

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: 082016-003

Project Number: 2016-03-012

Installation Number: 029-0053

Parent Company: Fiberglass Tank Solutions, LLC

Parent Company Address: 147 Camdenton Business Park Drive, Camdenton, MO 65020

Installation Name: Fiberglass Tank Solutions, LLC

Installation Address: 147 Camdenton Business Park Drive, Camdenton, MO 65020

Location Information: Camden County, S33, T38N, R16W

Application for Authority to Construct was made for:

Installation of a fiberglass tanks 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.

Handwritten signature of Chad Stephenson.

Prepared by
Chad Stephenson
New Source Review Unit

Handwritten signature of Kyrna L. Morris.

Director of Designee
Department of Natural Resources

AUG 05 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 Enforcement and Compliance Section of 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 Enforcement and Compliance Section of 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's 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 the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's 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 using the contact information below.

Contact Information:
Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:
<http://dnr.mo.gov/regions/>

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."

Fiberglass Tank Solutions, LLC
Camden County, S33, T38N, R16W

1. Styrene Emission Limitation

- A. Fiberglass Tank Solutions, LLC shall emit less than 10.0 tons of Styrene in any consecutive 12-month period from the entire installation. The emission units of the installation are listed below in Table 1.

Table 1: Installation Emission Units

Emission Units	Description	Maximum Hourly Design Rate (lbs per hour)
EP-01	Chop Gun	30
EP-02	Gelcoat Gun	10
EP-03	Winding Machine	60
EP-04	Hand Layup	30

- B. Attachment A or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A.

2. Operational Requirement

- A. Fiberglass Tank Solutions, LLC shall not operate more than ten hours per day.
- B. Fiberglass Tank Solutions, LLC shall not use any gelcoats containing Methyl Methacrylate (CAS no. 80-62-6).
- C. Fiberglass Tank Solutions, LLC shall keep all resins, gelcoats, activators and any other chemicals containing volatile organic compounds (VOC) and hazardous air pollutants (HAPs) in sealed containers whenever the materials are not in use. Fiberglass Tank Solutions, LLC shall provide and maintain suitable, easily read, permanent markings on all chemical containers used with this equipment.

SPECIAL CONDITIONS:

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

- D. Attachment B, or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 2.A.
3. Use of Alternative Material
- A. When considering using an alternative gel coat, resin or activator than those listed in the Application for Authority to Construct, Fiberglass Tank Solutions, LLC shall calculate the potential emissions of all HAPs (except styrene) and VOCs. If the potential emissions of the VOC from EP-01-EP-04 are equal to or greater than 17.05 tons per year or individual HAP (except styrene) are greater than their respective SMAL, Fiberglass Tank Solutions, LLC shall seek approval from the Air Pollution Control Program before implementing their use. A list of the SMAL can be found on the website <http://dnr.mo.gov/env/apcp/docs/cp-hapraltbl6.pdf> or by contacting the Air Pollution Control Program
 - B. Attachment C, or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to show compliance with Special Condition 3.A.
4. Record Keeping and Reporting Requirements
- A. Fiberglass Tank Solutions, LLC 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. These records shall include SDS for all materials used.
 - B. Fiberglass Tank Solutions, LLC 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 shows an exceedance of a limitation imposed by this permit.

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

Project Number: 2016-03-012
Installation ID Number: 029-0053
Permit Number:

Installation Address:
Fiberglass Tank Solutions, LLC
147 Camdenton Business Park Drive
Camdenton, MO 65020

Parent Company:
Fiberglass Tank Solutions, LLC
147 Camdenton Business Park Drive
Camdenton, MO 65020

Camden County, S33, T38N, R16W

REVIEW SUMMARY

- Fiberglass Tank Solutions, LLC has applied for authority to construct a fiberglass tanks manufacturing operation.
- The application was deemed complete on April 4, 2016.
- HAP emissions are expected from the proposed equipment. HAPs of concern from this process are styrene and dimethyl phthalate.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment. Subpart WWWW does not apply because Fiberglass Tank Solutions, LLC is not a major source for HAPs.
- 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 HAPs and VOC are conditioned below de minimis levels.
- This installation is located in Camden 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 performed to determine the ambient impact of styrene because the potential emissions of styrene are above the Screening Model Action Level (SMAL) of 1.0 tons per year.

- Emissions testing is not required for the equipment.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Fiberglass Tank Solutions, LLC plans to operate a fiberglass tank manufacturing plant near Camden. The process begins with resin containing chopped fiberglass filament being sprayed with a chop gun and fiberglass wind is added. Next, the gelcoat material is spray applied and finally hand layup of material is applied to finish the tank for the fittings, dome and tank bottoms. The materials used in the manufacturing process include resin, glass strand, gelcoat, and standard catalyst material.

No permits have been issued to Fiberglass Tank Solutions, LLC from the Air Pollution Control Program.

PROJECT DESCRIPTION

Fiberglass Tank Solutions, LLC has applied to permit a new fiberglass tank manufacturing plant. The plant includes a chop gun (EP-1), gelcoat gun (EP-2), a filament winding machine (EP-3), and hand layup of material (EP-4). According to the applicant the chop gun and hand layup of material can both apply a maximum of 30 pounds of resin per hour. The gelcoat gun spray applies at a maximum rate of 10 pounds per hour and the winding machine applies resin at a rate of 60 pounds per hour. All tanks are custom and vary in size; however in order to calculate the potential emissions the numbers were based on approximately 270 pounds of resin used on each tank from the chop gun and 540 pounds of resin used on each tank from the filament winding machine. Additionally, approximately 270 pounds of material from hand layup is applied per tank and 90 pounds of gelcoat per tank from the gelcoat gun. A construction time of 9 hours per tank was used.

EMISSIONS/CONTROLS EVALUATION

The filament winding machine, the chop gun and the gelcoat gun are expected to emit only styrene, which is considered both a HAP and VOC. Styrene emission factors were obtained from the table of "Unified Emission Factors for Open Molding of Composites," (7/01). According to Safety Data Sheets provided with the application, the resin contains 31.67% by weight of styrene and the gelcoat contains 25.00% by weight styrene.

VOCs are expected from cleaning and flushing and the potential emissions were calculated assuming that all of the VOC in the chemicals are emitted. It was assumed that a maximum of one gallon per day of Super Flush S-0280 would be used. The facility also uses an activator which contains Dimethyl Phthalate, a VOC and HAP. For a conservative evaluation, it was assumed that all of the resins used at the site require the activator and that the activator is 2% of the total resin and gelcoat applied. The 2% usage rate is the maximum rate listed for the

activator according to industry product catalogs. The facility will not use gelcoats containing Methyl Methacrylate (MMA) and does not anticipate using them in the future.

The following table provides an emissions summary for this project. There are no existing potential or actual emissions since this a newly permitted plant. Potential emissions of the application represent the potential of the new equipment , assuming continuous operation (8760 hours per year). The conditioned VOC potential emissions are based on the hourly operation limit in Special Condition No. 2, which is needed for the facility to maintain a styrene ambient impact less than the Risk Assessment Level (RAL) of 2,240 $\mu\text{g}/\text{m}^3$ on a 24-hour basis and 333 $\mu\text{g}/\text{m}^3$ on an annual basis.

Table 2: Emissions Summary (tpy)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Actual Emissions	Potential Emissions of the Project	Conditioned Potential Emissions of the Project
PM	25.0	N/A	N/A	N/A
PM ₁₀	15.0	N/A	N/A	N/A
PM _{2.5}	10.0	N/A	N/A	N/A
SO _x	40.0	N/A	N/A	N/A
NO _x	40.0	N/A	N/A	N/A
VOC	40.0	N/A	40.92	17.05
CO	100.0	N/A	N/A	N/A
HAPs	10.0/25.0	N/A	39.29	N/A
Styrene	¹ 1.0	N/A	32.46	< 10.0
Dimethyl Pthalate	10.0	N/A	6.83	N/A

N/A = Not Applicable

Note 1: Screening Model Action Level (SMAL)

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 Styrene and VOC are conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

Fiberglass Tank Solutions, LLC 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
 - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.
- *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

AMBIENT AIR QUALITY IMPACT ANALYSIS (AAQIA)

Ambient air quality modeling was performed to determine the ambient impacts of Styrene on a 24-hour and an annual averaging period to ensure that they are below the Risk Assessment Levels (RAL). Modeling was required because the project has styrene emissions greater than the SMAL of 1.0 tons per year. EPA’s AERSCREEN model was chosen. AAQIA results are provided in Table 3. The facility could not pass modeling at its maximum emission rate. However, if the styrene emissions were limited to 16.1 lbs/day from the chop gun (EP-01), 11.1 lbs/day from the gelcoat gun (EP-02), 35 lbs/day from the filament winding machine (EP-03) and 12 lbs/day from the hand layup (EP-04), the facility can maintain a styrene ambient impact below the Risk Assessment Levels (RAL). These emissions limits correspond to 10 hours of operation per day, which is now a limit in this permit

Table 3: Ambient Air Quality Impact Analysis Results

Pollutant	¹ Conditioned Impact ($\mu\text{g}/\text{m}^3$)	RAL ($\mu\text{g}/\text{m}^3$)	Averaging Period
Styrene	320.88	333	Annual
Styrene	1925.28	2240	24-hours

Note 1: Conditioned Impact based on the limit of 10 hours of operation per day.

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*, it is recommended that 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 February 7, 2016, received March 7, 2016, designating Fiberglass Tank Solutions, LLC as the owner and operator of the installation.
- Emails received from Kevin Hawthorne on March 28, 2016 and April 6, 2016 providing completeness information for the application.

Attachment A – Monthly Styrene Emissions Compliance Worksheet

Fiberglass Tank Solutions, LLC
 Camden County (S33, T38N, R16W)
 Project Number: 2016-03-012
 Installation ID Number: 029-0053
 Permit Number: _____

Date: _____

Copy this sheet as needed.

Column 1	Column 2	Column 3	Column 4	Column 5
Type of Process	Usage per month (lb/month)	(a) Emission Factors (lb/ton or % Content)	(b) Emissions (lb/month)	(c) Emission (tons/month)
Chop Spray Gun				
Gelcoat Application				
Filament Winding Machine Resin				
Hand Layup Resin				
(d) Total Styrene Emissions Calculated this Month, in Tons				
(e) 12-Month Styrene Emissions totals from Previous Month's Attachment A, in Tons				
(f) Monthly HAP emission Total from Previous Year's Attachment A, in Tons				
(g) Current 12-month Total of Styrene, Emissions in Tons[(d) + (e) - (f)]:				

INSTRUCTIONS:

- (a) Emission factors, in lb/ton, for the chop spray gun, gelcoat application, filament winding machine and hand layup should be taken from the Table "Unified Emission Factors for Open Molding of Composites."
- (b) Emissions (lb/month) for the chop spray gun, Gelcoat Application, filament winding machine and hand layup resin calculated from [Column 2 ÷ 2,000 lb/ton] x Column 3
- (c) Emissions (ton/month) = Column 4/2000lbs
- (d) Summation of [Column 5] in Tons;
- (e) Record the previous 12-Month individual styrene emission total (g) from last month's Attachment A, in Tons;
- (f) Record the monthly styrene emission total (d) from previous year's Attachment A, in Tons:
- (g) Calculate the new 12-month individual HAP emissions total. A 12-Month individual styrene emissions total of less than ten tons indicates compliance.

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. Kevin Hawthorne
Owner
Fiberglass Tank Solutions, LLC
278 Nomore Lane
Montreal, MO 65591

RE: New Source Review Permit - Project Number: 2016-03-012

Dear Mr. Hawthorne:

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 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 and your new source review permit application 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.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

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, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.

Mr. Kevin Hawthorne
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If you have any questions regarding this permit, please do not hesitate to contact Chad Stephenson, 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:csl

Enclosures

c: Southwest Regional Office
PAMS File: 2016-03-012

Permit Number: