



## **PERMIT GVA1044**

**Pursuant to:**

Greater Vancouver Regional District Air Quality Management Bylaw No. 1082, 2008  
and the BC Environmental Management Act, S.B.C 2003, c.53

**Issued to:**

Plasti-Fab Ltd.  
(the "Permittee")

**To Authorize:**

the discharge of air contaminants to the air from  
an Expanded Polystyrene (EPS) Moulding Plant

**Located at:**

679 Aldford Avenue, Delta, BC V3M 5P5

**Effective Period:**

The terms and conditions set out in the Permit apply to the existing or planned works as of  
October 13, 2015 and this permit will expire on September 30, 2020.

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Issued: October 13, 2015

R.H. (Ray) Robb, P. Eng.  
District Director

**GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT**

**SECTION 1 – AUTHORIZED EMISSION SOURCES**

Authorization to discharge air contaminants from the authorized Emission Sources and Works listed below is subject to the specified terms and conditions.

Approximate locations of the emission sources are shown on the Site Plan in section 4.

**EMISSION SOURCE 01: Expander discharging through a Stack(s).**

MAXIMUM EMISSION FLOW RATE: **141 m<sup>3</sup>/min**  
MAXIMUM ANNUAL OPERATING HOURS: **7488 hrs/yr**

MAXIMUM EMISSION QUANTITY:

1. 83 t/year Pentane
2. 0.61 t/year Styrene

MAXIMUM EMISSION QUALITY:

1. 20% Opacity.
2. Odorous Air Contaminant(s): None past the plant boundary such that pollution occurs.

WORKS AND PROCEDURES:

Venting from heating, stirring and drying of polystyrene resin beads using good operating practices. The maximum hourly average concentrations from this source shall not exceed the following:

- Pentane 420 mg/m<sup>3</sup>
- Styrene 30 mg/m<sup>3</sup>

**EMISSION SOURCE 02: Block Mould and Vacuum Exhaust discharging through a Stack(s).**

MAXIMUM EMISSION FLOW RATE: **140 m<sup>3</sup>/min**  
MAXIMUM ANNUAL OPERATING HOURS: **8760 hrs/yr**

MAXIMUM EMISSION QUANTITY:


1. 27 t/year Pentane
2. 0.68 t/year Styrene

MAXIMUM EMISSION QUALITY:

1. 10% Opacity.
2. Odorous Air Contaminant(s): None past the plant boundary such that pollution occurs.

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**WORKS AND PROCEDURES:**

Cured pre-expanded bead are transferred into a mould where steam is used to expand and fuse the beads in to the shape of the mould vessel. Venting of mould vacuum system and steam with good operating practices.

The maximum hourly average concentrations from this source shall not exceed the following:

- Pentane 2000 mg/m<sup>3</sup>
- Styrene 200 mg/m<sup>3</sup>

**EMISSION SOURCE 03: Heated Wire Cutters discharging through a Stack(s).**

MAXIMUM EMISSION FLOW RATE: **752** m<sup>3</sup>/min  
MAXIMUM ANNUAL OPERATING HOURS: **7488** hrs/yr

**MAXIMUM EMISSION QUALITY:**

1. 20 mg/m<sup>3</sup> Particulate Matter
2. 10% Opacity.

**WORKS AND PROCEDURES:**

Electrically heated wire cutter work stations cut, package and recycle waste material stations are equipped with ventilation hoods. Venting with good operating practices.

**EMISSION SOURCE 04: Silo Bead Storage, EPS Block Storage and other fugitive sources discharging through a Fan Exhaust(s).**

MAXIMUM EMISSION FLOW RATE: **149** m<sup>3</sup>/min  
MAXIMUM ANNUAL OPERATING HOURS: **8760** hrs/yr

**MAXIMUM EMISSION QUANTITY:**

1. 116 t/year Pentane

**MAXIMUM EMISSION QUALITY:**


1. 10% Opacity.
2. Odorous Air Contaminant(s): None past the plant boundary such that pollution occurs.

**WORKS AND PROCEDURES:**

Pre-expanded beads are stored in large volume mesh sacks in a temperature controlled ventilated area. Polystyrene foamed blocks are stored in temperature controlled aging rooms. Venting of fugitive emissions from these areas using good operating practices.

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**SECTION 2 – GENERAL REQUIREMENTS AND CONDITIONS**

**A. AUTHORIZED WORKS, PROCEDURES AND SOURCES**

Works and procedures, which this permit authorizes in order to control the discharge of air contaminants, shall be employed during all operating periods of the related sources. The permit holder shall regularly inspect and maintain all such works, procedures and sources.

The District Director must be provided with reasonable notice of any changes to or replacement of authorized works, procedures or sources. Any modification of authorized works, procedures or sources must be approved by the District Director in advance of operation. For certainty, this does not include routine maintenance or repair.

The discharge criteria described in Section 1 of this permit are applicable on the issued or last amended date of this permit unless specified otherwise. If a date different to the issued or last amended date is specified, the existing works, procedures and sources must be maintained in good operating condition and operated in a manner to minimize emissions.

**B. NOTIFICATION OF MONITORING NON-COMPLIANCE**

The District Director must be notified immediately of any emission monitoring results, whether from a continuous emissions monitor or periodic testing, which exceed the quantity or quality authorized in Section 1 of this permit. Notification shall be made to Metro Vancouver's 24-hour number: 604-436-6777, or to [regulationenforcement@metrovancover.org](mailto:regulationenforcement@metrovancover.org).

**C. POLLUTION NOT PERMITTED**

Notwithstanding any conditions in this permit, no person shall discharge or allow or cause the discharge of any air contaminant so as to cause pollution as defined in the Greater Vancouver Regional District Air Quality Management Bylaw No. 1082, 2008 and the Environmental Management Act.

**D. BYPASSES**

The discharge of air contaminants that have bypassed authorized control works is prohibited unless advance approval has been obtained and confirmed in writing from the District Director.


**E. EMERGENCY PROCEDURES**

In the event of an emergency or condition beyond the control of the Permittee that prevents effective operation of the authorized works or procedures or leads to unauthorized discharge, the Permittee shall:

1. Comply with all applicable statutory requirements;
2. Immediately notify the District Director of the emergency or condition and of contingency actions invoked or planned to mitigate adverse impacts and restore compliance; Notification shall be made to Metro Vancouver's 24-hour number: 604-436-6777; and
3. Take appropriate remedial action for the prevention or mitigation of pollution.

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Permit GVA1044

## GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT

The District Director may specify contingency actions to be implemented to protect human health and the environment while authorized works are being restored and/or corrective actions are being taken to prevent unauthorized discharges.

If an emergency situation results in a "spill" as defined in the Environmental Management Act Spill Reporting Regulation, the spill shall also be reported immediately to the Provincial Emergency Program by telephoning 1-800-663-3456.

### **F. AMENDMENTS**

The terms and conditions of this permit may be amended, as authorized by applicable legislation. New works, procedures or sources or alterations to existing works, procedures or sources must receive authorization in advance of operation.


### **G. STANDARD CONDITIONS AND DEFINITIONS**

Unless otherwise specified, the following applies to this permit:

1. Gaseous volumes are corrected to standard conditions of 20 degrees Celsius (°C) and 101.325 kilo Pascals (kPa) with zero percent moisture.
2. Contaminant concentrations from the combustion of specific fuel types are corrected to the following Oxygen content, unless specified otherwise:
  - 3% O<sub>2</sub> for natural gas and fuel oil;
  - 8% O<sub>2</sub> for wood fuel; or
  - 15% O<sub>2</sub> for turbines.
3. Where compliance testing is required, each contaminant concentration limit in this permit will be assessed for compliance based on a valid test using test methods approved by the District Director.
4. Visual opacity measurements are made at the point of maximum density, nearest the discharge point and exclude the effect of condensed, uncombined water droplets. Compliance determinations are based on a six-minute average in accordance with the provincial "Source Testing Code for the Visual Measurement of The Opacity of Emissions from Stationary Sources". Continuous Emission Monitor System (CEMS) opacity compliance determinations are based on a one-hour average (taken from the top of each hour).
5. If authorized in Section 1 of this permit, standby fuel use is restricted to a maximum of 350 hours per year and to those periods during which the primary authorized fuel is not available. Fuel oil sulphur content shall not exceed 15 milligrams per kilogram (mg/kg) and emissions during fuel oil firing shall not exceed 10% opacity.
6. Definitions in the Environmental Management Act and Air Quality Management Bylaw apply to terminology used in this permit.
7. Threshold Limit Values (TLV) refer to the Time Weighted Average (TWA) exposure limits for substances specified in the American Conference of Governmental Industrial Hygienists Threshold Limit Values handbook, current on the latest date that this permit issuance or amendment came into effect.
8. Sulphur Oxides (SO<sub>x</sub>) are expressed as Sulphur Dioxide.

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9. Nitrogen Oxides (NO<sub>x</sub>) are expressed as Nitrogen Dioxide.
10. The Canadian Council of Ministers of the Environment (CCME) "Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Aboveground Storage Tanks (June 1995, CCME-EPC-87E)" shall be adhered to for all applicable tanks unless otherwise stated in this permit.
11. Authorized 'Maximum Annual Operating Hours' of 8760 hours per year for an emission source is equivalent to authorization for continuous operation of the emission source for an entire calendar year, including leap years.

### **H. RECORDS RETENTION**

All records and supporting documentation relating to this permit must be kept for at least three years after the date of preparation or receipt thereof, and be made available for inspection within 48 hours of a request by an Officer.

### **I. HEATING, VENTILATION, AIR CONDITIONING AND INTERNAL COMBUSTION ENGINES**

Air contaminants discharged from any natural gas-fired heating, ventilation or air conditioning system for buildings and any internal combustion engine located at the discharge site shall be maintained and operated in a manner prescribed by the manufacturer to ensure good combustion of the fuel with minimum discharge of air contaminants.

Notwithstanding 1, 2 and 3 above, the District Director may specify contingency actions to be implemented to protect human health and the environment while authorized works and/or standard operating procedures are being restored.

If an emergency situation results in a "spill" as defined in the Environmental Management Act Spill Reporting Regulation, the spill shall also be reported immediately to the Provincial Emergency Program by telephoning 1-800-663-3456.

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**SECTION 3 – REPORTING REQUIREMENTS**

**A. MONITORING REQUIREMENTS AND REPORTING**

Unless otherwise approved by the District Director prior to any sampling or analysis, all measurements shall be performed by an independent agency in accordance with Metro Vancouver Air Emissions Sampling Program Manual of Methods and Standard Operating Procedures and the BC Ministry of Environment Field Sampling Manual, as they may be amended from time to time. Any variance from these procedures must receive prior approval from the District Director.


A minimum of 3 working days advance notice must be given prior to taking measurements required by this Monitoring and Sampling Program. Notification must be given to the Metro Vancouver Environmental Regulation & Enforcement Division (phone 604-436-6777, Fax 604-436-6707, email [regulationenforcement@metrovancover.org](mailto:regulationenforcement@metrovancover.org) ).

Unless otherwise specified, sampling shall be performed under operating conditions representative of the previous 90 calendar days of operation. All field data and calculations must be submitted with monitoring results and they shall be reported in the metric units which are used in this permit. These submissions shall include process data relevant to the operation of the source of the emissions and the performance of the emission control works.

The permit holder shall conduct the following monitoring and sampling and submit electronic reports of the results to the District Director by the dates specified below using a password enabled web based application provided by Metro Vancouver.

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EMISSION SOURCE	INITIAL DUE DATE	SUBSEQUENT DUE DATES	REQUIREMENT	PARAMETER(S)	TEST METHOD	REPORT TYPE
01, 02	March 31, 2017	N/A	Written report detailing the measured discharge rate and concentration of Pentane and Styrene in the emissions.  At least 60 days prior to conducting emission testing, a draft test plan including proposed sample collection, details of sample collection equipment and test methods much be submitted to Metro Vancouver for comment, revision and/or approval.	Pentane, Styrene		Stack

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**B. INFORMATION REPORTING REQUIREMENTS**

The permit holder shall submit electronic reports containing the required information to the District Director by the dates specified below using a password enabled web based application provided by Metro Vancouver.

<b>EMISSION SOURCE</b>	<b>INITIAL DUE DATE</b>	<b>SUBSEQUENT DUE DATES</b>	<b>REQUIREMENT</b>	<b>REPORT TYPE</b>
01, Facility, 02	March 31, 2016	On or before March 31 for each subsequent year.	Written report providing details of the total number of hours and days operated in the preceding calendar year.	Operating Period
Facility	March 31, 2016	On or before March 31 for each subsequent year.	Written report providing details of the types and amounts of principal products produced and principal raw materials used in the preceding calendar year. The report shall provide annual emissions of pentane and styrene by source estimated using the mass balance approach as per calculation sheet submitted with the 2009 application. The following shall also be provided: 1) VOC content of each lot of EPS resin bead 2) Daily amounts of EPS resin bead used 3) Sum total of VOC emitted, using the VOC content and amount of resin material from Certificate of Analysis reports including Pentane and Styrene in the preceding year.	Materials and Products
Facility	March 31, 2016	N/A	The Permittee shall develop a communication plan on procedures to handle and document public complaints.	Information - Other

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Facility	June 30, 2017	N/A	Written report evaluating VOC control technologies available for the reduction of VOC emissions from the EPS process at Plasti-Fab.  Terms of reference shall be submitted to the District Director for review and approval by February 28, 2017 and can include but are not limited to control technologies or equipment available for: -VOC collection and recovery -VOC destruction and removal -Any front end controls to reduce VOC released to the environment. These can include the use of low level pentane resin or alternate blowing agents in the manufacture EPS process. -Information on the feasibility of implementation including approximate costs.	Information - Other
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**C. AMENDED OR ADDITIONAL REQUIREMENTS**

Based on the results of the monitoring program, including the stack sampling results or any other information, the District Director may:

1. Amend the monitoring and reporting requirement of any of the information required by this Permit including plans, programs and studies.
2. Require additional investigations, tests, surveys or studies.

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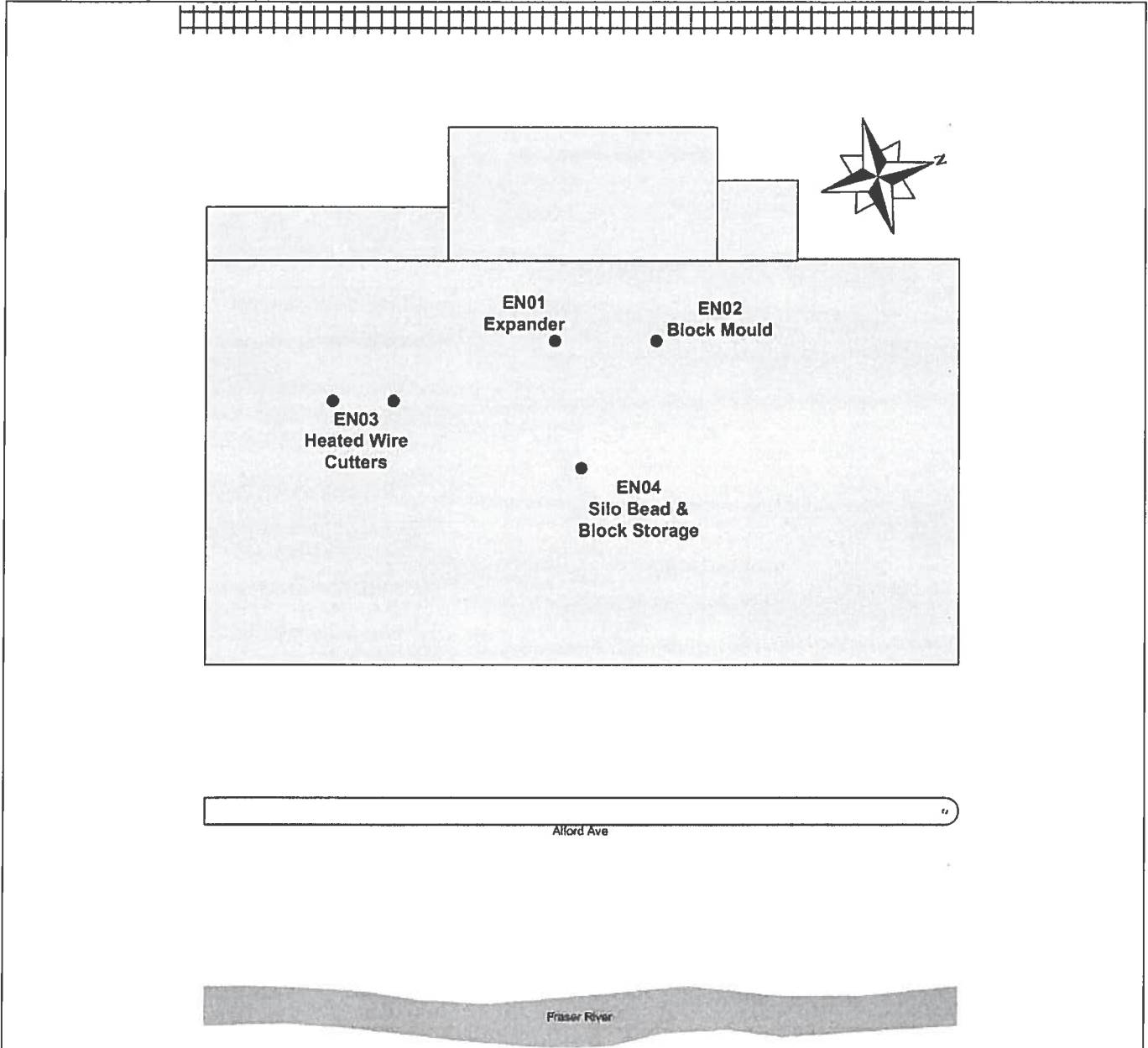
Permit GVA1044

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**SECTION 4 – SITE PLAN**

**LEGAL DESCRIPTION OF DISCHARGE SITE: Parcel Identifier 024-108-880. Parcel A District Lot 312 Group 1  
New Westminster District Plan LMP37500**

The following site plan is not to scale and the locations of the discharge points are approximate.



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