

Facility ID: 0204020428 Issuance type: Final State Permit To Operate

This version of facility specific terms and conditions was converted from a database format to an HTML file during an upgrade of the Ohio EPA, Division of Air Pollution Control's permitting software. Every attempt has been made to convert the terms and conditions to look and substantively conform to the permit issued or being drafted in STARS. However, the format of the terms may vary slightly from the original. In addition, although it is not expected, there is a slight possibility that a term and condition may have been inadvertently "left out" of this reproduction during the conversion process. Therefore, if this version is to be used as a starting point in drafting a new version of a permit, it is imperative that the entire set of terms and conditions be reviewed to ensure they substantively mimic the issued permit. The official version of any permit issued final by Ohio EPA is kept in the Agency's Legal section. The Legal section may be contacted at (614) 644-3037.

In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

- [Go to Part II for Emissions Unit P002](#)
- [Go to Part II for Emissions Unit P003](#)
- [Go to Part II for Emissions Unit P004](#)
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Facility ID: 0204020428 Emissions Unit ID: P002 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| <u>Operations, Property, and/or Equipment</u> | <u>Applicable Rules/Requirements</u> | <u>Applicable Emissions Limitations/Control Measures</u> |
|---|---|--|
| Sanden Furnace #314 - 7 mmBtu/hr gas-fired aluminum melt furnace. | PTI No. 02-11757 OAC rule 3745-31-05 | 1.65 pounds per hour and 1.90 tons per year of particulate matter Visible particulate emissions shall not exceed 5% opacity, as a 6-minute average. |
| | OAC rule 3745-17-07 | 1.05 pounds per hour and 4.60 tons per year of NOx |
| | OAC rule 3745-17-11 | See Additional Terms and Conditions A.2.a. See Additional Terms and Conditions A.2.b. |

2. Additional Terms and Conditions

- (a) The emissions limit based on OAC rule 3745-17-07 is less stringent than the limit established pursuant to OAC rule 3745-31-05.
The emissions limit based on OAC rule 3745-17-11 is less stringent than the limit established pursuant to OAC rule 3745-31-05.

B. Operational Restrictions

1. The permittee shall follow the following operational restrictions for this emissions unit:
 - a. The following materials are approved for charging in the furnaces: clean, pure aluminum ingots; de-gating material; and rejected molded parts. The de-gating materials consist of excess aluminum which is removed from the exterior of the molds and used for remelt. Scrap material (other than from the original aluminum ingots) and dross are not permitted to be charged in the furnaces.
 - b. Use of natural gas for furnace fuel.
 - c. No demagging or degassing operations shall be performed inside the furnace chambers. Degassing operations may be performed outside of the furnaces and inside of a degassing chamber using argon and/or nitrogen gases.
2. The total maximum annual production limit for emissions units P002 (Furnace #314), P005 (Furnace #500), P006 (Furnace #501), and P007 (Furnace #507) shall not exceed 38,000,000 pounds per year for all four furnaces combined.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain monthly records of the amount of melted aluminum produced from this emissions unit.

D. Reporting Requirements

1. The permittee shall submit annual reports which identify the following:
 - a. The amount of melted aluminum produced from this emissions unit for the previous year.
 - b. Any exceedances of the annual production rate limitation for emissions units P002, P005, P006, and P007, as well as the corrective actions that were taken to achieve compliance.

If no deviations occurred during the calendar year, the report shall state that no deviations occurred during that year.

These reports shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emissions limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:

1.90 tons per year of particulate matter

Applicable Compliance Method:

To determine the annual emission rate for particulate matter, the following equation shall be used:

$$E \text{ (tpy)} = (\text{EF} \times \text{Annual production rate}) / 2,000 \text{ pounds per ton}$$

Where the following applies:

E = particulate matter emission rate, in tons per year.

EF = Emission factor, which is 1.1 pounds of particulate per ton of material processed. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-2 for melting clean aluminum metal.

Production rate = Annual amount of aluminum processed, in tons per year.

Emission Limitation:

1.65 pounds per hour of particulate matter

Applicable Compliance Method:

To determine the worst case hourly emission rate for particulate matter, the following equation shall be used:

$$E \text{ (lb/hr)} = \text{EF} \times (\text{Maximum hourly production rate})$$

Where the following applies:

E = particulate matter emission rate, in pounds per hour.

EF = Emission factor, which is 1.1 pounds of particulate per ton of material processed. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-2 for melting clean aluminum metal.

Maximum hourly production rate = Maximum hourly amount of aluminum processed, in tons per hour.

Emission Limitation:

1.05 pounds per hour of NOx

Applicable Compliance Method:

To determine the worst case hourly emission rate for NOx, the following equation shall be used:

$$E \text{ (lb/hr)} = \text{EF} \times (\text{Rated capacity})$$

Where the following applies:

E = NOx emission rate, in pounds per hour.

EF = Emission factor, which is 0.150 pounds of NOx per million Btu. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-1 for aluminum-melting reverberatory furnace combustion products.

Rated capacity = Rated capacity of the furnace, in million Btu per hour.

Emission Limitation:

4.60 tons per year of NOx

Applicable Compliance Method:

To determine the annual emission rate for NOx, the following equation shall be used:

$$E \text{ (tpy)} = (\text{Hourly emission rate}) \times (\text{Annual hours of operation}) / (2000 \text{ pounds per ton})$$

Where the following applies:

E = NOx emission rate, in tons per year.

Hourly emission rate = Hourly emission rate of NOx as calculated in Section E. (Testing Requirements 1.c).

Annual hours of operation = Annual hours that this emissions unit operated.

Emission Limitation:

5% opacity for visible particulate matter emissions

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA reference method 9.

F. Miscellaneous Requirements

1. None

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Facility ID: 0204020428 Emissions Unit ID: P003 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| <u>Operations, Property, and/or Equipment</u> | <u>Applicable Rules/Requirements</u> | <u>Applicable Emissions Limitations/Control Measures</u> |
|--|--|--|
| Ford Furnace #301 - 16 mmBtu/hr gas-fired aluminum melt furnace. | PTI No. 02-11757 OAC rule 3745-31-05 | 3.30 pounds per hour and 6.05 tons per year of particulate matter. See Additional Terms and Conditions A.2.c. Visible particulate emissions shall not exceed 5% opacity, as a 6-minute average. |
| | OAC rule 3745-17-07 OAC rule 3745-17-11 | 2.40 pounds per hour and 10.5 tons per year of NOx See Additional Terms and Conditions A.2.a. See Additional Terms and Conditions A.2.b. |

2. **Additional Terms and Conditions**
 - (a) The emissions limit based on OAC rule 3745-17-07 is less stringent than the limit established pursuant to OAC rule 3745-31-05.
The emissions limit based on OAC rule 3745-17-11 is less stringent than the limit established pursuant to OAC rule 3745-31-05.
The emissions unit is inherently limited to a maximum annual production of 22,000,000 pounds per year.

B. Operational Restrictions

1. The permittee shall follow the following operational restrictions for this emissions unit:
 - a. The following materials are approved for charging in the furnaces: clean, pure aluminum ingots; de-gating material; and rejected molded parts. The de-gating materials consist of excess aluminum which is removed from the exterior of the molds and used for remelt. Scrap material (other than from the original aluminum ingots) and dross are not permitted to be charged in the furnaces.
 - b. Use of natural gas for furnace fuel.
 - c. No demagging or degassing operations shall be performed inside the furnace chambers. Degassing operations may be performed outside of the furnaces and inside of a degassing chamber using argon and/or nitrogen gases.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain monthly records of the amount of melted aluminum produced from this emissions unit.

D. Reporting Requirements

1. The permittee shall submit annual reports which identify the amount of melted aluminum produced from this emissions unit for the previous year. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emissions limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):
Emission Limitation:
6.05 tons per year of particulate matter

Applicable Compliance Method:

To determine the annual emission rate for particulate matter, the following equation shall be used:

$$E \text{ (tpy)} = (EF \times \text{Annual production rate}) / 2,000 \text{ pounds per ton}$$

Where the following applies:

E = particulate matter emission rate, in tons per year.

EF = Emission factor, which is 1.1 pounds of particulate per ton of material processed. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-2 for melting clean aluminum metal.

Production rate = Annual amount of aluminum processed, in tons per year.

Emission Limitation:

3.30 pounds per hour of particulate matter

Applicable Compliance Method:

To determine the worst case hourly emission rate for particulate matter, the following equation shall be used:

$$E \text{ (lb/hr)} = EF \times (\text{Maximum hourly production rate})$$

Where the following applies:

E = particulate matter emission rate, in pounds per hour.

EF = Emission factor, which is 1.1 pounds of particulate per ton of material processed. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-2 for melting clean aluminum metal.

Maximum hourly production rate = Maximum hourly amount of aluminum processed, in tons per hour.

Emission Limitation:

2.40 pounds per hour of NOx

Applicable Compliance Method:

To determine the worst case hourly emission rate for NOx, the following equation shall be used:

$$E \text{ (lb/hr)} = EF \times (\text{Rated capacity})$$

Where the following applies:

E = NOx emission rate, in pounds per hour.

EF = Emission factor, which is 0.150 pounds of NOx per million Btu. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-1 for aluminum-melting reverberatory furnace combustion products.

Rated capacity = Rated capacity of the furnace, in million Btu per hour.

Emission Limitation:

10.5 tons per year of NOx

Applicable Compliance Method:

To determine the annual emission rate for NOx, the following equation shall be used:

$$E \text{ (tpy)} = (\text{Hourly emission rate}) \times (\text{Annual hours of operation}) / (2000 \text{ pounds per ton})$$

Where the following applies:

E = NOx emission rate, in tons per year.

Hourly emission rate = Hourly emission rate of NOx as calculated in Section E. (Testing Requirements 1.c).

Annual hours of operation = Annual hours that this emissions unit operated.

Emission Limitation:

5% opacity for visible particulate matter emissions

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA reference method 9.

F. Miscellaneous Requirements

1. None

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Facility ID: 0204020428 Emissions Unit ID: P004 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the

exception of those listed below which are enforceable under state law only.

- (a) None.
- 2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

- 1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| <u>Operations, Property, and/or Equipment</u> | <u>Applicable Rules/Requirements</u> | <u>Applicable Emissions Limitations/Control Measures</u> |
|---|--|---|
| Sanden Furnace #300 - 6 mmBtu/hr gas-fired aluminum melt furnace. | PTI No. 02-11757 OAC rule 3745-31-05 | 1.32 pounds per hour and 1.65 tons per year of particulate matter. See Additional Terms and Conditions A.2.c. |
| | OAC rule 3745-17-07 OAC rule 3745-17-11 | Visible particulate emissions shall not exceed 5% opacity, as a 6-minute average. 0.90 pounds per hour and 3.94 tons per year of NOx See Additional Terms and Conditions A.2.a. See Additional Terms and Conditions A.2.b. |

2. Additional Terms and Conditions

- (a) The emissions limit based on OAC rule 3745-17-07 is less stringent than the limit established pursuant to OAC rule 3745-31-05.
The emissions limit based on OAC rule 3745-17-11 is less stringent than the limit established pursuant to OAC rule 3745-31-05.
The emissions unit is inherently limited to a maximum annual production of 6,000,000 pounds per year.

B. Operational Restrictions

- 1. The permittee shall follow the following operational restrictions for this emissions unit:
 - a. The following materials are approved for charging in the furnaces: clean, pure aluminum ingots; de-gating material; and rejected molded parts. The de-gating materials consist of excess aluminum which is removed from the exterior of the molds and used for remelt. Scrap material (other than from the original aluminum ingots) and dross are not permitted to be charged in the furnaces.
 - b. Use of natural gas for furnace fuel.
 - c. No demagging or degassing operations shall be performed inside the furnace chambers. Degassing operations may be performed outside of the furnaces and inside of a degassing chamber using argon and/or nitrogen gases.

C. Monitoring and/or Record Keeping Requirements

- 1. The permittee shall maintain monthly records of the amount of melted aluminum produced from this emissions unit.

D. Reporting Requirements

- 1. The permittee shall submit annual reports which identify the amount of melted aluminum produced from this emissions unit for the previous year. These reports shall be submitted by January 31 of each year.

E. Testing Requirements

- 1. Compliance with the emissions limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:
1.65 tons per year of particulate matter

Applicable Compliance Method:
To determine the annual emission rate for particulate matter, the following equation shall be used:

$$E \text{ (tpy)} = (EF \times \text{Annual production rate}) / 2,000 \text{ pounds per ton}$$

Where the following applies:

E = particulate matter emission rate, in tons per year.

EF = Emission factor, which is 1.1 pounds of particulate per ton of material processed. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-2 for melting clean aluminum metal.

Production rate = Annual amount of aluminum processed, in tons per year.

Emission Limitation:
1.32 pounds per hour of particulate matter

Applicable Compliance Method:
To determine the worst case hourly emission rate for particulate matter, the following equation shall be used:

$$E \text{ (lb/hr)} = EF \times (\text{Maximum hourly production rate})$$

Where the following applies:

E = particulate matter emission rate, in pounds per hour.

EF = Emission factor, which is 1.1 pounds of particulate per ton of material processed. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-2 for melting clean aluminum metal.

Maximum hourly production rate = Maximum hourly amount of aluminum processed, in tons per hour.

Emission Limitation:

0.90 pounds per hour of NOx

Applicable Compliance Method:

To determine the worst case hourly emission rate for NOx, the following equation shall be used:

$$E \text{ (lb/hr)} = EF \times (\text{Rated capacity})$$

Where the following applies:

E = NOx emission rate, in pounds per hour.

EF = Emission factor, which is 0.150 pounds of NOx per million Btu. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-1 for aluminum-melting reverberatory furnace combustion products.

Rated capacity = Rated capacity of the furnace, in million Btu per hour.

Emission Limitation:

3.94 tons per year of NOx

Applicable Compliance Method:

To determine the annual emission rate for NOx, the following equation shall be used:

$$E \text{ (tpy)} = (\text{Hourly emission rate}) \times (\text{Annual hours of operation}) / (2000 \text{ pounds per ton})$$

Where the following applies:

E = NOx emission rate, in tons per year.

Hourly emission rate = Hourly emission rate of NOx as calculated in Section E. (Testing Requirements 1.c).

Annual hours of operation = Annual hours that this emissions unit operated.

Emission Limitation:

5% opacity for visible particulate matter emissions

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA reference method 9.

F. Miscellaneous Requirements

1. None

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Facility ID: 0204020428 Emissions Unit ID: P005 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| <u>Operations, Property, and/or Equipment</u> | <u>Applicable Rules/Requirements</u> | <u>Applicable Emissions Limitations/Control</u> |
|---|--------------------------------------|---|
|---|--------------------------------------|---|

Chrysler Furnace #500 - 10.5 mmBtu/hr gas-fired aluminum melt furnace. PTI No. 02-11757
OAC rule 3745-31-05

Measures

1.10 pounds per hour and 1.90 tons per year of particulate matter

Visible particulate emissions shall not exceed 5% opacity, as a 6-minute average.

1.58 pounds per hour and 6.90 tons per year of NOx

See Additional Terms and Conditions A.2.a.

See Additional Terms and Conditions A.2.b.

OAC rule 3745-17-07

OAC rule 3745-17-11

2. Additional Terms and Conditions

- (a) The emissions limit based on OAC rule 3745-17-07 is less stringent than the limit established pursuant to OAC rule 3745-31-05.
The emissions limit based on OAC rule 3745-17-11 is less stringent than the limit established pursuant to OAC rule 3745-31-05.

B. Operational Restrictions

- 1. The permittee shall follow the following operational restrictions for this emissions unit:
 - a. The following materials are approved for charging in the furnaces: clean, pure aluminum ingots; de-gating material; and rejected molded parts. The de-gating materials consist of excess aluminum which is removed from the exterior of the molds and used for remelt. Scrap material (other than from the original aluminum ingots) and dross are not permitted to be charged in the furnaces.
 - b. Use of natural gas for furnace fuel.
 - c. No demagging or degassing operations shall be performed inside the furnace chambers. Degassing operations may be performed outside of the furnaces and inside of a degassing chamber using argon and/or nitrogen gases.
- 2. The total maximum annual production limit for emissions units P002 (Furnace #314), P005 (Furnace #500), P006 (Furnace #501), and P007 (Furnace #507) shall not exceed 38,000,000 pounds per year for all four furnaces combined.

C. Monitoring and/or Record Keeping Requirements

- 1. The permittee shall maintain monthly records of the amount of melted aluminum produced from this emissions unit.

D. Reporting Requirements

- 1. The permittee shall submit annual reports which identify the following:
 - a. The amount of melted aluminum produced from this emissions unit for the previous year.
 - b. Any exceedances of the annual production rate limitation for emissions units P002, P005, P006, and P007, as well as the corrective actions that were taken to achieve compliance.

If no deviations occurred during the calendar year, the report shall state that no deviations occurred during that year.

These reports shall be submitted by January 31 of each year.

E. Testing Requirements

- 1. Compliance with the emissions limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):
Emission Limitation:
1.90 tons per year of particulate matter

Applicable Compliance Method:
To determine the annual emission rate for particulate matter, the following equation shall be used:

$$E \text{ (tpy)} = (EF \times \text{Annual production rate}) / 2,000 \text{ pounds per ton}$$

Where the following applies:

$$E = \text{particulate matter emission rate, in tons per year.}$$

EF = Emission factor, which is 1.1 pounds of particulate per ton of material processed. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-2 for melting clean aluminum metal.

Production rate = Annual amount of aluminum processed, in tons per year.
Emission Limitation:
1.10 pounds per hour of particulate matter

Applicable Compliance Method:
To determine the worst case hourly emission rate for particulate matter, the following equation shall be used:

$$E \text{ (lb/hr)} = EF \times (\text{Maximum hourly production rate})$$

Where the following applies:

$$E = \text{particulate matter emission rate, in pounds per hour.}$$

EF = Emission factor, which is 1.1 pounds of particulate per ton of material processed. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-2 for melting clean aluminum metal.

Maximum hourly production rate = Maximum hourly amount of aluminum processed, in tons per hour.
 Emission Limitation:
 1.58 pounds per hour of NOx

Applicable Compliance Method:
 To determine the worst case hourly emission rate for NOx, the following equation shall be used:

$$E \text{ (lb/hr)} = EF \times (\text{Rated capacity})$$

Where the following applies:

E = NOx emission rate, in pounds per hour.

EF = Emission factor, which is 0.150 pounds of NOx per million Btu. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-1 for aluminum-melting reverberatory furnace combustion products.

Rated capacity = Rated capacity of the furnace, in million Btu per hour.
 Emission Limitation:
 6.90 tons per year of NOx

Applicable Compliance Method:
 To determine the annual emission rate for NOx, the following equation shall be used:

$$E \text{ (tpy)} = (\text{Hourly emission rate}) \times (\text{Annual hours of operation}) / (2000 \text{ pounds per ton})$$

Where the following applies:

E = NOx emission rate, in tons per year.

Hourly emission rate = Hourly emission rate of NOx as calculated in Section E. (Testing Requirements 1.c).

Annual hours of operation = Annual hours that this emissions unit operated.
 Emission Limitation:
 5% opacity for visible particulate matter emissions

Applicable Compliance Method:
 Compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA reference method 9.

F. Miscellaneous Requirements

1. None

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Facility ID: 0204020428 Emissions Unit ID: P006 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| <u>Operations, Property, and/or Equipment</u> | <u>Applicable Rules/Requirements</u> | <u>Applicable Emissions Limitations/Control Measures</u> |
|---|---|--|
| Chrysler Furnace #501 - 6 mmBtu/hr gas-fired aluminum melt furnace. | PTI No. 02-11757 OAC rule 3745-31-05 | 1.38 pounds per hour and 2.38 tons per year of particulate matter Visible particulate emissions shall not exceed 5% opacity, as a 6-minute average. |

OAC rule 3745-17-07
 OAC rule 3745-17-11

0.90 pounds per hour and 3.94 tons per year of NOx
 See Additional Terms and Conditions A.2.a.
 See Additional Terms and Conditions A.2.b.

2. Additional Terms and Conditions

- (a) The emissions limit based on OAC rule 3745-17-07 is less stringent than the limit established pursuant to OAC rule 3745-31-05.
 The emissions limit based on OAC rule 3745-17-11 is less stringent than the limit established pursuant to OAC rule 3745-31-05.

B. Operational Restrictions

- 1. The permittee shall follow the following operational restrictions for this emissions unit:
 - a. The following materials are approved for charging in the furnaces: clean, pure aluminum ingots; de-gating material; and rejected molded parts. The de-gating materials consist of excess aluminum which is removed from the exterior of the molds and used for remelt. Scrap material (other than from the original aluminum ingots) and dross are not permitted to be charged in the furnaces.
 - b. Use of natural gas for furnace fuel.
 - c. No demagging or degassing operations shall be performed inside the furnace chambers. Degassing operations may be performed outside of the furnaces and inside of a degassing chamber using argon and/or nitrogen gases.
- 2. The total maximum annual production limit for emissions units P002 (Furnace #314), P005 (Furnace #500), P006 (Furnace #501), and P007 (Furnace #507) shall not exceed 38,000,000 pounds per year for all four furnaces combined.

C. Monitoring and/or Record Keeping Requirements

- 1. The permittee shall maintain monthly records of the amount of melted aluminum produced from this emissions unit.

D. Reporting Requirements

- 1. The permittee shall submit annual reports which identify the following:
 - a. The amount of melted aluminum produced from this emissions unit for the previous year.
 - b. Any exceedances of the annual production rate limitation for emissions units P002, P005, P006, and P007, as well as the corrective actions that were taken to achieve compliance.

If no deviations occurred during the calendar year, the report shall state that no deviations occurred during that year.

These reports shall be submitted by January 31 of each year.

E. Testing Requirements

- 1. Compliance with the emissions limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):
 Emission Limitation:
 2.38 tons per year of particulate matter

 Applicable Compliance Method:
 To determine the annual emission rate for particulate matter, the following equation shall be used:

$$E \text{ (tpy)} = (EF \times \text{Annual production rate}) / 2,000 \text{ pounds per ton}$$

 Where the following applies:

 E = particulate matter emission rate, in tons per year.

 EF = Emission factor, which is 1.1 pounds of particulate per ton of material processed. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-2 for melting clean aluminum metal.

 Production rate = Annual amount of aluminum processed, in tons per year.
 Emission Limitation:
 1.38 pounds per hour of particulate matter

 Applicable Compliance Method:
 To determine the worst case hourly emission rate for particulate matter, the following equation shall be used:

$$E \text{ (lb/hr)} = EF \times (\text{Maximum hourly production rate})$$

 Where the following applies:

 E = particulate matter emission rate, in pounds per hour.

 EF = Emission factor, which is 1.1 pounds of particulate per ton of material processed. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-2 for melting clean aluminum metal.

 Maximum hourly production rate = Maximum hourly amount of aluminum processed, in tons per hour.
 Emission Limitation:
 0.90 pounds per hour of NOx

 Applicable Compliance Method:

To determine the worst case hourly emission rate for NOx, the following equation shall be used:

$$E \text{ (lb/hr)} = EF \times (\text{Rated capacity})$$

Where the following applies:

E = NOx emission rate, in pounds per hour.

EF = Emission factor, which is 0.150 pounds of NOx per million Btu. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-1 for aluminum-melting reverberatory furnace combustion products.

Rated capacity = Rated capacity of the furnace, in million Btu per hour.

Emission Limitation:
3.94 tons per year of NOx

Applicable Compliance Method:

To determine the annual emission rate for NOx, the following equation shall be used:

$$E \text{ (tpy)} = (\text{Hourly emission rate}) \times (\text{Annual hours of operation}) / (2000 \text{ pounds per ton})$$

Where the following applies:

E = NOx emission rate, in tons per year.

Hourly emission rate = Hourly emission rate of NOx as calculated in Section E. (Testing Requirements 1.c).

Annual hours of operation = Annual hours that this emissions unit operated.

Emission Limitation:
5% opacity for visible particulate matter emissions

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA reference method 9.

F. Miscellaneous Requirements

1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 0204020428 Emissions Unit ID: P007 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

| <u>Operations, Property, and/or Equipment</u> | <u>Applicable Rules/Requirements</u> | <u>Applicable Emissions Limitations/Control Measures</u> |
|---|---|--|
| Chrysler Furnace #507 - 5.8 mmBtu/hr gas-fired aluminum melt furnace. | PTI No. 02-11757 OAC rule 3745-31-05 | 2.48 pounds per hour and 4.28 tons per year of particulate matter |
| | | Visible particulate emissions shall not exceed 5% opacity, as a 6-minute average. |
| | OAC rule 3745-17-07 | 0.87 pounds per hour and 3.81 tons per year of NOx |
| | OAC rule 3745-17-11 | See Additional Terms and Conditions A.2.a. See Additional Terms and Conditions A.2.b. |

2. Additional Terms and Conditions

- (a) The emissions limit based on OAC rule 3745-17-07 is less stringent than the limit established pursuant

to OAC rule 3745-31-05.

The emissions limit based on OAC rule 3745-17-11 is less stringent than the limit established pursuant to OAC rule 3745-31-05.

B. Operational Restrictions

1. The permittee shall follow the following operational restrictions for this emissions unit:
 - a. The following materials are approved for charging in the furnaces: clean, pure aluminum ingots; de-gating material; and rejected molded parts. The de-gating materials consist of excess aluminum which is removed from the exterior of the molds and used for remelt. Scrap material (other than from the original aluminum ingots) and dross are not permitted to be charged in the furnaces.
 - b. Use of natural gas for furnace fuel.
 - c. No demagging or degassing operations shall be performed inside the furnace chambers. Degassing operations may be performed outside of the furnaces and inside of a degassing chamber using argon and/or nitrogen gases.
2. The total maximum annual production limit for emissions units P002 (Furnace #314), P005 (Furnace #500), P006 (Furnace #501), and P007 (Furnace #507) shall not exceed 38,000,000 pounds per year for all four furnaces combined.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain monthly records of the amount of melted aluminum produced from this emissions unit.

D. Reporting Requirements

1. The permittee shall submit annual reports which identify the following:
 - a. The amount of melted aluminum produced from this emissions unit for the previous year.
 - b. Any exceedances of the annual production rate limitation for emissions units P002, P005, P006, and P007, as well as the corrective actions that were taken to achieve compliance.

If no deviations occurred during the calendar year, the report shall state that no deviations occurred during that year.

These reports shall be submitted by January 31 of each year.

E. Testing Requirements

1. Compliance with the emissions limitation(s) in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):
Emission Limitation:
4.28 tons per year of particulate matter

Applicable Compliance Method:

To determine the annual emission rate for particulate matter, the following equation shall be used:

$$E \text{ (tpy)} = (EF \times \text{Annual production rate}) / 2,000 \text{ pounds per ton}$$

Where the following applies:

E = particulate matter emission rate, in tons per year.

EF = Emission factor, which is 1.1 pounds of particulate per ton of material processed. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-2 for melting clean aluminum metal.

Production rate = Annual amount of aluminum processed, in tons per year.

Emission Limitation:

2.48 pounds per hour of particulate matter

Applicable Compliance Method:

To determine the worst case hourly emission rate for particulate matter, the following equation shall be used:

$$E \text{ (lb/hr)} = EF \times (\text{Maximum hourly production rate})$$

Where the following applies:

E = particulate matter emission rate, in pounds per hour.

EF = Emission factor, which is 1.1 pounds of particulate per ton of material processed. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-2 for melting clean aluminum metal.

Maximum hourly production rate = Maximum hourly amount of aluminum processed, in tons per hour.

Emission Limitation:

0.87 pounds per hour of NO_x

Applicable Compliance Method:

To determine the worst case hourly emission rate for NO_x, the following equation shall be used:

$$E \text{ (lb/hr)} = EF \times (\text{Rated capacity})$$

Where the following applies:

E = NO_x emission rate, in pounds per hour.

EF = Emission factor, which is 0.150 pounds of NOx per million Btu. The emission factor is taken from the STAPPA & ALAPCO Handbook, Table 11-1 for aluminum-melting reverberatory furnace combustion products.

Rated capacity = Rated capacity of the furnace, in million Btu per hour.

Emission Limitation:

3.81 tons per year of NOx

Applicable Compliance Method:

To determine the annual emission rate for NOx, the following equation shall be used:

$$E \text{ (tpy)} = (\text{Hourly emission rate}) \times (\text{Annual hours of operation}) / (2000 \text{ pounds per ton})$$

Where the following applies:

E = NOx emission rate, in tons per year.

Hourly emission rate = Hourly emission rate of NOx as calculated in Section E. (Testing Requirements 1.c).

Annual hours of operation = Annual hours that this emissions unit operated.

Emission Limitation:

5% opacity for visible particulate matter emissions

Applicable Compliance Method:

Compliance shall be determined by visible emission evaluations performed in accordance with OAC rule 3745-17-03(B)(1) using the methods and procedures specified in U.S. EPA reference method 9.

F. Miscellaneous Requirements

1. None