



*Mitchell E. Daniels, Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
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TO: Interested Parties / Applicant  
DATE: January 26, 2005  
RE: Flexform Technologies, Inc. / 039-19935-00516  
FROM: Paul Dubenetzky  
Chief, Permits Branch  
Office of Air Quality

### Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures  
FNPER-AM.dot 1/10/05



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We make Indiana a cleaner, healthier place to live.*

*Mitchell E. Daniels, Jr.*  
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100 North Senate Avenue  
Indianapolis, Indiana 46204  
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Mr. Garry Balthers  
Flexform Technologies, Inc.  
26690 Pleasant Place  
Elkhart, Indiana 46514

January 26, 2005

Dear Mr. Balthers:

Re: Exempt Construction and Operation Status,  
**039-19935-00516**

The application from Flexform Technologies, Inc., received on November 29, 2004, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.1-1, it has been determined that the following operation located at 4638 Beck Drive, Elkhart, Indiana, is classified as exempt from air pollution permit requirements:

- (a) A non-woven mat production plant, constructed in 1999 and modified in 2005, which has a maximum usage rate of 3,837 pounds of fibers per hour and uses HEPA filters for particulate control. The production process involves blending, carding, crosslapping, needle punching, cutting and trimming. It also includes one (1) natural gas-fired pre-contact oven, with a heat input of 1 million British Thermal Units per hour (mmBtu/hr) and a second contact oven, with a heat input of 1 mmBtu/hr. The mat is used for side panels in cars.

The following conditions shall be applicable:

1. Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:
  - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
2. Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the existing mat production line shall not exceed 6.1 pounds per hour when operating at a maximum process weight rate of 1.82 tons per hour.

The new mat production line shall also be subject to the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes). The allowable particulate emission rate from the new mat production line shall not exceed 0.88 pounds per hour when operating at a maximum process weight rate of 0.1 tons per hour.

The pounds per hour limitation was calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

The Permittee shall operate the HEPA filters at all times the production lines are in operation to be in compliance with 326 IAC 6-3-2.

The source shall not be subject to 326 IAC 2-7 (Part 70 Operating Permit) requirements.

This exemption is the second air approval issued to the source. The source shall operate in compliance with this approval and Exemption No. 039-10746-00516, issued on May 3, 1999.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original signed by  
Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

GS/EVP

cc: File - Elkhart County  
Elkhart County Health Department  
Air Compliance Section Inspector – Paul Karkiewicz  
Compliance Data Section  
Administrative and Development  
Technical Support and Modeling  
IDEM Northern Regional Office

## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for an Exemption

#### Source Background and Description

<b>Source Name:</b>	Flexform Technologies, Inc.
<b>Source Location:</b>	Elkhart Industrial Park, 4638 Beck Drive, Elkhart, Indiana
<b>County:</b>	Elkhart
<b>SIC Code:</b>	2299
<b>Operation Permit No.:</b>	039-19935-00516
<b>Permit Reviewer:</b>	Gaurav Shil / EVP

The Office of Air Quality (OAQ) has reviewed an application from Flexform Technologies, Inc. relating to the construction and operation of the following equipment at the existing non-woven mat production plant:

A new production line, which has a maximum capacity of 200.04 pounds of fibers per hour, used for processing blended fibers into matting. The production process involves blending, carding, crosslapping, needle punching, cutting and trimming.

The new production line will be incorporated into the pre-existing central pneumatic conveyance system. This pneumatic conveyance system directs the collected fibers through a screen and rotary drum system. The collected fibers are then redirected to be reblended into the matting and the air exiting the system is then returned to the interior of the plant. The air also passes through a secondary HEPA filter, which is then released inside the building.

#### Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) Exemption No. 039-10746-00516 issued on May 3, 1999.

#### Enforcement Issue

There are no enforcement actions pending.

#### Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on November 29, 2004 and additional information was received on December 29, 2004.

**Potential To Emit**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	0.90
PM-10	0.90
SO <sub>2</sub>	0.00
VOC	0.786
CO	0.7
NO <sub>x</sub>	0.9

- (a) The potential to emit as defined in 326 IAC 2-1.1-1 (16) of particulate matter (PM), particulate matter with an aerodynamic diameter less than ten (10) micrometers (PM<sub>10</sub>) is less than five (5) tons per year, the potential to emit of NO<sub>x</sub> is less than ten (10) tons per year and the potential to emit of VOC and CO is less than ten (10) tons per year and twenty-five (25) tons per year, respectively. Therefore, pursuant to 326 IAC 2-1.1-3 (e), this source is exempt from the requirement to obtain a registration or permit. (Please refer Appendix A, Page 1 for emission calculations).

**Potential to Emit After Controls for the Source**

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units for the source.

Process/facility	Potential to Emit (tons/year)							
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	Single HAP	Total HAPs
Existing Mat Production Plant	0.68	0.68	-	0.72	0.7	0.9	-	-
New Mat Production Line	0.004	0.004	-	0.066	-	-	-	-
Total Source Emissions	0.684	0.684	-	0.786	0.7	0.9	N/A	N/A
PSD Significant Thresholds	250	250	250	250	250	250	N/A	N/A

This source is not a major stationary source because the emissions of each attainment regulated pollutant shall be less than 250 tons per year and it is not one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

### County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
1-hr Ozone	Attainment
8-hr Ozone	Nonattainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides (NO<sub>x</sub>) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for nonattainment new source review.
- (b) Elkhart County has been classified as attainment for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

### Part 70 Permit Determination

This existing source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This is the second air approval issued to this source.

### Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this Exemption.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in this Exemption.

### State Rule Applicability - Entire Source

#### 326 IAC 2-1.1-5 (Nonattainment New Source Review)

Elkhart County has been designated as non-attainment for the 8-hour ozone standard on June 15, 2004. VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the 8-hour ozone standard. The source wide potential to emit of VOC and NO<sub>x</sub> is 0.786 and 0.9 tons per year respectively. The source is classified as minor for the purpose of non-attainment new source review. Since the VOC emissions are less than the non-attainment new source review thresholds the requirements of non-attainment new source review do not apply.

**326 IAC 2-6 (Emission Reporting)**

This source is located in Elkhart County, does not have any lead emissions and is not required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program. Therefore, 326 IAC 2-6 does not apply.

**326 IAC 5-1 (Opacity Limitations)**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

**State Rule Applicability - Individual Facilities**

**326 IAC 6-3-2 (Particulate emission limitations, work practices, and control technologies)**

Pursuant to this rule the particulate matter (PM) from the new non-woven mat production line shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The maximum process rate for the new non-woven mat production line is 0.1 tons per hour (200 pounds per hour). Hence, based on the above formula the allowable particulate emission rate shall be 0.88 pounds per hour. The HEPA filter shall be in operation at all times the mat production line is in operation, in order to comply with the emission limits. Based on the calculations (Appendix A, page 1) the mat production line is in compliance with PM emission limit.

Pursuant to Exemption no. 039-10746-00516, issued on May 3, 1999, the maximum process rate for the existing non-woven mat production line is 1.82 tons per hour. Hence, based on the above formula the allowable particulate emission rate shall be 6.1 pounds per hour. The HEPA filter shall be in operation at all times the mat production line is in operation, in order to comply with the emission limits. The existing non-woven mat production line is in compliance with the rule, since its PTE for PM is below the limit in this rule.

**326 IAC 8 (Volatile Organic Compound Rules)**

The requirements of 326 IAC 8 apply to source categories that are described in the rule. This source category is not among the sources described in the rule and therefore the requirements of 326 IAC 8 do not apply.

**326 IAC 8-1-6 (New Facilities; General VOC Reduction Requirements)**

This rule applies to facilities located anywhere in the State that were constructed on or after January 1, 1980, which have a potential to emit (PTE) VOC at 25 tons per year or more, and which are not otherwise regulated by another provision of Article 8. The new non-woven mat production line does not have a PTE VOC at 25 tons per year or more. Therefore, 326 IAC 8-1-6 does not apply.

## **Conclusion**

The construction and operation of the new non-woven mat production line shall be subject to the conditions of the attached proposed Exemption 039-19935-00516.

**Appendix A: Emissions Calculations  
New Mat Production Line**

**Company Name:** Flexform Technologies, Inc.  
**Address City IN Zip:** Elkhart Industrial Park, 4638 Beck Drive, Elkhart, IN  
**Exemption:** 039-19935-00516  
**Reviewer:** Gaurav Shil/EVP  
**Date:** 1/26/2005

Material	Hourly rate (kg/hr)	Hourly rate (lb/hr)	% Polymer	% Natural	% VOC	Polymer fiber loss	Natural fiber loss	Poly fiber Screening Efficiency %	Natural Blend Screening Efficiency %	HEPA control %
Maximum Polymer	90.7	200.04	50.0%	50.0%	0.0075%	1.50%	1.50%	99.7%	97.0%	98.0%

**Potential VOC Emissions (TPY) 0.066**

**Potential PM Emissions (TPY)**

Process	Pre-HEPA	Post-HEPA
Poly fiber	0.02	0.000
Natural fiber	0.20	0.004

**Pre-HEPA Potential PM Emissions (TPY) 0.22**

**Controlled PM Emissions (TPY) 0.004**

**Compliance with 326 IAC 6-3-2 requirements**

**New non-woven mat production line**

**Allowable particulate emission rate =  $4.1 P^{0.67}$  = 0.88 lb/hr**

**Controlled PM emissions = 0.001 lb/hr**

The above calculations demonstrate compliance with the allowable PM emission limit of 0.88 lb/hr for the new non-woven mat production line.

**METHODOLOGY**

Potential VOC emissions (tons per year) = Hourly rate (pounds/hr) \* Weight % VOC \* 8760 hours/yr \* 1/2000 tons/lb

Potential emissions from the process are calculated by taking into consideration the hourly rate of the material processed, the blend of polymer vs natural fibers, the associated fiber loss rate, the screening efficiency (primary filter) and the HEPA filtration efficiency. The screen efficiency is 99.7% for the poly fibers and 97% for the natural fibers (the poly fibers tend to be larger in size than the natural, therefore higher filtration efficiency). The HEPA filter is 98% efficient on the particulate size that passes through the initial screening.

Potential PM emissions (tons per year) = Hourly rate (pounds/hr) \* Weight % polymer/natural fiber \* (1-screening efficiency)\* (1-HEPA control efficiency)\* 8760 hours/yr \* 1/2000 tons/lb