

SUPPLEMENT to PERMIT No. 50-99

Jacobs Plastics, Inc.  
Adrian, Michigan

August 26, 1999

GENERAL CONDITIONS

1. Rule 201(1) - The process or process equipment covered by this permit shall not be reconstructed, relocated, altered, 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.
2. Rule 201(4) - If the installation, reconstruction, relocation, or alteration 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 person to whom this permit was issued, 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, reconstruction, relocation, or alteration of the equipment allowed by this Permit to Install.
3. Rule 201(6)(a) - If this Permit to Install is issued for a process or process equipment located at a stationary source that is subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, trial operation is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install and until the appropriate terms and conditions of this Permit to Install have been incorporated into the Renewable Operating Permit. Upon incorporation of the appropriate terms and conditions into the Renewable Operating Permit, this Permit to Install shall become void.
4. Rules 201(6)(b) - 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.
5. Rule 201(8) and Section 5510 of Act 451, P.A. 1994 - 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 Departments' rules or the Clean Air Act.
6. Rule 219 - 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. The written request shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality.

7. Rule 901 - 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.
8. Rule 912 - The owner or operator of a source, process, or process equipment shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant in excess of standards for more than one hour, or of any air contaminant in excess of standards for more than two hours, as required in this rule, to the District Supervisor, Air Quality Division. 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 District Supervisor within 10 days, with the information required in this rule.
9. Approval of this permit does not exempt the person to whom this permit was issued from complying with any future applicable requirements which may be promulgated under Part 55 of Act 451, P.A. 1994 or the Clean Air Act.
10. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
11. Operation of this equipment may be subject to other requirements of Part 55 of Act 451, P.A. 1994, and the rules promulgated thereunder.
12. Rule 301 - 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, a person 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.
  - a) A 6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% 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.
13. Rule 370 - 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).

14. Rule 285 - Except as allowed by Rule 285 (a), (b), and (c), applicant shall not substitute any fuels, coatings, nor raw materials for those described in the application and allowed by this permit, nor make changes to the process or process equipment described in the application, without prior notification to and approval by the Air Quality Division.
15. The Department may require the applicant to conduct acceptable performance tests, at the applicant's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001.

## SPECIAL CONDITIONS

1. The following definitions apply to all conditions and Appendices of this permit:
  - a. "Expandable polystyrene beads" or "EPS beads" means certain polymeric materials containing an easily volatilized organic material. The EPS beads can be partially expanded by treatment with steam and subsequently processed and molded into rigid foam finished goods.
  - b. "Processes" means finished goods storage and all the steps taken to create finished goods from expandable polystyrene beads. Major steps include partially expanding the beads with steam in a pre-expander, pre-puff storage, and molding with steam in a mold.
  - c. "Production-weighted average fraction of VOC retained in product" or "VOC retained in product" means the average fraction of VOC contained in the raw beads that is retained in the product for each month's production. This average is determined by dividing the VOC content of each product by the VOC content of the respective raw beads and weighting this ratio by the fraction, by weight, of the month's production that the product constitutes. The fraction of VOC retained shall be presumed to be 0.15 for any product until its fraction of VOC retained has been determined, directly or indirectly, from product testing in accordance with Special Condition No. 4.
  - d. "Volatile organic compound" or "VOC" has the meaning given in Rule 122. In testing conducted for this permit, VOC shall be determined as pentane.

This condition defines terms for the permit, and does not reflect any underlying applicable requirement.

2. The VOC emission rate from the processes shall not exceed any of the following limits:
  - a. 5.6 pounds per 100 pounds of EPS beads processed based on a 12-month rolling time period as determined at the end of each calendar month.
  - b. 89.0 tons per year based on a 12-month rolling time period as determined at the end of each calendar month (calculated from actual monthly pre-expansion throughput data).

This condition is necessary to assure compliance with best available control technology (BACT) which has been established pursuant to Rule 702(a) and the emissions limits which have been established pursuant to Rule 205(3).

3. Applicant shall not process more than 12 tons of material in the pre-expander during any eight hour period. A written record of the amount of material processed each hour shall be kept on file for a period of at least five years and made available to the Department upon request. This condition is necessary to assure compliance with Rule 225.
4. If applicant chooses not to use the presumed VOC in retained product in Special Condition No. 1, then applicant shall determine the actual VOC content, as shipped, of product from the processes as follows. Applicant shall obtain monthly samples of final product, in triplicate, until six valid sets of results have been obtained. Thereafter, applicant shall follow a sampling schedule approved by the District Supervisor, Air Quality Division. The samples shall represent the full range of VOC content of EPS beads used in the processes and shall support an estimate of the VOC retained in product from the processes. Applicant shall use sampling and analysis methods approved by the District Supervisor. Results of product sampling and analysis shall be submitted to the District Supervisor in an acceptable format

within 30 days following the receipt of analytical results. A written record of all VOC content determinations shall be kept on file for a period of at least five years and made available to the Department upon request. This condition is necessary to assure compliance with the emission limits which have been established pursuant to Rules 702(a) and 205(3).

5. Applicant shall keep a written record for each calendar month of the throughput at pre-expansion for each lot of EPS beads. This record shall be kept on file for a period of at least five years and made available to the Department upon request. This condition is necessary to assure compliance with the emission limits which have been established pursuant to Rules 702(a) and 205(3).
6. Applicant shall keep a record of the weight percent VOC as received for each lot of EPS beads used in the processes (expressed as pounds of VOC per 100 pounds of EPS beads). This information shall be kept on file for a period of at least five years and made available to the Department upon request. This condition is necessary to assure compliance with the emission limits which have been established pursuant to Rules 702(a) and 205(3).
7. Applicant shall limit the annual throughput of EPS beads at pre-expansion as specified below, based on a 12-month rolling time period as determined at the end of each calendar month. This condition is necessary to assure compliance with the emission limits which have been established pursuant to Rules 702(a) and 205(3).

$$\sum_{12\text{-months}} \left( \frac{\sum_i (U_i \times V_i)}{100} \times (1 - P_w) \right) \leq 178,000 \text{ pounds}$$

$U_i$  = Pounds of EPS beads from lot  $i$  used during the calendar month.  
 $V_i$  = VOC content of EPS beads from lot  $i$ , in pounds of VOC per 100 pounds of beads.  
 $P_w$  = Production-weighted average fraction of VOC retained in product.

8. Applicant shall calculate and keep a record for each calendar month of the VOC emission rate (expressed as pounds of VOC per 100 pounds of EPS beads processed) and the total VOC emissions from the processes (based on throughput at pre-expansion), using the method detailed in Appendix A. This information shall be compiled for each calendar quarter and shall be submitted to the District Supervisor in an acceptable format within one calendar month following the end of the quarter in which the data were collected. After information for two quarters of operation has been submitted to the District Supervisor, the District Supervisor may approve alternate reporting procedures. Regardless of the reporting procedures in use, the record shall be kept on file for a period of at least five years and made available to the Department upon request. This condition is necessary to assure compliance with the emission limits which have been established pursuant to Rules 702 and 205(3).
9. The exhaust gases from the processes shall be discharged unobstructed to the ambient air from vents with the dimensions, heights above ground level, and orientations listed below.

<u>Vents</u>	<u>Dimensions (feet)</u>	<u>Minimum Height (feet)</u>	<u>Orientation</u>
Roof Vents	4 x 8	25.5	Vertical
Wall Vents	4 x 4	12	Horizontal

APPENDIX A

- I. The pounds of VOC per 100 pounds of EPS beads used in the processes during a calendar month shall be calculated as follows:

$$P = \frac{\sum_i (U_i \times V_i)}{\sum_i U_i}$$

where:

- $P$  = Pounds of VOC per 100 pounds of EPS beads used in the processes during the calendar month.  
 $U_i$  = Pounds of EPS beads from lot  $i$  used during the calendar month.  
 $V_i$  = VOC content of EPS beads from lot  $i$ , in pounds of VOC per 100 pounds of beads.

- II. For each lot of EPS beads ( $i$ ) used in the processes, the VOC emission for the calendar month shall be calculated as follows:

$$E_i = \frac{U_i \times V_i}{100} \times (1 - P_w)$$

where:

- $E_i$  = VOC emissions due to use of EPS beads from lot  $i$  during the calendar month, in pounds.  
 $U_i, V_i$  = As above.  
 $P_w$  = Production-weighted average fraction of VOC retained in product.

- III. The total VOC emission for the calendar month due to the use in the processes of all lots of EPS beads shall be calculated as follows:

$$T_m = \sum_i E_i$$

where:

- $T_m$  = Total VOC emissions during the calendar month, in pounds.  
 $E_i$  = As above.