

STATE OF MISSOURI



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: **062016-001** Project Number: 2015-04-020
Installation Number: 009-0005

Parent Company: Sapa Extrusions North America, LLC

Parent Company Address: 9600 West Bryn Mawr Avenue, Suite 250,
Rosemount, IL 60018

Installation Name: Sapa Extrusions North America

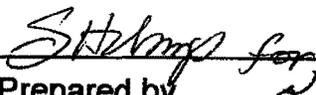
Installation Address: 808 County Road, Monett, MO 65708

Location Information: Barry County, S32, T26N, R27W

Application for Authority to Construct was made for:
Installation of Siber Force Electromagnetic Stirrers on the east and west furnaces. 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.


Prepared by
J Luebbert
New Source Review Unit


Director or Designee
Department of Natural Resources

JUN 03 2016

Effective Date

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 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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Project No.	2015-04-020

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."

Sapa Extrusions North America
Barry County, S32, T26N, R27W

1. HAPs Emission Limitations
 - A. Sapa Extrusions North America shall emit less than 10.0 tons of hydrogen chloride (HCl) in any consecutive 12-month period from EU-01, EU-02, and EU-03. No other emission units on site have the potential to emit HCl.
 - B. Sapa Extrusions North America shall develop and use forms to demonstrate compliance with Special Condition 1.A. The forms shall contain at a minimum the following information,
 - 1) Installation name
 - 2) Installation ID
 - 3) Permit number
 - 4) Current month
 - 5) Current 12-month date range
 - 6) Monthly throughput for each emission units with the potential to emit HCl (EU-01, EU-02, and EU-03)
 - 7) HAP emission factors for each emission unit as determined by testing required for 40 CFR Part 63 Subpart RRR, *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production* and approved by the Air Pollution Control Program
 - a. At the time of this permit's issuance the emission factor for EU-01 and EU-02 is 0.16 lb HCl per ton of aluminum throughput
 - b. At the time of this permit's issuance the emission factor for EU-03 is 0.0005 lb HCl per ton of aluminum throughput
 - c. When Sapa Extrusions North America tests HCl emissions from EU-01, EU-02, and EU-03 in accordance with 40 CFR Part 63 Subpart RRR, Sapa Extrusions North America shall develop new HCl emission factors to demonstrate compliance with Special Condition 1.A.
 - 8) Monthly emissions for each emission unit calculated using the following equation:

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SPECIAL CONDITIONS:

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

$$\begin{aligned}
 & \text{HCl emissions (tons)} \\
 & = \text{Aluminum processed (tons)} \\
 & \times \text{Emission unit specific emission factor} \left(\frac{\text{lb HCl}}{\text{ton of Aluminum processed}} \right) \\
 & \times \left(\frac{1 \text{ ton HCl}}{2000 \text{ lbs HCl}} \right)
 \end{aligned}$$

- 9) Monthly emissions of HCl calculated by summing all HCl emissions from EU-01, EU-02, and EU-03
 - 10) 12-month rolling total HCl emissions from EU-01, EU-02, EU-03, and the sum of all HCl emissions from startup, shutdown, and malfunction as reported the Air Pollution Control Program's Compliance/Enforcement Section.
 - 11) Indication of compliance with Special Condition 1.A.
2. Record Keeping and Reporting Requirements
- A. Sapa Extrusions North America shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
 - B. Sapa Extrusions North America shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

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

Project Number: 2015-04-020

Installation ID Number: 009-0005

Permit Number:

Sapa Extrusions North America
808 County Road
Monett, MO 65708

Complete Date
of Application: April 14, 2015

Parent Company:
Sapa Extrusions North America, LLC
9600 West Bryn Mawr Avenue, Suite 250
Rosemount, IL 60018

Barry County, S32, T26N, R27W

REVIEW SUMMARY

- Sapa Extrusions North America has applied for authority to install externally mounted, electrically powered, Siber Force Electromagnetic Stirrers on the east and west furnaces.
- HAP emissions are expected from the proposed equipment. HAPs of concern from this process are hydrogen chloride, dioxins and furans.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the NESHAPs apply to this installation.
- 40 CFR Part 63 Subpart RRR, *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production* applies to the installation.
- No air pollution control equipment is being used in association with the affected 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 HCl from the installation are conditioned below the major source level.
- This installation is located in Barry 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 required by MACT RRR for the equipment associated with this project.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Sapa Extrusions North America manufactures aluminum ingot and aluminum extrusions. A blend of virgin aluminum metal is melted in the east reverberatory furnace (EU-0010) or the west reverberatory furnace (EU-0020), transferred to an aluminum holding furnace (EU-0030), and vertically cast by the direct chill casting method (casting pit EU-0060) producing ingots in three different diameters. The ingot is then transferred to either the East homogenizing Furnace (EU-0040) or the West Homogenizing Furnace (EU-0050). Other equipment at this installation includes a dross room, two presses, billet saws, electric graphite insert oven, and a casting filter heater. This installation also houses a gasoline storage tank, a diesel storage tank, a hydraulic oil storage tank, oil drums, and chemical drums. The installation was considered a part 70 source for operating permit purposes prior to the issuance of Permit number OP2008-026A which downgrades the installation to a basic state. The downgrade of Permit number OP2008-026A is due to the permanent shutdown of several pieces of equipment. Please refer to Permit number OP2008-026A for a full list of equipment that was permanently shutdown. This site is considered a minor source for construction permitting purposes.

The following New Source Review permits have been issued to Sapa Extrusions North America from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
1087-006	Installation of aluminum melting furnace and homogenizing furnace
0197-017	Amendment of permit number 1087-006
1297-010	Installation of one homogenizing furnace with six 4.2 MMBtu/hr natural gas burners to replace the existing two 4.9 MMBtu/hr natural gas burners (EP-09)
032000-002	Modification to the existing coating line (EP-13) by adding a third coating booth which has a maximum hour design rate equal to 11 gallons per hour and a clean-up booth (EP-13)
032000-017	Replacement of existing low NO _x burners rated at 26 MMBtu/hr for the aluminum furnace (EP-01) with two low NO _x burners each rated at 23.5 MMBtu/hr
032000-002A	Amendment to Permit number 03200-002
1020001-013	Application of a release coating (EP-30) to painted aluminum extrusion
072003-009	Addition of a third aging oven to the extrusion operation

PROJECT DESCRIPTION

Sapa Extrusions North America has proposed the installation of externally mounted, electrically powered, Siber Force Electromagnetic Stirrers on the east and west reverberatory furnaces (EU-0010 and EU-0020). Currently all mixing within the reverberatory furnaces is accomplished using an attachment on a forklift with the doors open. Installation of the externally mounted stirrers will allow more effective stirring as well as eliminate the need to open the furnace doors. The Siber Force Electromagnetic Stirrers will be retrofitted to the side wall of the furnaces. No emissions are expected from the magnetic stirrer, but increased throughput through the furnaces is expected. Additional natural gas usage is not expected from this project.

The improved stirring is estimated to allow a ten percent increase in throughput of aluminum through the reverberatory furnaces (EU-0010 and EU-0020). This project will debottleneck the existing equipment at this installation. Therefore, a potential emissions minus baseline actual emission evaluation was conducted to determine the potential emission increase associated with this project. Sapa Extrusions North America has requested a voluntary installation wide HCl emission limit below the major source level equal to 10.0 tons per year in order to continue being considered a minor source for construction permitting purposes and a basic state source for operating permit purposes.

Baseline actual emissions are based on the average 12 month emissions from the period from January 2013 through December 2014 multiplied by emission unit specific emission factors. Table 2 shows the potential emission from this project, baseline actual emissions from 2013 and 2014, and the potential emissions increase from this project calculated by subtracting baseline actual emissions from potential emissions from this project.

Table 2: Project Emissions (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	¹ Potential Emissions of Project	² Baseline Actual Emissions	³ Potential Emission Increase of this Project	⁴ Conditioned Potential Emissions of Equipment associated with this Project
PM	25.0	16.48	11.45	5.03	N/A
PM ₁₀	15.0	16.48	11.45	5.03	N/A
PM _{2.5}	10.0	16.48	11.45	5.03	N/A
SO _x	40.0	1.34	0.92	0.42	N/A
NO _x	40.0	44.88	30.66	14.23	N/A
VOC	40.0	22.78	15.56	7.22	N/A
CO	100.0	N/A	N/A	N/A	N/A
GHG (CO ₂ e)	75,000 / 100,000	N/A	N/A	N/A	N/A
GHG (mass)	0.0 / 250.0	N/A	N/A	N/A	N/A
⁵ HAPs	25.0	11.05	7.55	10.0	10.0
⁶ HCl	10.0	11.05	7.55	<10.0	<10.0
⁷ D&F	6 x 10 ⁻⁷	2.01 x 10 ⁻⁶	1.37 x 10 ⁻⁶	2.01 x 10 ⁻⁶	N/A

¹Potential emissions of the project are based on 4.25 hour batch times and continuous operation (8,760 hour per year)

²Baseline actual emissions are based on the average 12 month emissions from the period from January 2013 through December 2014

³Potential emission increases from this project are calculated by subtracting the baseline actual emissions from the potential emissions of the project.

⁴Conditioned potential emissions of equipment associated with this project accounts for the emission limits shown in Special Condition 1 of this permit.

⁵Total HAP emissions are the sum of HCl and D&F

⁶Hydrogen Chloride

⁷Dioxins and Furans

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis for EU-0010, EU-0020, and EU-0030 were obtained from the emissions testing required by 40 CFR Part 63 Subpart RRR, *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*.

The emission factor for the dress room was obtained from a document titled “Energy and Environmental Profile of the U.S. Aluminum Industry” prepared for the U.S. Department of Energy Office of Industrial Technologies in July 1997.

Emissions are not expected from the presses and the electric graphite insert oven. Potential

particulate emissions from the billet saws were estimated by assuming 0.1% of the saw chips from 2014 are PM and dividing by the total throughput from the installation in 2014. The resulting emission factor is 0.0068 lb PM per ton of metal charged.

Potential emissions of dioxins and furans exceed the respective SMAL. However, the equipment will be subject to MACT RRR which has undergone a Risk and Technology Review (RTR); therefore, this project has no modeling requirements under Missouri’s HAP program.

The following table provides an emissions summary for this project. Existing potential emissions were taken from an operating permit reclassification under project number 2012-12-002. Existing actual emissions were taken from the installation’s 2014 EIQ. Potential emissions of the application represent the Potential Emissions Increase from this Project from Table 2.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels/SMAL	Existing Potential Emissions	Existing Actual Emissions (2014 EIQ)	Potential Emissions of the Application
PM	25.0	26.5	N/D	5.03
PM ₁₀	15.0	26.5	13.81	5.03
PM _{2.5}	10.0	26.5	13.80	5.03
SO _x	40.0	1.67	1.07	0.42
NO _x	40.0	66.5	40.16	14.23
VOC	40.0	21.82	17.45	7.22
CO	100.0	65.1	15.76	N/A
GHG (CO ₂ e)	75,000 / 100,000	93,165	N/D	N/A
GHG (mass)	0.0 / 250.0	93,075	N/D	N/A
HAPs	10.0/25.0	6.91	7.86	10.0
HCl	10.0	4.95	N/D	<10.0

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

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 HCl are conditioned below the major source level.

APPLICABLE REQUIREMENTS

Sapa Extrusions North America 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. A full EIQ is required for the first full calendar year of operation of the new equipment.
- *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

- *MACT Regulations*, 10 CSR 10-6.075
 - *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*, 40 CFR Part 63, Subpart RRR
- *Control of Sulfur Dioxide Emissions*, 10 CSR 10-6.261

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.

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated March 30, 2015, received April 6, 2015, designating Sapa Extrusions North America, LLC as the owner and operator of the installation.

APPENDIX A

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best Available Control Technology	MHDR	maximum hourly design rate
BMPs	Best Management Practices	MMBtu ...	Million British thermal units
Btu	British thermal unit	MMCF	million cubic feet
CAM	Compliance Assurance Monitoring	MSDS	Material Safety Data Sheet
CAS	Chemical Abstracts Service	NAAQS ..	National Ambient Air Quality Standards
CEMS	Continuous Emission Monitor System	NESHAPs	National Emissions Standards for Hazardous Air Pollutants
CFR	Code of Federal Regulations	NO_x	nitrogen oxides
CO	carbon monoxide	NSPS	New Source Performance Standards
CO₂	carbon dioxide	NSR	New Source Review
CO_{2e}	carbon dioxide equivalent	PM	particulate matter
COMS	Continuous Opacity Monitoring System	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
CSR	Code of State Regulations	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
dscf	dry standard cubic feet	ppm	parts per million
EQ	Emission Inventory Questionnaire	PSD	Prevention of Significant Deterioration
EP	Emission Point	PTE	potential to emit
EPA	Environmental Protection Agency	RACT	Reasonable Available Control Technology
EU	Emission Unit	RAL	Risk Assessment Level
fps	feet per second	SCC	Source Classification Code
ft	feet	scfm	standard cubic feet per minute
GACT	Generally Available Control Technology	SDS	Safety Data Sheet
GHG	Greenhouse Gas	SIC	Standard Industrial Classification
gpm	gallons per minute	SIP	State Implementation Plan
gr	grains	SMAL	Screening Model Action Levels
GWP	Global Warming Potential	SO_x	sulfur oxides
HAP	Hazardous Air Pollutant	SO₂	sulfur dioxide
hr	hour	tph	tons per hour
hp	horsepower	tpy	tons per year
lb	pound	VMT	vehicle miles traveled
lbs/hr	pounds per hour	VOC	Volatile Organic Compound
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Mr. Nick Johannes
EHS Manager
Sapa Extrusions North America
808 County Road
Monett, MO 65708

RE: New Source Review Permit - Project Number: 2015-04-020

Dear Mr. Johannes:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. 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 were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty 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 administrative hearing commission, whose contact information is: Administrative Hearing Commission, Truman State Office Building, Room 640, 301 W. High Street, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.

If you have any questions regarding this permit, please do not hesitate to contact J Luebbert, at the Department of Natural Resources' 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

Susan Heckenkamp
New Source Review Unit Chief

SH:jlj

Enclosures

c: Southwest Regional Office
PAMS File: 2015-04-020

Permit Number: