

# Fact Sheet



## For Final Minor Modification Permitting Action Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to this Minor Modification, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on February 3, 2014.

Permit Number: **R30-03500049-2014**  
Application Received: **February 13, 2015**  
Plant Identification Number: **035-00049**  
Permittee: **Armstrong World Industries, Inc.**  
Facility Name: **Armstrong Millwood Plant**  
Mailing Address: **P.O. Box 220, Millwood, WV 25262**

Permit Action Number: *MM01* Revised: *December 4, 2015*

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Physical Location: Millwood, Jackson County, West Virginia  
UTM Coordinates: 427.2 km Easting • 4,307 km Northing • Zone 17  
Directions: From US-33 E, turn left onto WV 68 S. Continue on WV 68 S for 0.4 miles. Turn right onto WV 2 S. Continue for approximately 6 miles. Turn right onto Jack Burlingame Road.

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### Facility Description

The Armstrong World Industries Millwood plant is a slag wool manufacturing facility covered under SIC Code 3296. It typically manufactures slag wool from silicomanganese slag. The plant receives the slag via truck or railcar, stores the slag in outdoor piles, and then transfers the slag to a belt conveyor via front-end loader. The slag is then transferred to a submerged Electric Arc Furnace (EAF) where the slag is melted using graphite electrodes. The molten slag is then transferred to one of two spinners which spin the molten slag into slag wool fibers. The wool fibers are then collected in one of two collection chambers, further processed into slag wool bales, and then shipped off site.

With this modification, the permittee requests revisions to the CO emission limits of the EAF (based on stack testing required by the original R13 permit) and to several recordkeeping and monitoring requirements.

Specifically, the permittee proposes to install CO and SO<sub>2</sub> CEMS. Therefore, several of the monitoring and recordkeeping requirements designed to monitor those pollutants will be rendered obsolete. The changes associated with this modification were approved under R13-2864B.

### Emissions Summary

<b>Plantwide Changes in Emissions Summary [Tons per Year]</b>	
<b>Regulated Pollutants</b>	<b>Change in Potential Emissions</b>
Carbon Monoxide (CO)	+200.99
Nitrogen Oxides (NO <sub>x</sub> )	-26.68
Particulate Matter (PM <sub>10</sub> ) <i>PM<sub>10</sub> is a component of TSP.</i>	-0.75
Total Particulate Matter (TSP)	-0.45
Sulfur Dioxide (SO <sub>2</sub> )	-0.03
Volatile Organic Compounds (VOC)	-0.91
<b>Hazardous Air Pollutants</b>	<b>Change in Potential Emissions</b>
Manganese Compounds	+0.09

*Some of the above HAPs may be counted as PM or VOCs.*

### Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit 245.04 tons per year of Sulfur Dioxide, 241.99 tons per year of carbon monoxide, and 102.57 tons per year of PM<sub>10</sub>. Due to this facility's potential to emit over 100 tons per year of a criteria pollutant, Armstrong World Industries, Inc. is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

### Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR7	PM limits on manufacturing processes
	45CSR13	NSR permitting
	45CSR30	Operating permit requirement.

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.*, 45CSR16, 45CSR34 and 45CSR30.

### Active Permits/Consent Orders

Permit or Consent Order Number	Date of Issuance	Permit Determinations or Amendments That Affect the Permit (if any)
R13-2864B	8/21/2015	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

### Determinations and Justifications

The following changes were made to this permit as part of this modification:

- The design capacities listed in the Emission Units Table for the Raw Material Transfer and EAF (1-2E), Spinner Collection Chambers (3-4E), and Slag Wool Processing Lines (8E) were increased.
- Additionally, a design capacity of 175,000 TPY was added to the Emission Units Table for Slag Handling and Storage.
- The emission limits listed in condition 4.1.1 were revised. This condition references conditions 4.1.1 and 4.1.9 (which was streamlined with the emission limits) in addition to Tables 4.1.1.1 and 4.1.1.2 of R13-2864B.
- Condition 4.1.3 previously addressed operation of the Dry Scrubber (1C) during initial shakedown and initial performance testing of the furnace. This condition was updated for current operation. This condition references condition 4.1.3 of R13-2864B.
- Condition 4.1.6 was revised increasing Mn emissions from 9.5 to 9.6 TPY. This condition references condition 4.1.12 of R13-2864B.
- Condition 4.1.9 previously required a minimum of 65% of the sulfur contained in the slag to be retained in the product mineral wool; this condition was not retained in R13-2864B. The Title V condition was revised to limit the total slag throughput to the EAF to 175,200 TPY. This condition references condition 4.1.8 of R13-2864B.
- Condition 4.1.10 was removed. This condition referenced condition 4.1.9 of R13-2864A, which provided equations to calculate the slag throughput limit to the EAF. This condition was removed from R13-2864B and replaced with a total slag throughput limit (see condition 4.1.9 above). All remaining permit numbers and R13-2864B citations were renumbered accordingly.
- Condition 4.1.18 was removed. This condition required CO and SO<sub>2</sub> CEMS, as specified in a consent order (CO-R13-E-2013-14). Conditions 4.2.4 and 4.2.6 now require installation of CEMS, so this condition is no longer necessary.
- Condition 4.2.4 was previously written to ensure compliance with old condition 4.1.3. This permit condition was rewritten requiring a continuous emission monitoring system (CEMS) to be installed, operated, and maintained to measure the emissions of SO<sub>2</sub> from the EAF exhaust stack. This condition references condition 4.2.4 of R13-2864B.
- Condition 4.2.5 was revised to remove the phrase "with each shipment of fuel".
- Condition 4.2.6 previously required monthly SO<sub>2</sub> emissions from the submerged electric arc furnace to be calculated (mass balance) to show compliance with the SO<sub>2</sub> limit in condition 4.1.2. This condition was revised requiring calculation using SO<sub>2</sub> CEMS instead of a mass balance. This condition references condition 4.2.7 of R13-2864B.
- Condition 4.2.8 previously referenced condition 4.2.9 of R13-2864A which required analysis of a sample of product mineral wool for sulfur content. This condition was removed from R13-2864B, and the old language was removed from this permit. The new language in this condition requires a continuous emission monitoring system (CEMS) to be installed, operated, and maintained to measure

the emissions of CO, from the EAF exhaust stack. This condition references condition 4.2.6 of R13-2864B. Citations of R13-2864B were revised accordingly due to the addition and deletion of permit conditions.

- Condition 4.2.11 was added requiring the permittee to show compliance with the CO limit in condition 4.1.1 of this permit by calculating monthly CO emissions from the submerged electric arc furnace using CO CEMS. This condition references condition 4.2.10 of R13-2864B. This was a new condition added to R13-2864B, and citations for R13-2864B were renumbered accordingly.
- References to CO and SO<sub>2</sub> stack testing was removed from condition 4.3.1.1 since a CEMS will be installed. This condition references condition 4.3.1. of R13-2864B.
- Condition 4.4.3 and 4.4.9 were removed. These conditions referenced conditions 4.4.4 and 4.4.10 of R13-2864A. These conditions were removed from R13-2864B, and citations for R13-2864B were renumbered accordingly.
- The compliance plan in section 4.6 was removed. The requirements of this plan were addressed in R13-2864B.
- Particulate emission limits were revised in condition 5.1.2. This condition references condition 4.1.1 and Table 4.1.1.1 of R13-2864B.
- Emissions limits were revised in condition 6.1.1. to reflect current limits in condition 4.1.1 of R13-2864B.

#### **Non-Applicability Determinations**

The following requirements have been determined not to be applicable to the subject facility due to the following:

**40CFR63, Subpart DDD-National Emission Standards for Hazardous Air Pollutants for Mineral Wool Production:** this subpart does not apply since this facility is not a major source of HAPs.

#### **Request for Variances or Alternatives**

None.

#### **Insignificant Activities**

Insignificant emission unit(s) and activities are identified in the Title V application.

#### **Comment Period**

Beginning Date: N/A

Ending Date: N/A

#### **Point of Contact**

All written comments should be addressed to the following individual and office:

Rex Compston, P.E.  
West Virginia Department of Environmental Protection  
Division of Air Quality  
601 57th Street SE  
Charleston, WV 25304  
Phone: 304/926-0499 ext. 1209 • Fax: 304/926-0478  
Rex.E.Compston@wv.gov

### **Procedure for Requesting Public Hearing**

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

### **Response to Comments**

N/A