



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: **11 2 0 1 1 - 0 0 5** Project Number: 2011-06-010
Installation Number: 097-0013

Parent Company: TAMKO Building Products, Inc.

Parent Company Address: 601 North High Street, Joplin, MO 64801

Installation Name: TAMKO Building Products, Inc.

Installation Address: 601 North High Street, Joplin, MO 64801

Location Information: Jasper County, S2, T28N, R33W

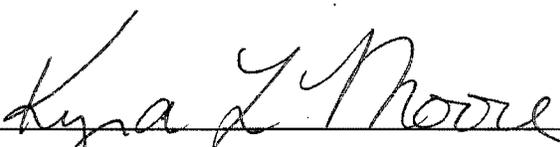
Application for Authority to Construct was made for:

Modification to the Laminate Roofing Line (LRL) and the Fiberglass Line (FGL) to increase the line speeds. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

NOV - 8 2011

EFFECTIVE DATE



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 Departments' Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. 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 these air contaminant sources.

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 sources(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.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

TAMKO Building Products, Inc.
Jasper County, S2, T28N, R33W

1. **Baghouse Conditions**

- A. TAMKO Building Products, Inc. - High Street Installation shall control emissions from the LRL and FGL lines using baghouses as specified in the documents submitted for this permit and in Table 1 below. The baghouses shall be operated and maintained in accordance with the installation's Control Device Operation Procedure. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Department of Natural Resources' employees may easily observe them. Replacement filters for the baghouses shall be kept on hand or on order at all times. If the filters are ever changed of under emergency conditions (not during preventive maintenance), there shall be a period of time when the filters will be on order and not "on hand." The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

Table 1: Baghouses used in Production Capability Improvement Project.

Emission Point	Control Device Code	Description
EP2	CD02	Mill #1 Baghouse
EP2A	CD02A	Mill #2 Baghouse
EP2B	CD2B	Limestone Storage Tank Baghouse
EP3	CD2B	Limestone Storage Tank Baghouse
EP-5	CD05	FGL Limestone Run Tank Baghouse
EP12	CD12	FGL S Drum Baghouse
EP12A	CD12	FGL S Drum Baghouse
EP12B	CD12	FGL S Drum Baghouse
EP16A	CD16A	LRL Limestone Storage Tank Baghouse
EP18	CD18	LRL Lime Heater Baghouse
EP18	CD16A	LRL Limestone Storage Tank Baghouse
EP19	CD19	LRL Limestone Surge Tank Baghouse

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

EP19	CD16A	LRL Limestone Storage Tank Baghouse
EP24A	CD24C	LRL S Drum Baghouse
EP24C	CD24C	LRL S Drum Baghouse
EP31A	CD31A	Backing Silo Baghouse
EP43	CD43	FGL Splice Table Mat Filter System
EP44	CD44	LRL Splice Table Mat Filter System
EP106	CD31A	Backing Silo Baghouse
EP2010-4	CD65	Sandlap Storage Tank Baghouse

- B. TAMKO Building Products, Inc. - High Street Installation shall monitor and record the operating pressure drop across the baghouses at least once a day within each 24-hour calendar day period. The operating pressure drop shall be maintained within the design conditions specified by the installation's Control Device Operation Procedure.
- C. TAMKO Building Products, Inc. - High Street Installation shall maintain an operating and maintenance log for the baghouses which shall include the following:
- 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

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

Project Number: 2011-06-010
Installation ID Number: 097-0013
Permit Number:

TAMKO Building Products, Inc.
601 North High Street
Joplin, MO 64801

Complete: June 3, 2011

Parent Company:
TAMKO Building Products, Inc.
601 North High Street
Joplin, MO 64801

Jasper County, S2, T28N, R33W

REVIEW SUMMARY

- TAMKO Building Products, Inc. has applied for authority to debottleneck the Laminate Roofing Line (LRL) and the Fiberglass Line (FGL). The back end (equipment for substrate unwinding, coating application, and granule/headlap and sand application) and the front end (shingle cutting equipment, laminating of two shingle pieces (LRL only), cuts shingle length, stacks shingles into bundles and wraps and packages bundles) are being altered to increase line speed.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are those associated with the combustion of natural gas and polycyclic organic matter (POM) from coaters and mixers used in the laminate roofing line and the fiberglass line.
- 40 CFR 60 Subpart UU, "Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture" applies to the some of the equipment.
- 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.
- Baghouses are being used to control the particulate matter less than ten microns in diameter (PM₁₀) and particulate matter less than 2.5 microns in diameter (PM_{2.5}) emissions from the equipment in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of all criteria pollutants are below de minimis levels.
- This installation is located in Jasper 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 is not required for the equipment.
- A revision to the Part 70 Operating permit is required for this installation within one year of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

TAMKO Roofing Products, Inc. is an existing asphalt roofing (shingles) production installation located at Joplin, Missouri, in Jasper County. The installation has received twelve (12) construction permits previously from the Air Pollution Control Program and has submitted a Part 70 operating permit application on January 5, 2007, that is currently under review.

The following permits have been issued to TAMKO Building Products, Inc. - High Street Installation from the Air Pollution Control Program.

Table 2: Permit History

Project Number	Permit Number	Project Description
2009-01-033	072009-007	Installation of rock grinding mills and equipment.
2008-11-049	062009-001	A Section (5) permit for the construction of a metal shingle fabrication line.
2008-12-052	022009-006	A Section (3) temporary permit for the construction of two portable road maintenance melters and a temporary laminant applicator.
1998-03-065	0499-005	A Section (5) permit for the construction of a spunbond production line for the manufacture of membranes and re-enforced membranes.
1998-02-0198	0598-017	A Section (5) permit for the construction of a pilot plant for the shredding and grinding of tabs and waste asphalt shingles.
2260-0013-019	1096-020	A Section (5) permit issued on October 15, 1996 for the replacement of two (2) horizontal asphalt storage tanks/natural gas fired heaters with two (2) vertical asphalt storage tanks with new natural gas heaters (i.e. Tank #13 and Tank #15).

2260-0013-015	0493-004	A Section (5) permit issued on April 6, 1993 for the construction of two (2) above ground vertical storage tanks. Note: Permit indicates below ground tanks which is not correct.
2260-0013-012	0292-004	A Section (5) permit issued on February 4, 1992 for the replacement of three (3) asphalt storage tanks and two (2) natural gas fired heaters with two (2) vertical asphalt storage tanks with two (2) new natural gas heaters.
2260-0013-10/11 & 2260-0013-017	0889-001 & 0889-001A	A Section (5) permit originally issued on August 4, 1989 to construct a AWA fire retardant production system. The amendment to this permit allowed the use of an additional raw material in the above process.
2260-0013-005	0184-001A to 0184-011A	A Section (5) permit issued on January 1984 for the construction of a new asphalt roofing production line. The permit required testing in accordance with NSPS Subpart UU, <i>Standards for Performance for Asphalt Roofing Plants</i> .

PROJECT DESCRIPTION

This project will improve the production capability of the LRL and FGL lines. The project which 1) includes the exchange of the front end equipment and the unwind stands on the LRL and FGL for similar equipment that has the same purpose and 2) the modification of existing equipment and the installation of new equipment on the line and up stream sources. The LRL and the FGL equipment will be started up in two separate time frames. As this equipment is installed the capacity of the LRL and FGL lines will be increased. What is being installed is the back end and front end equipment. The back end is equipment for substrate unwinding, coating application, and granule, headlap, and sand application. The front end equipment is shingle cutting equipment, laminating of two shingle pieces (LRL only), equipment which cuts shingle length, the equipment that stacks shingles into bundles and wraps and packages bundles.

New and modified equipment will be installed to debottleneck the LRL and FGL lines. The emissions associated with the modification and new equipment have been considered in this permit review by calculating the debottlenecked emissions at a projected potential emissions. However, some of the new and/or modified equipment may not be able to attain the higher maximum hourly design rate (MHDR) as this unproven technology. In the event that new equipment or modified equipment fails to attain or exceeds the projected MHDR, a permit revision may be required.

EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 11.12, Concrete Batching, 2001 for pneumatic unloading and material transfer emission factors. AP-42 Section 1.4, 1998 for Natural Gas Combustion and EPA document "Locating and Estimating Air Emissions

from Sources of Polycyclic Organic Matter, EPA-454/R-98-014 was used to determine the emission rate of the HAP polycyclic organic matter (POM) from coaters and mixers used in the laminate roofing line and the fiberglass line care. AP-42 Section 11, Asphalt Roofing, 1995, 11.19 Construction Aggregate Processing, 1995 was referenced for PM₁₀ emission factors. AP-42, 7.1,1997 was referenced for Organic Liquid Storage Tanks.

The following method of calculating emission increases was utilized for this project in order to determine whether certain physical changes to existing emission units may trigger major New Source Review. Baseline actual emissions are calculated based on a 24 – month period within the ten year period immediately preceding the date the actual construction begins. The consecutive 24 month period utilized was 2006 and 2005 years. For modifications, the emission unit’s pre-change baseline actual emissions are part of the actual-to-projected actual analysis. This projection of the units annual emissions rate following the change is defined as the “projected actual emissions” and is based on the maximum annual rate in tons per year at which the regulated pollutant is projected to be emitted, less any amount of emissions that could have been emitted during the selected 24 month baseline period and is not related to the change. Emission increases that could have occurred during the emission unit’s 24-month baseline period and is unrelated to the change are accommodated. The final value for the projected actual emissions is the value that will be compared to the baseline emissions to determine if the baseline actual emissions of the project will result in a significant emissions increase, and it did not. The following table provides an emissions summary for this project.

PM_{2.5} emissions for the equipment was calculated assuming a percentage of the PM₁₀ are PM_{2.5}. This percentage is taken from a table developed by the California Air Resources Board (CARB) as part of its California Emissions Inventory Development And Reporting System (CEIDARS). The following table provides an emissions summary for this project.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions*	Existing Actual Emissions (2010 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM _{2.5}	10.0	N/D	5.30	1.98	N/A
PM ₁₀	15.0	52.42	5.30	14.68	N/A
SOx	40.0	5.86	1.02	0.47	N/A
NOx	40.0	74.81	4.14	N/A	N/A
VOC	40.0	225.8	36.07	24.84	N/A
CO	100.0	17.0	6.26	1.92	N/A
HAPs	10.0/25.0	1.27	N/D	0.01	N/A

N/A = Not Applicable; N/D = Not Determined
Existing potential emissions are from project 2009-07-051

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 all criteria pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

TAMKO Building Products, Inc. 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
- *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 10-6.165

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *New Source Performance Regulations*, 10 CSR 10-6.070 – *New Source Performance Standards (NSPS) for Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture*, 40 CFR Part 60, Subpart UU

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 with special conditions.

Timothy Paul Hines, P.E.
Environmental Engineer
PERMIT DOCUMENTS

Date

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 31, 2011, received June 3, 2011, designating TAMKO Building Products, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southwest Regional Office Site Survey, June 06, 2011.

Mr. Shannon Lenker
General Manufacturing Manager
TAMKO Building Products, Inc.
601 North High Street
Joplin, MO 64801

RE: New Source Review Permit - Project Number: 2011-06-010

Dear Mr. Lenker:

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 Tim Hines at the Department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale, P.E.
New Source Review Unit Chief

KBH:thk

Enclosures

c: Southwest Regional Office
PAMS File: 2011-06-010

Permit Number: