STANDARD
AIR CONTAMINANT DISCHARGE PERMIT

Department of Environmental Quality
Northwest Region
2020 SW 4th Avenue, #400
Portland, Oregon 97201
(503) 229-5554

This permit is being issued in accordance with the provisions of ORS 468A.040 and based on the land use compatibility findings included in the permit record.

ISSUED TO:

PCC Structurals, Inc
4600 SE Harney Drive
Portland, OR 97206

PLANT SITE LOCATION:

13350 SE Johnson Road
Milwaukie, OR

INFORMATION RELIED UPON:

Application No.: 021767
Date Received: 04/14/2006

LAND USE COMPATIBILITY FINDING:

Approving Authority: Clackamas County
Approval Date: 06/02/1997

PERMIT PREVIOUSLY ISSUED TO:

NA

ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY

George Davis for

Ed Druback, Northwest Region Air Quality Manager

AUG 31 2006
Dated

Source(s) Permitted to Discharge Air Contaminants (OAR 340-216-0020):

Table 1 Code	Source Description	SIC
Part B, 75.	Sources, in any part of the state, which would emit 10 or more tons/yr of any criteria pollutant if the source were to operate uncontrolled.	3297 3369

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1.0 GENERAL EMISSION STANDARDS AND LIMITS

1.1. Visible Emissions

The permittee must comply with the following visible emission limits, as applicable:

a. Emissions from any fuel burning equipment must not exceed an opacity equal to or greater than 20% for a period aggregating more than 3 minutes in any one hour.

b. Emissions from any air contaminant source other than fuel burning equipment must not exceed an opacity equal to or greater than 20% for a period aggregating more than 30 seconds in any one hour.

1.2. Particulate Matter Emissions

The permittee must comply with the following particulate matter emission limits, as applicable:

a. Particulate matter emissions from any fuel burning equipment must not exceed 0.1 grains per standard cubic foot, corrected to 12% CO_2 or 50% excess air.

b. Particulate matter emissions from fuel burning equipment must not exceed emission rate shown in Figure 1 of OAR 340-208-0610 as a function of the maximum heat input when using all other fuels, except natural gas and LPG.

c. Particulate matter emissions from any air contaminant source other than fuel burning equipment and fugitive emission sources must not exceed 0.1 grains per standard cubic foot.

1.3. Fugitive Emissions

The permittee must take reasonable precautions to prevent fugitive dust emissions. Reasonable precautions may include, but are not limited to the following:

a. Cleaning/sweeping vehicular traffic areas of the plant site under the control of the permittee.

b. Operating all air contaminant-generating processes so that fugitive type dust associated with the operation will be adequately controlled at all times.

c. Storing collected materials from air pollution control equipment in a covered container or other method equally effective in preventing the material from becoming airborne during storage and transfer.

1.4. Particulate Matter Fallout

The permittee must not cause or permit the emission of any particulate matter larger than 250 microns in size at sufficient duration or quantity, as to create an observable deposition upon the real property of another person. The Department will verify

that the deposition exists and will notify the permittee that the deposition must be controlled.

1.5. Nuisance and Odors

The permittee must not cause or allow air contaminants from any source to cause a nuisance. Nuisance conditions will be verified by Department personnel.

1.6. Fuels and Fuel Sulfur Content

The permittee must comply with the following fuel limitations:

a. The permittee must not combust any fuel other than natural gas, propane, or butane in any air contaminant emitting activity other than those identified as categorically insignificant activities as defined in OAR 340-200-0020.

b. The permittee must not use any fuel other than natural gas, propane, butane, ASTM grade fuel oils, or on-specification used oil in categorically insignificant activities. Fuel oils combusted in categorically insignificant activities (i.e. emergency generators) may be either ASTM grade fuel oils or on-specification used oil and must not contain more than:

i. 0.3% sulfur by weight for ASTM Grade 1 distillate oil;

ii. 0.5% sulfur by weight for ASTM Grade 2 distillate oil;

iii. 0.5% sulfur by weight for on-specification used oil. If/when on-specification used oil is combusted, the permittee must obtain analyses from the marketer or, if generated on site, have the used oil analyzed, so that it can be demonstrated that each shipment or batch of oil does not exceed the used oil specifications contained in 40 CFR Part 279.11, Table 1.

2.0 SPECIFIC PERFORMANCE AND EMISSION STANDARDS

2.1. Flashfire Furnace

The afterburner of the Flashfire Furnace shall be operated at a set-point temperature of 1500°F at all times the furnace is in use. The permittee shall take immediate corrective action to return the afterburner to normal operating conditions any time the operating temperature falls below 1450°F. For purposes of this condition normal operating conditions shall be recognized as a target

temperature of 1500°F and a minimum operating temperature of not less than 1450°F. The permittee shall not be deemed to be in violation for periods of operation below 1450°F, however, the destruction efficiency of the afterburner shall be assumed to be zero (0) percent for these time periods when calculating compliance with plant site emission limits.

3.0 PLANT SITE EMISSION LIMITS

3.1. Plant Site Emission Limits (PSEL)

Plant site emissions must not exceed the following:

Pollutant	Limit	Units
PM	24	tons per year
PM_{10}	14	tons per year
NO_X	39	tons per year
CO	99	tons per year
VOC	39	tons per year
Single HAP	9	tons per year
Combined HAPs	24	tons per year

3.2. Anuual Period

The annual plant site emissions limits apply to any 12-consecutive calendar month period.

4.0 COMPLIANCE DEMONSTRATION

4.1. PSEL Compliance Monitoring

Compliance with the PSEL is determined for each 12-consecutive calendar month period based on the following calculation for each pollutant:

$$E = \Sigma(EF \times P)/2000 \text{ lbs}$$

where,

E = pollutant emissions (ton/yr);
EF = pollutant emission factor (see Condition 10.0);
P = monitored process production parameter (see Condition 10.0)

5.0 MONITORING AND RECORDKEEPING REQUIREMENTS

5.1. Operation and Maintenance

The permittee must inspect, monitor, and maintain records of the following parameters and information related to the operation and maintenance of the plant and associated air contaminant control devices as required below:

a. The permittee must monitor and record the following parameters on a monthly basis:

i. Total metal poured (tons) in the Air Casting operation

ii. Total metal poured (tons) in the Vacuum Casting operation

iii. Total metal poured (tons) for which shell was not flashfired

iv. Total dust collected in baghouses (tons)

v. Total wax used (tons)

vi. Total natural gas used (MM ft^3)

vii. Tons of latex used (flashfired)

viii. Tons of latex used (not flashfired)

ix. Quantity of the following components/chemicals used in the Core manufacturing process:

5.1.a.(ix)(a)	SDA 3C Binder 22
5.1.a.(ix)(b)	Dibutylamine Catalyst
5.1.a.(ix)(c)	Napthalene
5.1.a.(ix)(d)	SDA 3C Alcohol Rinse
5.1.a.(ix)(e)	Phenolic Resin
5.1.a.(ix)(f)	New components with DEQ approved emission factors.

x. Tons of sawdust used

b. The permittee must monitor and record the operating temperature of the afterburner on the Flashfire Furnace continuously while the device is in use for production.

c. The permittee must monitor and record the following

parameters associated with the Flashfire Furnace on a monthly basis:

i. Monitor the total time the Flashfire Furnace afterburner is in operation while processing parts.

ii. Monitor the total time the Flashfire Furnace afterburner operates below 1450°F while processing parts.

iii. Monitor the total uncontrolled PM, PM_{10}, and VOC emissions that are sent to the Flashfire Furnace afterburner while processing parts.

d. On a monthly basis the permittee must perform an emission rate calculation to demonstrate compliance with the annual PSEL for each criteria pollutant stated in Condition 3.1 (see Condition 4.1 for calculation method). The emission rate calculations must be performed within 30 days of the end of the last calendar month of each respective 12-month annual period.

5.2. Excess Emissions The permittee must maintain records of excess emissions as defined in OAR 340-214-0300 through 340-214-0340 (recorded on occurrence). Typically, excess emissions are caused by process upsets, startups, shutdowns, or scheduled maintenance. In many cases, excess emissions are evident when visible emissions are greater than 20% opacity for 3 minutes or more in any 60-minute period.

5.3. Complaint Log The permittee must maintain a log of all written complaints and complaints received via telephone that specifically refer to air pollution concerns associated to the permitted facility. The log must include a record of the permittee's actions to investigate the validity of each complaint and a record of actions taken for complaint resolution.

5.4. Retention of Records Unless otherwise specified, all records must be maintained on site for a period of two (2) years and made available to the Department upon request.

6.0 REPORTING REQUIREMENTS

6.1. Excess Emissions The permittee must notify the Department by telephone or in person of any excess emissions which are of a nature that could endanger public health.

a. Such notice must be provided as soon as possible, but never more than one hour after becoming aware of the problem. Notice must be made to the regional office identified in Condition 7.4.

b. If the excess emissions occur during non-business hours, the permittee must notify the Department by calling the Oregon Emergency Response System (OERS). The current number is 1-800-452-0311.

c. The permittee must also submit follow-up reports when required by the Department.

6.2. Annual Report

The permittee must submit to the Department by **February 15** of each year this permit is in effect two (2) copies of the following information for the previous calendar year:

a. Operating parameters:

i. Total metal poured (tons) in the Air Casting operation

ii. Total metal poured (tons) in the Vacuum Casting operation

iii. Total metal poured (tons) for which shell was not flashfired

iv. Total dust collected in baghouses (tons)

v. Total wax used (tons)

vi. Total natural gas used (MM ft^3)

vii. The total quantity of each chemical identified to be monitored in Condition 5.1.a.ix.

viii. Total sawdust used (tons)

b. Report the highest 12-month emission rate, for each criteria pollutant for which a PSEL is identified in Condition 3.1, that occurred during the previous calendar year. Emissions shall be calculated using the method and emission factors in Condition 4.1.

c. Report the highest 12-month combined HAP emission rate that occurred during the previous calendar year. Emissions shall be calculated using the method and emission factors in Condition 4.1.

d. Report the highest 12-month emission rate that occurred for each individual HAP with 12-month emissions that equal or exceed 3 tons, that occurred during the previous

calendar year. Emissions shall be calculated using the method and emission factors in Condition 4.1.

e. Records of all planned and unplanned excess emissions events.

f. Summary of complaints relating to air quality received by permittee during the year.

g. List permanent changes made in plant process, production levels, and pollution control equipment which affected air contaminant emissions.

h. List major maintenance performed on pollution control equipment.

6.3. Notice of Change of Ownership or Company Name

The permittee must notify the Department in writing using a Departmental "Permit Application Form" within 60 days after the following:

a. Legal change of the name of the company as registered with the Corporations Division of the State of Oregon; or

b. Sale or exchange of the activity or facility.

6.4. Construction or Modification Notices

The permittee must notify the Department in writing using a Departmental "Notice of Construction Form," or "Permit Application Form," and obtain approval in accordance with OAR 340-210-0205 through 340-210-0250 before:

a. Constructing or modifying any air pollution control equipment;

b. Making any physical change that will cause an increase, on an hourly basis at full production, in any regulated pollutant emissions; or

c. Changing the method of operation that will cause an increase, on an hourly basis at full production, in any regulated pollutant emissions.

6.5. Where to Send Reports and Notices

The reports, with the permit number prominently displayed, must be sent to the Permit Coordinator for the region where the source is located as identified in Condition 7.3.

7.0 ADMINISTRATIVE REQUIREMENTS

7.1. Permit Renewal Application

The completed application package for renewal of this permit is due on May 1, 2011. Two (2) copies of the application must be submitted to the DEQ Permit Coordinator listed in Condition 7.3.

7.2.	**Permit Modifications**	Application for a modification of this permit must be submitted not less than **60** days prior to the source modification. A special activity fee must be submitted with an application for the permit modification. The fees and two (2) copies of the application must be submitted to the Business Office of the Department.
7.3.	**Permit Coordinator Addresses**	All reports, notices, and applications should be directed to the Permit Coordinator for the area where the source is located. The Permit Coordinator addresses are as follows: Department of Environmental Quality Northwest Region 2020 SW 4th Avenue, Suite 400 Portland, OR 97201-4987 Telephone: (503) 229-5582
7.4.	**Department Contacts**	Information about air quality permits and the Department's regulations may be obtained from the DEQ web page at www.deq.state.or.us. All inquiries about this permit should be directed to the Department's Northwest Regional Office at: Department of Environmental Quality Portland Office 2020 SW 4th Avenue, Suite 400 Portland, OR 97201-4987 Telephone: (503) 229-5554

8.0 FEES

8.1.	**Annual Compliance Fee**	The Annual Fee specified in OAR 340-216-0020, Table 2, Part 2 for a Simple ACDP is due on **December 1** of each year this permit is in effect. An invoice indicating the amount, as determined by Department regulations, will be mailed prior to the above date.
8.2.	**Change of Ownership or Company Name Fee**	The non-technical permit modification fee specified in OAR 340-216-0020, Table 2, Part 3(a) is due with an application for changing the ownership or the name of the company.
8.3.	**Special Activity Fees**	The special activity fees specified in OAR 340-216-0020, Table 2, Part 3 (b through i) are due with an application to modify the permit.

8.4.	**Where to Submit Fees**	Fees must be submitted to: Department of Environmental Quality Business Office 811 SW Sixth Avenue Portland, Oregon 97204-1390

9.0 GENERAL CONDITIONS AND DISCLAIMERS

9.1.	**Permitted Activities**	This permit allows the permittee to discharge air contaminants from processes and activities related to the air contaminant source(s) listed on the first page of this permit until this permit expires, is modified, or is revoked.
9.2.	**Other Regulations**	In addition to the specific requirements listed in this permit, the permittee must comply with all other legal requirements enforceable by the Department.
9.3.	**Conflicting Conditions**	In any instance in which there is an apparent conflict relative to conditions in this permit, the most stringent conditions apply.
9.4.	**Masking of Emissions**	The permittee must not cause or permit the installation of any device or use any means designed to mask the emissions of an air contaminant that causes or is likely to cause detriment to health, safety, or welfare of any person or otherwise violate any other regulation or requirement.
9.5.	**Department Access**	The permittee must allow the Department's representatives access to the plant site and pertinent records at all reasonable times for the purposes of performing inspections, surveys, collecting samples, obtaining data, reviewing and copying air contaminant emissions discharge records and conducting all necessary functions related to this permit in accordance with ORS 468-095.
9.6.	**Permit Availability**	The permittee must have a copy of the permit available at the facility at all times.
9.7.	**Open Burning**	The permittee may not conduct any open burning except as allowed by OAR 340 Division 264.
9.8.	**Asbestos**	The permittee must comply with the asbestos abatement requirements in OAR 340, Division 248 for all activities involving asbestos-containing materials, including, but not limit to, demolition, renovation, repair, construction, and maintenance.
9.9.	**Property Rights**	The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local

laws or regulations.

9.10.	**Termination, Revocation, or Modification**	The Department may modify or revoke this permit pursuant to OAR 340-216-0082 and 340-216-0084.

10.0 EMISSION FACTORS

Process	Pollutant	Monitored Process Production Parameter (P)	Emissions Factor (EF)	Emissions Factor Units
Air casting (including associated cutoff saw & fugitive)	PM	tons metal poured	5.6	lbs/ton
	PM10	tons metal poured	2.8	lbs/ton
Vacuum casting (including associated cutoff saw & fugitive)	PM	tons metal poured	1.04	lbs/ton
	PM10	tons metal poured	0.62	lbs/ton
Baghouses	PM	tons dust collected	20	lbs/ton
	PM10	tons dust collected	20	lbs/ton
Wax burnout ovens	PM	tons metal poured (shell not flashfired)*	0.027	lbs/ton
	PM10	tons metal poured (shell not flashfired)*	0.027	lbs/ton
	VOC	tons metal poured (shell not flashfired)*	3.43	lbs/ton
Wax processing (autoclave, smoke eater & flashfire)	PM – DRE = 95%*	tons wax used	0.469	lbs/ton
	PM	tons wax used (shell not flashfired)*	0.64	lbs/ton
	PM10 – DRE = 95%*	tons wax used	0.239	lbs/ton
	PM10	tons wax used (shell not flashfired)*	0.41	lbs/ton
	VOC – DRE = 95%*	tons wax used	21.2	lbs/ton
	VOC	tons wax used (shell not flashfired)*	44	lbs/ton
Natural gas-fueled equipment/processes	PM	MM ft3 gas used	2.5	lbs/MM ft3
	PM10	MM ft3 gas used	2.5	lbs/MM ft3
	NO_X	MM ft3 gas used	100	lbs/MM ft3
	CO	MM ft3 gas used	21	lbs/MM ft3
	VOC	MM ft3 gas used	5.8	lbs/MM ft3
Core manufacturing process	VOC (SDA 3C Binder 22)	tons SDA 3C Binder 22 used	1,514	lbs/ton
	VOC (Dibutylamine catalyst)	tons dibutylamine used	2,000	lbs/ton
	VOC (naphthalene)	tons naphthalene used	2,000	lbs/ton
	VOC (SDA 3C Alcohol rinse)	tons SDA 3C alcohol rinse used	2,000	lbs/ton
	VOC (phenolic resin)	tons phenolic resin used	900	lbs/ton

Process	Pollutant	Monitored Process Production Parameter (P)	Emissions Factor (EF)	Emissions Factor Units
	VOC (newly approved)	tons new VOC used	**	lbs/ton
Latex	VOC	tons latex used	40	lbs/ton
	VOC	tons latex used (shell not flashfired)*	800	lbs/ton
Sawdust	PM	tons sawdust used	113.3	lbs/ton
	PM10	tons sawdust used	34.6	lbs/ton
	NOx	tons sawdust used	303.1	lbs/ton
	VOC	tons sawdust used	229	lbs/ton

* Destruction removal efficiency (DRE) for Flashfire furnace afterburner shall be assumed to be zero (0) for PSEL compliance calculations for all time periods during which the unit operated at less than 1450°F, and 95 (95%) when operated at 1450°F and higher.

** If other VOC-containing products are used in the manufacturing process, the permittee shall submit the name and percentage of VOC emitted to the Department for approval. The permittee shall use the approved VOC emission factor to calculate emissions.

11.0 ABBREVIATIONS, ACRONYMS, AND DEFINITIONS

ACDP	Air Contaminant Discharge Permit
ASTM	American Society for Testing and Materials
AQMA	Air Quality Maintenance Area
calendar year	The 12-month period beginning January 1st and ending December 31st
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Oregon Department of Environmental Quality
dscf	dry standard cubic foot
EPA	US Environmental Protection Agency
FCAA	Federal Clean Air Act
gal	gallon(s)
gr/dscf	grains per dry standard cubic foot
HAP	Hazardous Air Pollutant as defined by OAR 340-244-0040
I&M	inspection and maintenance
lb	pound(s)
MMBtu	million British thermal units
NA	not applicable
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NO_X	nitrogen oxides
NSPS	New Source Performance Standard
NSR	New Source Review
O_2	oxygen
OAR	Oregon Administrative Rules
ORS	Oregon Revised Statutes
O&M	operation and maintenance
Pb	lead
PCD	pollution control device
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in size
ppm	part per million
PSD	Prevention of Significant Deterioration
PSEL	Plant Site Emission Limit
PTE	Potential to Emit
RACT	Reasonably Available Control Technology
scf	standard cubic foot
SER	Significant Emission Rate
SIC	Standard Industrial Code
SIP	State Implementation Plan
SO_2	sulfur dioxide
Special Control Area	as defined in OAR 340-204-0070
VE	visible emissions
VOC	volatile organic compound
year	A period consisting of any 12-consecutive calendar months