scf	Standard cubic feet
RACT	Reasonable Available Control Technology	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
VE	Visible Emissions	VOC	Volatile Organic Compounds
		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, 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 R336.1210, 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 R336.1219 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 R336.1219. The written request 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 R336.1301, 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 R336.1303. **(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 R336.1370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R336.2001 and R336.2003, under any of the conditions listed in R336.2001. **(R 336.2001)**

**SPECIAL CONDITIONS**

**Emission Unit Identification**

<b>Emission Unit ID</b>	<b>Emission Unit Description</b>	<b>Stack Identification</b>
EU-OffetLitho-01	Press #14 - Offset Lithographic Printing Press:  Heatset, Web fed, Web Width: 36", 4-Color, Manual Wash  VOC emissions controlled by Catalytic Oxidizer-01 (Quantum 4000)	SV-CatOxi-01
EU-OffsetLitho-02	Press #16 - Offset Lithographic Printing Press:  Heatset, Web fed, Web Width: 36", 4-Color, Manual Wash  VOC emissions controlled by Catalytic Oxidizer-02 (Quantum 3000)	SV-CatOxi-02
Changes to the equipment described in this table are subject to the requirements of R336.1201, except as allowed by R336.1278 to R336.1290.		

**Flexible Group Identification**

<b>Flexible Group ID</b>	<b>Emission Units Included in Flexible Group</b>	<b>Stack Identification</b>
FG-OffsetLitho	EU-OffetLitho-01 and EU-OffetLitho-02.  Total Two (2) Heatset Web Fed Offset Lithographic Printing Presses	SV-CatOxi-01 & SV-CatOxi-02

**The following conditions apply to: FG-OffsetLitho**

**Emissions Limits**

	<b>Pollutant</b>	<b>Equipment</b>	<b>Limit*</b>	<b>Time Period</b>	<b>Testing/ Monitoring Method</b>	<b>Applicable Requirements</b>
1.1a	VOC Content of the Fountain Solution	Each Offset Lithographic Printing Press or Each Emission Unit of the: FG-OffsetLitho	< 5% By Weight as Applied and shall not contain Isopropyl Alcohol (IPA, CAS #67-63-0), Propyl Alcohol (CAS #71-23-8), & Ethanol (CAS #64-17-5)	Per change in type of fountain solution.	GC 13, SC 1.13, SC 1.14, SC 1.16, & SC 1.17 / Appendix A.	R 336.1702(a)
1.1b	VOC	FG-OffsetLitho	6.4 tpy (Total Combined Emissions, <i>i.e.</i> Stack & Fugitive Emissions)	12-month rolling time period as determined at the end of each calendar month.	SC 1.13 - SC 1.18	R 336.1702(a)

\* Limit:

Heatset Ink: Retention rate of 20 percent of the VOC in the ink applied to the paper, with 100 percent by weights overall capture efficiency of the remaining 80 percent by weight of VOC emitted and a destruction efficiency of 95 percent by weight.

Fountain Solution: Fugitive emissions of 30 percent by weight and an overall capture efficiency of 70 percent by weight, and a destruction efficiency of 95 percent by weight.

Blanket/Roller Wash Material: Retention rate of 50 percent of the VOC in the shop towels and remaining 50 percent by weight as fugitive emissions for the manual wash system.

References:

- *Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing*, EPA-453/R-06-002, September 2006
- *Alternative Control Techniques Document: Offset Lithographic Printing*, USEPA 453/R-94-054, June 1994
- DRAFT Guideline Series – *Control of VOC Emissions from Offset Lithographic Printing*, USEPA, Sept. 1993

**Material Limits**

NA

**Process/Operational Limits**

1.2 The permittee shall recover and reclaim, recycle, or dispose of all inks, fountain solutions, and blanket/roller wash (materials), in accordance with all applicable regulations. **(R 336.1225, R 336.1702(a), R 336.1901)**

- 1.3 The permittee shall capture all waste materials and store them in closed containers. The permittee shall dispose of all waste materials in an acceptable manner in compliance with all applicable state rules and federal regulations. **(R 336.1225, R 336.1702(a), R 336.1901)**
- 1.4 The permittee shall handle all VOC and/or HAP containing materials in a manner to minimize the generation of fugitive emissions. The permittee shall keep containers covered at all times except when operator access is necessary. **(R 336.1225, R 336.1702(a), R 336.1901)**
- 1.5 The permittee shall implement the following listed pollution prevention exercise for FG-OffsetLitho: **(R 336.1225, R 336.1702(a), R 336.1901)**
  - a) If possible, eliminate (or use only on hard to clean spots) use of *type wash* cleaners or cleaners that contain hazardous air pollutants such as toluene and xylene.
  - b) If possible, collect and reuse cleaning solvent.
  - c) Ensure that used solvents and solvent saturated towels or wipes are not disposed with the trash.
  - d) Send solvents that cannot be reused off-site for recycling.
  - e) Conduct training on proper cleaning methods to assure success when using new materials and practices.
  - f) All press related cleaning solvents (blanket and roller washes) shall have composite partial vapor pressures that do not exceed 10 mmHg@20°C (68°F).
  - g) All containers of new and used VOC-containing press related cleaning materials (blanket and roller washes, and solvent-containing cleaning towels) shall be kept closed at all times.
- 1.6 The permittee shall maintain and implement the approved Malfunction Abatement Plan (MAP) for the catalytic oxidizers. Alternate formats or revisions to the approved program must be approved by the AQD District Supervisor. Permittee shall include the testing frequency of the catalyst, to be conducted at least once every two years. **(R 336.1911)**

#### **Equipment:**

- 1.7 The permittee shall not operate FG-OffsetLitho unless all dryers are installed, maintained and operated in a satisfactory manner. Satisfactory operation requires that the each dryer is operating at a pressure lower than all adjacent areas so that air flows into the each dryer through all natural draft openings at all times. This shall be achieved by using existing built-in interlock system which will trigger automatically and shuts off the appropriate press if the dryer is not operating in negative pressure. **(R 336.1225, R 336.1702(a), R 336.1910)**
- 1.8 The permittee shall not operate FG-OffsetLitho unless both catalytic oxidizer are installed, maintained and operated in a satisfactory manner. Satisfactory operation of each catalytic oxidizer requires a minimum VOC destruction efficiency of 95 percent (by weight), and maintaining a minimum catalyst bed inlet temperature of 650 °F and a maximum space velocity of 40,000 inverse hours. **(R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)**

#### **Testing**

- 1.9 The permittee shall annually test and certify the built-in interlock system to show compliance with Special Condition No. 1.7. **(R 336.1225, R 336.1702(a), R 336.1901)**
- 1.10 The VOC content of any material, as received and as applied, shall be determined using federal Reference Test Method 24 (inks, coatings, fountain solution additives and cleaning solvents) or 24A (only applies to solvent-borne inks and related coatings used in the publication rotogravure industry) pursuant to Rule 1040(5). Upon prior written approval by the AQD District Supervisor,

VOC content may be determined from manufacturer's formulation data. If the Method 24 or 24A and the formulation values should differ, the Method 24 or 24A results shall be used to determine compliance. **(R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))**

1.11 Upon written request from the AQD District Supervisor, verification of destruction efficiency of both catalytic oxidizers used for FG-OffsetLitho by testing at owner's expense, in accordance with Department requirements will be required. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of destruction efficiencies includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1901, R 336.1910, R 336.2001, R 336.2003, R 336.2004, R 336.1205)**

### **Monitoring**

1.12 The permittee shall install, calibrate, maintain and operate in a satisfactory manner a temperature monitoring device to continuously monitor the inlet and outlet temperatures of each catalytic oxidizer catalyst bed. **(R 336.1225, R 336.1702(a), R 336.1901)**

### **Recordkeeping / Reporting / Notification**

1.13 All required calculations shall be completed in a format acceptable to the AQD District Supervisor and made available by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **(R 336.1225, R 336.1702(a))**

1.14 The permittee shall keep a separate written record of the following for the FG-OffsetLitho on a calendar month averaging period:

- a) The type of each material used.
- b) Chemical composition of fountain solution, including weight percent of each component.
- c) The VOC content of each material, with water, (in percent by weight or pounds per gallon), as received and as applied.
- d) The usage rate (in pounds or gallons) of each material as applied.
- e) The amount (in pounds) of each material reclaimed.
- f) Record to demonstrate compliance with Special Condition Nos. 1.5 and 1.6.
- g) VOC emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The records shall be kept in a format acceptable to the AQD District Supervisor. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R 336.1205(3), R 336.1225, R 336.1702(a))**

1.15 The permittee shall keep records (once per shift) of the inlet and outlet temperatures of the catalytic oxidizer catalyst bed. The permittee shall keep all records on file for a period of at least five years and make them available to the Department upon request. **(R 336.1225, R 336.1702(a), R 336.1901)**

- 1.16 The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R 336.1225, R 336.1702(a), R 336.1901)**
- 1.17 The permittee shall calculate the VOC content of the fountain solution using the method detailed in Appendix A or an alternate method approved by the AQD District Supervisor. Calculations shall include both dampening aid and wetting agent, as used, in percent by weight. All records shall be kept on file for a period of at least five years and made available to the Department upon request. **(R 336.1225, R 336.1702(a))**
- 1.18 The permittee shall keep annual testing and certification records of the built-in interlock system to show compliance with Special Condition No. 1.9. All records shall be kept on file for a period of five years and made available to the Department upon request. **(R 336.1225, R 336.1702(a), R 336.1901)**

**Stacks/Vents Restrictions**

	<b>Stack &amp; Vent ID</b>	<b>Maximum Diameter or Opening (inches)</b>	<b>Minimum Height Above Ground Level (feet)</b>	<b>Applicable Requirement</b>
1.19a	SV-CatOxi-01	18.0 x 18.0	40.0	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
1.19b	SV-CatOxi-02	18.0 x 18.0	40.0	R 336.1225, R 336.1901, 40 CFR 52.21(c) & (d)
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

**Permit Dates**

- 1.20 Within thirty days of issuance of this permit, the permittee shall label the each emission unit and associated control equipment according to a method acceptable to the AQD District Supervisor. Within thirty days of completing the labeling, the permittee shall notify the AQD District Supervisor, in writing, as to the date the labeling was completed. **(R 336.1201)**

