



**PERMIT**  
**Under the Environmental Conservation Law (ECL)**

**IDENTIFICATION INFORMATION**

Permit Type: Air State Facility  
Permit ID: 9-1402-00773/00005  
Mod 0 Effective Date: 06/20/2011 Expiration Date: No expiration date.  
Mod 1 Effective Date: 03/27/2012 Expiration Date: No expiration date.

Permit Issued To:ENGINEERED COMPOSITES INC  
55 ROBERTS RD  
BUFFALO, NY 14206

Contact: ROMAN BOLUBUSH  
ENGINEERED COMPOSITES INC  
55 ROBERTS RD  
BUFFALO, NY 14206  
(716) 362-0295

Facility: ENGINEERED COMPOSITES INC  
55 ROBERTS AVE  
BUFFALO, NY 14206

Contact: ROMAN BOLUBUSH  
FIBRERIGHT MANUFACTURING CORP  
55 ROBERTS RD  
BUFFALO, NY 14206  
(716) 362-0295

Description:

**Engineered Composites, Inc.**  
**ASF Permit ID 9-1402-00773/00005**  
**MOD1**

Engineered Composites, Inc. (ECI) produces fiberglass reinforced plastic parts by closed molding processes, including compression molding using liquid compression molding (LCM) and sheet molding compound (SMC) and resin transfer (vacuum infusion) molding. SMC is produced onsite or ready-to-use SMC is purchased. Facility emissions consist of hazardous air pollutants (HAPs), including styrene and n-hexane, volatile organic compounds (VOCs) and particulates from the molding, mixing, grinding, powder coating, and adhesive application/packaging processes, storage and maintenance activities. These emissions are exhausted to the ambient air, either directly or indirectly through general ventilation stacks. Particulate emissions are controlled at emission points or presses with accordion paper filters, polyester filters or spun-bond polyester cartridges with 98.1 %, 99.7% and 83% capture efficiency, respectively. Emissions of HAPs and VOCs from the facility are not controlled.

This ASF permit modification consists of:



- **the correction of Monitoring Condition No. 3, Item 3.7 to remove the requirement to calculate styrene/volatile HAP emissions from the mixing process assuming 100% volatilization.** Instead, ECI will estimate volatile HAP emissions from the mixing process using the HAP emission factor of 0.25% of available HAP from Chapter 5 of the Background Information Document (BID) of 40CFR63, Subpart WWWW for mixing operations with closed or covered mixing vessels and no active ventilation of the mixing vessel. If the method of filling the mixing tanks changes from "open fill" to "closed fill", ECI may use an alternative emission factor approved by NYSDEC.
- The emission factor presented in the original AFS permit for Process P01 and Process PS1 in the equation for ER1 was changed from 1 to 0.645 weight % of starting styrene monomer emitted due to the determination that ECI does not spread the LCM after it is poured into the mold. The average of the Styrene Factors for poured LCM, determined from the BMC/LCM Compression Molding Test Results, conducted by Engineering Environmental Consulting Services in September 2008 were used for the EF. ECI may also use the equation presented in Section 8.0 Estimation of VOC emissions from Compression Molding of LCM of ANSI/ACMA/ICPA UEF-1-2011a to determine styrene emissions from LCM presses. Styrene emissions generated during the manual transfer of LCM to the presses are included in these emission factors, based on the review of the BMC/LCM Compression Molding Test Results.
- ECI installed a Sheet Molding Compound Machine in June of 2011. Start-up is expected in July 2012. Process SMC (SMC Production) and Emission Source SMC01 (SMC Machine ) were added to the AFS permit under Emission Unit B-00001. The operation of this process and emission source will not subject ECI to any additional applicable requirements.
- Nine mixing tanks were added to the ASF permit under Process G04 to represent seven already existing tanks that were omitted from the ASF permit, MOD 0 and two new tanks that will be used to prepare sheet molding compound for Process SMC. During construction of the original ASF permit, it was expected that ECI would start-up two larger mixing tanks, G004A and G004B, and shut down the seven smaller tanks. Since the smaller tanks are still in operation, they were added to the permit as Emission Sources MT001, MT002, MT003, MT004, MT005, MT006 and MT007. The Mixing Tanks associated with the SMC Machine are MT008 and MT009. Emissions from the mixing tanks are exhausted through general ventilation stacks G0004, GV007, and GV011.
- Grinding operations associated with Process RTM were also included in this modification and are listed as Emission Source (ES) G0005 and G0006 in the ASF permit. Particulate emissions are controlled at ES G0005 and G0006 by Spun-Bond Polyester Cartridges with Dual Dimple Pleating Design that achieve 83% capture efficiency for particulates with diameters of 5.0-10.0  $\mu\text{m}$ , identified as ES Controls GC005 and GC006.
- An exhaust stack for general ventilation was installed in November 2011. Operation is expected to commence in July 2012. This was added to the permit as EP GV007. Particulate emissions are controlled with a 99.7% efficient particulate filter identified as GVC07 in the permit.
- Stack heights of Emission Points C0001, GV008 and GV010 were lowered from 120 ft to 100 ft above ground level.
- Stack heights of Emission Points GV009 and GV011 were raised from 90 ft to 100 ft above ground level.
- A short-term and long-term air quality impact analysis conducted using the modified stack heights and the emission rate for styrene based on 4500 hrs/yr operation and a 9.90 tpy CAP on facility styrene emissions resulted in acceptable 1-hour maximum



ground level and maximum annual styrene concentrations of 26.55  $\mu\text{g}/\text{m}^3$  and 2.12  $\mu\text{g}/\text{m}^3$ , respectively.

- The description of EU B-00001 and several processes were modified to reflect changes made.
- Monitoring conditions were revised with regard to the Final Method 204 O & M Plan required to comply with 6NYCRR211.1 (see monitoring conditions 1-3 and 1-4).

ECI's will continue to operate under the existing federally enforceable emission CAPs of 9.90 tpy and 24.5 tpy for individual and total HAP emissions, respectively, based on 12- month rolling totals as specified in the Air State Facility permit. The CAPs were established to avoid the requirements of 6NYCRR201-6, Title V and 40CFR63, Subpart WWWW, Reinforced Plastic Composites Production. In accordance with capping requirements specified under 6NYCRR201-7, ECI must calculate emissions on a monthly basis to verify continuous compliance with the emission caps and submit a summary of these emissions with a compliance certification, annually. To comply with 6NYCRR211.1: Air Pollution Prohibited, ECI maintains Building B-001 as a total enclosure to capture fugitive emissions in accordance with USEPA Reference Method 204. ECI is also subject to the requirements/ limits specified under 6NYCRR212.4(c) and 6NYCRR212.6(a) for particulates and opacity, respectively.

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, the General Conditions specified and any Special Conditions included as part of this permit.

Permit Administrator:            DOUGLAS E BORSCHEL  
   270 MICHIGAN AVE  
   BUFFALO, NY 14203-2915

Authorized Signature: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_



**Notification of Other State Permittee Obligations**

**Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification**

The permittee expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the compliance permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in any compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

**Item B: Permittee's Contractors to Comply with Permit**

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

**Item C: Permittee Responsible for Obtaining Other Required Permits**

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

**Item D: No Right to Trespass or Interfere with Riparian Rights**

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.



**LIST OF CONDITIONS**

**DEC GENERAL CONDITIONS**

**General Provisions**

- Facility Inspection by the Department
- Relationship of this Permit to Other Department Orders and Determinations
  - Applications for permit renewals, modifications and transfers
  - Permit modifications, suspensions or revocations by the Department
  - Permit modifications, suspensions or revocations by the Department

**Facility Level**

- Submission of application for permit modification or renewal-REGION 9 HEADQUARTERS



**DEC GENERAL CONDITIONS**  
**\*\*\*\* General Provisions \*\*\*\***  
**GENERAL CONDITIONS - Apply to ALL Authorized Permits.**

**Condition 1: Facility Inspection by the Department**

**Applicable State Requirement: ECL 19-0305**

**Item 1.1:**

The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71-0301 and SAPA 401(3).

**Item 1.2:**

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

**Item 1.3:**

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

**Condition 2: Relationship of this Permit to Other Department Orders and Determinations**

**Applicable State Requirement: ECL 3-0301 (2) (m)**

**Item 2.1:**

Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

**Condition 3: Applications for permit renewals, modifications and transfers**

**Applicable State Requirement: 6 NYCRR 621.11**

**Item 3.1:**

The permittee must submit a separate written application to the Department for renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing.

**Item 3.2:**

The permittee must submit a renewal application at least 180 days before expiration of permits for Title V Facility Permits, or at least 30 days before expiration of permits for State Facility Permits.

**Item 3.3:**

Permits are transferrable with the approval of the department unless specifically prohibited by the statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.



**Department**

**Applicable State Requirement: 6 NYCRR 621.13**

**Item 1-1.1:**

The Department reserves the right to exercise all available authority to modify, suspend, or revoke this permit in accordance with 6NYCRR Part 621. The grounds for modification, suspension or revocation include:

- a) materially false or inaccurate statements in the permit application or supporting papers;
- b) failure by the permittee to comply with any terms or conditions of the permit;
- c) exceeding the scope of the project as described in the permit application;
- d) newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
- e) noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

**Condition 4: Permit modifications, suspensions or revocations by the Department**

**Applicable State Requirement: 6 NYCRR 621.13**

**Item 4.1:**

The Department reserves the right to modify, suspend, or revoke this permit in accordance with 6NYCRR Part 621. The grounds for modification, suspension or revocation include:

- a) materially false or inaccurate statements in the permit application or supporting papers;
- b) failure by the permittee to comply with any terms or conditions of the permit;
- c) exceeding the scope of the project as described in the permit application;
- d) newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
- e) noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

**\*\*\*\* Facility Level \*\*\*\***

**Condition 5: Submission of application for permit modification or renewal-REGION 9 HEADQUARTERS**

**Applicable State Requirement: 6 NYCRR 621.6 (a)**

**Item 5.1:**

Submission of applications for permit modification or renewal are to be submitted to:  
NYSDEC Regional Permit Administrator  
Region 9 Headquarters  
Division of Environmental Permits  
270 Michigan Avenue  
Buffalo, NY 14203-2915  
(716) 851-7165

**New York State Department of Environmental Conservation**

Permit ID: 9-1402-00773/00005

Facility DEC ID: 9140200773



**Permit Under the Environmental Conservation Law (ECL)**

**ARTICLE 19: AIR POLLUTION CONTROL - AIR STATE FACILITY  
PERMIT**

**IDENTIFICATION INFORMATION**

Permit Issued To:ENGINEERED COMPOSITES INC  
55 ROBERTS RD  
BUFFALO, NY 14206

Facility: ENGINEERED COMPOSITES INC  
55 ROBERTS AVE  
BUFFALO, NY 14206

Authorized Activity By Standard Industrial Classification Code:  
3089 - PLASTICS PRODUCTS, NEC

Mod 0 Permit Effective Date: 06/20/2011  
date.

Permit Expiration Date: No expiration  
date.

Mod 1 Permit Effective Date: 03/27/2012  
date.

Permit Expiration Date: No expiration  
date.



## LIST OF CONDITIONS

### FEDERALLY ENFORCEABLE CONDITIONS

#### Facility Level

- 1 6 NYCRR Subpart 201-7: Facility Permissible Emissions
- \*1-1 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- \*1-2 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- 5 6 NYCRR 211.1: Air pollution prohibited
- 1-3 6 NYCRR 211.1: Compliance Demonstration
- 1-4 6 NYCRR 211.1: Compliance Demonstration
- 1-5 6 NYCRR 212.4 (c): Compliance Demonstration
- 1-6 6 NYCRR 212.6 (a): Compliance Demonstration

### STATE ONLY ENFORCEABLE CONDITIONS

#### Facility Level

- 9 ECL 19-0301: Contaminant List
- 10 6 NYCRR 201-1.4: Unavoidable noncompliance and violations
- 11 6 NYCRR Subpart 201-5: Emission Unit Definition
- 12 6 NYCRR 211.2: Visible Emissions Limited

#### Emission Unit Level

- 13 6 NYCRR Subpart 201-5: Emission Point Definition By Emission Unit
- 14 6 NYCRR Subpart 201-5: Process Definition By Emission Unit

NOTE: \* preceding the condition number indicates capping.



**FEDERALLY ENFORCEABLE CONDITIONS**  
**\*\*\*\* Facility Level \*\*\*\***

**NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS**

**This section contains terms and conditions which are federally enforceable. Permittees may also have other obligations under regulations of general applicability**

**Item A: Sealing - 6 NYCRR 200.5**

The Commissioner may seal an air contamination source to prevent its operation if compliance with 6 NYCRR Chapter III is not met within the time provided by an order of the Commissioner issued in the case of the violation.

Sealing means labeling or tagging a source to notify any person that operation of the source is prohibited, and also includes physical means of preventing the operation of an air contamination source without resulting in destruction of any equipment associated with such source, and includes, but is not limited to, bolting, chaining or wiring shut control panels, apertures or conduits associated with such source.

No person shall operate any air contamination source sealed by the Commissioner in accordance with this section unless a modification has been made which enables such source to comply with all requirements applicable to such modification.

Unless authorized by the Commissioner, no person shall remove or alter any seal affixed to any contamination source in accordance with this section.

**Item B: Acceptable Ambient Air Quality - 6 NYCRR 200.6**

Notwithstanding the provisions of 6 NYCRR Chapter III, Subchapter A, no person shall allow or permit any air contamination source to emit air contaminants in quantities which alone or in combination with emissions from other air contamination sources would contravene any applicable ambient air quality standard and/or cause air pollution. In such cases where contravention occurs or may occur, the Commissioner shall specify the degree and/or method of emission control required.

**Item C: Maintenance of Equipment - 6 NYCRR 200.7**

Any person who owns or operates an air contamination source which is equipped with an emission control device shall operate such device and keep it in a satisfactory state of maintenance and repair in accordance with ordinary and necessary practices, standards and procedures, inclusive of manufacturer's specifications,



required to operate such device effectively.

**Item D: Unpermitted Emission Sources - 6 NYCRR 201-1.2**

If an existing emission source was subject to the permitting requirements of 6 NYCRR Part 201 at the time of construction or modification, and the owner and/or operator failed to apply for a permit for such emission source then the following provisions apply:

- (a) The owner and/or operator must apply for a permit for such emission source or register the facility in accordance with the provisions of Part 201.
- (b) The emission source or facility is subject to all regulations that were applicable to it at the time of construction or modification and any subsequent requirements applicable to existing sources or facilities.

**Item E: Emergency Defense - 6 NYCRR 201-1.5**

An emergency constitutes an affirmative defense to an action brought for noncompliance with emissions limitations or permit conditions for all facilities in New York State.

(a) The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (1) An emergency occurred and that the facility owner and/or operator can identify the cause(s) of the emergency;
- (2) The equipment at the permitted facility causing the emergency was at the time being properly operated;
- (3) During the period of the emergency the facility owner and/or operator took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
- (4) The facility owner and/or operator notified the Department within two working days after the event occurred. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(b) In any enforcement proceeding, the facility owner and/or operator seeking to establish the occurrence of an emergency has the burden of proof.



(c) This provision is in addition to any emergency or upset provision contained in any applicable requirement.

**Item F: Recycling and Salvage - 6 NYCRR 201-1.7**

Where practical, any person who owns or operates an air contamination source shall recycle or salvage air contaminants collected in an air cleaning device according to the requirements of 6 NYCRR.

**Item G: Prohibition of Reintroduction of Collected Contaminants to the Air - 6 NYCRR 201-1.8**

No person shall unnecessarily remove, handle, or cause to be handled, collected air contaminants from an air cleaning device for recycling, salvage or disposal in a manner that would reintroduce them to the outdoor atmosphere.

**Item H: Proof of Eligibility for Sources Defined as Exempt Activities - 6 NYCRR 201-3.2 (a)**

The owner and/or operator of an emission source or unit that is eligible to be exempt, may be required to certify that it operates within the specific criteria described in 6 NYCRR Subpart 201-3. The owner or operator of any such emission source must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility which contains emission sources or units subject to 6 NYCRR Subpart 201-3, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

**Item I: Proof of Eligibility for Sources Defined as Trivial Activities - 6 NYCRR 201-3.3 (a)**

The owner and/or operator of an emission source or unit that is listed as being trivial in 6 NYCRR Part 201 may be required to certify that it operates within the specific criteria described in 6 NYCRR Subpart 201-3. The owner or operator of any such emission source must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility which contains emission sources or units subject to 6 NYCRR Subpart 201-3, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

**Item J: Required Emission Tests - 6 NYCRR 202-1.1**



An acceptable report of measured emissions shall be submitted, as may be required by the Commissioner, to ascertain compliance or noncompliance with any air pollution code, rule, or regulation. Failure to submit a report acceptable to the Commissioner within the time stated shall be sufficient reason for the Commissioner to suspend or deny an operating permit. Notification and acceptable procedures are specified in 6 NYCRR Subpart 202-1.

**Item K: Open Fires Prohibitions - 6 NYCRR 215.2**  
Except as allowed by section 215.3 of 6 NYCRR Part 215, no person shall burn, cause, suffer, allow or permit the burning of any materials in an open fire.

**Item L: Permit Exclusion - ECL 19-0305**  
The issuance of this permit by the Department and the receipt thereof by the Applicant does not and shall not be construed as barring, diminishing, adjudicating or in any way affecting any legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Department may have against the Applicant for violations based on facts and circumstances alleged to have occurred or existed prior to the effective date of this permit, including, but not limited to, any enforcement action authorized pursuant to the provisions of applicable federal law, the Environmental Conservation Law of the State of New York (ECL) and Chapter III of the Official Compilation of the Codes, Rules and Regulations of the State of New York (NYCRR). The issuance of this permit also shall not in any way affect pending or future enforcement actions under the Clean Air Act brought by the United States or any person.

**Item M: Federally Enforceable Requirements - 40 CFR 70.6 (b)**  
All terms and conditions in this permit required by the Act or any applicable requirement, including any provisions designed to limit a facility's potential to emit, are enforceable by the Administrator and citizens under the Act. The Department has, in this permit, specifically designated any terms and conditions that are not required under the Act or under any of its applicable requirements as being enforceable under only state regulations.

**FEDERAL APPLICABLE REQUIREMENTS**  
**The following conditions are federally enforceable.**

**Condition 1: Facility Permissible Emissions**



Effective between the dates of 06/20/2011 and Permit Expiration Date

Applicable Federal Requirement:6 NYCRR Subpart 201-7

**Item 1.1:**

The sum of emissions from the emission units specified in this permit shall not equal or exceed the following

Potential To Emit (PTE) rate for each regulated contaminant:

per year	CAS No: 000100-42-5	(From Mod 1)	PTE: 19,800 pounds
	Name: STYRENE		
per year	CAS No: 0NY100-00-0	(From Mod 1)	PTE: 49,000 pounds
	Name: HAP		

**Condition 1-1: Capping Monitoring Condition**

Effective between the dates of 03/27/2012 and Permit Expiration Date

Applicable Federal Requirement:6 NYCRR Subpart 201-7

Replaces Condition(s) 2

**Item 1-1.1:**

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

6 NYCRR Subpart 201-6  
40 CFR Part 63, Subpart WWWW

**Item 1-1.2:**

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

**Item 1-1.3:**

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

**Item 1-1.4:**

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

**New York State Department of Environmental Conservation**

Permit ID: 9-1402-00773/00005

Facility DEC ID: 9140200773



**Item 1-1.5:**

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

**Item 1-1.6:**

The Compliance Demonstration activity will be performed for the Facility.

Regulated Contaminant(s):  
CAS No: 0NY100-00-0 HAP

**Item 1-1.7:**

Compliance Demonstration shall include the following monitoring:

Capping: Yes

Monitoring Type: MONITORING OF PROCESS OR CONTROL  
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

To avoid the requirements of 6NYCRR201-6: Title V Permits and 40CFR63, Subpart WWW Reinforced Plastic Composites Production, the potential to emit (PTE) total hazardous air pollutants (HAPs) from activities throughout the facility shall be limited to 24.5 tons per year. Actual facility-wide emissions of total HAPs shall not exceed 24.5 tpy as determined by summing the individual monthly HAP emissions, including individual HAPs that have a PTE less than 10 tpy, during any consecutive 12-month period from all HAP contributing activities, including trivial and exempt. Monthly and 12-month rolling totals of HAPs shall be calculated as described in the capping condition for individual HAPs specified under 6NYCRR201-7. The recordkeeping and reporting requirements specified under 6NYCRR201-7 for individual HAPs also apply to total HAP emissions. All submittals to the Department shall be certified by the Facility's responsible official as to the truth, completeness, and accuracy of all information recorded and reported.

Parameter Monitored: HAP  
Upper Permit Limit: 24.5 tons per year  
Monitoring Frequency: MONTHLY  
Averaging Method: 12-month total, rolled monthly  
Reporting Requirements: ANNUALLY (CALENDAR)  
Reports due 30 days after the reporting period.  
The initial report is due 1/30/2013.  
Subsequent reports are due every 12 calendar month(s).

**Condition 1-2: Capping Monitoring Condition**  
**Effective between the dates of 03/27/2012 and Permit Expiration Date**

**Applicable Federal Requirement:6 NYCRR Subpart 201-7**



**Replaces Condition(s) 3**

**Item 1-2.1:**

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

6 NYCRR Subpart 201-6  
40 CFR Part 63, Subpart WWWW

**Item 1-2.2:**

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

**Item 1-2.3:**

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

**Item 1-2.4:**

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

**Item 1-2.5:**

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

**Item 1-2.6:**

The Compliance Demonstration activity will be performed for the Facility.

Regulated Contaminant(s):  
CAS No: 000100-42-5      STYRENE

**Item 1-2.7:**

Compliance Demonstration shall include the following monitoring:

Capping: Yes

Monitoring Type: MONITORING OF PROCESS OR CONTROL  
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

Engineered Composites Inc. has an annual potential to emit (PTE) individual hazardous air pollutants (HAPs) from emission sources throughout the facility, which exceeds the applicability threshold of 10 tons per year (tpy) specified in 6NYCRR201-6 for Title V Facility Permits and



40CFR63, Subpart WWWW, Reinforced Plastic Composites Production. Engineered Composites Inc. has chosen to accept limitations to restrict the amount of individual HAPs emitted from the facility to 9.90 tpy each, based on a 12-month rolling total of facility-wide actual individual HAP emissions. Therefore, the Facility is not subject to the requirements of 6NYCRR201-6-Title V Facility Permits or 40CFR63, Subpart WWWW. This monitoring condition shall apply to each HAP emitted from the facility that has a PTE equal to or greater than 10 tpy. To verify the applicability of this requirement a current listing of each HAP emitted with the corresponding PTE shall be maintained. Calculations and information used to determine the PTEs shall be readily available for NYSDEC review upon request. The individual HAP predominantly emitted from ECI processes is styrene, which is contained in the resins used to prepare the various molding compounds. The HAPs listed in this monitoring condition are not all inclusive and may change with products and usage rates.

Facility-wide actual emissions of individual HAPs shall not exceed 9.90 tpy each, as determined by summing the monthly individual (indiv) HAP emissions during any consecutive 12-month period from all HAP contributing activities. Emissions shall be determined as follows or in another manner acceptable to NYSDEC:

Monthly Total individual HAP (lbs/mo) = ER1 + ER2+ ER3 + ER4 + ER5 + ER6:

Closed Compression Molding Process P01 and Sample Press PS1 using poured (not spread) Liquid Compression Molding (LCM) paste (resin + fillers, additives):

The LCM emission factor is the average of LCM test results for individual poured LCM test runs, expressed as the percentage of the styrene weight in the LCM paste processed in the compression mold. Monthly emissions from poured LCM (ER1) may be determined using the emission factor of 0.645 weight % of starting styrene monomer emitted as follows:

$$ER1 = 0.00645 * \sum (\text{LCM styrenated resin usage rate (lbs/mo)} * \text{styrene content, wt \%}/100)$$

OR

Monthly emissions from poured LCM (ER1) may be determined using the following equations from ANSI/ACMA/ICPA UEF-1-2011a:

1) A paste factor must be determined for each LCM styrenated resin formulation:

The LCM Poured Paste Factor (lbs styrene emitted / lb LCM



paste prepared) = (0.0022 \* % styrene) + 0.0008  
 where % styrene = (lbs LCM styrenated resin used  
 in paste \* (styrene content, wt %/100)) / (lbs LCM  
 paste prepared)

2) ER1 =  $\sum$  ( LCM Poured Paste Factor, lbs styrene  
 emitted/lbs LCM paste prepared \* lbs LCM paste  
 prepared/mo)

Note: The styrene and paste factors account for fugitive  
 styrene emissions generated during charge preparation,  
 including filling buckets with LCM charge, transfer of  
 charge in open buckets to press, and pouring LCM charge  
 into molding press. The material preparation times listed  
 in the BMC/LCM Compression Molding Test Report ranged  
 from 2.9-5.5 minutes for the poured LCM charges (#1, #2,  
 #5 and #7) .

Sheet Molding Compound (SMC) Process P02:  
 The emission factor for SMC is expressed as a percentage  
 of the available styrene monomer contained in  
 the uncured SMC material that is processed in the  
 compression mold. Monthly styrene emissions from SMC may  
 be determined using the emission factor of 1.5 weight %  
 of starting styrene monomer emitted as follows:  
 ER2 = 0.015 \*  $\sum$  (SMC usage rate (lbs/mo) \* styrene  
 content, wt % /100)

Production of SMC: Process SMC  
 Monthly styrene emissions from the SMC machine can be  
 estimated from the following equations:

SMC Machine ER = 0.1457 At - 0.1454  
 where:  
 SMC Machine ER = indiv HAP emission rate, lb/hr, when  
 paste is on the line  
 At = Total wet area of SMC machine = Adl + Adu +  
 W\*(Ll+Lu)  
 Adl = open area of the lower doctor box, ft<sup>2</sup>  
 Adu = open area of the upper doctor box, ft<sup>2</sup>  
 W = wet width of SMC, ft  
 Ll = Lower wet length, ft  
 Lu = Upper wet length, ft

ER3 = SMC Machine ER, lbs/hr \* Hours of Operation,  
 hrs/mo

Resin Transfer Molding/ Vacuum Infusion Process  
 RTM:  
 Monthly emissions from RTM may be determined using an  
 emission factor of 1.0 weight % of starting monomer  
 emitted as follows:



$$ER4 = 0.01 * \sum (\text{RTM Resin usage rate (lbs/mo)} * \text{indiv HAP Content, wt \% /100})$$

Mixing Tanks (Process G04):

Monthly individual HAP emissions from the mixing process (Process G04) using open fill tanks shall be estimated using the emission factor of 0.25 weight % of starting monomer emitted for mixing operations with closed or covered mixing vessels and no active ventilation of the mixing vessel as follows:

$$ER5 = 0.0025 * \sum (\text{Resin used in mixing tanks (lb/mo)}) * (\text{indiv HAP Content, wt \% /100})$$

OR

If the method of filling the mixing tanks changes from "open fill" to "closed fill", ECI may use an alternative emission factor approved by NYSDEC.

Packaging (Process PKG), Solvents (cleaning solvents, etc.), and Coating (if used):

Monthly emission shall be calculated assuming 100% loss of individual HAPs contained in these products to the ambient air.

$$ER6 = \sum (\text{adhesives/solvent/coatings usage rate (lbs/mo)} * \text{indiv HAP Content, wt \% /100})$$

Note: Emission factors are from the following sources: a) ER1, ER2: SMC and BMC/LCM Compression Molding Test Reports by Engineering Environmental Consulting Services (August-September 2008); b) ER1, ER2, ER3: ANSI/ACMA/ICPA UEF-1-2011a: Estimating Emission Factors for Open Molding and Other Composite Processes; c) ER4: USEPA AP-42, Chapter 4, Section 4.4, Table 4.4-2: Closed Molding; d) ER5: Chapter 5 of Background Information Document (BID) for 40CFR63, Subpart WWWW, Section 5.3, Page 33; and e) ER6: mass balance. Styrene/indiv HAP content, wt % is the styrene/individ HAP content as supplied, plus any extra added by operator, but before the addition of other additives such as powders, fillers, glass, etc. The emission factors presented for styrene are based on stack test results for closed molding operations that used styrenated resins. ECI may be required to use an alternative emission factor approved by NYSDEC if a new product is used that does not contain styrene monomer.

The Facility shall keep and maintain records for each process and other HAP contributing activities to determine actual individual HAP emissions based on verifiable data from all sources, including trivial and/or exempt activities (excluding combustion sources). These records shall include the following information:



1) A current list of all HAP containing products used throughout the facility including, but not limited to, resins, solvents, adhesives and coatings. This list shall include information on the manufacturer, brand, product name and/or code; HAP content in grams per liter, pounds per gallon or percent by weight, density/specific gravity and any other pertinent physical/chemical properties; and/or manufacturer's product specifications, material content reports, or laboratory analyses providing this information;

2) A monthly log of the consumption of each product used that contains HAPs. If a paste factor is used to calculate ER1, in addition to HAP containing products, the facility must maintain a monthly log of the consumption of fillers, additives and other ingredients used to prepare LCM compound;

3) A daily log of the hours of operation for the SMC machine;

4) All purchase orders, invoices, usage and production records and other documents to support information in the monthly/daily logs; and

5) all calculations used to determine the monthly emissions.

Each calendar month, the facility-wide 12-month rolling total for individual HAP emissions shall be computed by adding the current monthly individual HAP emissions to the individual HAP emissions for the previous 11 months. Within 30 days following each calendar year, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the 9.90 ton per year limit imposed by the emissions cap. This shall include a summary report which shall list the products used with reference to the associated process, the corresponding HAP contents, the quantities used monthly, emission factors used to calculate HAP emissions, the monthly HAP emissions and the monthly total, the rolling 12-month individual HAP emissions for each consecutive month of the period and a comparison to the 9.90 tpy limit. All submittals to the Department shall be certified by the Facility's responsible official as to the truth, completeness, and accuracy of all information recorded and reported.

To reduce unnecessary HAP emissions to the environment, Engineered Composites Inc. shall comply with the following handling, storage and disposal requirements for HAP



containing compounds:

- (1) keep the mixer covers closed while actual mixing is occurring except when adding materials or changing covers to the mixing vessels.
- (2) keep hopper and feed tank covers closed, except when adding materials or during maintenance/repair.
- (3) mixing tank, feed tank and hopper covers shall be gasketed and secured with clamps, whenever possible.
- (4) do not use open containers to store or dispose of cloth or paper impregnated with solvents that are used for surface preparation, cleanup, etc;
- (5) do not store spent or fresh solvents to be used for surface preparation, cleanup, etc. in open containers;
- (6) do not use open containers to store or dispense resins, molding compound, adhesives, solvents, etc. except when production, sampling, maintenance or inspection procedures require operational access; and
- (7) do not use open containers to store or dispose of resins, molding compounds, adhesives, solvents, etc.

An exceedance of the 9.90 tpy emission limit, failure to fulfill the recordkeeping and reporting requirements and/or failure to maintain the good work/housekeeping practices specified in this condition constitutes a violation of 6NYCRR201-6 and 40CFR63, Subpart WWWW. Exceedance of this limit must be reported to the Department immediately via telephone during normal working hours, but no later than 2 business days after the occurrence. A written report shall be submitted to the Department within 30 days of the occurrence and shall include the cause of the exceedance, corrective action taken, contaminants emitted and an estimate of the emissions.

Parameter Monitored: STYRENE  
Upper Permit Limit: 9.90 tons per year  
Monitoring Frequency: MONTHLY  
Averaging Method: 12-month total, rolled monthly  
Reporting Requirements: ANNUALLY (CALENDAR)  
Reports due 30 days after the reporting period.  
The initial report is due 1/30/2013.  
Subsequent reports are due every 12 calendar month(s).

**Condition 5: Air pollution prohibited**  
**Effective between the dates of 06/20/2011 and Permit Expiration Date**

**Applicable Federal Requirement: 6 NYCRR 211.1**

**Item 5.1:**

No person shall cause or allow emissions of air contaminants to the outdoor atmosphere of such



quantity, characteristic or duration which are injurious to human, plant or animal life or to property, or which unreasonably interfere with the comfortable enjoyment of life or property. Notwithstanding the existence of specific air quality standards or emission limits, this prohibition applies, but is not limited to, any particulate, fume, gas, mist, odor, smoke, vapor, pollen, toxic or deleterious emission, either alone or in combination with others.

**Condition 1-3: Compliance Demonstration**  
**Effective between the dates of 03/27/2012 and Permit Expiration Date**

**Applicable Federal Requirement: 6 NYCRR 211.1**

**Replaces Condition(s) 4**

**Item 1-3.1:**

The Compliance Demonstration activity will be performed for the Facility.

Regulated Contaminant(s):

CAS No: 000100-42-5      STYRENE

**Item 1-3.2:**

Compliance Demonstration shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

Engineered Composites, Inc. (ECI) is located near residents who could be affected by offsite styrene emissions. Based on current hours of operation (4500 hrs/yr) and a facility-wide emission limit of 9.90 tons of styrene per year, ECI's facility emission rate is potentially 4.4 pounds of styrene per hour. To determine the long-term and short term impacts of styrene on the surrounding residents, this emission rate was evaluated using Air Guide-1 and SCREEN3 air quality models. The NYSDEC annual and short-term guidance concentrations for styrene are 1000 µg/m<sup>3</sup> and 17,000 µg/m<sup>3</sup>, respectively. The minimum styrene odor threshold of 20 µg /m<sup>3</sup> was also used to evaluate the short-term impact of styrene. An air quality analysis of this emission rate showed that the potential impact on public health associated with acute and long-term exposure to styrene are acceptable, with the maximum 1-hr concentration at 26.55 µg/m<sup>3</sup> and the maximum annual concentration at 2.12 µg/m<sup>3</sup>. If styrene emissions exceed 4.4 lbs/hr and/or styrene odor complaints are filed with the Department, the air quality analysis must be redone. Measures to reduce styrene emissions may be required.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: UPON REQUEST BY REGULATORY AGENCY



**Condition 1-4: Compliance Demonstration**  
Effective between the dates of 03/27/2012 and Permit Expiration Date

**Applicable Federal Requirement: 6 NYCRR 211.1**

**Replaces Condition(s) 6**

**Item 1-4.1:**

The Compliance Demonstration activity will be performed for the Facility.

Regulated Contaminant(s):  
CAS No: 000100-42-5 STYRENE

**Item 1-4.2:**

Compliance Demonstration shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL  
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

The processes at Engineered Composites, Inc. (ECI) generate fugitive emissions, including styrene, n-hexane, VOC and particulates, which are released to the ambient air through general ventilation stacks and building apertures. Due to styrene's low odor threshold and high vapor density, fugitive emissions have been a nuisance and health concern to residents in the surrounding neighborhood. To minimize ground level emissions and comply with 6NYCRR 211.1, "Air Pollution Prohibited", ECI shall operate Building B-001 as a total enclosure to capture fugitive styrene emissions in accordance with USEPA Method 204 - Criteria for and Verification of a Permanent or Temporary Total Enclosure.

ECI submitted a Draft Method 204 Operation and Monitoring Plan (Method 204 O&M Plan) on September 6, 2011 specifying how the facility will be operated to minimize the release of fugitive emissions. The Draft Method 204 O&M Plan was approved by NYSDEC on March 12, 2012 (see letter from M. Ladiana, NYSDEC to D. Marszalkowski, ECI), with additional requirements/clarifications necessary to finalize the plan and fully demonstrate compliance. Natural Draft Openings (NDO) directing air flow into the building with a minimum average facial velocity of 200 fpm have been established and verified for the Winter Mode of Operation. The Summer Mode of Operation has been established. However, compliance with the minimum average facial velocity of 200 fpm inward using a grid system has not been demonstrated. ECI shall complete all requirements and submit the Final Method 204 O&M Plan to NYSDEC Region 9 office by July 15, 2012. The Final Method 204 O&M Plan shall be considered part of the ASF permit.



The Final Method 204 O&M Plan shall verify that ECI meets the requirements specified in each paragraph of USEPA Reference Method 204 that is applicable. The Final Method 204 O&M Plan shall include details for winter and summer modes of operation, such as ventilation variable frequency drive, motor speed, fan speed and flow rate; size, position and measured facial velocities of NDO's with all NDOs in use and individually (no other NDOs in use) using a grid system; ventilation verification; and plan view (drawing)/enclosure design. At a minimum, the plan view shall depict: 1) dimensions, 2) emission points with stack flow rates, 3) identification and location of all facility operations that generate emissions and their approximate distance to NDOs, 4) building openings (windows and doors), 5) identification of the NDOs that will be used during summer and winter modes, 6) the average facial velocity for each NDO 7) the approximate time that the NDOs will be open for each mode and; 8) any other pertinent information or diagram that demonstrates compliance with Method 204.

Engineered Composite Inc. must operate the facility in accordance with the Final Method 204 O&M Plan at all times that molding, mixing, packaging and other HAP/VOC emitting activities are conducted at the facility. All access doors and windows that are not NDOs shall be closed during routine operation of the processes. This does not mean that these doors and windows must be closed at all times, but that they must be closed any time that ECI is not actually moving parts, supplies, equipment, etc. through them. However, if an access door is used so often that it is almost always open, then it should be considered an NDO.

Facility operators must be made aware of the requirements of the Method 204 O & M Plan. Each NDO must be identified and the position(s) of the openings that were verified compliant must be clearly marked in the vicinity of the NDO. Building B-0001 shall be inspected daily to verify compliance with the operating requirements specified in the Final Method 204 O&M Plan. At least once during the day when HAP emitting processes are operating, 1) the direction of the airflow through the active NDO(s) must be verified using streamers, smoke tubes, etc and 2) the door position established for the NDO to comply with Method 204 must be confirmed for the active NDO. The daily inspections shall be recorded in a logbook and shall include date, time, observer's name, and a brief description of observations, including problems/corrective actions taken. If NDOs are not in use this should be recorded. If a problem is encountered that cannot be corrected immediately, the NDO must be closed until the



problem is rectified. The logbook shall be maintained onsite for at least 5 years and available for review upon request by NYSDEC. The measurement of average facial velocity for each NDO is required when the operating modes change to verify compliance with the minimum requirement. Anytime a change is made to the O&M Plan, the modified plan must be submitted to NYSDEC for review and approval prior to changing procedures at the facility. ECI shall certify compliance with the Final Method 204 O&M Plan in their Annual Monitoring Report.

Parameter Monitored: STYRENE  
Lower Permit Limit: 200 feet per minute  
Reference Test Method: USEPA METHOD 204  
Monitoring Frequency: DAILY  
Averaging Method: ARITHMETIC MEAN  
Reporting Requirements: ANNUALLY (CALENDAR)  
Reports due 30 days after the reporting period.  
The initial report is due 1/30/2013.  
Subsequent reports are due every 12 calendar month(s).

**Condition 1-5: Compliance Demonstration**  
**Effective between the dates of 03/27/2012 and Permit Expiration Date**

**Applicable Federal Requirement: 6 NYCRR 212.4 (c)**

**Item 1-5.1:**

The Compliance Demonstration activity will be performed for the facility:  
The Compliance Demonstration applies to:

Emission Unit: B-00001	Emission Point: C0001
Emission Unit: B-00001	Emission Point: G0001
Emission Unit: B-00001	Emission Point: G0002
Emission Unit: B-00001	Emission Point: G0003
Emission Unit: B-00001	Emission Point: G0004
Emission Unit: B-00001	Emission Point: GV007
Emission Unit: B-00001	Emission Point: GV008
Emission Unit: B-00001	Emission Point: GV009
Emission Unit: B-00001	Emission Point: GV010
Emission Unit: B-00001	Emission Point: GV011

Regulated Contaminant(s):  
CAS No: 0NY075-00-0 PARTICULATES



**Item 1-5.2:**

Compliance Demonstration shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL  
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

Emissions of solid particulates are limited to less than 0.050 grains of particulates per cubic foot of exhaust gas, expressed at standard conditions on a dry gas basis. To ensure compliance with this limit the facility shall conduct inspections of the particulate filters and maintain/replace filters in accordance with the manufacturer's specifications. Inspections/maintenance shall be recorded in a logbook for each emission point as follows: Date, time, name of staff person performing inspection/maintenance, inspection/ maintenance results and, each time a filter is replaced, the make and model of the filter. Whenever a problem is discovered, a description of the problem, the cause and corrective action taken shall also be recorded. To verify maintenance practices all purchase orders and invoices related to maintaining/replacing the particulate control equipment and the inspection/maintenance/repair logbook shall be kept onsite in a format acceptable to the Department. All records, including manufacturer's specifications and guarantees for the filter, shall be readily available for review by NYSDEC representatives and shall be kept onsite for a minimum of five years. The Department reserves the right to require the performance of a Method 5 emissions evaluation at any time.

Parameter Monitored: PARTICULATES

Upper Permit Limit: 0.050 grains per dscf

Reference Test Method: 5

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING  
DESCRIPTION

Averaging Method: 1-HOUR AVERAGE

Reporting Requirements: UPON REQUEST BY REGULATORY AGENCY

**Condition 1-6: Compliance Demonstration**

**Effective between the dates of 03/27/2012 and Permit Expiration Date**

**Applicable Federal Requirement:6 NYCRR 212.6 (a)**

**Item 1-6.1:**

The Compliance Demonstration activity will be performed for the facility:

The Compliance Demonstration applies to:

Emission Unit: B-00001

Emission Point: C0001

Emission Unit: B-00001

Emission Point: G0001



Emission Unit: B-00001	Emission Point: G0002
Emission Unit: B-00001	Emission Point: G0003
Emission Unit: B-00001	Emission Point: G0004
Emission Unit: B-00001	Emission Point: GV007
Emission Unit: B-00001	Emission Point: GV008
Emission Unit: B-00001	Emission Point: GV009
Emission Unit: B-00001	Emission Point: GV010
Emission Unit: B-00001	Emission Point: GV011

Regulated Contaminant(s):  
CAS No: 0NY075-00-0 PARTICULATES

**Item 1-6.2:**

Compliance Demonstration shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL  
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

No person shall cause or allow emissions having an average opacity during any six consecutive minutes of 20 percent or greater from any process emission source, except only the emission of uncombined water. The Department reserves the right to perform or require the performance of a Method 9 opacity evaluation at any time during facility operation.

The monitoring procedure necessary to determine compliance with the opacity requirements under section 212.6(a) will include the following:

1. Engineered Composites Inc. (ECI) shall conduct a daily ground level scan of visible emissions from emission points or other sources of air pollution at the Facility during daylight hours while processes are in operation, except during adverse weather conditions (fog, rain, or snow) to monitor for unusual opacity conditions. If visible emissions above zero percent (0%) opacity (excluding steam plumes \*\*) are present, then ECI shall determine the cause and make the necessary correction and verify that the excess visible emissions problem has been corrected. If visible emissions greater than 0% continue to be present, ECI will immediately notify the Department and conduct a Method 9 assessment within 2 days to determine the degree of opacity. A synopsis of



observations including the date, time of day, weather conditions, observer's name, whether any opacity was observed with the identification of the emission point(s) that had opacity, a completed visible emission observation form (if a Method 9 is conducted) and a description of any corrective action taken shall be recorded in a permanently bound log book or in electronic format at the facility. Inclement weather conditions shall be recorded for those days when observations are prohibited.

Visible emissions greater than 0% opacity are not necessarily indicative of an emission violation, but rather serve as a trigger for further investigation to determine compliance with the opacity limit. However, any time that the opacity is determined to meet or exceed the limits of section 212.6(a) using Method 9, the facility will be determined to be in violation, will remedy the problem, and will contact the Department within one (1) business day of performing the Method 9 analysis. The provisions of Part 201-1.4 shall apply.

All records shall be maintained on-site and shall be available for inspection by Department representatives upon request. Records will be maintained for a period of at least five years.

\*\* Steam plumes generally form after leaving the top of the stack (this is known as a detached plume). The distance between the stack and the beginning of the detached plume may vary, however, there is (normally) a distinctive distance between the plume and stack. Steam plumes are white in color and have a billowy consistency. Steam plumes dissipate within a short distance of the stack (the colder the air the longer the steam plume will last) and leave no dispersion trail downwind of the stack.

Parameter Monitored: OPACITY

Upper Permit Limit: 20 percent

Reference Test Method: 9

Monitoring Frequency: DAILY

Averaging Method: 6-MINUTE AVERAGE (METHOD 9)

Reporting Requirements: UPON REQUEST BY REGULATORY AGENCY



**STATE ONLY ENFORCEABLE CONDITIONS**  
**\*\*\*\* Facility Level \*\*\*\***

**NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS**  
**This section contains terms and conditions which are not federally enforceable. Permittees may also have other obligations under regulations of general applicability**

**Item A: Public Access to Recordkeeping for Facilities With State Facility Permits - 6 NYCRR 201-1.10 (a)**

Where emission source owners and/or operators keep records pursuant to compliance with the operational flexibility requirements of 6 NYCRR Subpart 201-5.4(b)(1), and/or the emission capping requirements of 6 NYCRR Subparts 201-7.2(d), 201-7.3(f), 201-7.3(g), 201-7.3(h)(5), 201-7.3(i) and 201-7.3(j), the Department will make such records available to the public upon request in accordance with 6 NYCRR Part 616 - Public Access to Records. Emission source owners and/or operators must submit the records required to comply with the request within sixty working days of written notification by the Department of receipt of the request.

**Item B: General Provisions for State Enforceable Permit Terms and Condition - 6 NYCRR Part 201-5**

Any person who owns and/or operates stationary sources shall operate and maintain all emission units and any required emission control devices in compliance with all applicable Parts of this Chapter and existing laws, and shall operate the facility in accordance with all criteria, emission limits, terms, conditions, and standards in this permit. Failure of such person to properly operate and maintain the effectiveness of such emission units and emission control devices may be sufficient reason for the Department to revoke or deny a permit.

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

**STATE ONLY APPLICABLE REQUIREMENTS**

**The following conditions are state only enforceable.**



**Condition 9: Contaminant List**

**Effective between the dates of 06/20/2011 and Permit Expiration Date**

**Applicable State Requirement:ECL 19-0301**

**Item 9.1:**

Emissions of the following contaminants are subject to contaminant specific requirements in this permit(emission limits, control requirements or compliance monitoring conditions).

CAS No: 000100-42-5

Name: STYRENE

CAS No: 0NY075-00-0

Name: PARTICULATES

CAS No: 0NY100-00-0

Name: HAP

**Condition 10: Unavoidable noncompliance and violations**

**Effective between the dates of 06/20/2011 and Permit Expiration Date**

**Applicable State Requirement:6 NYCRR 201-1.4**

**Item 10.1:**

At the discretion of the commissioner a violation of any applicable emission standard for necessary scheduled equipment maintenance, start-up/shutdown conditions and malfunctions or upsets may be excused if such violations are unavoidable. The following actions and recordkeeping and reporting requirements must be adhered to in such circumstances.

(a) The facility owner and/or operator shall compile and maintain records of all equipment maintenance or start-up/shutdown activities when they can be expected to result in an exceedance of any applicable emission standard, and shall submit a report of such activities to the commissioner's representative when requested to do so in writing or when so required by a condition of a permit issued for the corresponding air contamination source except where conditions elsewhere in this permit which contain more stringent reporting and notification provisions for an applicable requirement, in which case they supercede those stated here. Such reports shall describe why the violation was unavoidable and shall include the time, frequency and duration of the maintenance and/or start-up/shutdown activities and the identification of air contaminants, and the estimated emission rates. If a facility owner and/or operator is subject to continuous stack monitoring and quarterly reporting requirements, he need not submit reports for equipment maintenance or start-up/shutdown for the facility to the commissioner's representative.

(b) In the event that emissions of air contaminants in excess of any emission standard in 6 NYCRR Chapter III Subchapter A occur due to a malfunction, the facility owner and/or operator shall report such malfunction by telephone to the commissioner's representative as soon as possible during normal working hours, but in any event not later than two working days after becoming aware that the malfunction occurred. Within 30 days thereafter, when requested in writing by the commissioner's representative, the facility owner and/or operator shall submit a written report to the commissioner's representative describing the malfunction, the corrective



action taken, identification of air contaminants, and an estimate of the emission rates. These reporting requirements are superseded by conditions elsewhere in this permit which contain reporting and notification provisions for applicable requirements more stringent than those above.

(c) The Department may also require the owner and/or operator to include in reports described under (a) and (b) above an estimate of the maximum ground level concentration of each air contaminant emitted and the effect of such emissions depending on the deviation of the malfunction and the air contaminants emitted.

(d) In the event of maintenance, start-up/shutdown or malfunction conditions which result in emissions exceeding any applicable emission standard, the facility owner and/or operator shall take appropriate action to prevent emissions which will result in contravention of any applicable ambient air quality standard. Reasonably available control technology, as determined by the commissioner, shall be applied during any maintenance, start-up/shutdown or malfunction condition subject to this paragraph.

(e) In order to have a violation of a federal regulation (such as a new source performance standard or national emissions standard for hazardous air pollutants) excused, the specific federal regulation must provide for an affirmative defense during start-up, shutdowns, malfunctions or upsets.

**Condition 11: Emission Unit Definition**  
**Effective between the dates of 06/20/2011 and Permit Expiration Date**

**Applicable State Requirement:6 NYCRR Subpart 201-5**

**Item 11.1(From Mod 1):**

The facility is authorized to perform regulated processes under this permit for:

Emission Unit: B-00001

Emission Unit Description:

This emission unit consists of all fiberglass reinforced plastic part manufacturing processes and associated activities contained in Building B-001, including, but not limited to, sheet molding compound (SMC) production, closed compression molding using liquid compression molding (LCM) and SMC, resin transfer molding (RTM) using vacuum infusion, mixing of LCM, RTM and SMC compounds, cutting, powder coating, finish grinding, drilling, application of adhesive, packaging of finished plastic parts, cleaning/ maintenance activities, storage, etc. Each LCM press is operated in a booth under negative pressure to capture volatile organic compounds (VOC) and hazardous air pollutants (HAPs) from the molding process and particulates from flash cutting and powder coating of molded plastic parts. Particulate emissions are controlled with polyester filters at each press. Emissions from all of the LCM presses are exhausted through one stack, Emission Point (EP) C0001. Emissions from the SMC, RTM and sample presses, SMC machine, mixing tanks, storage, and the finishing/packaging line are fugitive and are exhausted through general ventilation stacks (EPs G0004,



GV007 – GV0011). The general ventilation exhaust stacks have polyester filters (Emission Source Controls GC004, GVC07-GVC11) in place to capture fugitive particulates. Particulates generated by grinding operations at ES G0001-G0003 are exhausted through EP G0001-G0003, which are equipped with accordion paper filters (GC001-GC003) to control emissions of particulates. Grinding sources ES G0005 and ES G0006 are each equipped with spun bond polyester cartridge filters (GC005 and GC006) to capture particulates. Emissions of volatile compounds are uncontrolled. Building B-001 is used as a permanent total enclosure (PTE) in accordance with USEPA Reference Method 204 to minimize the release of fugitive emissions through doors, windows and other building apertures.

Building(s): B001

**Condition 12: Visible Emissions Limited**  
**Effective between the dates of 06/20/2011 and Permit Expiration Date**

**Applicable State Requirement:6 NYCRR 211.2**

**Item 12.1:**

Except as permitted by a specific part of this Subchapter and for open fires for which a restricted burning permit has been issued, no person shall cause or allow any air contamination source to emit any material having an opacity equal to or greater than 20 percent (six minute average) except for one continuous six-minute period per hour of not more than 57 percent opacity.

**\*\*\*\* Emission Unit Level \*\*\*\***

**Condition 13: Emission Point Definition By Emission Unit**  
**Effective between the dates of 06/20/2011 and Permit Expiration Date**

**Applicable State Requirement:6 NYCRR Subpart 201-5**

**Item 13.1(From Mod 1):**

The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: B-00001

Emission Point: C0001

Height (ft.): 100 Diameter (in.): 24  
 NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: G0001

Height (ft.): 60 Diameter (in.): 24  
 NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: G0002

Height (ft.): 60 Diameter (in.): 24



NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: G0003  
Height (ft.): 60 Diameter (in.): 24  
NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: G0004  
Height (ft.): 60 Diameter (in.): 24  
NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: GV007  
Height (ft.): 93 Diameter (in.): 44  
NYTMN (km.): 4753.228 NYTME (km.): 188.316 Building: B001

Emission Point: GV008  
Height (ft.): 100 Diameter (in.): 44  
NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: GV009  
Height (ft.): 100 Diameter (in.): 44  
NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: GV010  
Height (ft.): 100 Diameter (in.): 44  
NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: GV011  
Height (ft.): 100 Diameter (in.): 44  
NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

**Condition 14: Process Definition By Emission Unit**  
**Effective between the dates of 06/20/2011 and Permit Expiration Date**

**Applicable State Requirement:6 NYCRR Subpart 201-5**

**Item 14.1(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001  
Process: G04 Source Classification Code: 3-08-007-99  
Process Description:

This process consists of all mixing operations for the preparation of Liquid Compression Molding (LCM) compound, Resin Transfer Molding (RTM) compound and Sheet Molding Compound (SMC) used in the closed compression presses, closed RTM presses and the SMC machine, respectively. Liquid resin, dry filler, pigment and catalyst are placed into batch mixers (Emission Sources (ES) MT001-MT005, G004A and G004B) to prepare LCM compound. Resin is mixed with hardener in batch mixers (ES MT006 and MT007) to prepare RTM compound which is then pumped directly from the mixing tank into the RTM press. This process also



includes ES MT008 and ES MT009, the mixing tanks associated with the SMC machine. Prepared SMC is gravity fed directly from a batch mixing tank into the feed tank located above the doctor boxes (resevoirs) on the SMC machine. This process also includes the storage of sealed drums and bins of ready-to-use Sheet Molding Compound (SMC). Particulates generated during the mixing process are controlled by a 99.7% efficient polyester filter at each emission point.

Emission Source/Control: GC004 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: GVC07 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: GVC11 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: G004A - Process  
Design Capacity: 500 gallons per batch

Emission Source/Control: G004B - Process  
Design Capacity: 500 gallons per batch

Emission Source/Control: MT001 - Process  
Design Capacity: 415 gallons

Emission Source/Control: MT002 - Process  
Design Capacity: 255 gallons

Emission Source/Control: MT003 - Process  
Design Capacity: 255 gallons

Emission Source/Control: MT004 - Process  
Design Capacity: 255 gallons

Emission Source/Control: MT005 - Process  
Design Capacity: 255 gallons

Emission Source/Control: MT006 - Process  
Design Capacity: 255 gallons

Emission Source/Control: MT007 - Process  
Design Capacity: 255 gallons

Emission Source/Control: MT008 - Process  
Design Capacity: 400 gallons

Emission Source/Control: MT009 - Process



Design Capacity: 400 gallons

**Item 14.2(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001

Process: GRD

Source Classification Code: 3-08-007-01

Process Description:

This process is the finish grinding of fiberglass reinforced plastic parts manufactured by compression molding and resin transfer molding. Particulates generated by grinding operations are controlled by 98.1% efficient cardboard filters (GC001, GC002 and GC003), a 99.7 % efficient polyester filter (GVC11) or 83% efficient spun bond polyester cartridge filters (GC005 and GC006).

Emission Source/Control: GC001 - Control  
Control Type: PAPER FILTER

Emission Source/Control: GC002 - Control  
Control Type: PAPER FILTER

Emission Source/Control: GC003 - Control  
Control Type: PAPER FILTER

Emission Source/Control: GC005 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: GC006 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: GVC11 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: G0001 - Process

Emission Source/Control: G0002 - Process

Emission Source/Control: G0003 - Process

Emission Source/Control: G0005 - Process

Emission Source/Control: G0006 - Process

**Item 14.3(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001

Process: P01

Source Classification Code: 3-08-007-36

Process Description:

This process consists of closed compression molding operations using poured liquid compression molding (LCM)



compound and fiberglass to manufacture reinforced plastic parts. LCM compound is manually transferred from the mixing tank to the mold using open buckets. Particulate emissions are controlled by a 99.7% efficient polyester filter at each press exhaust hood.

Emission Source/Control: PC001 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: PC002 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: PC003 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: PC004 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: PC005 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: PC006 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: P0001 - Process  
Design Capacity: 80 pounds per hour

Emission Source/Control: P0002 - Process  
Design Capacity: 80 pounds resin used per hour

Emission Source/Control: P0003 - Process  
Design Capacity: 80 pounds resin used per hour

Emission Source/Control: P0004 - Process  
Design Capacity: 80 pounds resin used per hour

Emission Source/Control: P0005 - Process  
Design Capacity: 80 pounds resin used per hour

Emission Source/Control: P0006 - Process  
Design Capacity: 80 pounds resin used per hour

**Item 14.4(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001

Process: P02

Source Classification Code: 3-08-007-36

Process Description:

This process consists of closed compression molding operations using sheet molding compound (SMC) to manufacture reinforced plastic parts. Particulate and VOC/HAP emissions from this process are indirectly vented



to the atmosphere through the facility's general ventilation exhaust stacks. Particulate emissions are controlled by a 99.7% efficient polyester filter at each general ventilation stack.

Emission Source/Control: GVC08 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: GVC09 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: GVC10 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: P0007 - Process  
Design Capacity: 150 pounds per hour

Emission Source/Control: P0008 - Process  
Design Capacity: 150 pounds per hour

Emission Source/Control: P0009 - Process  
Design Capacity: 150 pounds per hour

Emission Source/Control: P0010 - Process  
Design Capacity: 150 pounds per hour

Emission Source/Control: P0011 - Process  
Design Capacity: 150 pounds per hour

**Item 14.5(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001

Process: PKG

Source Classification Code: 3-08-007-04

Process Description:

This process consists of the finishing and packaging of manufactured plastic parts. Bulk palletized tiles are moved into the packaging area. A drilling fixture is used to form tile perimeter vent holes and parts are then moved to a table where glue is sprayed onto the perimeter flange. Plastic is applied and adhered to the glue forming a protective cover for shipping. Parts are moved to finished good cartons. Particulate and VOC/HAP emissions from this process are indirectly vented to the atmosphere through the facility's general ventilation exhaust stacks. Particulate emissions are controlled by 99.7% efficient polyester filters at each general ventilation stack.



Emission Source/Control: GVC09 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: PKG01 - Process  
Design Capacity: 1.32 pounds adhesive used per hour

**Item 14.6(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001  
Process: PS1 Source Classification Code: 3-08-007-36  
Process Description:

This process consists of the closed compression molding of sample parts using Liquid Compression Molding (LCM). Particulate and VOC/HAP emissions from this process are indirectly vented to the atmosphere through the facility's general ventilation exhaust stacks. Particulate emissions are controlled by a 99.7% efficient polyester filter at each general ventilation stack.

Emission Source/Control: GVC08 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: SAMPL - Process  
Design Capacity: 80 pounds resin used per hour

**Item 14.7(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001  
Process: RTM Source Classification Code: 3-08-007-36  
Process Description:

This is a closed resin transfer molding process using vacuum infusion. The molds are opened and closed hydraulically. The mold is filled with fiberglass and clamped shut. A vacuum is pulled on the mold cavity and then a resin + hardener mixture is pumped directly into the mold through tubing. The mold is kept closed until the part solidifies. The part is removed and the cycle is repeated. Particulate and VOC/HAP emissions from this process are indirectly vented to the atmosphere through the facility's general ventilation exhaust stacks. Particulate emissions are controlled by a 99.7% efficient polyester filter at each general ventilation stack.

Emission Source/Control: GVC10 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: GVC11 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: RTM01 - Process



Design Capacity: 960 pounds per hour

Emission Source/Control: RTM02 - Process  
Design Capacity: 960 pounds per hour

Emission Source/Control: RTM03 - Process  
Design Capacity: 960 pounds per hour

**Item 14.8(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001

Process: SMC

Source Classification Code: 3-08-007-99

**Process Description:**

This process consists of the production of sheet molding compound (SMC) using a SMC machine. Resin, filler and additives are blended into a paste in mixing tanks (Emission Sources MT008 & MT009). The prepared paste is gravity fed through a bottom valve to a small fill hopper into a 150 gallon doctor box feed tank (DBFT) The DBFT and small fill hopper both have tight fitting lids. The small fill hopper lid is only open during filling. The filling of the DBFT takes approximately 2-3 minutes. The paste is then gravity fed from the DBFT through a pipe into a doctor box (reservoir). The doctor box dispenses the paste onto a nylon film. The film/paste passes under a glass fiber chopper that deposits glass fibers onto the paste. Another film and paste is added to the top to sandwich the glass fibers. The whole package between the two films is then pulled through a compacting section of the machine. In this phase the glass fibre is impregnated and the compound is homogenized. The compacted sheet is rolled and placed into a container that is lined with a polyethylene bag. The bag is then folded up and closed to prevent styrene evaporation.

Emission Source/Control: SMC01 - Process  
Design Capacity: 11.8 meters per minute





**PERMIT**  
**Under the Environmental Conservation Law (ECL)**

**IDENTIFICATION INFORMATION**

Permit Type: Air State Facility  
Permit ID: 9-1402-00773/00005  
Mod 0 Effective Date: 06/20/2011 Expiration Date: No expiration date.  
Mod 1 Effective Date: 03/27/2012 Expiration Date: No expiration date.

Permit Issued To:ENGINEERED COMPOSITES INC  
55 ROBERTS RD  
BUFFALO, NY 14206

Contact: ROMAN BOLUBUSH  
ENGINEERED COMPOSITES INC  
55 ROBERTS RD  
BUFFALO, NY 14206  
(716) 362-0295

Facility: ENGINEERED COMPOSITES INC  
55 ROBERTS AVE  
BUFFALO, NY 14206

Contact: ROMAN BOLUBUSH  
FIBRERIGHT MANUFACTURING CORP  
55 ROBERTS RD  
BUFFALO, NY 14206  
(716) 362-0295

Description:

**Engineered Composites, Inc.**  
**ASF Permit ID 9-1402-00773/00005**  
**MOD1**

Engineered Composites, Inc. (ECI) produces fiberglass reinforced plastic parts by closed molding processes, including compression molding using liquid compression molding (LCM) and sheet molding compound (SMC) and resin transfer (vacuum infusion) molding. SMC is produced onsite or ready-to-use SMC is purchased. Facility emissions consist of hazardous air pollutants (HAPs), including styrene and n-hexane, volatile organic compounds (VOCs) and particulates from the molding, mixing, grinding, powder coating, and adhesive application/packaging processes, storage and maintenance activities. These emissions are exhausted to the ambient air, either directly or indirectly through general ventilation stacks. Particulate emissions are controlled at emission points or presses with accordion paper filters, polyester filters or spun-bond polyester cartridges with 98.1 %, 99.7% and 83% capture efficiency, respectively. Emissions of HAPs and VOCs from the facility are not controlled.

This ASF permit modification consists of:



- **the correction of Monitoring Condition No. 3, Item 3.7 to remove the requirement to calculate styrene/volatile HAP emissions from the mixing process assuming 100% volatilization.** Instead, ECI will estimate volatile HAP emissions from the mixing process using the HAP emission factor of 0.25% of available HAP from Chapter 5 of the Background Information Document (BID) of 40CFR63, Subpart WWWW for mixing operations with closed or covered mixing vessels and no active ventilation of the mixing vessel. If the method of filling the mixing tanks changes from "open fill" to "closed fill", ECI may use an alternative emission factor approved by NYSDEC.
- The emission factor presented in the original AFS permit for Process P01 and Process PS1 in the equation for ER1 was changed from 1 to 0.645 weight % of starting styrene monomer emitted due to the determination that ECI does not spread the LCM after it is poured into the mold. The average of the Styrene Factors for poured LCM, determined from the BMC/LCM Compression Molding Test Results, conducted by Engineering Environmental Consulting Services in September 2008 were used for the EF. ECI may also use the equation presented in Section 8.0 Estimation of VOC emissions from Compression Molding of LCM of ANSI/ACMA/ICPA UEF-1-2011a to determine styrene emissions from LCM presses. Styrene emissions generated during the manual transfer of LCM to the presses are included in these emission factors, based on the review of the BMC/LCM Compression Molding Test Results.
- ECI installed a Sheet Molding Compound Machine in June of 2011. Start-up is expected in July 2012. Process SMC (SMC Production) and Emission Source SMC01 (SMC Machine ) were added to the AFS permit under Emission Unit B-00001. The operation of this process and emission source will not subject ECI to any additional applicable requirements.
- Nine mixing tanks were added to the ASF permit under Process G04 to represent seven already existing tanks that were omitted from the ASF permit, MOD 0 and two new tanks that will be used to prepare sheet molding compound for Process SMC. During construction of the original ASF permit, it was expected that ECI would start-up two larger mixing tanks, G004A and G004B, and shut down the seven smaller tanks. Since the smaller tanks are still in operation, they were added to the permit as Emission Sources MT001, MT002, MT003, MT004, MT005, MT006 and MT007. The Mixing Tanks associated with the SMC Machine are MT008 and MT009. Emissions from the mixing tanks are exhausted through general ventilation stacks G0004, GV007, and GV011.
- Grinding operations associated with Process RTM were also included in this modification and are listed as Emission Source (ES) G0005 and G0006 in the ASF permit. Particulate emissions are controlled at ES G0005 and G0006 by Spun-Bond Polyester Cartridges with Dual Dimple Pleating Design that achieve 83% capture efficiency for particulates with diameters of 5.0-10.0  $\mu\text{m}$ , identified as ES Controls GC005 and GC006.
- An exhaust stack for general ventilation was installed in November 2011. Operation is expected to commence in July 2012. This was added to the permit as EP GV007. Particulate emissions are controlled with a 99.7% efficient particulate filter identified as GVC07 in the permit.
- Stack heights of Emission Points C0001, GV008 and GV010 were lowered from 120 ft to 100 ft above ground level.
- Stack heights of Emission Points GV009 and GV011 were raised from 90 ft to 100 ft above ground level.
- A short-term and long-term air quality impact analysis conducted using the modified stack heights and the emission rate for styrene based on 4500 hrs/yr operation and a 9.90 tpy CAP on facility styrene emissions resulted in acceptable 1-hour maximum



ground level and maximum annual styrene concentrations of 26.55  $\mu\text{g}/\text{m}^3$  and 2.12  $\mu\text{g}/\text{m}^3$ , respectively.

- The description of EU B-00001 and several processes were modified to reflect changes made.
- Monitoring conditions were revised with regard to the Final Method 204 O & M Plan required to comply with 6NYCRR211.1 (see monitoring conditions 1-3 and 1-4).

ECI's will continue to operate under the existing federally enforceable emission CAPs of 9.90 tpy and 24.5 tpy for individual and total HAP emissions, respectively, based on 12-month rolling totals as specified in the Air State Facility permit. The CAPs were established to avoid the requirements of 6NYCRR201-6, Title V and 40CFR63, Subpart WWWW, Reinforced Plastic Composites Production. In accordance with capping requirements specified under 6NYCRR201-7, ECI must calculate emissions on a monthly basis to verify continuous compliance with the emission caps and submit a summary of these emissions with a compliance certification, annually. To comply with 6NYCRR211.1: Air Pollution Prohibited, ECI maintains Building B-001 as a total enclosure to capture fugitive emissions in accordance with USEPA Reference Method 204. ECI is also subject to the requirements/ limits specified under 6NYCRR212.4(c) and 6NYCRR212.6(a) for particulates and opacity, respectively.

By acceptance of this permit, the permittee agrees that the permit is contingent upon strict compliance with the ECL, all applicable regulations, the General Conditions specified and any Special Conditions included as part of this permit.

Permit Administrator:            DOUGLAS E BORSCHEL  
   270 MICHIGAN AVE  
   BUFFALO, NY 14203-2915

Authorized Signature: \_\_\_\_\_ Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_



**Notification of Other State Permittee Obligations**

**Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification**

The permittee expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the compliance permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in any compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suits, or actions naming the DEC and arising under article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

**Item B: Permittee's Contractors to Comply with Permit**

The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

**Item C: Permittee Responsible for Obtaining Other Required Permits**

The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

**Item D: No Right to Trespass or Interfere with Riparian Rights**

This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.



**LIST OF CONDITIONS**

**DEC GENERAL CONDITIONS**

**General Provisions**

- Facility Inspection by the Department
- Relationship of this Permit to Other Department Orders and Determinations
  - Applications for permit renewals, modifications and transfers
  - Permit modifications, suspensions or revocations by the Department
  - Permit modifications, suspensions or revocations by the Department

**Facility Level**

- Submission of application for permit modification or renewal-REGION 9 HEADQUARTERS



**DEC GENERAL CONDITIONS**  
**\*\*\*\* General Provisions \*\*\*\***  
**GENERAL CONDITIONS - Apply to ALL Authorized Permits.**

**Condition 1: Facility Inspection by the Department**

**Applicable State Requirement: ECL 19-0305**

**Item 1.1:**

The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71-0301 and SAPA 401(3).

**Item 1.2:**

The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

**Item 1.3:**

A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

**Condition 2: Relationship of this Permit to Other Department Orders and Determinations**

**Applicable State Requirement: ECL 3-0301 (2) (m)**

**Item 2.1:**

Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

**Condition 3: Applications for permit renewals, modifications and transfers**

**Applicable State Requirement: 6 NYCRR 621.11**

**Item 3.1:**

The permittee must submit a separate written application to the Department for renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing.

**Item 3.2:**

The permittee must submit a renewal application at least 180 days before expiration of permits for Title V Facility Permits, or at least 30 days before expiration of permits for State Facility Permits.

**Item 3.3:**

Permits are transferrable with the approval of the department unless specifically prohibited by the statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.



**Department**

**Applicable State Requirement: 6 NYCRR 621.13**

**Item 1-1.1:**

The Department reserves the right to exercise all available authority to modify, suspend, or revoke this permit in accordance with 6NYCRR Part 621. The grounds for modification, suspension or revocation include:

- a) materially false or inaccurate statements in the permit application or supporting papers;
- b) failure by the permittee to comply with any terms or conditions of the permit;
- c) exceeding the scope of the project as described in the permit application;
- d) newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
- e) noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

**Condition 4: Permit modifications, suspensions or revocations by the Department**

**Applicable State Requirement: 6 NYCRR 621.13**

**Item 4.1:**

The Department reserves the right to modify, suspend, or revoke this permit in accordance with 6NYCRR Part 621. The grounds for modification, suspension or revocation include:

- a) materially false or inaccurate statements in the permit application or supporting papers;
- b) failure by the permittee to comply with any terms or conditions of the permit;
- c) exceeding the scope of the project as described in the permit application;
- d) newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
- e) noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

**\*\*\*\* Facility Level \*\*\*\***

**Condition 5: Submission of application for permit modification or renewal-REGION 9 HEADQUARTERS**

**Applicable State Requirement: 6 NYCRR 621.6 (a)**

**Item 5.1:**

Submission of applications for permit modification or renewal are to be submitted to:  
NYSDEC Regional Permit Administrator  
Region 9 Headquarters  
Division of Environmental Permits  
270 Michigan Avenue  
Buffalo, NY 14203-2915  
(716) 851-7165

**New York State Department of Environmental Conservation**

Permit ID: 9-1402-00773/00005

Facility DEC ID: 9140200773



**Permit Under the Environmental Conservation Law (ECL)**

**ARTICLE 19: AIR POLLUTION CONTROL - AIR STATE FACILITY  
PERMIT**

**IDENTIFICATION INFORMATION**

Permit Issued To:ENGINEERED COMPOSITES INC  
55 ROBERTS RD  
BUFFALO, NY 14206

Facility: ENGINEERED COMPOSITES INC  
55 ROBERTS AVE  
BUFFALO, NY 14206

Authorized Activity By Standard Industrial Classification Code:  
3089 - PLASTICS PRODUCTS, NEC

Mod 0 Permit Effective Date: 06/20/2011  
date.

Permit Expiration Date: No expiration  
date.

Mod 1 Permit Effective Date: 03/27/2012  
date.

Permit Expiration Date: No expiration  
date.



## LIST OF CONDITIONS

### FEDERALLY ENFORCEABLE CONDITIONS

#### Facility Level

- 1 6 NYCRR Subpart 201-7: Facility Permissible Emissions
- \*1-1 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- \*1-2 6 NYCRR Subpart 201-7: Capping Monitoring Condition
- 5 6 NYCRR 211.1: Air pollution prohibited
- 1-3 6 NYCRR 211.1: Compliance Demonstration
- 1-4 6 NYCRR 211.1: Compliance Demonstration
- 1-5 6 NYCRR 212.4 (c): Compliance Demonstration
- 1-6 6 NYCRR 212.6 (a): Compliance Demonstration

### STATE ONLY ENFORCEABLE CONDITIONS

#### Facility Level

- 9 ECL 19-0301: Contaminant List
- 10 6 NYCRR 201-1.4: Unavoidable noncompliance and violations
- 11 6 NYCRR Subpart 201-5: Emission Unit Definition
- 12 6 NYCRR 211.2: Visible Emissions Limited

#### Emission Unit Level

- 13 6 NYCRR Subpart 201-5: Emission Point Definition By Emission Unit
- 14 6 NYCRR Subpart 201-5: Process Definition By Emission Unit

NOTE: \* preceding the condition number indicates capping.



**FEDERALLY ENFORCEABLE CONDITIONS**  
**\*\*\*\* Facility Level \*\*\*\***

**NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS**

**This section contains terms and conditions which are federally enforceable. Permittees may also have other obligations under regulations of general applicability**

**Item A: Sealing - 6 NYCRR 200.5**

The Commissioner may seal an air contamination source to prevent its operation if compliance with 6 NYCRR Chapter III is not met within the time provided by an order of the Commissioner issued in the case of the violation.

Sealing means labeling or tagging a source to notify any person that operation of the source is prohibited, and also includes physical means of preventing the operation of an air contamination source without resulting in destruction of any equipment associated with such source, and includes, but is not limited to, bolting, chaining or wiring shut control panels, apertures or conduits associated with such source.

No person shall operate any air contamination source sealed by the Commissioner in accordance with this section unless a modification has been made which enables such source to comply with all requirements applicable to such modification.

Unless authorized by the Commissioner, no person shall remove or alter any seal affixed to any contamination source in accordance with this section.

**Item B: Acceptable Ambient Air Quality - 6 NYCRR 200.6**

Notwithstanding the provisions of 6 NYCRR Chapter III, Subchapter A, no person shall allow or permit any air contamination source to emit air contaminants in quantities which alone or in combination with emissions from other air contamination sources would contravene any applicable ambient air quality standard and/or cause air pollution. In such cases where contravention occurs or may occur, the Commissioner shall specify the degree and/or method of emission control required.

**Item C: Maintenance of Equipment - 6 NYCRR 200.7**

Any person who owns or operates an air contamination source which is equipped with an emission control device shall operate such device and keep it in a satisfactory state of maintenance and repair in accordance with ordinary and necessary practices, standards and procedures, inclusive of manufacturer's specifications,



required to operate such device effectively.

**Item D: Unpermitted Emission Sources - 6 NYCRR 201-1.2**

If an existing emission source was subject to the permitting requirements of 6 NYCRR Part 201 at the time of construction or modification, and the owner and/or operator failed to apply for a permit for such emission source then the following provisions apply:

- (a) The owner and/or operator must apply for a permit for such emission source or register the facility in accordance with the provisions of Part 201.
- (b) The emission source or facility is subject to all regulations that were applicable to it at the time of construction or modification and any subsequent requirements applicable to existing sources or facilities.

**Item E: Emergency Defense - 6 NYCRR 201-1.5**

An emergency constitutes an affirmative defense to an action brought for noncompliance with emissions limitations or permit conditions for all facilities in New York State.

(a) The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (1) An emergency occurred and that the facility owner and/or operator can identify the cause(s) of the emergency;
- (2) The equipment at the permitted facility causing the emergency was at the time being properly operated;
- (3) During the period of the emergency the facility owner and/or operator took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
- (4) The facility owner and/or operator notified the Department within two working days after the event occurred. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(b) In any enforcement proceeding, the facility owner and/or operator seeking to establish the occurrence of an emergency has the burden of proof.



(c) This provision is in addition to any emergency or upset provision contained in any applicable requirement.

**Item F: Recycling and Salvage - 6 NYCRR 201-1.7**

Where practical, any person who owns or operates an air contamination source shall recycle or salvage air contaminants collected in an air cleaning device according to the requirements of 6 NYCRR.

**Item G: Prohibition of Reintroduction of Collected Contaminants to the Air - 6 NYCRR 201-1.8**

No person shall unnecessarily remove, handle, or cause to be handled, collected air contaminants from an air cleaning device for recycling, salvage or disposal in a manner that would reintroduce them to the outdoor atmosphere.

**Item H: Proof of Eligibility for Sources Defined as Exempt Activities - 6 NYCRR 201-3.2 (a)**

The owner and/or operator of an emission source or unit that is eligible to be exempt, may be required to certify that it operates within the specific criteria described in 6 NYCRR Subpart 201-3. The owner or operator of any such emission source must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility which contains emission sources or units subject to 6 NYCRR Subpart 201-3, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

**Item I: Proof of Eligibility for Sources Defined as Trivial Activities - 6 NYCRR 201-3.3 (a)**

The owner and/or operator of an emission source or unit that is listed as being trivial in 6 NYCRR Part 201 may be required to certify that it operates within the specific criteria described in 6 NYCRR Subpart 201-3. The owner or operator of any such emission source must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility which contains emission sources or units subject to 6 NYCRR Subpart 201-3, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

**Item J: Required Emission Tests - 6 NYCRR 202-1.1**



An acceptable report of measured emissions shall be submitted, as may be required by the Commissioner, to ascertain compliance or noncompliance with any air pollution code, rule, or regulation. Failure to submit a report acceptable to the Commissioner within the time stated shall be sufficient reason for the Commissioner to suspend or deny an operating permit. Notification and acceptable procedures are specified in 6 NYCRR Subpart 202-1.

**Item K: Open Fires Prohibitions - 6 NYCRR 215.2**  
Except as allowed by section 215.3 of 6 NYCRR Part 215, no person shall burn, cause, suffer, allow or permit the burning of any materials in an open fire.

**Item L: Permit Exclusion - ECL 19-0305**  
The issuance of this permit by the Department and the receipt thereof by the Applicant does not and shall not be construed as barring, diminishing, adjudicating or in any way affecting any legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Department may have against the Applicant for violations based on facts and circumstances alleged to have occurred or existed prior to the effective date of this permit, including, but not limited to, any enforcement action authorized pursuant to the provisions of applicable federal law, the Environmental Conservation Law of the State of New York (ECL) and Chapter III of the Official Compilation of the Codes, Rules and Regulations of the State of New York (NYCRR). The issuance of this permit also shall not in any way affect pending or future enforcement actions under the Clean Air Act brought by the United States or any person.

**Item M: Federally Enforceable Requirements - 40 CFR 70.6 (b)**  
All terms and conditions in this permit required by the Act or any applicable requirement, including any provisions designed to limit a facility's potential to emit, are enforceable by the Administrator and citizens under the Act. The Department has, in this permit, specifically designated any terms and conditions that are not required under the Act or under any of its applicable requirements as being enforceable under only state regulations.

**FEDERAL APPLICABLE REQUIREMENTS**  
**The following conditions are federally enforceable.**

**Condition 1: Facility Permissible Emissions**



Effective between the dates of 06/20/2011 and Permit Expiration Date

Applicable Federal Requirement:6 NYCRR Subpart 201-7

**Item 1.1:**

The sum of emissions from the emission units specified in this permit shall not equal or exceed the following

Potential To Emit (PTE) rate for each regulated contaminant:

per year	CAS No: 000100-42-5 (From Mod 1)	PTE: 19,800 pounds
	Name: STYRENE	
per year	CAS No: 0NY100-00-0 (From Mod 1)	PTE: 49,000 pounds
	Name: HAP	

**Condition 1-1: Capping Monitoring Condition**

Effective between the dates of 03/27/2012 and Permit Expiration Date

Applicable Federal Requirement:6 NYCRR Subpart 201-7

Replaces Condition(s) 2

**Item 1-1.1:**

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

6 NYCRR Subpart 201-6  
40 CFR Part 63, Subpart WWWW

**Item 1-1.2:**

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

**Item 1-1.3:**

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

**Item 1-1.4:**

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

**New York State Department of Environmental Conservation**

Permit ID: 9-1402-00773/00005

Facility DEC ID: 9140200773



**Item 1-1.5:**

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

**Item 1-1.6:**

The Compliance Demonstration activity will be performed for the Facility.

Regulated Contaminant(s):  
CAS No: 0NY100-00-0 HAP

**Item 1-1.7:**

Compliance Demonstration shall include the following monitoring:

Capping: Yes

Monitoring Type: MONITORING OF PROCESS OR CONTROL  
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

To avoid the requirements of 6NYCRR201-6: Title V Permits and 40CFR63, Subpart WWW Reinforced Plastic Composites Production, the potential to emit (PTE) total hazardous air pollutants (HAPs) from activities throughout the facility shall be limited to 24.5 tons per year. Actual facility-wide emissions of total HAPs shall not exceed 24.5 tpy as determined by summing the individual monthly HAP emissions, including individual HAPs that have a PTE less than 10 tpy, during any consecutive 12-month period from all HAP contributing activities, including trivial and exempt. Monthly and 12-month rolling totals of HAPs shall be calculated as described in the capping condition for individual HAPs specified under 6NYCRR201-7. The recordkeeping and reporting requirements specified under 6NYCRR201-7 for individual HAPs also apply to total HAP emissions. All submittals to the Department shall be certified by the Facility's responsible official as to the truth, completeness, and accuracy of all information recorded and reported.

Parameter Monitored: HAP  
Upper Permit Limit: 24.5 tons per year  
Monitoring Frequency: MONTHLY  
Averaging Method: 12-month total, rolled monthly  
Reporting Requirements: ANNUALLY (CALENDAR)  
Reports due 30 days after the reporting period.  
The initial report is due 1/30/2013.  
Subsequent reports are due every 12 calendar month(s).

**Condition 1-2: Capping Monitoring Condition**  
**Effective between the dates of 03/27/2012 and Permit Expiration Date**

**Applicable Federal Requirement:6 NYCRR Subpart 201-7**



**Replaces Condition(s) 3**

**Item 1-2.1:**

Under the authority of 6 NYCRR Part 201-7, this condition contains an emission cap for the purpose of limiting emissions from the facility, emission unit or process to avoid being subject to the following applicable requirement(s) that the facility, emission unit or process would otherwise be subject to:

6 NYCRR Subpart 201-6  
40 CFR Part 63, Subpart WWWW

**Item 1-2.2:**

Operation of this facility shall take place in accordance with the approved criteria, emission limits, terms, conditions and standards in this permit.

**Item 1-2.3:**

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

**Item 1-2.4:**

On an annual basis, unless otherwise specified below, beginning one year after the granting of an emissions cap, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the limits imposed by the emission cap. This certification shall include a brief summary of the emissions subject to the cap for that time period and a comparison to the threshold levels that would require compliance with an applicable requirement.

**Item 1-2.5:**

The emission of pollutants that exceed the applicability thresholds for an applicable requirement, for which the facility has obtained an emissions cap, constitutes a violation of Part 201 and of the Act.

**Item 1-2.6:**

The Compliance Demonstration activity will be performed for the Facility.

Regulated Contaminant(s):  
CAS No: 000100-42-5      STYRENE

**Item 1-2.7:**

Compliance Demonstration shall include the following monitoring:

Capping: Yes

Monitoring Type: MONITORING OF PROCESS OR CONTROL  
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

Engineered Composites Inc. has an annual potential to emit (PTE) individual hazardous air pollutants (HAPs) from emission sources throughout the facility, which exceeds the applicability threshold of 10 tons per year (tpy) specified in 6NYCRR201-6 for Title V Facility Permits and



40CFR63, Subpart WWWW, Reinforced Plastic Composites Production. Engineered Composites Inc. has chosen to accept limitations to restrict the amount of individual HAPs emitted from the facility to 9.90 tpy each, based on a 12-month rolling total of facility-wide actual individual HAP emissions. Therefore, the Facility is not subject to the requirements of 6NYCRR201-6-Title V Facility Permits or 40CFR63, Subpart WWWW. This monitoring condition shall apply to each HAP emitted from the facility that has a PTE equal to or greater than 10 tpy. To verify the applicability of this requirement a current listing of each HAP emitted with the corresponding PTE shall be maintained. Calculations and information used to determine the PTEs shall be readily available for NYSDEC review upon request. The individual HAP predominantly emitted from ECI processes is styrene, which is contained in the resins used to prepare the various molding compounds. The HAPs listed in this monitoring condition are not all inclusive and may change with products and usage rates.

Facility-wide actual emissions of individual HAPs shall not exceed 9.90 tpy each, as determined by summing the monthly individual (indiv) HAP emissions during any consecutive 12-month period from all HAP contributing activities. Emissions shall be determined as follows or in another manner acceptable to NYSDEC:

Monthly Total individual HAP (lbs/mo) = ER1 + ER2+ ER3 + ER4 + ER5 + ER6:

Closed Compression Molding Process P01 and Sample Press PS1 using poured (not spread) Liquid Compression Molding (LCM) paste (resin + fillers, additives):

The LCM emission factor is the average of LCM test results for individual poured LCM test runs, expressed as the percentage of the styrene weight in the LCM paste processed in the compression mold. Monthly emissions from poured LCM (ER1) may be determined using the emission factor of 0.645 weight % of starting styrene monomer emitted as follows:

$$ER1 = 0.00645 * \sum (\text{LCM styrenated resin usage rate (lbs/mo)} * \text{styrene content, wt \%}/100)$$

OR

Monthly emissions from poured LCM (ER1) may be determined using the following equations from ANSI/ACMA/ICPA UEF-1-2011a:

1) A paste factor must be determined for each LCM styrenated resin formulation:

The LCM Poured Paste Factor (lbs styrene emitted / lb LCM



paste prepared) = (0.0022 \* % styrene) + 0.0008

where % styrene = (lbs LCM styrenated resin used in paste \* (styrene content, wt %/100)) / (lbs LCM paste prepared)

2) ER1 =  $\sum$  ( LCM Poured Paste Factor, lbs styrene emitted/lbs LCM paste prepared \* lbs LCM paste prepared/mo)

Note: The styrene and paste factors account for fugitive styrene emissions generated during charge preparation, including filling buckets with LCM charge, transfer of charge in open buckets to press, and pouring LCM charge into molding press. The material preparation times listed in the BMC/LCM Compression Molding Test Report ranged from 2.9-5.5 minutes for the poured LCM charges (#1, #2, #5 and #7) .

Sheet Molding Compound (SMC) Process P02:

The emission factor for SMC is expressed as a percentage of the available styrene monomer contained in the uncured SMC material that is processed in the compression mold. Monthly styrene emissions from SMC may be determined using the emission factor of 1.5 weight % of starting styrene monomer emitted as follows:

ER2 = 0.015 \*  $\sum$  (SMC usage rate (lbs/mo) \* styrene content, wt % /100)

Production of SMC: Process SMC

Monthly styrene emissions from the SMC machine can be estimated from the following equations:

SMC Machine ER = 0.1457 At - 0.1454

where:

SMC Machine ER = indiv HAP emission rate, lb/hr, when paste is on the line

At = Total wet area of SMC machine = Adl + Adu + W\*(Ll+Lu)

Adl = open area of the lower doctor box, ft<sup>2</sup>

Adu = open area of the upper doctor box, ft<sup>2</sup>

W = wet width of SMC, ft

Ll = Lower wet length, ft

Lu = Upper wet length, ft

ER3 = SMC Machine ER, lbs/hr \* Hours of Operation, hrs/mo

Resin Transfer Molding/ Vacuum Infusion Process

RTM:

Monthly emissions from RTM may be determined using an emission factor of 1.0 weight % of starting monomer emitted as follows:



$$ER4 = 0.01 * \sum (\text{RTM Resin usage rate (lbs/mo)} * \text{indiv HAP Content, wt \% /100})$$

Mixing Tanks (Process G04):

Monthly individual HAP emissions from the mixing process (Process G04) using open fill tanks shall be estimated using the emission factor of 0.25 weight % of starting monomer emitted for mixing operations with closed or covered mixing vessels and no active ventilation of the mixing vessel as follows:

$$ER5 = 0.0025 * \sum (\text{Resin used in mixing tanks (lb/mo)}) * (\text{indiv HAP Content, wt \% /100})$$

OR

If the method of filling the mixing tanks changes from "open fill" to "closed fill", ECI may use an alternative emission factor approved by NYSDEC.

Packaging (Process PKG), Solvents (cleaning solvents, etc.), and Coating (if used):

Monthly emission shall be calculated assuming 100% loss of individual HAPs contained in these products to the ambient air.

$$ER6 = \sum (\text{adhesives/solvent/coatings usage rate (lbs/mo)} * \text{indiv HAP Content, wt \% /100})$$

Note: Emission factors are from the following sources: a) ER1, ER2: SMC and BMC/LCM Compression Molding Test Reports by Engineering Environmental Consulting Services (August-September 2008); b) ER1, ER2, ER3: ANSI/ACMA/ICPA UEF-1-2011a: Estimating Emission Factors for Open Molding and Other Composite Processes; c) ER4: USEPA AP-42, Chapter 4, Section 4.4, Table 4.4-2: Closed Molding; d) ER5: Chapter 5 of Background Information Document (BID) for 40CFR63, Subpart WWWW, Section 5.3, Page 33; and e) ER6: mass balance. Styrene/indiv HAP content, wt % is the styrene/individ HAP content as supplied, plus any extra added by operator, but before the addition of other additives such as powders, fillers, glass, etc. The emission factors presented for styrene are based on stack test results for closed molding operations that used styrenated resins. ECI may be required to use an alternative emission factor approved by NYSDEC if a new product is used that does not contain styrene monomer.

The Facility shall keep and maintain records for each process and other HAP contributing activities to determine actual individual HAP emissions based on verifiable data from all sources, including trivial and/or exempt activities (excluding combustion sources). These records shall include the following information:



- 1) A current list of all HAP containing products used throughout the facility including, but not limited to, resins, solvents, adhesives and coatings. This list shall include information on the manufacturer, brand, product name and/or code; HAP content in grams per liter, pounds per gallon or percent by weight, density/specific gravity and any other pertinent physical/chemical properties; and/or manufacturer's product specifications, material content reports, or laboratory analyses providing this information;
- 2) A monthly log of the consumption of each product used that contains HAPs. If a paste factor is used to calculate ER1, in addition to HAP containing products, the facility must maintain a monthly log of the consumption of fillers, additives and other ingredients used to prepare LCM compound;
- 3) A daily log of the hours of operation for the SMC machine;
- 4) All purchase orders, invoices, usage and production records and other documents to support information in the monthly/daily logs; and
- 5) all calculations used to determine the monthly emissions.

Each calendar month, the facility-wide 12-month rolling total for individual HAP emissions shall be computed by adding the current monthly individual HAP emissions to the individual HAP emissions for the previous 11 months. Within 30 days following each calendar year, the responsible official shall provide a certification to the Department that the facility has operated all emission units within the 9.90 ton per year limit imposed by the emissions cap. This shall include a summary report which shall list the products used with reference to the associated process, the corresponding HAP contents, the quantities used monthly, emission factors used to calculate HAP emissions, the monthly HAP emissions and the monthly total, the rolling 12-month individual HAP emissions for each consecutive month of the period and a comparison to the 9.90 tpy limit. All submittals to the Department shall be certified by the Facility's responsible official as to the truth, completeness, and accuracy of all information recorded and reported.

To reduce unnecessary HAP emissions to the environment, Engineered Composites Inc. shall comply with the following handling, storage and disposal requirements for HAP



containing compounds:

- (1) keep the mixer covers closed while actual mixing is occurring except when adding materials or changing covers to the mixing vessels.
- (2) keep hopper and feed tank covers closed, except when adding materials or during maintenance/repair.
- (3) mixing tank, feed tank and hopper covers shall be gasketed and secured with clamps, whenever possible.
- (4) do not use open containers to store or dispose of cloth or paper impregnated with solvents that are used for surface preparation, cleanup, etc;
- (5) do not store spent or fresh solvents to be used for surface preparation, cleanup, etc. in open containers;
- (6) do not use open containers to store or dispense resins, molding compound, adhesives, solvents, etc. except when production, sampling, maintenance or inspection procedures require operational access; and
- (7) do not use open containers to store or dispose of resins, molding compounds, adhesives, solvents, etc.

An exceedance of the 9.90 tpy emission limit, failure to fulfill the recordkeeping and reporting requirements and/or failure to maintain the good work/housekeeping practices specified in this condition constitutes a violation of 6NYCRR201-6 and 40CFR63, Subpart WWWW. Exceedance of this limit must be reported to the Department immediately via telephone during normal working hours, but no later than 2 business days after the occurrence. A written report shall be submitted to the Department within 30 days of the occurrence and shall include the cause of the exceedance, corrective action taken, contaminants emitted and an estimate of the emissions.

Parameter Monitored: STYRENE  
Upper Permit Limit: 9.90 tons per year  
Monitoring Frequency: MONTHLY  
Averaging Method: 12-month total, rolled monthly  
Reporting Requirements: ANNUALLY (CALENDAR)  
Reports due 30 days after the reporting period.  
The initial report is due 1/30/2013.  
Subsequent reports are due every 12 calendar month(s).

**Condition 5: Air pollution prohibited**  
**Effective between the dates of 06/20/2011 and Permit Expiration Date**

**Applicable Federal Requirement: 6 NYCRR 211.1**

**Item 5.1:**

No person shall cause or allow emissions of air contaminants to the outdoor atmosphere of such



quantity, characteristic or duration which are injurious to human, plant or animal life or to property, or which unreasonably interfere with the comfortable enjoyment of life or property. Notwithstanding the existence of specific air quality standards or emission limits, this prohibition applies, but is not limited to, any particulate, fume, gas, mist, odor, smoke, vapor, pollen, toxic or deleterious emission, either alone or in combination with others.

**Condition 1-3: Compliance Demonstration**  
**Effective between the dates of 03/27/2012 and Permit Expiration Date**

**Applicable Federal Requirement: 6 NYCRR 211.1**

**Replaces Condition(s) 4**

**Item 1-3.1:**

The Compliance Demonstration activity will be performed for the Facility.

Regulated Contaminant(s):

CAS No: 000100-42-5      STYRENE

**Item 1-3.2:**

Compliance Demonstration shall include the following monitoring:

Monitoring Type: RECORD KEEPING/MAINTENANCE PROCEDURES

Monitoring Description:

Engineered Composites, Inc. (ECI) is located near residents who could be affected by offsite styrene emissions. Based on current hours of operation (4500 hrs/yr) and a facility-wide emission limit of 9.90 tons of styrene per year, ECI's facility emission rate is potentially 4.4 pounds of styrene per hour. To determine the long-term and short term impacts of styrene on the surrounding residents, this emission rate was evaluated using Air Guide-1 and SCREEN3 air quality models. The NYSDEC annual and short-term guidance concentrations for styrene are 1000 µg/m<sup>3</sup> and 17,000 µg/m<sup>3</sup>, respectively. The minimum styrene odor threshold of 20 µg /m<sup>3</sup> was also used to evaluate the short-term impact of styrene. An air quality analysis of this emission rate showed that the potential impact on public health associated with acute and long-term exposure to styrene are acceptable, with the maximum 1-hr concentration at 26.55 µg/m<sup>3</sup> and the maximum annual concentration at 2.12 µg/m<sup>3</sup>. If styrene emissions exceed 4.4 lbs/hr and/or styrene odor complaints are filed with the Department, the air quality analysis must be redone. Measures to reduce styrene emissions may be required.

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING DESCRIPTION

Reporting Requirements: UPON REQUEST BY REGULATORY AGENCY



**Condition 1-4: Compliance Demonstration**  
Effective between the dates of 03/27/2012 and Permit Expiration Date

**Applicable Federal Requirement: 6 NYCRR 211.1**

**Replaces Condition(s) 6**

**Item 1-4.1:**

The Compliance Demonstration activity will be performed for the Facility.

Regulated Contaminant(s):

CAS No: 000100-42-5 STYRENE

**Item 1-4.2:**

Compliance Demonstration shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL  
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

The processes at Engineered Composites, Inc. (ECI) generate fugitive emissions, including styrene, n-hexane, VOC and particulates, which are released to the ambient air through general ventilation stacks and building apertures. Due to styrene's low odor threshold and high vapor density, fugitive emissions have been a nuisance and health concern to residents in the surrounding neighborhood. To minimize ground level emissions and comply with 6NYCRR 211.1, "Air Pollution Prohibited", ECI shall operate Building B-001 as a total enclosure to capture fugitive styrene emissions in accordance with USEPA Method 204 - Criteria for and Verification of a Permanent or Temporary Total Enclosure.

ECI submitted a Draft Method 204 Operation and Monitoring Plan (Method 204 O&M Plan) on September 6, 2011 specifying how the facility will be operated to minimize the release of fugitive emissions. The Draft Method 204 O&M Plan was approved by NYSDEC on March 12, 2012 (see letter from M. Ladiana, NYSDEC to D. Marszalkowski, ECI), with additional requirements/clarifications necessary to finalize the plan and fully demonstrate compliance. Natural Draft Openings (NDO) directing air flow into the building with a minimum average facial velocity of 200 fpm have been established and verified for the Winter Mode of Operation. The Summer Mode of Operation has been established. However, compliance with the minimum average facial velocity of 200 fpm inward using a grid system has not been demonstrated. ECI shall complete all requirements and submit the Final Method 204 O&M Plan to NYSDEC Region 9 office by July 15, 2012. The Final Method 204 O&M Plan shall be considered part of the ASF permit.



The Final Method 204 O&M Plan shall verify that ECI meets the requirements specified in each paragraph of USEPA Reference Method 204 that is applicable. The Final Method 204 O&M Plan shall include details for winter and summer modes of operation, such as ventilation variable frequency drive, motor speed, fan speed and flow rate; size, position and measured facial velocities of NDO's with all NDOs in use and individually (no other NDOs in use) using a grid system; ventilation verification; and plan view (drawing)/enclosure design. At a minimum, the plan view shall depict: 1) dimensions, 2) emission points with stack flow rates, 3) identification and location of all facility operations that generate emissions and their approximate distance to NDOs, 4) building openings (windows and doors), 5) identification of the NDOs that will be used during summer and winter modes, 6) the average facial velocity for each NDO 7) the approximate time that the NDOs will be open for each mode and; 8) any other pertinent information or diagram that demonstrates compliance with Method 204.

Engineered Composite Inc. must operate the facility in accordance with the Final Method 204 O&M Plan at all times that molding, mixing, packaging and other HAP/VOC emitting activities are conducted at the facility. All access doors and windows that are not NDOs shall be closed during routine operation of the processes. This does not mean that these doors and windows must be closed at all times, but that they must be closed any time that ECI is not actually moving parts, supplies, equipment, etc. through them. However, if an access door is used so often that it is almost always open, then it should be considered an NDO.

Facility operators must be made aware of the requirements of the Method 204 O & M Plan. Each NDO must be identified and the position(s) of the openings that were verified compliant must be clearly marked in the vicinity of the NDO. Building B-0001 shall be inspected daily to verify compliance with the operating requirements specified in the Final Method 204 O&M Plan. At least once during the day when HAP emitting processes are operating, 1) the direction of the airflow through the active NDO(s) must be verified using streamers, smoke tubes, etc and 2) the door position established for the NDO to comply with Method 204 must be confirmed for the active NDO. The daily inspections shall be recorded in a logbook and shall include date, time, observer's name, and a brief description of observations, including problems/corrective actions taken. If NDOs are not in use this should be recorded. If a problem is encountered that cannot be corrected immediately, the NDO must be closed until the





**Item 1-5.2:**

Compliance Demonstration shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL  
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

Emissions of solid particulates are limited to less than 0.050 grains of particulates per cubic foot of exhaust gas, expressed at standard conditions on a dry gas basis. To ensure compliance with this limit the facility shall conduct inspections of the particulate filters and maintain/replace filters in accordance with the manufacturer's specifications. Inspections/maintenance shall be recorded in a logbook for each emission point as follows: Date, time, name of staff person performing inspection/maintenance, inspection/ maintenance results and, each time a filter is replaced, the make and model of the filter. Whenever a problem is discovered, a description of the problem, the cause and corrective action taken shall also be recorded. To verify maintenance practices all purchase orders and invoices related to maintaining/replacing the particulate control equipment and the inspection/maintenance/repair logbook shall be kept onsite in a format acceptable to the Department. All records, including manufacturer's specifications and guarantees for the filter, shall be readily available for review by NYSDEC representatives and shall be kept onsite for a minimum of five years. The Department reserves the right to require the performance of a Method 5 emissions evaluation at any time.

Parameter Monitored: PARTICULATES

Upper Permit Limit: 0.050 grains per dscf

Reference Test Method: 5

Monitoring Frequency: AS REQUIRED - SEE PERMIT MONITORING  
DESCRIPTION

Averaging Method: 1-HOUR AVERAGE

Reporting Requirements: UPON REQUEST BY REGULATORY AGENCY

**Condition 1-6: Compliance Demonstration**

**Effective between the dates of 03/27/2012 and Permit Expiration Date**

**Applicable Federal Requirement:6 NYCRR 212.6 (a)**

**Item 1-6.1:**

The Compliance Demonstration activity will be performed for the facility:

The Compliance Demonstration applies to:

Emission Unit: B-00001

Emission Point: C0001

Emission Unit: B-00001

Emission Point: G0001



Emission Unit: B-00001	Emission Point: G0002
Emission Unit: B-00001	Emission Point: G0003
Emission Unit: B-00001	Emission Point: G0004
Emission Unit: B-00001	Emission Point: GV007
Emission Unit: B-00001	Emission Point: GV008
Emission Unit: B-00001	Emission Point: GV009
Emission Unit: B-00001	Emission Point: GV010
Emission Unit: B-00001	Emission Point: GV011

Regulated Contaminant(s):  
CAS No: 0NY075-00-0 PARTICULATES

**Item 1-6.2:**

Compliance Demonstration shall include the following monitoring:

Monitoring Type: MONITORING OF PROCESS OR CONTROL  
DEVICE PARAMETERS AS SURROGATE

Monitoring Description:

No person shall cause or allow emissions having an average opacity during any six consecutive minutes of 20 percent or greater from any process emission source, except only the emission of uncombined water. The Department reserves the right to perform or require the performance of a Method 9 opacity evaluation at any time during facility operation.

The monitoring procedure necessary to determine compliance with the opacity requirements under section 212.6(a) will include the following:

1. Engineered Composites Inc. (ECI) shall conduct a daily ground level scan of visible emissions from emission points or other sources of air pollution at the Facility during daylight hours while processes are in operation, except during adverse weather conditions (fog, rain, or snow) to monitor for unusual opacity conditions. If visible emissions above zero percent (0%) opacity (excluding steam plumes \*\*) are present, then ECI shall determine the cause and make the necessary correction and verify that the excess visible emissions problem has been corrected. If visible emissions greater than 0% continue to be present, ECI will immediately notify the Department and conduct a Method 9 assessment within 2 days to determine the degree of opacity. A synopsis of



observations including the date, time of day, weather conditions, observer's name, whether any opacity was observed with the identification of the emission point(s) that had opacity, a completed visible emission observation form (if a Method 9 is conducted) and a description of any corrective action taken shall be recorded in a permanently bound log book or in electronic format at the facility. Inclement weather conditions shall be recorded for those days when observations are prohibited.

Visible emissions greater than 0% opacity are not necessarily indicative of an emission violation, but rather serve as a trigger for further investigation to determine compliance with the opacity limit. However, any time that the opacity is determined to meet or exceed the limits of section 212.6(a) using Method 9, the facility will be determined to be in violation, will remedy the problem, and will contact the Department within one (1) business day of performing the Method 9 analysis. The provisions of Part 201-1.4 shall apply.

All records shall be maintained on-site and shall be available for inspection by Department representatives upon request. Records will be maintained for a period of at least five years.

\*\* Steam plumes generally form after leaving the top of the stack (this is known as a detached plume). The distance between the stack and the beginning of the detached plume may vary, however, there is (normally) a distinctive distance between the plume and stack. Steam plumes are white in color and have a billowy consistency. Steam plumes dissipate within a short distance of the stack (the colder the air the longer the steam plume will last) and leave no dispersion trail downwind of the stack.

Parameter Monitored: OPACITY

Upper Permit Limit: 20 percent

Reference Test Method: 9

Monitoring Frequency: DAILY

Averaging Method: 6-MINUTE AVERAGE (METHOD 9)

Reporting Requirements: UPON REQUEST BY REGULATORY AGENCY



**STATE ONLY ENFORCEABLE CONDITIONS**  
**\*\*\*\* Facility Level \*\*\*\***

**NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS**  
**This section contains terms and conditions which are not federally enforceable. Permittees may also have other obligations under regulations of general applicability**

**Item A: Public Access to Recordkeeping for Facilities With State Facility Permits - 6 NYCRR 201-1.10 (a)**

Where emission source owners and/or operators keep records pursuant to compliance with the operational flexibility requirements of 6 NYCRR Subpart 201-5.4(b)(1), and/or the emission capping requirements of 6 NYCRR Subparts 201-7.2(d), 201-7.3(f), 201-7.3(g), 201-7.3(h)(5), 201-7.3(i) and 201-7.3(j), the Department will make such records available to the public upon request in accordance with 6 NYCRR Part 616 - Public Access to Records. Emission source owners and/or operators must submit the records required to comply with the request within sixty working days of written notification by the Department of receipt of the request.

**Item B: General Provisions for State Enforceable Permit Terms and Condition - 6 NYCRR Part 201-5**

Any person who owns and/or operates stationary sources shall operate and maintain all emission units and any required emission control devices in compliance with all applicable Parts of this Chapter and existing laws, and shall operate the facility in accordance with all criteria, emission limits, terms, conditions, and standards in this permit. Failure of such person to properly operate and maintain the effectiveness of such emission units and emission control devices may be sufficient reason for the Department to revoke or deny a permit.

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

**STATE ONLY APPLICABLE REQUIREMENTS**

**The following conditions are state only enforceable.**



**Condition 9: Contaminant List**

**Effective between the dates of 06/20/2011 and Permit Expiration Date**

**Applicable State Requirement:ECL 19-0301**

**Item 9.1:**

Emissions of the following contaminants are subject to contaminant specific requirements in this permit(emission limits, control requirements or compliance monitoring conditions).

CAS No: 000100-42-5

Name: STYRENE

CAS No: 0NY075-00-0

Name: PARTICULATES

CAS No: 0NY100-00-0

Name: HAP

**Condition 10: Unavoidable noncompliance and violations**

**Effective between the dates of 06/20/2011 and Permit Expiration Date**

**Applicable State Requirement:6 NYCRR 201-1.4**

**Item 10.1:**

At the discretion of the commissioner a violation of any applicable emission standard for necessary scheduled equipment maintenance, start-up/shutdown conditions and malfunctions or upsets may be excused if such violations are unavoidable. The following actions and recordkeeping and reporting requirements must be adhered to in such circumstances.

(a) The facility owner and/or operator shall compile and maintain records of all equipment maintenance or start-up/shutdown activities when they can be expected to result in an exceedance of any applicable emission standard, and shall submit a report of such activities to the commissioner's representative when requested to do so in writing or when so required by a condition of a permit issued for the corresponding air contamination source except where conditions elsewhere in this permit which contain more stringent reporting and notification provisions for an applicable requirement, in which case they supercede those stated here. Such reports shall describe why the violation was unavoidable and shall include the time, frequency and duration of the maintenance and/or start-up/shutdown activities and the identification of air contaminants, and the estimated emission rates. If a facility owner and/or operator is subject to continuous stack monitoring and quarterly reporting requirements, he need not submit reports for equipment maintenance or start-up/shutdown for the facility to the commissioner's representative.

(b) In the event that emissions of air contaminants in excess of any emission standard in 6 NYCRR Chapter III Subchapter A occur due to a malfunction, the facility owner and/or operator shall report such malfunction by telephone to the commissioner's representative as soon as possible during normal working hours, but in any event not later than two working days after becoming aware that the malfunction occurred. Within 30 days thereafter, when requested in writing by the commissioner's representative, the facility owner and/or operator shall submit a written report to the commissioner's representative describing the malfunction, the corrective



action taken, identification of air contaminants, and an estimate of the emission rates. These reporting requirements are superseded by conditions elsewhere in this permit which contain reporting and notification provisions for applicable requirements more stringent than those above.

(c) The Department may also require the owner and/or operator to include in reports described under (a) and (b) above an estimate of the maximum ground level concentration of each air contaminant emitted and the effect of such emissions depending on the deviation of the malfunction and the air contaminants emitted.

(d) In the event of maintenance, start-up/shutdown or malfunction conditions which result in emissions exceeding any applicable emission standard, the facility owner and/or operator shall take appropriate action to prevent emissions which will result in contravention of any applicable ambient air quality standard. Reasonably available control technology, as determined by the commissioner, shall be applied during any maintenance, start-up/shutdown or malfunction condition subject to this paragraph.

(e) In order to have a violation of a federal regulation (such as a new source performance standard or national emissions standard for hazardous air pollutants) excused, the specific federal regulation must provide for an affirmative defense during start-up, shutdowns, malfunctions or upsets.

**Condition 11: Emission Unit Definition**  
**Effective between the dates of 06/20/2011 and Permit Expiration Date**

**Applicable State Requirement:6 NYCRR Subpart 201-5**

**Item 11.1(From Mod 1):**

The facility is authorized to perform regulated processes under this permit for:

Emission Unit: B-00001

Emission Unit Description:

This emission unit consists of all fiberglass reinforced plastic part manufacturing processes and associated activities contained in Building B-001, including, but not limited to, sheet molding compound (SMC) production, closed compression molding using liquid compression molding (LCM) and SMC, resin transfer molding (RTM) using vacuum infusion, mixing of LCM, RTM and SMC compounds, cutting, powder coating, finish grinding, drilling, application of adhesive, packaging of finished plastic parts, cleaning/ maintenance activities, storage, etc. Each LCM press is operated in a booth under negative pressure to capture volatile organic compounds (VOC) and hazardous air pollutants (HAPs) from the molding process and particulates from flash cutting and powder coating of molded plastic parts. Particulate emissions are controlled with polyester filters at each press. Emissions from all of the LCM presses are exhausted through one stack, Emission Point (EP) C0001. Emissions from the SMC, RTM and sample presses, SMC machine, mixing tanks, storage, and the finishing/packaging line are fugitive and are exhausted through general ventilation stacks (EPs G0004,



GV007 – GV0011). The general ventilation exhaust stacks have polyester filters (Emission Source Controls GC004, GVC07-GVC11) in place to capture fugitive particulates. Particulates generated by grinding operations at ES G0001-G0003 are exhausted through EP G0001-G0003, which are equipped with accordion paper filters (GC001-GC003) to control emissions of particulates. Grinding sources ES G0005 and ES G0006 are each equipped with spun bond polyester cartridge filters (GC005 and GC006) to capture particulates. Emissions of volatile compounds are uncontrolled. Building B-001 is used as a permanent total enclosure (PTE) in accordance with USEPA Reference Method 204 to minimize the release of fugitive emissions through doors, windows and other building apertures.

Building(s): B001

**Condition 12: Visible Emissions Limited**  
**Effective between the dates of 06/20/2011 and Permit Expiration Date**

**Applicable State Requirement:6 NYCRR 211.2**

**Item 12.1:**

Except as permitted by a specific part of this Subchapter and for open fires for which a restricted burning permit has been issued, no person shall cause or allow any air contamination source to emit any material having an opacity equal to or greater than 20 percent (six minute average) except for one continuous six-minute period per hour of not more than 57 percent opacity.

**\*\*\*\* Emission Unit Level \*\*\*\***

**Condition 13: Emission Point Definition By Emission Unit**  
**Effective between the dates of 06/20/2011 and Permit Expiration Date**

**Applicable State Requirement:6 NYCRR Subpart 201-5**

**Item 13.1(From Mod 1):**

The following emission points are included in this permit for the cited Emission Unit:

Emission Unit: B-00001

Emission Point: C0001

Height (ft.): 100 Diameter (in.): 24  
 NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: G0001

Height (ft.): 60 Diameter (in.): 24  
 NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: G0002

Height (ft.): 60 Diameter (in.): 24



NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: G0003  
Height (ft.): 60 Diameter (in.): 24  
NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: G0004  
Height (ft.): 60 Diameter (in.): 24  
NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: GV007  
Height (ft.): 93 Diameter (in.): 44  
NYTMN (km.): 4753.228 NYTME (km.): 188.316 Building: B001

Emission Point: GV008  
Height (ft.): 100 Diameter (in.): 44  
NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: GV009  
Height (ft.): 100 Diameter (in.): 44  
NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: GV010  
Height (ft.): 100 Diameter (in.): 44  
NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

Emission Point: GV011  
Height (ft.): 100 Diameter (in.): 44  
NYTMN (km.): 4753.229 NYTME (km.): 188.316 Building: B001

**Condition 14: Process Definition By Emission Unit**  
**Effective between the dates of 06/20/2011 and Permit Expiration Date**

**Applicable State Requirement:6 NYCRR Subpart 201-5**

**Item 14.1(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001  
Process: G04 Source Classification Code: 3-08-007-99  
Process Description:

This process consists of all mixing operations for the preparation of Liquid Compression Molding (LCM) compound, Resin Transfer Molding (RTM) compound and Sheet Molding Compound (SMC) used in the closed compression presses, closed RTM presses and the SMC machine, respectively. Liquid resin, dry filler, pigment and catalyst are placed into batch mixers (Emission Sources (ES) MT001-MT005, G004A and G004B) to prepare LCM compound. Resin is mixed with hardener in batch mixers (ES MT006 and MT007) to prepare RTM compound which is then pumped directly from the mixing tank into the RTM press. This process also



includes ES MT008 and ES MT009, the mixing tanks associated with the SMC machine. Prepared SMC is gravity fed directly from a batch mixing tank into the feed tank located above the doctor boxes (resevoirs) on the SMC machine. This process also includes the storage of sealed drums and bins of ready-to-use Sheet Molding Compound (SMC). Particulates generated during the mixing process are controlled by a 99.7% efficient polyester filter at each emission point.

Emission Source/Control: GC004 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: GVC07 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: GVC11 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: G004A - Process  
Design Capacity: 500 gallons per batch

Emission Source/Control: G004B - Process  
Design Capacity: 500 gallons per batch

Emission Source/Control: MT001 - Process  
Design Capacity: 415 gallons

Emission Source/Control: MT002 - Process  
Design Capacity: 255 gallons

Emission Source/Control: MT003 - Process  
Design Capacity: 255 gallons

Emission Source/Control: MT004 - Process  
Design Capacity: 255 gallons

Emission Source/Control: MT005 - Process  
Design Capacity: 255 gallons

Emission Source/Control: MT006 - Process  
Design Capacity: 255 gallons

Emission Source/Control: MT007 - Process  
Design Capacity: 255 gallons

Emission Source/Control: MT008 - Process  
Design Capacity: 400 gallons

Emission Source/Control: MT009 - Process



Design Capacity: 400 gallons

**Item 14.2(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001

Process: GRD

Source Classification Code: 3-08-007-01

Process Description:

This process is the finish grinding of fiberglass reinforced plastic parts manufactured by compression molding and resin transfer molding. Particulates generated by grinding operations are controlled by 98.1% efficient cardboard filters (GC001, GC002 and GC003), a 99.7 % efficient polyester filter (GVC11) or 83% efficient spun bond polyester cartridge filters (GC005 and GC006).

Emission Source/Control: GC001 - Control  
Control Type: PAPER FILTER

Emission Source/Control: GC002 - Control  
Control Type: PAPER FILTER

Emission Source/Control: GC003 - Control  
Control Type: PAPER FILTER

Emission Source/Control: GC005 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: GC006 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: GVC11 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: G0001 - Process

Emission Source/Control: G0002 - Process

Emission Source/Control: G0003 - Process

Emission Source/Control: G0005 - Process

Emission Source/Control: G0006 - Process

**Item 14.3(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001

Process: P01

Source Classification Code: 3-08-007-36

Process Description:

This process consists of closed compression molding operations using poured liquid compression molding (LCM)



compound and fiberglass to manufacture reinforced plastic parts. LCM compound is manually transferred from the mixing tank to the mold using open buckets. Particulate emissions are controlled by a 99.7% efficient polyester filter at each press exhaust hood.

Emission Source/Control: PC001 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: PC002 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: PC003 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: PC004 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: PC005 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: PC006 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: P0001 - Process  
Design Capacity: 80 pounds per hour

Emission Source/Control: P0002 - Process  
Design Capacity: 80 pounds resin used per hour

Emission Source/Control: P0003 - Process  
Design Capacity: 80 pounds resin used per hour

Emission Source/Control: P0004 - Process  
Design Capacity: 80 pounds resin used per hour

Emission Source/Control: P0005 - Process  
Design Capacity: 80 pounds resin used per hour

Emission Source/Control: P0006 - Process  
Design Capacity: 80 pounds resin used per hour

**Item 14.4(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001

Process: P02

Source Classification Code: 3-08-007-36

Process Description:

This process consists of closed compression molding operations using sheet molding compound (SMC) to manufacture reinforced plastic parts. Particulate and VOC/HAP emissions from this process are indirectly vented



to the atmosphere through the facility's general ventilation exhaust stacks. Particulate emissions are controlled by a 99.7% efficient polyester filter at each general ventilation stack.

Emission Source/Control: GVC08 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: GVC09 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: GVC10 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: P0007 - Process  
Design Capacity: 150 pounds per hour

Emission Source/Control: P0008 - Process  
Design Capacity: 150 pounds per hour

Emission Source/Control: P0009 - Process  
Design Capacity: 150 pounds per hour

Emission Source/Control: P0010 - Process  
Design Capacity: 150 pounds per hour

Emission Source/Control: P0011 - Process  
Design Capacity: 150 pounds per hour

**Item 14.5(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001

Process: PKG

Source Classification Code: 3-08-007-04

Process Description:

This process consists of the finishing and packaging of manufactured plastic parts. Bulk palletized tiles are moved into the packaging area. A drilling fixture is used to form tile perimeter vent holes and parts are then moved to a table where glue is sprayed onto the perimeter flange. Plastic is applied and adhered to the glue forming a protective cover for shipping. Parts are moved to finished good cartons. Particulate and VOC/HAP emissions from this process are indirectly vented to the atmosphere through the facility's general ventilation exhaust stacks. Particulate emissions are controlled by 99.7% efficient polyester filters at each general ventilation stack.



Emission Source/Control: GVC09 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: PKG01 - Process  
Design Capacity: 1.32 pounds adhesive used per hour

**Item 14.6(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001  
Process: PS1 Source Classification Code: 3-08-007-36  
Process Description:

This process consists of the closed compression molding of sample parts using Liquid Compression Molding (LCM). Particulate and VOC/HAP emissions from this process are indirectly vented to the atmosphere through the facility's general ventilation exhaust stacks. Particulate emissions are controlled by a 99.7% efficient polyester filter at each general ventilation stack.

Emission Source/Control: GVC08 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: SAMPL - Process  
Design Capacity: 80 pounds resin used per hour

**Item 14.7(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001  
Process: RTM Source Classification Code: 3-08-007-36  
Process Description:

This is a closed resin transfer molding process using vacuum infusion. The molds are opened and closed hydraulically. The mold is filled with fiberglass and clamped shut. A vacuum is pulled on the mold cavity and then a resin + hardener mixture is pumped directly into the mold through tubing. The mold is kept closed until the part solidifies. The part is removed and the cycle is repeated. Particulate and VOC/HAP emissions from this process are indirectly vented to the atmosphere through the facility's general ventilation exhaust stacks. Particulate emissions are controlled by a 99.7% efficient polyester filter at each general ventilation stack.

Emission Source/Control: GVC10 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: GVC11 - Control  
Control Type: POLYESTER FILTER

Emission Source/Control: RTM01 - Process



Design Capacity: 960 pounds per hour

Emission Source/Control: RTM02 - Process  
Design Capacity: 960 pounds per hour

Emission Source/Control: RTM03 - Process  
Design Capacity: 960 pounds per hour

**Item 14.8(From Mod 1):**

This permit authorizes the following regulated processes for the cited Emission Unit:

Emission Unit: B-00001

Process: SMC

Source Classification Code: 3-08-007-99

**Process Description:**

This process consists of the production of sheet molding compound (SMC) using a SMC machine. Resin, filler and additives are blended into a paste in mixing tanks (Emission Sources MT008 & MT009). The prepared paste is gravity fed through a bottom valve to a small fill hopper into a 150 gallon doctor box feed tank (DBFT) The DBFT and small fill hopper both have tight fitting lids. The small fill hopper lid is only open during filling. The filling of the DBFT takes approximately 2-3 minutes. The paste is then gravity fed from the DBFT through a pipe into a doctor box (reservoir). The doctor box dispenses the paste onto a nylon film. The film/paste passes under a glass fiber chopper that deposits glass fibers onto the paste. Another film and paste is added to the top to sandwich the glass fibers. The whole package between the two films is then pulled through a compacting section of the machine. In this phase the glass fibre is impregnated and the compound is homogenized. The compacted sheet is rolled and placed into a container that is lined with a polyethylene bag. The bag is then folded up and closed to prevent styrene evaporation.

Emission Source/Control: SMC01 - Process  
Design Capacity: 11.8 meters per minute

