



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
MC 61-53
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant

DATE: January 24, 2008

RE: Stanley Bostitch, Inc. / 145-25568-00070

FROM: Matthew Stuckey, Deputy Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval - Registration

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 IC 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

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, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of 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
FN-REGIS.dot 1/2/08



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(317) 232-8603
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www.IN.gov/idem

Mr. Mike Belovic
Stanley Bostitch, Inc.
860 Elston Drive
Shelbyville, IN 46176

January 24, 2008

Re: Registered Construction and Operation Status,
R145-25568-00070

Dear Mr. Belovic:

An application from Stanley Bostitch, Inc., received on November 20, 2007, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.1, it has been determined that the following stationary finished metal fastener manufacturing plant, located at 860 Elston Drive, Shelbyville, IN 46176, is classified as registered:

The application includes information relating to the construction and operation of the following:

- (a) Eight (8) bi-coated staple presses, identified as EU-01, constructed in 2007, applying an adhesive coating ST-811 to the top side of the staples with a drip applicator at a rate of 3.0 lbs per hour per press, and a surface coating glue ST-1589 to the bottom side of the staples with a roller applicator at a rate of 0.6 lbs per hour per press, and venting inside the building.
- (b) Four (4) bi-coated staple presses, identified as EU-01, approved for construction in 2008, applying an adhesive coating ST-811 to the top side of the staples with a drip applicator at a rate of 3.0 lbs per hour per press, and a surface coating glue ST-1589 to the bottom side of the staples with a roller applicator at a rate of 0.6 lbs per hour per press, and venting inside the building.
- (c) One (1) Polypropylene Extruder, identified as IA-01, constructed in 2006 to process polypropylene pellets into ribbon, with a maximum material usage rate of 481.8 tons per year, and venting inside the building.
- (d) Sixty (60) open flame propane burners, identified as IA-02, each constructed in 1993, to heat up the outer surface of the block of staples for adhesion of adhesive tape, with an average heat input capacity of 4,155 BTU/hour each, and venting inside the building.
- (e) Six (6) natural gas-fired space heaters, identified as IA-04, each constructed in 1981, rated at 0.15 MMBtu/hour each, to provide heat for the building, venting inside the building.
- (f) Twenty-three (23) metal grinding buffing machines, identified as IA-05, each constructed in 1994, polishing and buffing the surface of hog rings, with particulate emissions captured by a local hood and directed to dust collector (CE-01), with a maximum throughput of 770 pounds per hour of hog rings, and exhausting back into the building.

- (g) Two (2) solvent parts washers, identified as IA-06, each constructed in 1981, used for cleaning dye and stamping tools, utilizing 20 gallons of solvent per month each, with twelve change outs per year.

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 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
3. Pursuant to 326 IAC 8-2-1 (Applicability), the bi-coated staple presses, EU-01, shall use coatings that comply with the VOC content limitations as described in 326 IAC 8-2-9(d). When coating metal parts, the volatile organic compound (VOC) content of the coating delivered to the applicator at the surface coating operations shall be limited to 3.0 pounds per gallon of coating, excluding water, for coating application systems.
4. Pursuant to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from the metal grinding and buffing operation IA-05 shall not exceed the following:

Process	Process Weight Rate(tons/hr)	Allowable (pounds/hr)
Metal Grinding And Buffing	0.385	2.16

The allowable rate of emissions were calculated as follows:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour, and
 P = process weight rate in tons per hour

5. Pursuant to 326 IAC 8-3-2, for each of the solvent force parts washers the owner or operator shall:
 - (1) Equip the cleaner with a cover;
 - (2) Equip the cleaner with a facility for draining cleaned parts;
 - (3) Close the degreaser cover whenever parts are not being handled in the cleaner;
 - (4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
 - (5) Provide a permanent, conspicuous label summarizing the operation requirements;

- (6) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.
6. Pursuant 326 IAC 8-3-5(a), the owner or operator shall ensure that the following control equipment requirements are met for each of the solvent parts washers IA-06:
 - (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kilo Pascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
 - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kilo Pascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
 - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in 326 IAC 8-3-5(b).
 - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kilo Pascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
7. Pursuant 326 IAC 8-3-5(b), the owner or operator shall ensure that the following operating requirements are met for each of the solvent parts washers IA-06:
 - (1) Close the cover whenever articles are not being handled in the degreaser.

- (2) Drain cleaned articles for at least fifteen (15) seconds or unit dripping ceases.
- (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

This registration is the first air approval issued to this source. The source may operate according to 326 IAC 2-5.1.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.1-2(f)(3). The annual notice shall be submitted to:

Compliance Data Section
Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, IN 46204-2251

The annual notice submissions are due no later than March 1 of each year, with the annual notice being submitted in the document format attached.

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. If you have any questions on this matter, please contact Swarna Prabha, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-234-5376 or at 1-800-451-6027 (ext 45376).

Sincerely/Original Signed By:

Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

IC/SP

cc: File - Shelby County
Shelby County Health Department
Air Compliance Section
Permit Tracking
Compliance Data Section
Permits Administrative and Development
Billing, Licensing and Training Section

Registration Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3)

Company Name:	Stanley Bostitch, Inc.
Address:	860 Elston Drive,
City:	Shelbyville, Indiana 46176
Phone #:	(317) 398-0761
Registration Revision #:	R145-25568-00070

Certification by the Authorized Individual
I hereby certify that Stanley Bostitch, Inc. is still in operation and is in compliance with the requirements of Registration R145-25568-00070
Name (typed):
Title:
Signature:
Phone Number:
Date:

**Indiana Department of Environmental Management
Office of Air Quality**

Technical Support Document (TSD) for a Registration

Source Description and Location
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Source Name:	Stanley Bostitch, Inc.
Source Location:	860 Elston Drive, Shelbyville, IN 46176
County:	Shelby
SIC Code:	3496
Application No.:	145-25568-00070
Reviewer:	Swarna Prabha

On November 20, 2007, the Office of Air Quality (OAQ) received an application from Stanley Bostitch, Inc., related to the construction and operation of an existing finished metal fastener manufacturing plant.

Existing Emission Units and Pollution Control Equipment
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The application includes information relating to the construction and operation of the following:

- (a) Twelve (8) bi-coated staple presses, identified as EU-01, constructed in 2007, applying an adhesive coating ST-811 to the top side of the staples with a drip applicator at a rate of 3.0 lbs per hour per press, and a surface coating glue ST-1589 to the bottom side of the staples with a roller applicator at a rate of 0.6 lbs per hour per press, and venting inside the building.
- (b) One (1) Polypropylene Extruder, identified as IA-01, constructed in 2006 to process polypropylene pellets into ribbon, with a maximum material usage rate of 481.8 tons per year, and venting inside the building.
- (c) Sixty (60) open flame propane burners, identified as IA-02, each constructed in 1993, to heat up the outer surface of the block of staples for adhesion of adhesive tape, with an average heat input capacity of 4,155 BTU/hour each, and venting inside the building.
- (d) Six (6) natural gas-fired space heaters, identified as IA-04, each constructed in 1981, rated at 0.15 MMBtu/hour each, to provide heat for the building, venting inside the building.
- (e) Twenty-three (23) metal grinding buffing machines, identified as IA-05, each constructed in 1994, polishing and buffing the surface of hog rings, with particulate emissions captured by a local hood and directed to dust collector (CE-01), with a maximum throughput of 770 pounds per hour of hog rings, and exhausting back into the building.
- (f) Two (2) solvent parts washers, identified as IA-06, each constructed in 1981, used for cleaning dye and stamping tools, utilizing 20 gallons of solvent per month each, with twelve change outs per year.

New Emission Units and Pollution Control Equipment

- (g) Four (4) bi-coated staple presses, identified as EU-01, approved for construction in 2008, applying an adhesive coating ST-811 to the top side of the staples with a drip applicator at a rate of 3.0 lbs per hour per press, and a surface coating glue ST-1589 to the bottom side of the staples with a roller applicator at a rate of 0.6 lbs per hour per press, and venting inside the building.

Existing Approvals

There have been no previous air approvals issued to this source, because the existing units prior to the addition of the new units were determined to be exempted by Stanley Bostitch, Inc.

Emission Calculations

- (a) See Appendix A of this TSD for detailed emissions calculations (Appendix A, pages 1 through 7).

Permit Level Determination- Registration

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit:

Pollutant	Potential To Emit (tons/year)
PM	3.84
PM-10(1)	3.86
SO ₂	0.02
NO _x	0.56
VOC	12.90
CO	0.40

- (1) Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

HAPs	Potential To Emit (tons/year)
Dichlorobenzene	negligible
Formaldehyde	0.0003
n-Hexane	0.007
Toluene	negligible
TOTAL HAPs	0.0073

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of all regulated criteria pollutants are within the ranges listed in 326 IAC 2-5.1-2(a)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2. A Registration will be issued.
- (b) The potential to emit PTE (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

County Attainment Status

The source is located in Shelby County.

Pollutant	Status
PM10	Attainment
PM2.5	Attainment
SO ₂	Attainment
NO ₂	Attainment
8-Hour Ozone	Attainment
CO	Attainment
Lead	Attainment

(a) Ozone Standards

- (1) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (2) On September 6, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Allen, Clark, Elkhart, Floyd, LaPorte, St. Joseph as attainment for the 8-hour ozone standard.
- (3) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Boone, Clark, Elkhart, Floyd, LaPorte, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Shelby, and St. Joseph as attainment for the 8-hour ozone standard.
- (4) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) 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 NOx emissions are considered when evaluating the rule applicability relating to ozone. Shelby County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) Shelby County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM2.5 emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM2.5 emissions.

(c) Other Criteria Pollutants

Shelby County has been classified as attainment or unclassifiable in Indiana for other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(d) Fugitive Emissions

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-5.1-2 (Registrations) applicability.

Federal Rule Applicability Determination

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart M, Surface Coating of Miscellaneous Metal Parts and Products (40 CFR Part 63.3880 - 63.3981) are not included in the permit, because this source

is not a major source of HAPs as defined in 40 CFR 63.2.

- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14, 326 IAC 20 and 40 CFR Part 61, 63) included in the permit for this source.

State Rule Applicability Determination

- (a) 326 IAC 2-5.1-2 (Registrations)
Registration applicability is discussed under the Permit Level Determination- Registrarion section above.
- (b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The requirements of 326 IAC 2-4.1 are not applicable to this source, since the potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year.
- (c) 326 IAC 2-6 (Emission Reporting)
This source is not subject to 326 IAC 2-6 (Emission Reporting), because it is located in Shelby County, it is not required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, and it does not emit lead into the ambient air at levels equal to or greater than five (5) tons per year.
- (d) 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:
- (1) 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.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) in a six (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.
- (e) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (f) 326 IAC 8-1-6 (VOC rules: General Reduction Requirements for New Facilities)
Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.

Polypropylene Extruder IA-01

- (g) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(14), the particulate matter (PM) emissions from the polypropylene extruder IA-01 are less than 0.551 pounds per hour, therefore it is exempted from 326 IAC 6-3.
- (h) 326 IAC 8-2-9 (Volatile Organic Compounds, Miscellaneous Metal Coating Operations)
Pursuant to 326 IAC 8-2-1 (Applicability), this rule applies to facilities constructed after July 1, 1990 located in any county, and with actual VOC emissions of greater than fifteen (15) pounds per day before add-on controls. The requirements of 326 IAC 8-2-9 are not applicable to the extrusion process, since the Potential to Emit and actual VOC emissions associated with surface coating of metal are less than fifteen (15) pounds per day before add-on controls.

Bi Coated Staple Presses EU-01

- (i) 326 IAC 8-2-9 (Volatile Organic Compounds, miscellaneous metal coating operations)
This source performs miscellaneous metal coating operations as described in 326 IAC 8-2-1(a)(4) and has actual emissions of greater than fifteen (15) pounds of VOC per day before add-on controls and is therefore subject to 326 IAC 8-2-9. The bi-coated staple presses, EU-01, shall use coatings that comply with the VOC content limitations as described in 326 IAC 8-2-9(d). When coating metal parts, the volatile organic compound (VOC) content of the coating delivered to the applicator at the surface coating operations shall be limited to 3.0 pounds per gallon of coating, excluding water, for coating application systems. The VOC content of the coating is less than 3.0 pounds per gallon, therefore it complies with 326 IAC 8-2-9.

Natural Gas Combustion Sources IA-04 and Propane-fired Burners IA-02

- (j) 326 IAC 4-2-2 (Incinerators)
The natural gas-fired space heaters and propane-fired burners are not incinerators, as defined by 326 IAC 1-2-34, since they do not burn waste substances. Therefore, these ovens are not subject to 326 IAC 4-2-2.
- (k) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)
The natural gas-fired heaters and propane-fired burners are not subject to 326 IAC 6-2 as they are not sources of indirect heating.
- (l) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(14), each of the natural gas-fired space heaters and propane-fired burners are exempt from the requirements of 326 IAC 6-3, since space heaters are not considered a manufacturing process as defined by 326 IAC 6-3-1.5.
- (m) 326 IAC 7-1 (Sulfur dioxide emission limitations: applicability)
The natural gas-fired space heaters and propane-fired burners are each not subject to the requirements of 326 IAC 7-1, because the potential and the actual emissions are less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.

Metal Grinding and Buffing Operation IA-05

- (n) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3, the particulate matter (PM) from the metal grinding and buffing operation IA-05 shall not exceed 2.16 pounds per hour when operating at a process weight rate of 0.385 tons per hour.

In order to comply with the allowable rate of emission, the control device is required when the grinding and buffing facility is in operation. The allowable rate of emission was calculated as follows:

Interpolation of the data in the table in 326 IAC 6-3-2(e)(2) for the process weight rates up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

Solvent Parts Washers IA-06

- (o) 326 IAC 8-3-2 (VOC Rules: Cold Cleaning Operations) and 326 IAC 8-3-5 Volatile Organic Compounds (VOC)
Pursuant to 326 IAC 8-3-1 (Organic Solvent Degreasing Operations), the solvent force parts washers IA-06 are each subject to the requirements of 326 IAC 8-3-2 (Cold Cleaner Operations) and 326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control), since each of the units meet the definition of a cold cleaner degreaser under 326 IAC 1-2-18.5, utilize a organic solvent containing volatile organic compounds (VOCs) (as defined by 326 IAC 1-2-90), were constructed after the July 1, 1990, and do not have remote solvent reservoirs.

Pursuant to 326 IAC 8-3-2, for each of the solvent force parts washers the owner or operator shall:

- (1) Equip the cleaner with a cover;
- (2) Equip the cleaner with a facility for draining cleaned parts;
- (3) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (5) Provide a permanent, conspicuous label summarizing the operation requirements;
- (6) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

Pursuant 326 IAC 8-3-5(a), the owner or operator shall ensure that the following control equipment requirements are met for each of the solvent parts washers IA-06

- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kilo Pascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
- (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kilo Pascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
- (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in 326 IAC 8-3-5(b).
- (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
- (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kilo Pascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

Pursuant 326 IAC 8-3-5(b), the owner or operator shall ensure that the following operating requirements are met for each of the solvent parts washers IA-06:

- (1) Close the cover whenever articles are not being handled in the degreaser.
- (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
- (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information was submitted by the applicant. An application for the purposes of this review was received on November 20, 2007. Additional information was submitted by the source by email December 18, 2007 and January 4, 2008.

The construction and operation of this source shall be subject to the conditions of the attached proposed Registration No. 145-25568-00070. The staff recommends to the Commissioner that this Registration be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Swarna Prabha at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) (234-5376) or toll free at 1-800-451-6027 extension (45376).
- (b) A copy of the findings is available on the Internet at: www.in.gov/idem/permits/air/pending.html.
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.in.gov/idem/permits/guide/.

**Appendix A: Emissions Calculations
Emission Summary**

Company Name: **Stanley Bostitch, Inc.**
Address City IN Zip: **860 Elston Drive, Shelbyville, IN46176**
Registration No: **R145-25568-00070**
Reviewer: **Swarna Prabha**

Uncontrolled Potential Emissions (tons/year)									
Category	Pollutant	Extruder IA-01	(60) Propane Burners IA-02	(12) Staple presses EU-01	(6) Natural gas space heaters IA-04	(23) Material Grinding IA-05	(2) Parts Washer IA-06	TOTAL	
Criteria Pollutants	PM	0.315	0.005		0.007	3.51		3.84	
	PM10	0.315	0.005		0.030	3.51		3.86	
	SO2		0.018		0.002			0.02	
	NOx		0.167		0.394			0.56	
	VOC	0.395	0.006	11.98	0.022		0.492	12.90	
	CO	0.048	0.023		0.331			0.33	
Hazardous Air Pollutant	Chromium				5.5E-06			5.5E-06	
	Manganese				1.5E-06			1.5E-06	
	Nickel				8.3E-06			8.3E-06	
	Toluene				1.3E-05			1.3E-05	
	Benzene				8.3E-06			8.3E-06	
	Hexane				7.1E-03			7.1E-03	
	Formaldehyde	6.65E-04			3.0E-04			9.6E-04	
	Lead				2.0E-06			2.0E-06	
	Cadmium				4.3E-06			4.3E-06	
	Acrolein	2.41E-05						2.4E-05	
	Acetaldehyde	2.60E-04						2.6E-04	
	Acrylic Acid	3.85E-05						3.9E-05	
	Totals	9.5E-04				7.4E-03			8.1E-03

Total emissions based on rated capacity at 8,760 hours/year.

Controlled Potential Emissions (tons/year)									
Category	Pollutant	Extruder IA-01	(60) Propane Burners IA-02	(12) Staple presses EU-01	(6) Natural gas space heaters IA-04	(23) Material Grinding IA-05	(2) Parts Washer IA-06	TOTAL	
Criteria Pollutants	PM	0.315	0.005		0.007	0.32		0.64	
	PM10	0.315	0.005		0.030	0.32		0.67	
	SO2		0.018		0.002			0.02	
	NOx		0.167		0.394			0.56	
	VOC	0.39	0.006	11.98	0.022		0.492	12.90	
	CO	0.05	0.023		0.331			0.40	
Hazardous Air Pollutants	Chromium				5.5E-06			5.52E-06	
	Manganese				1.5E-06			1.50E-06	
	Nickel				8.3E-06			8.28E-06	
	Toluene				1.3E-05			1.34E-05	
	Benzene				8.3E-06			8.28E-06	
	Hexane				7.1E-03			7.10E-03	
	Formaldehyde	6.6E-04			3.0E-04			9.61E-04	
	Lead				2.0E-06			1.97E-06	
	Cadmium				4.3E-06			4.34E-06	
	Acrolein	2.4E-05						2.41E-05	
	Acetaldehyde	2.6E-04						2.60E-04	
	Acrylic Acid	3.9E-05						3.85E-05	
	Totals	6.6E-04				7.4E-03			8.1E-03

**Appendix A: Emission Calculations
VOC, CO and PM Emission Calculations
(A-01) Extruder**

**Company Name: Stanley Bostitch
Address: Elston Drive, Shelbyville, IN 46176
Registration No. R145-25568-00070
Prepared By: Stanley Bostitch
Reviewer Swarna Prabha**

Emission Units	Material	Max. Material Usage (lbs/hour)	Emission Factor (lb VOC/10 ³ lb Material)	PTE of VOC (tons/year)	Emission Factor (lb CO/10 ³ lb Material)	PTE of CO (tons/year)	Emission Factor (lb PM/10 ³ lb Material)	PTE of PM (tons/year)
Extruder(A-01)	Polypropylene (PP)	110.00	0.819	0.395	0.10	0.048	0.65	0.315
Total =				0.395		0.048		0.315

PTE of Haps

Emission Units	Material	Max. Material Usage (lbs/hour)	Emission Factors of HAPs in lb HAP/1000 lb material Processed			
			Formaldehyde	Acrolein	Acetaldehyde	Acrylic Acid
Extruder	Polypropylene (PP)	110	1.38E-03	5.00E-05	5.40E-04	8.00E-05
		Emissions	6.65E-04	2.41E-05	2.60E-04	3.85E-05
Total =			6.65E-04	2.41E-05	2.60E-04	3.85E-05
Combination of HAPs =			9.88E-04			

Note:

1. Emission factors for PP processing is taken from "Development of Emission Factors for Polypropylene Processing", Journal of Air & Waste Management Association, Vol 49, 01/99.
2. CO emission factor for all thermoplastics is taken from "Volatile Emissions During Thermoplastics Processing - A Review, Advances in Polymer Technology, Vol 14 No. 1, 1995.
3. The extruder is electrically heated and the compartment is sealed and the extruded material immediately passes through a cooling water bath.
4. Maximum Material processed estimated by multiplying 110 lbs/hour max. feedrate by 8760 hours
5. Control efficiency estimated from best engineering judgement for a closed system.
6. Actual hours of Operation 45,000 hours per year

METHODOLOGY

PTE (tons/year) = Maximum Material Usage (lbs/year) * Emission Factor (lb Pollutant/MM lb Material) * 1 MM lb/10⁶ lb * 1 ton/2000 lbs

**Appendix A: Emission Calculations
(IA-02) Combustion Emissions from the Open Flame Propane burning**

**Company Name: Stanley Bostitch, Inc.
Address: 860 Elston Drive, Shelbyville, IN46176
Registration No.: R145-25568-00070
Reviewer: Swarna Prabha**

Description	Total Heat Input Capacity (MMBtu/hr)	Total Max. Potential Throughput (10 ³ gal/yr)
(60) Open Flame Burner-Propane Fired 4,155 Btu/hr each (IA-02)	0.25	23.9

Description	Pollutant Emission Factors					
	PM	PM10*	SO ₂	NO _x	CO	VOC
Propane Fired -LPG Combustion (lbs/10 ³ gal)	0.40	0.40	1.54	14.00	1.9	0.50
Potential To Emit (tons/yr)						
Emission Unit ID	PM*	PM10	SO ₂	NO _x	CO	VOC
(60) Open Flame Burner-Propane Fired	0.005	0.005	0.018	0.167	0.023	0.006
Total PTE	0.005	0.005	0.018	0.167	0.023	0.006

Total Heat Input (Btu/hr) = (LPG Usage gal/hr) * (91,500 Btu/gal)

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

Propane sulfur content assumed 185 ppmw (approximately 15.4 gr/100 ft³ vapor)

91.5 MMBtu Of Propane = 10³ gal

Methodology

Potential Throughput (10³ gal/yr) = Heat Input Capacity (MMBtu/hr) * [8,760 hours/yr] * [10³ gal/(91.5 MMBtu)]

Emission (tons/yr) =[Throughput (10³ gal/yr)] * [Emission Factor (lbs/10³ gal) / (2,000 lbs/ton)]

All emission factors are based on normal firing.

Emission Factors from AP-42 table 1.5-1, 10/96

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

SO₂ = Sulfur Dioxide

Nox = Nitrous Oxide

VOC = Volatile Organic Compounds

CO = Carbon Monoxide

MMBtu = 1,000,000 Btu

**Appendix A: Emissions Calculations
(EU-01) Bi-Coated Staple Presses**

**Company Name: Stanley Bostitch, Inc.
Address City IN Zip: 860 Elston Drive, Shelbyville, IN46176
Registration No: R145-25568-00070
Reviewer: Swarna Prabha**

EU-01 Twelve Bi-coated Staple Machines, Adhesive and Coatings Equipment Potential to Emit												
Material	Specific Gravity in Material	Wt % VOC	E.F. (lb/gal.)	Number of Machines	Material Usage (lb/hr) each	Material Usage (gal/hr)	Material Usage (gal/yr)	VOC Actual (lbs/yr)	VOC Actual (Ton/yr)	VOC Potential (lbs/day)	VOC Potential (lbs/yr)	VOC Potential (Ton/yr)
ST-811, Adhesive Isopropyl Alcohol	0.89	7.40%	0.549	12.00	3.00	4.856	42,537	19,948	9.974	63.93	23,336.6	11.668
ST-1589, Coating Isopropyl Alcohol	0.82	1.00%	0.068	12.00	0.60	1.054	9,234	539	0.270	1.73	630.7	0.315
Totals								20,487.2	10.244		23,967.4	11.984

Specific Gravity: from MSDS Sheets

Wt%: from MSDS Sheets

E.F. = (Specific Gravity) x (8.33 lb.gal) x (Wt%)

Number of Machines: from Engineering Specification provided by Stanley Bostitch engineers

Material Usage (lb/hr): from Engineering Specification provided by Stanley Bostitch engineers

Actual hours of operation = 7488.00

Material Usage (gal/hr) = (Number of Machines) x (Material usage (lb/hr)) ÷ (Specific Gravity x 8.33 (lb/gal))

Material Usage (gal/yr) = Material Usage (gal/hr) x 8760 hours

VOC (lb/yr) = (E.F.) x (Material Usage (gal/yr))

VOC (Ton/yr) = (VOC (lb/yr)) ÷ (2000 lb/ton)

Notes:

1. PTE is based on 8760 hours of operation.
2. The material usage rate is the design specification provided by Stanley Bostitch engineers
3. Emission factors determined through mass balance from information derived from the MSDS sheets
4. Acetone emissions are not included per 326 IAC 1-2-48 which identifies this as a Non-Photochemically Reactive Hydrocarbon

**Appendix A: Emissions Calculations
(IA-04) Natural Gas Combustion Only
MM BTU/HR <100**

**Company Name: Stanley Bostitch, Inc.
Address City IN Zip: 860 Elston Drive, Shelbyville, IN46176
Registration No: R145-25568-00070
Reviewer: Swarna Prabha**

Emission Unit	Number of Units	Unit Heat Input Capacity (MMBtu/hr)	Combined Total Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)	Pollutant									
					PM*	PM10*	SO2	NOx**	VOC	CO				
Emission Factor (lb/MMCF)					1.9	7.6	0.6	100	5.5	84.0				
IA-04														
Natural gas-fired Space Heaters					6.00	0.15	0.90	7.88	0.007	0.030	0.002	0.394	0.022	0.331
Totals					6.00	0.9	0.007	0.030	0.002	0.394	0.022	0.331		

Emission Unit	Potential to Emit (tons/yr)									
	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni
Emission Factor (lb/MMCF)										
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Natural gas-fired Space Heaters										
	8.3E-06	4.7E-06	3.0E-04	0.007	1.3E-05	2.0E-06	4.3E-06	5.5E-06	1.5E-06	8.3E-06
Totals										
	8.3E-06	4.7E-06	3.0E-04	0.007	1.3E-05	2.0E-06	4.3E-06	5.5E-06	1.5E-06	8.3E-06

Total HAPs (tons/yr) 0.007

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
 **Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
 The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

Potential Throughput (MMCF/yr) = [Combined Total Heat Input Capacity (MMBtu/hr)] * [8,760 hrs/yr] * [1 MMCF/1,000 MMBtu]
 Potential to Emit (tons/yr) = [Potential Throughput (MMCF/yr)] * [Emission Factor (lb/MMCF)] * [ton/2,000 lbs]
 Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
 All emission factors are based on normal firing.
 MMBtu = 1,000,000 Btu, MMCF = 1,000,000 Cubic Feet of Gas

Abbreviations

PM = Particulate Matter	NOx = Nitrous Oxides	DCB = Dichlorobenzene	Cr = Chromium
PM10 = Particulate Matter (<10 um)	VOC - Volatile Organic Compounds	Pb = Lead	Mn = Manganese
SO2 = Sulfur Dioxide	CO = Carbon Monoxide	Cd = Cadmium	Ni = Nickel

**Appendix A: Emission Calculations
(IA-05) Grinding operation (23)**

**Company Name: Stanley Bostitch
Address City IN Zip: Elston Drive, Shelbyville, IN 46176
Registration No. R145-25568-00070
Prepared By: Stanley Bostitch
Reviewer Swarna Prabha**

IA-05 Grinding Potential to Emit						
Material Collected* by Dust Collector (lb/hr)	Collection Control Efficiency	Uncontrolled PTE of PM/PM10 (tons/year)	Uncontrolled PTE of PM/PM10 (lbs/hour)	Controlled PTE of PM/PM10 (tons/year)	Controlled PTE of PM/PM10 (lbs/hour)	326 IAC 6-3-2 Allowable PM Emission Rate (lbs/hour)
0.721	90.00%	3.509	0.80	0.32	0.072	2.163

Notes:

1. Actual material collected by grinding operation dust collector estimated from plant disposal records
2. Actual Hours estimated at 2- 8 hour shifts, 6 days per week for 52 weeks =4992 hrs/year
3. Amount of dust collected at 2-8 hour shifts, 6 days per week for 52 weeks= 3600 lbs
3. Maximum dust collector material collected estimated by multiplying the actual material collected by the ratio of hours.
4. Collection efficiency from ANSI/ASHRAE Standard 52.2 for equipment filter rating MERV 14 (high efficiency) worst case

Methodology;

PTE of PM/PM10 Uncontrolled (tons/year) = Material Collected (lbs/hour) / (Control Efficiency %) x 8760 (hours/year) x 1 ton/2000 lbs

PTE of PM/PM10 Uncontrolled (lbs/hour) = Material Collected (lbs/hour) / (Control Efficiency %)

PTE of PM/PM10 Controlled (tons/year) = Material Collected (lbs/hour) x (1 - Control Efficiency %) x 8760 (hours/year) x 1 ton/2000 lbs

PTE of PM/PM10 Controlled (lbs/hour) = Material Collected (lbs/hour) x (1 - Control Efficiency %)

326 IAC 6-3-2 Allowable PM Emission Rate (lbs/hour) = 4.1 x process weight rate (tons/hour)^{0.67}

Combined Process weight Rate = 770 pounds per hour =0.385 tons/hour

**Appendix A: Emissions Calculations
(IA-06) Parts Washers**

**Company Name: Stanley Bostitch, Inc.
Address City IN Zip: 860 Elston Drive, Shelbyville, IN46176
Registration No: R145-25568-00070
Reviewer: Swarna Prabha**

IA-06 Parts Washers Potential to Emit												
Safety-Kleen Solvent		Specific Gravity	Wt %	E.F. (lb/gal.)	Evapor. Rate*	Number of Washers	Washer size (gallons)	Annual Change outs	Gallons Used (gal/yr)	VOC (lbs/yr)	VOC (lbs/day)	VOC (Ton/yr)
Premium/Gold Solvent	Maximum	0.82	100.00%	6.83	30.00%	2.00	20.00	12.00	480.00	983.61	2.69	0.492

Notes:

1. Per IAC 2-1.1-3 (e)(10)(C), Individual degreasing operations that do not exceed 145 gallons per 12 months are exempt from registration.
2. Two parts washer are changed out approximately every 2 months per waste manifests in Plant Files
3. Specific Gravity from Safety-Kleen Premium Solvent/Gold Solvent MSDS Sheet
4. Based on conservative assumption by the source. According to vapor pressure the emissions shall be 1lb/year

Methodology:

Emission Factor, E.F. (lb/gal) = (Specific Gravity) x (8.33 lb/gal.)

Evaporation Rate estimated by Best Engineering Judgement

Gallons Used (gal/yr) = (Number of Washers) x (Washer size) x (Annual change outs)

VOC (lb/yr) = (E.F. lb/gal) x (Evaporation rate) x (Gallons used gal/yr)

VOC (Ton/yr) = (VOC lb/yr) ÷ (2000 lb/Ton)

Actual usage based on 6 change outs =240 gal/year