

Lane Regional Air Protection Agency  
 Simple "Low" Air Contaminant Discharge Permit

**REVIEW REPORT**

**Pierce Fittings, Inc.**  
 10 North Garfield Street  
 Eugene, Oregon 97402  
[fresnovalves.com/](http://fresnovalves.com/)

**Permit No. 206405**

**Source Information:**

SIC	3479 Galvanizing and Pipe Coating
NAICS	332812 Metal Coating – Galvanizing Metals

Source Categories (LRAPA Title 37, Table 1)	B.30 Galvanizing and Pipe Coating
Public Notice Category	II

**Compliance and Emissions Monitoring Requirements:**

Unassigned emissions	
Emission credits	
Special Conditions	
Compliance schedule	

Source test [date(s)]	See Permit
COMS	
CEMS	
Ambient monitoring	

**Reporting Requirements:**

Annual report (due date)	Feb 15
NSPS Report (due date)	
Monthly report (due dates)	

Excess emissions report	
Other reports	

**Air Programs:**

NSPS (list subparts)	
NESHAP (list subparts)	
CAM	
Regional Haze (RH)	
Synthetic Minor (SM)	
Part 68 Risk Management	
Title V	
ACDP (SIP)	
New Source Review (NSR)	
Prevention of Significant Deterioration (PSD)	
Acid Rain	
Clean Air Mercury Rule (CAMR)	
TACT	

### Permitting Action

1. The permit is a renewal for an existing Air Contaminant Discharge Permit (ACDP) which was issued on January 29, 2013 and was originally scheduled to expire on January 29, 2018. The existing permit remains valid until the proposed permit is issued because the facility submitted a timely and complete application for renewal. The facility was issued its first ACDP in 1974.

The facility indicated in their 2018 renewal application that no changes have been made to the permit since the last renewal.

### Other Permits

2. No other permits have been issued or are required by LRAPA for this facility.

### Attainment Status

3. The facility is located in a maintenance area for CO and PM<sub>10</sub>. The area is in attainment for all other criteria pollutants.

### General Background Information

4. Pierce Fittings is a facility that prepares pipe fittings for use in farm irrigation systems. For corrosion resistance and other benefits, the fittings are either galvanized or they are coated in epoxy. The facility operates 2,080 hours per year (10 hours per day, 4 days per week, 52 weeks per year), and is located at 10 North Garfield Street in Eugene.

The steel galvanizing process is generally accomplished in a series of steps. First the steel needs to be cleaned and degreased. Then it is dipped in a pickling bath consisting of either heated sulfuric acid or hydrochloric acid at ambient temperature. The pickling process removes mill scale and iron oxides. Abrasive blasting can be used with or instead of the pickling process. The last step before galvanizing is fluxing of the steel with a zinc ammonium chloride solution. Finally, the prepared steel is dipped into a bath of molten zinc. The zinc needs to be at least 98% pure and is kept between 815°F and 850°F (435-455 °C). The molten zinc reacts with the iron in the steel to create a corrosion resistant alloy coating. If the surface of the steel is not properly prepared it becomes apparent because the surface will not react with the zinc and it will remain uncoated.

In 2008 the epoxy reclaim baghouse was removed. In 2018 a new exhaust system was installed for the epoxy spray booth. The current system does not use a baghouse but does have epoxy reclaim units and uses high efficiency filters that exhaust into the plant. Also, in 2018, one of the baghouses was removed from the Abrasive Steel Shot Blasting (EU-8) and the emissions were re-routed to one of the other baghouses. The remaining two baghouses are located outside of the plant. The emissions from the baghouses are collected in barrels and eventually sent to a landfill.

### Reasons for Permit Issuance

5. Lane Regional Air Protection Agency (LRAPA) has determined that the facility qualifies for the Simple "Low" fee category for the following reasons: Emissions from this facility are estimated to be less than 5 tons per year of particulate matter and less than 10 tons per year for the criteria gaseous pollutants.

### Emission Unit Description

6. The facility controls particulate matter emissions using two (2) iron dust baghouses, and high efficiency filters in the Epoxy Powder Coating Booth. Other specific emission sources include:

EU ID	Emission Unit (EU)	Control Device
EU-1	(1) Natural Gas-Fired Boiler and (3) Natural Gas-Fired Ovens	NA
EU-2	Adhesive Spray Booth	NA
EU-3	Hot Dip Galvanizing – Zinc	NA
EU-4	Hot Dip Galvanizing – Sulfuric Acid	NA
EU-5	GMAW - Carbon Steel Welding	NA
EU-6	GMAW – Stainless Steel Welding	NA
EU-7	Epoxy Powder Coating Booth	Epoxy Reclaim Units and High Efficiency Filter
EU-8	Abrasive Steel Shot Blasting	Baghouses #1, and #2

Compliance History

7. The facility was inspected on January 16, 2008 and found to be in compliance with permit conditions.

Plant Site Emission Limits (PSELs) Information

- 8.

**Annual Plant Site Emission Limits (PSELs)**  
 (tons per year)

Source	PM	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	VOC
Metal Fitting Manufacturing	24	14	9	39	99	39

- a. The proposed PSELs for all pollutants are equal to the Generic PSEL in accordance with LRAPA 37-0064(3)(b) and the netting basis is zero in accordance with 42-0040(2).
  - b. PSELs for SO<sub>2</sub> and GHGs are not included in this permit since emissions of these pollutants are less than the respective de minimis emission rates. PSELs for PM, PM<sub>10</sub> and PM<sub>2.5</sub> are included even though emissions are expected to be de minimis.
  - c. The PSEL is a federally enforceable limit on the potential to emit.
  - d. Recordkeeping of the parameters listed in Condition 12 of the permit and Item 14 of this review report will be used to ensure compliance with the PSELs.
9. The pollutants of concern associated with this type of facility are zinc, epoxy dust, and emissions from natural gas combustion. The attachment to this review report contains emissions estimates for the facility's natural gas combustion and for other applicable emission units.

Baseline Emission Rate (BER) and Significant Emission Rate (SER)

10. Baseline Emissions were not set in the permit because the facility is well below the Significant Emission Rates (SERs) as listed in Title 12 of LRAPA's Rules and Regulations and because the facility has chosen not to maintain the baseline emissions by way of the Simple ACDP permit type selection.

Hazardous Air Pollutants (HAPs)

11. A major source for hazardous air pollutants (HAP) is a facility that has the potential to emit 10 or more tons per year of any single HAP or 25 or more tons per year of combined HAPs. This source is not a major source of hazardous air pollutants.

The projected maximum potential HAP emissions from the facility are shown in the following table:

Pollutant	Pounds/year	Tons/year
Ethyl Benzene	1,027	0.51
Xylenes	237	0.12
Hexane	19	0.01
Manganese	18	0.009
Formaldehyde	0.8	0.0004
Nickel	0.5	0.0002
Toluene	0.04	0.00002
<b>Total</b>	<b>1,302</b>	<b>0.65</b>

NESHAPS/MACT Applicability

12. There are no sources at this facility for which NESHAPS/MACT, (National Emissions Standards for Hazardous Air Pollutants / Maximum Achievable Control Technology), standards have been promulgated. The Subpart 6X Metal Fabrication NESHAP is not applicable because the facility is not one of the affected groups of sources. The facility specifies their primary SIC code as 3479 which is not an SIC code listed as being an applicable source.

NSPS Applicability

13. There are no sources at this facility for which New Source Performance Standards (NSPS) standards have been promulgated.

Record Keeping and Reporting

14. A record of the following data must be maintained for a period of five (5) years at the plant site and must be available for inspection by authorized representatives of LRAPA:

Activity	Parameter	Units	Recording Frequency
Natural Gas Combustion	Material Usage	Therms or Cubic Feet	Monthly

Activity	Parameter	Units	Recording Frequency
Adhesive Spraying	Material Usage	Gallons	Monthly
Galvanizing	Zinc Usage	Tons	Monthly
Sulfuric Acid	Sulfuric Acid Usage	Gallons	Monthly
Welding	Wire Usage	Pounds	Annually
Epoxy Powder Coating	Coating Usage	Pounds	Monthly
Abrasive Blasting	Abrasive Shot Usage	Pounds	Annually
Baghouse and Epoxy Filter Maintenance			On Occurrence

15. The facility is required to submit an annual report by **February 15<sup>th</sup>** each year to include the information identified in condition 14 above.

Special Conditions

16. There are no special conditions specified in the permit.

Public Notice

17. The draft permit was on public notice from October 17, 2018 to November 16, 2018. No written comments were the 30-day comment period.

Cnc/cmw  
11/19/18

**Emission Details:**

<b>EU-1 - Natural-gas Usage: Boiler and Ovens (3)</b>				
Pollutant	Projected Max. Gas Usage (cubic ft/yr)	Emission Factor (lbs/10 <sup>6</sup> ft <sup>3</sup> )	Conversion Factor (tons/lb)	Annual Emissions (tons)
PM/PM <sub>10</sub> /PM <sub>2.5</sub>	10,800,000	7.6	0.0005	0.041
SO <sub>2</sub>	10,800,000	0.6	0.0005	0.003
NO <sub>x</sub>	10,800,000	100	0.0005	0.540
CO	10,800,000	84	0.0005	0.454
VOC	10,800,000	5.5	0.0005	0.030

Ovens operate a maximum of 8,760 hour per year (24 hrs/day, 7 days/week, 52 weeks/year).  
 The three (3) Ovens operate at an approximate total rate of 108,000 therms/year.  
 Ovens operate at an approx. rate of 10.8 million cubic ft/yr (1 therm = 100 cu ft).  
 Boiler operates at a maximum rate of 318.2cubic ft/hr (1 lb steam = 970 BTU's, and 1 cubic foot of natural gas = 1000 BTU).  
 Gaseous Emission Factors were obtained from AP-42 table 1.4-2 (3/98).  
 Annual Emissions (tons) = Projected Maximum Gas Usage x Emission Factor/10<sup>6</sup> x Conversion Factor.

<b>EU-2 - Adhesive Spray Booth</b>				
Pollutant	Projected Max. Gas Usage (gallons/year)	Emission Factor (wt %)	Product Density (lb/gal)	Annual Emissions (tons)
VOC	200	0.8	7.9	0.632
Ethyl Benzene	200	0.15	7.9	0.1185
Xylenes	200	0.65	7.9	0.5135

Material used is Chemlok 252X; VOC and HAP weight percents taken from SDS as reported by facility

<b>EU-3 Hot Dip Galvanizing Emissions</b>				
Pollutant	Projected Maximum Usage (ton zinc/yr)	Emission Factor (lbs PM/ton zinc)	Conversion Factor (tons/lb)	Projected Annual Emissions (tons)
PM	75	5	0.0005	0.188
PM <sub>10</sub> /PM <sub>2.5</sub>	75	2.5	0.0005	0.094

Particulate Matter Emission Factors were obtained from AP-42 table 12.14-2  
 PM<sub>10</sub>/PM<sub>2.5</sub> assumed to be 50% of PM  
 Projected Annual Emissions = Projected Maximum Usage x Emission Factor x Conversion Factor.

<b>EU-4 - Sulfuric Acid Baths</b>					
Pollutant	Surface Area of Tanks (ft <sup>2</sup> )	Emission Factor (lbs/hr-ft <sup>2</sup> )	Control Emission Factor	Annual Emissions (lb)	Annual Emissions (ton)
Sulfuric Acid	48	0.00015	0.5	31.54	0.02

Emission Factors derived from Texas Commission on Environmental Quality (TCEQ), Calculation Guidance Package - Hot Dip Galvanizing  
 Control Emission factor for uncontrolled fugitive emissions was used (50%). If controls are used, use the control efficiency instead.  
 Acid tanks are always emitting, therefore 8760 hours used.  
 Annual Emissions (pounds) = Surface Area of Tanks x Emission Factor x Control Emission Factor x 8760 hrs.

EU-5 & EU-6 Welding Emissions				
Pollutant	Projected Maximum Usage (lb wire/yr)	Emission Factor (lbs PM/lb wire)	Conversion Factor (tons/lb)	Projected Annual Emissions (tons)
PM/PM10/PM2.5	45,400	0.0054	0.0005	0.123

Particulate Matter Emission Factor obtained from AP-42 table 12.19-1 for highest electrode type used (E308L); assume PM is 100% PM10/PM2.5  
 Projected Annual Emissions = Projected Maximum Usage x Emission Factor x Conversion Factor.

EU-7 Epoxy Powder Coating Booth Emissions					
Pollutant	Projected Maximum Epoxy Usage (lb coating/yr)	Epoxy Powder Utilization Rate (% waste)	Filter Emission Factor (lbs PM/lb coating)	Projected Conversion Factor (tons/lb)	Annual Emissions (tons)
PM/PM10/PM2.5	22,000	0.05	0.05	0.0005	0.028

Powder Coating Utilization Rate was obtained from AP-42 table 4.2.2.12-1  
 Filter emissions assumed to be 100% PM2.5 emissions from DEQ AQ-EF08  
 All Powder Coating PM emissions are considered fugitive.  
 Projected Annual Emissions = Projected Maximum Usage x Utilization Rate x Emission Factor x Conversion Factor.

EU-8 Abrasive Steel Shot Blasting - Baghouse Emissions				
Pollutant	Projected Maximum Usage (lb abrasive/yr)	Emission Factor (lbs PM/lb abrasive)	Conversion Factor (tons/lb)	Projected Annual Emissions (tons)
PM/PM10/PM2.5	55,000	0.00069	0.0005	0.019

Maximum design capacity is the sum of all the baghouse design capacities.  
 Particulate Matter Emission Factors were obtained from AP-42 table 13.2.6-1 for abrasive blasting controlled by a fabric filter  
 Baghouse emissions assumed to be 100% PM2.5 emissions from DEQ AQ-EF08  
 Projected Annual Emissions = Projected Maximum Usage x Emission Factor x Conversion Factor.

Total Site Emissions	
Pollutant	Projected Annual Emissions (tons)
PM	0.398
PM10/PM2.5	0.304
SO2	0.003
NOx	0.540
CO	0.454
VOC	0.662
Sulfuric Acid	0.016