

STATE OF MISSOURI

PERMIT BOOK



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 032010-004 Project Number: 2010-01-049

Parent Company: Red Wing Shoe Company

Parent Company Address: 314 Main Street, Red Wing, MN 55066

Installation Name: Red Wing Shoe Company

Installation Number: 221-0008

Installation Address: One Red Wing Drive, Potosi, MO 63664

Location Information: Washington County, S13, T37N, R2E

Application for Authority to Construct was made for:  
welt manufacturing operation. This review was conducted in accordance with Section (5),  
Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.



Standard Conditions (on reverse) are applicable to this permit.



Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

MAR - 9 2010

EFFECTIVE DATE

Handwritten signature of Kyna L. Moore in cursive script.

DIRECTOR OR DESIGNEE  
DEPARTMENT OF NATURAL RESOURCES

## STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

**You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review.** In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (5) REVIEW

Project Number: 2010-01-049  
Installation ID Number: 221-0008  
Permit Number:

Red Wing Shoe Company  
One Red Wing Drive  
Potosi, MO 63664

Complete: January 22, 2010

Parent Company:  
Red Wing Shoe Company  
314 Main Street  
Red Wing, MN 55066

Washington County, S13, T37N, R2E

REVIEW SUMMARY

- Red Wing Shoe Company has applied for authority to construct a welt manufacturing operation.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are glycol ether (diethylene glycol ether) and toluene (CAS # 108-88-3).
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation. None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- No air pollution control equipment is being used in association with the new equipment.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of volatile organic compounds (VOC) are below de minimis levels, but above the hourly insignificant level.
- This installation is located in Washington County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.
- Emissions testing are not required for the equipment.

- A modification to your Intermediate Operating Permit is required for this installation within 90 days of equipment startup.
- Approval of this permit is recommended without special conditions.

### INSTALLATION DESCRIPTION

The Red Wing Shoe Company in Potosi, Missouri manufactures footwear, herein referred to as Red Wing. Red Wing is a major source of volatile organic compounds (VOC) under construction permit 032003-035, but has taken an installation wide limit of 95 tons per year for VOC, 9.5 tons per year for individual HAP, and less than 24 tons per year combined HAPs in their intermediate operating permit OP2009-035.

The following permits have been issued to Red Wing from the Air Pollution Control Program.

**Table 1: Permit History**

| Permit Number | Description                                            |
|---------------|--------------------------------------------------------|
| OP1999-159    | Part 70 operating permit                               |
| 012001-009    | Construction permit for previously installed equipment |
| OP1999-159A   | Part 70 operating permit amendment                     |
| 032003-035    | Construction permit for urethane machines              |
| OP2004-008    | Intermediate operating permit                          |
| OP2009-035    | Intermediate operating permit renewal                  |

### PROJECT DESCRIPTION

A welt is part of a shoe or boot that acts as an attachment point for the shoe upper and insole to the outsole. The space enclosed by the welt is filled, in this project, with vinyl paste. The welt operation consists of the equipment listed in Table 2. The welt operation is designated as EU-02.

**Table 2: Project Equipment**

| Equipment Name                               | EU-02 Subset Designation |
|----------------------------------------------|--------------------------|
| American Outsole Chlorination Machine        | A                        |
| Shaffer Outsole Machine                      | B                        |
| Garfas Outsole Cementer                      | C                        |
| American Outsole Cementer                    | D                        |
| Duo Fast Staple Gun                          | E                        |
| Rex Assembling Machine                       | F                        |
| American and Schoen Forepart Lasting Machine | G                        |
| American Wire Staple Lasting Machine         | H                        |
| Brusta Sewed Seat Fastener                   | I                        |
| Upper Tow Trimming Machine                   | J                        |
| Goodyear Inseam Stitch Machines              | K                        |
| Goodyear Inseam Trimmer                      | L                        |
| Welt Beat Machine                            | M                        |
| Cork Bottom Filling Machine                  | N                        |
| Compo Welt Cementer                          | O                        |
| American Sole Attaching Machine              | P                        |
| United Rough Rounding Machine                | Q                        |
| British High Speed Stitcher                  | R                        |
| American Sole Attaching Machine              | S                        |
| Continental Trimmer                          | T                        |

Red Wing stated in the application for authority to construct the project will maximally produce 56 pairs of welts per hour. Chemical usage from a similar welt manufacturing process in a Minnesota Red Wing plant divided by the number of welt pairs produced during that time period yields the chemical usage per welt pair for this Potosi, Missouri project. Multiplying this chemical usage per welt pair by 56 welt pairs per hour and 8,760 hours of production per year yields the potential chemical usage of this project. The chemicals used are primers, urethane adhesives, glues, and clean-up solvents. No emission controls are associated with the equipment in this project. Red Wing states the new equipment does not de-bottleneck any process at the installation, therefore no increase in potential emissions is expected for other processes. The project chemical usage rates are listed in Table 3.

**Table 3: Chemical Usage**

| <b>Chemical Name</b>                             | <b>Maximum Annual Usage (pounds)</b> |
|--------------------------------------------------|--------------------------------------|
| Worthen Halogenated Treatment/Tracer 3212 primer | 12,212.58                            |
| Sovereign Packaging Group H9314H                 | 25,152.41                            |
| Worthen/Upaco 5691 cement                        | 1,133.98                             |
| Brenntag 2696 solvent blend                      | 7,611.30                             |
| Prime Leather Finishes 05-3202                   | 967.72                               |
| Worthen 2523-Z urethane adhesive                 | 25,152.41                            |
| Bostic-Findley Unifast 177-2                     | <sup>1</sup> N/D                     |
| Cork Technologies BioFlex SBF40                  | <sup>1</sup> N/D                     |

<sup>1</sup> Usage was not determined (N/D) for chemicals not containing HAPs or VOCs.

Worthen 2523-Z urethane adhesive replaces Sovereign Packaging Group H9314H on an undetermined number of welts. Without limiting usage of either chemical, the greatest potential to emit was calculated from both chemicals used on all welts. Worthen 2523-Z urethane adhesive usage was therefore equal to Sovereign Packaging Group H9314H usage, approximately 25,152 pound per year.

### EMISSIONS/CONTROLS EVALUATION

Emissions from this project were calculated based upon known chemical usage rates from a similar Red Wing plant in Minnesota, multiplied by the MHDR of this Potosi, Missouri project. Without testing data, all available VOC and HAP were considered to be emitted. This represents the greatest potential to emit.

Existing Potential Emissions were cited from permit 032003-035. Existing Actual Emissions are reported in the 2008 Emissions Inventory Questionnaire (EIQ). Unconditioned Potential Emissions of the Application represent the potential of the new equipment, assuming continuous operation (8,760 hours per year). The New Installation Potential Emissions represent the potential emissions of the installation at the completion of this project. There are no construction permit installation wide limits. The following table provides an emissions summary for this project.

**Table 4: Emissions Summary (tons per year)**

| <b>Pollutant</b>          | <b>Regulatory<br/><i>De Minimis</i><br/>Levels</b> | <b>Existing<br/>Potential<br/>Emissions</b> | <b>Existing<br/>Actual<br/>Emissions<br/>(2008 EIQ)</b> | <b>Unconditioned<br/>Potential<br/>Emissions of<br/>the Application</b> | <b>New<br/>Installation<br/>Potential<br/>Emissions</b> |
|---------------------------|----------------------------------------------------|---------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------|
| PM <sub>10</sub>          | 15.0                                               | N/A                                         | N/A                                                     | N/A                                                                     | N/A                                                     |
| SO <sub>x</sub>           | 40.0                                               | N/A                                         | N/A                                                     | N/A                                                                     | N/A                                                     |
| NO <sub>x</sub>           | 40.0                                               | N/A                                         | N/A                                                     | N/A                                                                     | N/A                                                     |
| VOC                       | 40.0                                               | 294.54                                      | 5.33                                                    | 18.21                                                                   | 312.75                                                  |
| CO                        | 100.0                                              | N/A                                         | N/A                                                     | N/A                                                                     | N/A                                                     |
| Combined HAPs             | 25.0                                               | N/D                                         | N/A                                                     | 6.81                                                                    | N/A                                                     |
| <sup>1</sup> Glycol Ether | <sup>4</sup> 5.0                                   | N/A                                         | N/A                                                     | 0.04                                                                    | 0.04                                                    |
| Toluene                   | <sup>4</sup> 10.0                                  | N/A                                         | N/A                                                     | 6.64                                                                    | 6.64                                                    |
| <sup>2</sup> DMF          | <sup>4</sup> 1.0                                   | <sup>5</sup> <1.0                           | N/A                                                     | N/A                                                                     | <sup>5</sup> <1.0                                       |
| <sup>3</sup> MDI          | <sup>4</sup> 0.1                                   | 3.5E-05                                     | N/A                                                     | N/A                                                                     | 3.5E-05                                                 |

N/A = Not Applicable; N/D = Not Determined

<sup>1</sup> Diethylene glycol ether

<sup>2</sup> Dimethyl formamide

<sup>3</sup> Diphenylmethane diisocyanate (4,4-)

<sup>4</sup> Screening Model Action Level (SMAL)

<sup>5</sup> Equipment limit, not an installation wide limit from permit 032003-035

### PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOCs are below de minimis levels, but above the hourly insignificant level.

### APPLICABLE REQUIREMENTS

Red Wing Shoe Company shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information,*

10 CSR 10-6.110. The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.

- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090

#### STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted without special conditions.

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David Little  
Environmental Engineer

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Date

#### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated January 20, 2010, received January 22, 2010, designating Red Wing Shoe Company as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southeast Regional Office Site Survey, dated February 2, 2010.

Mr. John Smith  
Director of Environmental Affairs  
Red Wing Shoe Company  
314 Main Street  
Red Wing, MN 55066

RE: New Source Review Permit - Project Number: 2010-01-049

Dear Mr. Smith:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact David Little, at the Departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale  
New Source Review Unit Chief

KBH:dll

Enclosures

c: Southeast Regional Office  
PAMS File: 2010-01-049

Permit Number: