

STATE OF MISSOURI

PERMIT BOOK



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number:

Project Number: 2008-03-009

Parent Company:

06 2008 - 010
Intermet

Parent Company Address: P. O. Box 278, Monroe City, MO 63456

Installation Name: Diversified Diemakers dba Intermet Palmyra Plant

Installation Address: 7063 County Road 328, Palmyra, MO 63461

Location Information: Marion County, S58, T25, R6W

Application for Authority to Construct was made for:

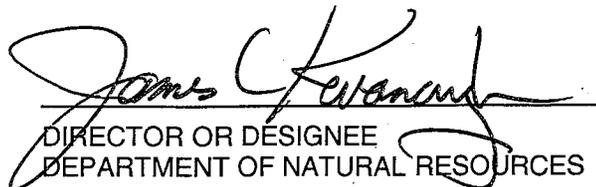
The construction of four (4) aluminum melting furnaces, three (3) aluminum die cast machines and one (1) aluminum rotoblast finishing machine, and the modification of one (1) existing magnesium die casting machine to be able to process aluminum. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

JUN 25 2008

EFFECTIVE DATE


DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years) after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional office responsible for the

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

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Permit Number: Project Number: 2008-03-009

Parent Company: Internet

Parent Company Address: P. O. Box 278, Monroe City, MO 63456

Installation Name: Diversified Diemakers dba Internet Palmyra Plant

Installation Address: 7063 County Road 328, Palmyra, MO 63461

Location Information: Marion County, S58, T25, R6W

Application for Authority to Construct was made for:

The construction of four (4) aluminum melting furnaces, three (3) aluminum die cast machines and one (1) aluminum rotoblast finishing machine, and the modification of one (1) existing magnesium die casting machine to be able to process aluminum. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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- Standard Conditions (on reverse) are applicable to this permit.
- Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

EFFECTIVE DATE

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

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You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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Permit No.	
Project No.	2008-03-009

SPECIAL CONDITIONS:

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

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

Diversified Diemakers dba Internet Palmyra Plant
Marion County, S58, T25, R6W

1. Emission Limitation
 - A. Diversified Diemakers shall emit less than 0.1 tons of Hydrogen Fluoride (HF) from the four (4) aluminum furnaces (EP-60) in any consecutive 12-month period.
 - B. Attachment A, or equivalent forms, shall be used to demonstrate compliance with Special Conditions 1.A. Emission calculated in Attachment A can either be calculated from emission factors in Attachment A or from performance test results. If the facility decides to conduct performance tests, the facility shall submit proposed testing procedures to the Air Pollution Control Program's Enforcement Section for approval.
 - C. Diversified Diemakers shall maintain all records required by this permit for not less than five (5) years and shall make them available to any Missouri Department of Natural Resources' personnel upon request. These records shall include Material Safety Data Sheets (MSDS) for all materials used for the equipment of this permit.
 - D. Diversified Diemakers shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, Missouri 65102, no later than ten (10) days after the end of the month during which the records from Special Condition Number 1.B. indicate that the source exceeds the limitation of Special Conditions Number 1.A.
2. Diversified Diemakers shall only process clean aluminum that contains no visible oil or other organic contaminants.

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

Project Number: 2008-03-009
Installation ID Number: 127-0054
Permit Number:

Diversified Diemakers dba Internet Palmyra Plant Complete: March 5, 2008
7063 County Road 328
Palmyra, MO 63461

Parent Company:
Internet
P. O. Box 278
Monroe City, MO 63456

Marion County, S58, T25, R6W

REVIEW SUMMARY

- Diversified Diemakers dba Internet Palmyra Plant has applied for authority to construct four (4) aluminum melting furnaces, three (3) aluminum die cast machines and one (1) aluminum rotoblast finishing machine, and to modify one (1) existing magnesium die cast machine to be able to process aluminum.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. The HAP of concern from this process is hydrogen fluoride (HF)
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment. Subpart RRR, *National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*, of the MACT does not apply to the proposed equipment because the installation process only clean aluminum and does not operate sweat furnaces, thermal chip dryers, or scrap dryers/delacquering kilns/decoating kilns, and therefore, is not considered a secondary aluminum production facility.
- A dust collector is being used to control PM₁₀ emissions from the aluminum rotoblast finishing machine.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.
- This installation is located in Marion County, an attainment area for all criteria air pollutants

- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].
- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.
- Emissions testing is not required for the equipment.
- A modification to your Basic Operating Permit is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Diversified Diemakers operates a magnesium melting/die casting plant in Palmyra, Missouri. This installation is a minor source under construction permits and has a basic operating permit.

The following construction permits have been issued to Diversified Diemakers dba Internet Palmyra Plant from the Air Pollution Control Program.

Permit Number	Description
0492-010	Addition of nine (9) magnesium furnaces
072005-042	Addition of furnaces.
072005-042A	Allowing the use of an electric furnace instead of a natural gas furnace.

No notices of violations (NOV) or notices of excess emissions (NOEE) have been issued to the plant within the last five years.

PROJECT DESCRIPTION

Diversified Diemakers proposes to add four (4) aluminum melting furnaces, three (3) aluminum die cast machines and one (1) aluminum rotoblast finishing machine to its existing magnesium die casting facility. The four (4) aluminum die cast machine have a combined maximum hourly design rate (MHDR) of 2.4 tons of aluminum processed per hour. The aluminum melting furnaces have a combined maximum hourly design rate of 11.2 MMBTU/hr. The rotoblast machine has a maximum hourly design rate of 0.5 tons of aluminum per hour. The PM₁₀ emissions from the rotoblast machine are controlled by a dust collector. No other control devices will be used with the new equipment. One of the aluminum melting furnaces will be connected to an existing die cast machine that is currently processing magnesium. After the modification, the existing die cast machine will be able to switch between processing magnesium and aluminum.

EMISSIONS/CONTROLS EVALUATION

The emissions from the combustion of natural gas in the furnaces were calculated using emission factors from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.4 (7/98). The PM₁₀ emissions from the aluminum furnaces were calculated using emission factors (in lb of PM₁₀/ tons of aluminum processed) obtained from a stack test of a secondary aluminum furnace (Hydro Aluminum of North America, 009-0005, test conducted on March 2, 2004), because AP-42 does not give emission factors for a furnace processing only clean aluminum. The PM₁₀ emissions from the die casting machines were estimated by using emission factors from copper casting given in the Factor Information Retrieval (FIRE) database.

The PM₁₀ emissions from the rotoblaster were calculated using emission factors developed by the company. The company regularly weighs the particles collected by the dust collector of similar machines and were able to calculate an emission factor from these weights and assuming a dust collector control efficiency of 99%. There should be no fugitive emissions from the rotoblaster because the rotoblasting occurs in a small chamber that will not operate unless the door is closed and the system is under negative pressure. This method used by the company is expected to give a very conservative estimation of PM₁₀ emissions because the particles weighed by the company are total particulate matter and not just PM₁₀.

The company uses fluxes that contain sodium fluorosilicate that may react with moisture to form hydrogen fluoride (HF). The hydrogen fluoride emissions, assuming 100% conversion rate, are expected to be 0.176 tons per year, which is greater than the Screen Modeling Action Level (SMAL) of 0.10 tons per year. The facility has agreed to accept an HF limit of 0.10 tons per year so that modeling would not be required. The HF emissions were calculated based on the installation using Wedron Flux WF 60, with a sodium fluorosilicate percentage of 20%, and Wedron Flux WF 37, with a Sodium fluorosilicate percentage of 22%. If company decides to switch to other types of fluoride-based flux with higher percentages of sodium fluorosilicate, a new permit review will be required.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	*Existing Potential Emissions	Existing Actual Emissions (2007 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	42.98	1.54	4.72	N/A
SO _x	40.0	0.09	0.02	0.03	N/A
NO _x	40.0	22.82	3.49	4.91	N/A
VOC	40.0	8.79	0.20	0.27	N/A
CO	100.0	4.52	2.57	4.12	N/A
HAPs	10.0/25.0	0.05	N/D	0.18	N/A
HF	N/A	N/A	N/A	0.18	<0.10**

N/A = Not Applicable; N/D = Not Determined*Existing potential emissions taken from permit 072005-042A (Project #2005-11-072) **Screen Modeling Action Level (SMAL)

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

Diversified Diemakers dba Internet Palmyra Plant shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's emissions.
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Chia-Wei Young
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated 3/3/2008, received 3/5/2008 designating Internet as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Northeast Regional Office Site Survey, dated March 13, 2008.
- Stack testing report from Hydro Aluminum North America in Monett, MO (009-0005). Test conducted on March 2, 2004.

Mr. Al Dimmit
Diversified Diemakers
P. O. Box 278
Monroe City, MO 63456

RE: New Source Review Permit - Project Number: 2008-03-009

Dear Mr. Dimmit:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files.

Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance.

The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Chia-Wei Young, at the departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:cwyl

Enclosures

c: Northeast Regional Office
PAMS File: 2008-03-009

Permit Number: