

**MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT  
AIR QUALITY DIVISION**

November 7, 2007  
**REVISED** February 5, 2010

**PERMIT TO INSTALL**  
710-92B

**ISSUED TO**  
Caraustar Custom Packaging

**LOCATED AT**  
1957 Beverly SW  
Wyoming, Michigan

**IN THE COUNTY OF**  
Kent

**STATE REGISTRATION NUMBER**  
B2544

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Natural Resources and Environment. 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>October 15, 2007</b>	
DATE PERMIT TO INSTALL APPROVED: <b>November 17, 2007</b>	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

**PERMIT TO INSTALL**

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**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
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
ROP	Renewable Operating Permit	SO <sub>2</sub>	Sulfur Dioxide
SC	Special Condition Number	THC	Total Hydrocarbons
SCR	Selective Catalytic Reduction	tpy	Tons per year
SRN	State Registration Number	µg	Microgram
TAC	Toxic Air Contaminant	VOC	Volatile Organic Compounds
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, 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 Natural Resources and Environment. **(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 Identification**

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

<b>Emission Unit ID</b>	<b>Emission Unit Description (Process Equipment &amp; Control Devices)</b>	<b>Installation Date / Modification Date</b>	<b>Flexible Group ID</b>
EU50ManRoland	50" Man Roland 6-Color Non-heatset Sheetfed Offset Lithographic Printing Press with Aqueous Coating Unit. Automatic Blanket and Roller Wash. Stack ID: SV50ManRoland	01/01/1994 Modification: NA	FGOffsetLitho, FGFacility
EU33DrentGoebel	33" Drent Goebel 7-Color Heatset Webfed Offset Lithographic Printing Press with Aqueous Coating Unit and Blanket Cutter at the End. Automatic Blanket and Roller Wash. Stack IDs: SV33DrentGoebel-01 & SV33DrentGoebel-02	09/01/2007 (Permitted 11/07/2007) Modification: NA	FGOffsetLitho, FGFacility
EUDieCutting	Die Cutting Process: One 63" Bobst and Two 50" Bobst. Stack IDs: SVCyclone-01, SVCyclone-02, SVCyclone-03, & SVCyclone-04	01/01/1974, 01/01/1994, & 01/01/1997 Modification: NA	FGOffsetLitho, FGFacility
EUFabrication	Fabrication Process (Gluing Machines): Two Jagenberg, Two Bobst, Two Speed Kings, Two Royal 44, and Two Staude. Stack ID: NA (In-Plant Emissions)	1981, 1982, 2000, 2003, 1949, 1948, 1990, 1991, Unknown, Unknown Modification: NA	FGOffsetLitho, FGFacility

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 Identification**

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

<b>Flexible Group ID</b>	<b>Emission Units Included in Flexible Group</b>	<b>Associated Emission Unit IDs</b>
FGOffsetLitho	EU50ManRoland, EU33DrentGoebel, and EUFabrication.  One Non-heatset Sheetfed Offset Lithographic Printing Presses, One Heatset Webfed Offset Lithographic Printing Presses, and associated Fabrication Process.  Stack IDs: SV50ManRoland, SV33DrentGoebel-01, SV33DrentGoebel-02, & In-Plant Emissions	EU50ManRoland, EU33DrentGoebel, & EUFabrication
FGFacility	All process equipment at the stationary source including equipment covered by other permits, grand-fathered equipment and exempt equipment.	NA

**The following conditions apply to: 1. EUDieCutting**

**Emission Limits**

	Pollutant	Equipment	Limit	Time Period	Testing/ Monitoring Method	Applicable Requirements
1.1a	PM	Each Cyclone of EUDieCutting	0.01 lbs per 1000 lbs of exhaust gases*	Test Protocol	General Condition No. 13	R 336.1331
1.1b	PM-10	Each Cyclone of EUDieCutting	0.8 Pounds Per Hour	Test Protocol	General Condition No. 13	R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)

\* Calculated on a dry gas basis.

**Process / Operational Limits**

1.2 The permittee shall not operate EUDieCutting unless all cyclones are inspected daily in a manner acceptable to the District Supervisor. **(R 336.1224, R 336.1331, R 336.1901, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

**Equipment**

1.3 The permittee shall not operate EUDieCutting unless all cyclones are installed, maintained, and operated in a satisfactory manner. **(R 336.1224, R 336.1331, R 336.1901, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

**Stack / Vent Restrictions**

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
1.4a	SVCyclone-01	120	45	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
1.4b	SVCyclone-02	120	45	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
1.4c	SVCyclone-03	84	49	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
1.4d	SVCyclone-04	84	49	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)

All cyclone stacks have a horizontal discharge.

**The following conditions apply to: 2. FGOffsetLitho**

**Emissions Limits**

	Pollutant	Equipment	Limit	Time Period	Testing/ Monitoring Method	Applicable Requirements
2.1a	VOC Content of the Fountain Solution	EU50ManRoland	< 5% By Weight as Applied	Per change in type of fountain solution	GC 13, SC 2.5, SC 2.7, SC 2.8, & Appendix A	R 336.1702(a)
2.1b	VOC Content of the Fountain Solution	EU33DrentGoebel	< 5% By Weight as Applied and shall not contain either Isopropyl Alcohol (IPA, CAS #67- 63-0), Propyl Alcohol (CAS #71-23-8), or Ethanol (CAS #64-17-5)	Per change in type of fountain solution	GC 13, SC 2.5, SC 2.7, SC 2.8, & Appendix A	R 336.1702(a)
2.1c	VOC	FGOffsetLitho	21.0* tpy (Total Combined Emissions)	12-month rolling time period as determined at the end of each calendar month.	SC 2.5, SC 2.6, & SC 2.8	R 336.1702(a)

\* Applicable VOC Emission Factors:

Non-heatset Ink: Retention rate of 95 percent of the VOC in the oil based ink applied to the paper, the remaining 5 percent by weight of VOC emitted.

Heatset Ink: Retention rate of 20 percent of the VOC in the oil based ink applied to the paper, the remaining 80 percent by weight of VOC emitted

Cleanup Solution (e.g. Blanket Wash, Roller Wash): No solvent retention credit was allowed for wiping towels due to very minimal expected usage at this facility.

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

**Process/Operational Limits**

- 2.2 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 air pollution control rules and federal air regulations. **(R 336.1225, R 336.1702(a), R 336.1901).**
- 2.3 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)**

**Testing**

- 2.4 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))**

**Recordkeeping / Reporting / Notification**

- 2.5 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 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a))**
- 2.6 The permittee shall keep written record of the following for the FGOOffsetLitho on a calendar month period:
- a) Identification of the category (e.g. ink, coating, fountain solution, blanket wash, roller wash) of each VOC containing material used.
  - b) Chemical composition of each material, including weight percent of each component.
  - c) The VOC content of each VOC containing material as received and as-applied (percent by weight or pounds/gallon).
  - d) The usage and reclaimed (in pounds or gallons) of each VOC containing material.
  - e) 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 336.1225, R 336.1702(a))**

- 2.7 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))**
- 2.8 The permittee shall maintain a current listing from the manufacturer of the chemical composition of each VOC containing material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by 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 336.1224, R 336.1225, R 336.1702(a), R 336.1901)**

**Stacks/Vents Restrictions**

	<b>Stack &amp; Vent ID</b>	<b>Maximum Diameter or Discharge Size (inches)</b>	<b>Minimum Height Above Ground Level (feet)</b>	<b>Applicable Requirement</b>
2.9a	SV50ManRoland	18	28.8	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
2.9b	SV33DrentGoebel-01	7	23.0	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
2.9c	SV33DrentGoebel-02	7	23.0	R 336.1225, R 336.1901, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

**Permit Dates**

- 2.10 Within thirty days of issuance of this permit, the permittee shall label each emission unit and associated 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)**

**The following conditions apply to: FGFacility**

**Emissions Limits**

	<b>Pollutant</b>	<b>Limit</b>	<b>Time Period</b>	<b>Equipment</b>	<b>Testing/ Monitoring Method</b>	<b>Applicable Requirements</b>
3.1a	Each Individual HAP	Less than 9.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGFacility	SC 3.3 & SC 3.4	R 336.1205(3)
3.1b	Aggregate HAPs	Less than 22.5 tpy	12-month rolling time period as determined at the end of each calendar month	FGFacility	SC 3.3 & SC 3.4	R 336.1205(3)

**Testing**

3.2 The permittee shall determine the HAP content of any inks, fountain solutions, and blanket/roller wash (materials), as received/as applied, using manufacturer's formulation data. Upon request of the AQD District Supervisor, the permittee shall verify the manufacturer's HAP formulation data using EPA Test Method 311. **(R 336.1205(3))**

**Recordkeeping/Reporting/Notification**

3.3 The permittee shall complete all required calculations 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 recordkeeping, reporting or notification special condition. **(R 336.1205(3))**

3.4 The permittee shall keep the following information on a calendar month basis for FGFacility:

- a) Gallons or pounds of each HAP containing material used.
- b) Where applicable, gallons or pounds of each HAP containing material reclaimed.
- c) HAP content, in pounds per gallon or pounds per pound, of each HAP containing material used.
- d) Individual and aggregate HAP emission calculations determining the monthly emission rate of each in tons per calendar month.
- e) Individual and aggregate HAP emission calculations determining the annual emission rate of each in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records in a format acceptable to the AQD District Supervisor. 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 336.1205(3))**

