

217/782-2113

CONSTRUCTION PERMIT

PERMITTEE

Printpack, Inc.  
Attn: Douglas Cook  
4335 Wendell Drive, S.W.  
P.O. Box 43687  
Atlanta, Georgia 30336-0687

Application No.: 03040059

I.D. No.: 089438ADW

Applicant's Designation:

Date Received: April 22, 2003

Subject: Laminators

Date Issued: October 28, 2003

Location: 1400 Abbott Drive, Elgin, Kane, 60123

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of new adhesive laminator (L35/36) with control by existing oxidizer, four corona treaters, and modifications to existing laminator (L37) to apply solvent-based and non-solvent based adhesive with control by existing oxidizer as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1.0 Unit: Laminators  
Control: Regenerative Thermal Oxidizer (RTO)

1.1 Description

The laminators combine paper and foil to plastic film, to produce multi-layer packaging materials. In extrusion laminating, the film layers are joined by a hot extruded material, sometimes with a VOM containing primer on one layer. In adhesive laminating, an adhesive joins the layers. Depending on the volatile organic material (VOM) of the adhesive, VOM emissions must be controlled. Printing and/or coating may occur on one or both layers sheet prior to being joined.

New adhesive laminator L35/36 is located within a permanent total enclosure (PTE). Printpack is modifying existing laminator L32 so as to be able to operate as an adhesive laminator as well as an extrusion laminator. Modifications to L32 will be designated as L37. This permit does not address this laminator when it continues to operate as an extrusion laminator.

1.2 List of Emission Units and Pollution Control Equipment

| Emission Unit | Description                | Emission Control Equipment |
|---------------|----------------------------|----------------------------|
| L37           | Solvent Adhesive Laminator | Oxidizer                   |
| L35/36        | Solvent Adhesive Laminator | Oxidizer                   |

1.3 Applicability Provisions and Applicable Regulations

- a. The "affected laminators" for the purpose of these unit-specific conditions are the laminators described in Condition 1.2.
- b. The affected laminators are subject to 35 IAC 212.321(a), which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 (see also Attachment 1) [35 IAC 212.321(a)].

- c. Each affected laminator shall comply with the following option pursuant to 35 Part 281 Subpart F:
  - i. The affected laminators are equipped with a capture system and control device that provides 81 percent reduction in the overall emissions of VOM from the affected laminators and the control device has a 90 percent efficiency [See also Condition 1.6]
  - ii. The subject capture systems and control devices must be operated at all times when the affected laminators are in operation [35 IAC 218.207(a)].

1.4 Non-Applicability of Regulations of Concern

- a. Because the affected laminators are subject to 35 IAC Part 218 Subpart F, the affected laminators are not subject to 35 IAC 218.301, Use of Organic Material, pursuant to 35 IAC 218.209.
- b. This permit is issued based on this project not being subject to New Source Review because the five year contemporaneous increase in VOM emissions is less than 25 tons. (See Attachment A)

1.5 Operational and Production Limits and Work Practices

- a. The Permittee shall follow good operating practices for the laminators, including periodic inspection, routine maintenance and prompt repair of defects.
- b. The oxidizer's combustion chamber shall be preheated to the manufacturer's recommended temperature but not lower than 1500°F, before the coating process is begun, and this temperature shall be maintained during operation of the affected laminators in accordance with the conditions of the CAAPP permit.
- c. Usage of VOM in coatings and cleaning solvents for L37 and L35/36 combined shall not exceed 175 tons/month and 1,400 tons/year based on a 12-month rolling total.

1.6 Emission Limitations

- a. The overall control efficiency when non-compliant coatings are applied shall be at least 98%
- b. i. Emissions from the affected laminators shall not exceed the following limits:

| VOM Emissions |        | NO <sub>x</sub> Emissions* |        | CO Emissions* |        |
|---------------|--------|----------------------------|--------|---------------|--------|
| (T/Mo)        | (T/Yr) | (T/Mo)                     | (T/Yr) | (T/Mo)        | (T/Yr) |
| 3.5           | 28.0   | 0.15                       | 1.52   | 0.13          | 1.28   |

\* Only pertain to L35/36 fuel combustion emissions

- ii. The affected laminators are not subject to Section 112(g), Hazardous Air Pollutants (HAPs) because emissions from HAPs are less than 10 tons/year for a single HAP and less than 25 tons/year for all combined HAPs.
- iii. This permit is issued based on negligible emissions of particulate matter and sulfur dioxides from the affected laminators. For this purpose, emissions shall not exceed nominal emissions rates of 0.1 lb/hr and 0.44 tons/year
- c. Compliance with these annual limits shall be determined from a running total of 12 months of data.

1.7 Testing Requirements

Testing for VOM content of coatings and other materials and the efficiency of each capture system and control device shall be performed as follows [35 IAC 218.105(a), 218.211(a), and Section 39.5(7)(b) of the Act]:

- a. Upon reasonable request by the Illinois EPA, the VOM content of specific coatings and cleaning solvents used on the affected laminators shall be determined according to USEPA Reference Methods 24 and 24A of 40 CFR 60 Appendix A and the procedures of 35 IAC 218.105(a) [35 IAC 218.105(a) and Section 39.5(7)(b) of the Act].
  - i. The VOM content of representative coatings "as applied" on the affected laminators shall be determined according to USEPA Reference Methods 24 and 24A of 40 CFR 60 Appendix A and the procedures of 35 IAC 218.105(a).
  - ii. This testing may be performed by the supplier of a material provided that the supplier provides appropriate documentation (e.g., certified product data sheets) for such testing to the Permittee and the Permittee's records pursuant to Condition 1.9(c) directly reflect the application of such material and separately account for any additions of solvent.
- b. i. Within 45 days of startup the Permittee shall conduct tests designed to confirm the presence of the permanent total enclosure on L37.

L35/36 shall be constructed inside the existing permanent total enclosure previously occupied by press #5. The Permittee shall continue to operate this permanent total enclosure in accordance with the conditions of the CAAPP permit.
- ii. The following methods and procedures shall be used for testing of permanent total enclosure:

USEPA Method 204 or Illinois Method Part 218, Appendix B Procedures T

1.8 Monitoring Requirements

The Permittee shall monitor the oxidizer in accordance with the conditions in its CAAPP permit.

1.9 Recordkeeping Requirements

The Permittee shall keep the following records:

- a. Records to determine VOM content of coating and VOM emissions.
  - i. The name and identification number of each coating as applied.
  - ii. The usage of each coating, gallons or pounds/month.
  - iii. VOM content per volume of coating, consistent with the usage records.
  - iv. The VOM content per volume of coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied at each affected laminator for each coating.
  - v. The usage of VOM on the affected laminators (tons/month).
- b. Records required for the oxidizer by 35 IAC 218.211(e) and to determine emissions.
  - i. Control device monitoring data.
  - ii. A log of operating time for capture system, control device, monitoring equipment and the affected laminators.

If the oxidizer is operating in accordance with the conditions of the CAAPP permit, operation/shutdown records for the affected laminators are not required. If the oxidizer is not operating in accordance with the CAAPP permit, operation/shutdown records for the affected laminators are required.
  - iii. Usage of VOM on the affected laminator during period when the oxidizer was in operation.
- c. Logs of inspection, maintenance, and repairs for the affect laminators, control device, and capture system to demonstrate good air pollution control practice.
- d. Emissions records.

1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, of deviation of an affected laminator with the permit requirements as follows. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. Deviations of the affected laminators with any permit requirements within 30 days of such an occurrence, including deviations from operating, monitoring, or recordkeeping requirements.

1.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee may operate the affected laminators with coatings that satisfy the requirements for compliant coating pursuant to 35 IAC 218.204(c) and 218.205(a).

Note: The operation of "unmodified" laminator L32 as an extrusion laminator is authorized by the source's CAAPP permit.

1.12 Compliance Procedures

- a. The VOM content of coatings or adhesives for purposes of determining compliance with 35 IAC 218.204(c) and determining VOM emissions shall be determined from the testing and record keeping required by Condition 1.7 and 1.9 respectively.
- b.
  - i. Monthly VOM emissions shall be calculated from a sum for coating usage in gallons or pounds times VOM content in pounds per gallon or weight percent as appropriate.  
$$\{[\text{Usage as delivered to the application equipment (gal or lb/mo)} \times \text{VOM Content (lb/gal or wt. \%)}] + [\text{Usage as added at the application equipment (gal or lb/mo)} \times \text{VOM Content (lb/gal or wt. \%)}]\} \times [1 - \text{DE (\%/100)}]$$
  - ii. The destruction efficiency of the oxidizer shall only be considered to 98% if the oxidizer is properly operated as required by the CAAPP permit consistent with historical emission testing conducted on the afterburner.
  - iii. This permit is issued based on methylene diphenyl diisocyanate (MDI) present in certain adhesives being fully reactive.

Accordingly, MDI is excluded from usage records and VOM emissions since it contributes negligible emissions of VOM.

2. This permit is issued based on negligible emissions of ozone from the four corona treaters. For this purpose, nominal emission rates of each treater shall not exceed 1.0 lb/hr and 4.38 tons/year.
3. The Permittee shall shutdown press #5 before operation on affected laminators begins.
4. The Permittee may operate the affected laminators and corona treaters under this permit until its CAAPP permit is revised.

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

Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

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cc: Region 1

Attachment A

Net Change in VOM Emissions (Tons/year)

Contemporaneous Time Period of 1999 Through 2003

**Table I - Emissions Increases Associated With The Proposed Modification**

| <u>Item of Equipment</u> | <u>Proposed Project</u> | <u>Permitted Emissions<br/>(Tons/Year)</u> |
|--------------------------|-------------------------|--|
| Laminators               | 2003                    | 28.00                                      |
| Corona Treaters          | 2003                    | --   |

**Table II - Source-Wide Creditable Contemporaneous Emission Increases**

None

**Table III - Source-Wide Creditable Contemporaneous Emission Decreases**

| <u>Item of Equipment</u> | <u>Date</u> | <u>Permit</u> | <u>Emissions<br/>(Tons/Year)</u> |
|--------------------------|-------------|---------------|----------------------------------|
| Shutdown of Press 5      | 2001        | 01030057      | 3.03 <sup>1</sup>                |
| Laminator L32            | 1965        | --            | 0.0 <sup>2</sup>                 |

<sup>1</sup>Average of 2001 and 2002

<sup>2</sup>Laminator L32 will continue to operate as an extrusion laminator in accordance with the CAAPP permit.

**Table III - Net Emissions Change**

|   | <u>(Tons/Year)</u> |
|---|--------------------|
| Increases Associated With The Proposed Modification | 28.00              |
| Creditable Contemporaneous Emission Increases       | 0.00               |
| Creditable Contemporaneous Emission Decreases       | <u>- 3.03</u>      |
|   | 24.97              |

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