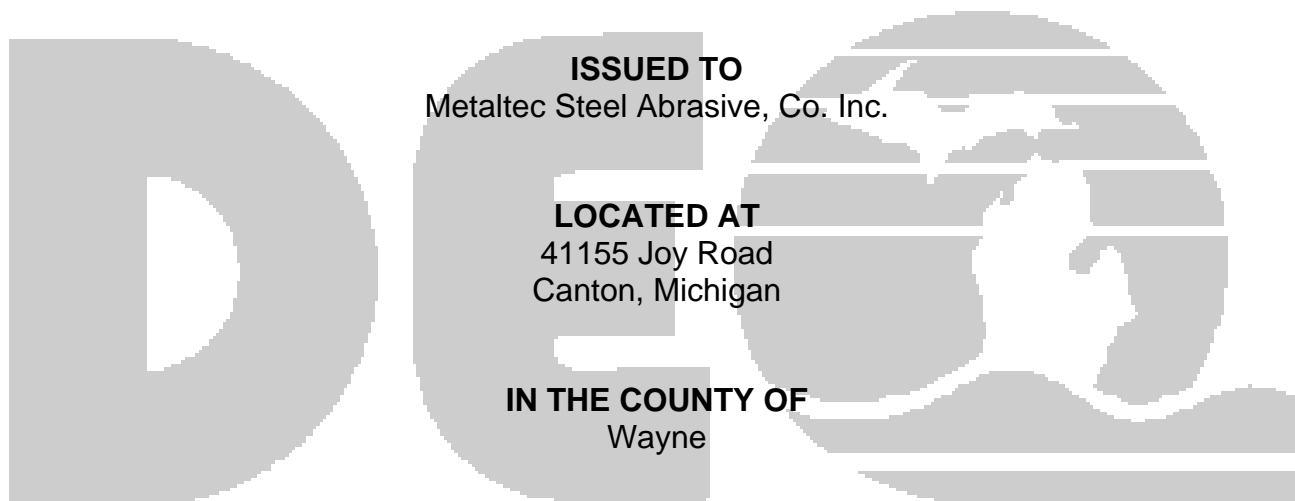


**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION**

October 31, 2007

**PERMIT TO INSTALL  
258-07**



**ISSUED TO**  
Metaltec Steel Abrasive, Co. Inc.

**LOCATED AT**  
41155 Joy Road  
Canton, Michigan

**IN THE COUNTY OF**  
Wayne

**STATE REGISTRATION NUMBER**  
N1022

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: <b>September 20, 2007</b>	
DATE PERMIT TO INSTALL APPROVED: <b>October 31, 2007</b>	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

**PERMIT TO INSTALL**

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**Common Abbreviations / Acronyms**

Common Acronyms		Pollutant/Measurement Abbreviations	
AQD	Air Quality Division	Btu	British Thermal Unit
ANSI	American National Standards Institute	°C	Degrees Celsius
BACT	Best Available Control Technology	CO	Carbon Monoxide
CAA	Clean Air Act	dscf	Dry standard cubic foot
CEM	Continuous Emission Monitoring	dscm	Dry standard cubic meter
CFR	Code of Federal Regulations	°F	Degrees Fahrenheit
COM	Continuous Opacity Monitoring	gr	Grains
EPA	Environmental Protection Agency	Hg	Mercury
EU	Emission Unit	hr	Hour
FG	Flexible Group	H <sub>2</sub> S	Hydrogen Sulfide
GACS	Gallon of Applied Coating Solids	hp	Horsepower
GC	General Condition	lb	Pound
HAP	Hazardous Air Pollutant	m	Meter
HVLP	High Volume Low Pressure*	mg	Milligram
ID	Identification	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	NO <sub>x</sub>	Oxides of Nitrogen
MDEQ	Michigan Department of Environmental Quality	PM	Particulate Matter
MIOSHA	Michigan Occupational Safety & Health Administration	PM-10	Particulate Matter less than 10 microns diameter
MSDS	Material Safety Data Sheet	pph	Pound per hour
NESHAP	National Emission Standard for Hazardous Air Pollutants	ppm	Parts per million
NSPS	New Source Performance Standards	ppmv	Parts per million by volume
NSR	New Source Review	ppmw	Parts per million by weight
PS	Performance Specification	psia	Pounds per square inch absolute
PSD	Prevention of Significant Deterioration	psig	Pounds per square inch gauge
PTE	Permanent Total Enclosure	scf	Standard cubic feet
PTI	Permit to Install	sec	Seconds
RACT	Reasonably Available Control Technology	SO <sub>2</sub>	Sulfur Dioxide
ROP	Renewable Operating Permit	THC	Total Hydrocarbons
SC	Special Condition	tpy	Tons per year
SCR	Selective Catalytic Reduction	µg	Microgram
SRN	State Registration Number	VOC	Volatile Organic Compounds
TAC	Toxic Air Contaminant	yr	Year
TEQ	Toxicity Equivalence Quotient		
VE	Visible Emissions		

\* For High Volume Low Pressure (HVLP) applicators, the pressure measured at the HVLP gun air cap shall not exceed ten (10) pounds per square inch gauge (psig).

### GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The AQD District Supervisor shall be notified, in writing, of a change in ownership or operational control of the stationary source or emission unit(s) authorized by this Permit to Install pursuant to R 336.1219. The notification shall include all of the information required by R 336.1219(1)(a) and (b). In addition, a new owner or operator must submit a written statement pursuant to R 336.1219(1)(c), agreeing to and accepting the terms and conditions of this Permit to Install, and shall notify the AQD District Supervisor of any change in the contact person for this Permit to Install. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law nor does it affect any liability for past violations under the Natural Resources and Environmental Protection Act, 1994 PA 451.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.
11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
  - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
  - b) A visible emission limit specified by an applicable federal new source performance standard.
  - c) A visible emission limit specified as a condition of this Permit to Install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

**SPECIAL CONDITIONS**

**Emission Unit Identification**

<b>Emission Unit ID</b>	<b>Emission Unit Description</b>	<b>Stack Identification</b>
EUFURNACENORTH	Two electric coreless induction furnaces controlled by a 20,000 cfm C.P. Environmental baghouse	SV00001
EUDRYERNORTH	A gas-fired rotary dryer controlled by the same C.P. Environmental baghouse	
EUFURNACESOUTH	Two electric coreless induction furnaces controlled by a 30,000 cfm Micropulsair baghouse	SV00002
EUDRYERSOUTH	A gas-fired rotary dryer controlled by the same Micropulsair baghouse	
EUGRITPROCESS	The grit manufacturing process produces steel angular particle (steel shot). The process consists of a gas-fired rotary heat treat furnace, roll crushers, a gas-fired tempering furnace, and associated equipment. The process emissions are controlled by two G&C Fabricating baghouses, each is rated at 30,000 cfm	SV00003
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.		

**Flexible Group Identification**

<b>Flexible Group ID</b>	<b>Emission Units Included in Flexible Group</b>	<b>Stack Identification</b>
FGFOUNDRYNORTH	EUFURNACENORTH EUDRYERNORTH	SV00001
FGFOUNDRYSOUTH	EUFURNACESOUTH EUDRYERSOUTH	SV00002
FGFACILITY	All process equipment at the facility including equipment covered by other permits, grand-fathered equipment and exempt equipment.	

**The following conditions apply to: EUGRITPROCESS**

**Emission Limits**

	<b>Pollutant</b>	<b>Limit</b>	<b>Time Period</b>	<b>Equipment</b>	<b>Testing/ Monitoring Method</b>	<b>Applicable Requirement</b>
1.1a	PM-10	0.005 grains/dscf	Test Protocol	EUGRITPROCESS	GC 13	R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)

	Pollutant	Limit	Time Period	Equipment	Testing/ Monitoring Method	Applicable Requirement
1.1b	PM-10	2.6 lbs/hr	Test Protocol	EUGRITPROCESS	GC 13	R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)

**Visible Emission Limits**

1.2 Visible emissions from EUGRITPROCESS shall not exceed a six-minute average of 5 percent opacity. (R 336.1301, R 336.1331, R 336.2802, 40 CFR 52.21)

**Equipment**

1.3 The permittee shall not operate EUGRITPROCESS unless a gauge, which measures the pressure drop across each of the two fabric filter collectors and sounds an alarm when the pressure drop exceeds 5 inches water, is installed, maintained and operated in a satisfactory manner. (R 336.1225, R 336.1331, R 336.1901, R 336.1910, R 336.2802, 40 CFR 52.21)

**Stack/Vent Restrictions**

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
1.4	SV00003	54	60	R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

**The following conditions apply to: FGFOUNDRYNORTH**

**Emission Limits**

	Pollutant	Limit	Time Period	Equipment	Testing/ Monitoring Method	Applicable Requirement
2.1a	PM-10	0.005 grains/dscf	Test Protocol	FGFOUNDRYNORTH	GC 13	R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
2.1b	PM-10	0.9 lbs/hr	Test Protocol	FGFOUNDRYNORTH	GC 13	R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)

**Visible Emission Limits**

2.2 Visible emissions from FGFOUNDRYNORTH shall not exceed a six-minute average of 5 percent opacity. (R 336.1301, R 336.1331, R 336.2802, 40 CFR 52.21)

**Equipment**

2.3 The permittee shall not operate FGFOUNDRYNORTH unless a gauge, which measures the pressure drop across the fabric filter collector and sounds an alarm when the pressure drop exceeds 5 inches water, is installed, maintained and operated in a satisfactory manner. (R 336.1225, R 336.1331, R 336.1901, R 336.1910, R 336.2802, 40 CFR 52.21)

**Stack/Vent Restrictions**

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
2.4	SV00001	30	55	R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				

**The following conditions apply to: FGFOUNDRYSOUTH**

**Emission Limits**

	Pollutant	Limit	Time Period	Equipment	Testing/Monitoring Method	Applicable Requirement
3.1a	PM-10	0.005 grains/dscf	Test Protocol	FGFOUNDRYSOUTH	GC 13	R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
3.1b	PM-10	1.3 lbs/hr	Test Protocol	FGFOUNDRYSOUTH	GC 13	R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)

**Visible Emission Limits**

3.2 Visible emissions from FGFOUNDRYSOUTH shall not exceed a six-minute average of 5 percent opacity. (R 336.1301, R 336.1331, R 336.2802, 40 CFR 52.21)

**Equipment**

3.3 The permittee shall not operate FGFOUNDRYSOUTH unless a gauge, which measures the pressure drop across the fabric filter collector and sounds an alarm when the pressure drop exceeds 5 inches water, is installed, maintained and operated in a satisfactory manner. (R 336.1225, R 336.1331, R 336.1901, R 336.1910, R 336.2802, 40 CFR 52.21)

**Stack/Vent Restrictions**

	Stack & Vent ID	Maximum Diameter (inches)	Minimum Height Above Ground Level (feet)	Applicable Requirement
3.4	SV00002	30	55	R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d)
The exhaust gases shall be discharged unobstructed vertically upwards to the ambient air.				



**The following conditions apply to: FGFACILITY**

**Material Limits**

- 4.1 The permittee shall not process in FGFACILITY more than 70,000 tons of scrap per year based on a 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(3))**
- 4.2 The natural gas usage for FGFACILITY shall not exceed 65 million cubic feet per year based on a 12-month rolling time period as determined at the end of each calendar month. **(R 336.1205(3))**

**Process / Operational Limits**

- 4.3 The permittee shall not operate FGFACILITY unless the fugitive dust emission control program for all plant roadways, the plant yard, all material storage piles, and all material handling operations specified in Appendix A and the scrap management plan specified in Appendix B have been implemented and are maintained. **(R 336.1371, R 336.1372, Act 451 324.5524, R 336.1225)**
- 4.4 The permittee shall not operate FGFACILITY unless a malfunction abatement plan (MAP) as described in Rule 911(2), for all baghouses, has been submitted within 60 days of permit issuance, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
- a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
  - b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
  - c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1331, R 336.1702(a), R 336.1910, R 336.1911, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

**Recordkeeping / Reporting / Notification**

- 4.5 The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period natural gas usage records for FGFACILITY. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. **(R 336.1205(3))**
- 4.6 The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period scrap usage records for FGFACILITY. The permittee shall keep all records on file at the facility for a period of at least five years and make them available to the Department upon request. **(R 336.1205(3))**

## **APPENDIX A**

### **FUGITIVE DUST EMISSION CONTROL PROGRAM**

1. Site Roadways / Plant Yards
  - A. The dust on site roadways/plant yard shall be controlled by applications of water or approved dust suppressants. The application of dust suppressant shall be done on a monthly basis or more frequently if needed.
  - B. Any material spillage on roads shall be removed within reasonable time period by vacuum sweeping but no less than once per day.
  - C. A record of all dust suppressant applications and vacuum sweepings shall be kept on file for a period of five years and made available upon request.
  - D. Maximum speed of the vehicles shall be posted and limited to 10 miles per hour.
2. Storage piles:
  - A. There shall not be any scrap metal storage piles outside the building.

## APPENDIX B

### SCRAP MANAGEMENT PLAN

This work instruction applies to incoming receiving and inspection of steel scrap, ferrosilicon (FeSi; MTCPM-04), medium carbon ferromanganese (FeMn; MTCPM-07), silicomanganese (SiMn; MTCPM-10), graphite (MTCPM-06), and aluminum (MTCPM-11). All alloy or scrap to be received by Metaltec shall not contain mercury switches.

#### 1. Alloy Receiving Inspection

All incoming alloy shall be inspected upon arrival at Metaltec by the quality assurance department. The alloy shall be inspected for proper packaging, sizing, weight and chemistry certification against the proper purchased material specification. For every load of alloy received, a Metaltec Incoming Alloy Receiving form (MTW-038) shall be filled out by the Lab Technician or Quality Director. If the load is rejected, an NCMR form shall be filled out by the Lab Technician or Quality Director with reasons for rejection noted.

All incoming alloy shall be certified for chemistry and sizing by the supplier. If the material arrives in bulk and meets specification, it shall be off-loaded into Metaltec hoppers, tagged with a control tag and placed into inventory. All alloys remaining from prior shipments shall be placed in the front to insure first in/ first out usage for the melt additions. The computer alloy addition program shall be updated for alloy chemistry when the new material goes into use.

#### 2. Scrap Receiving

All incoming scrap truck drivers are required to present their shippers before being inspected. Loads without shippers shall be held until the shipped is received. If the truck is accepted, it will be weighed in by the lab technician or other authorized Metaltec employee on the Metaltec truck scale prior to (Gross Weight), and after (Tare Weight) dumping. The weight shall be recorded on a Metaltec weight scale ticket Form (MTF-192). For every load of scrap delivered, a Metaltec Scrap Receiver Form (MTF-015) shall be filled out by the Lab Technician or Quality Director. The net weight of the load is determined by subtracting the Tare Weight from the Gross Weight. The difference between the supplier and Metaltec net weights shall be recorded on the form. When supplier weight tickets are available, the weights shall be recorded on the scrap receiving form in the supplier weight section. All shipments with a weight difference greater than 500 pounds shall be brought to the attention of the Quality Director Inspection. All incoming trucks shall undergo an in-truck (prior to dumping) inspection. The inspection shall include visually checking for excess dirt, oil or non-scrap material and shall also include lab analysis of the scrap's chemistry.

A load of scrap shall be rejected if it contains greater than twenty (20) percent of any of the following; dirty or oily scrap, non-scrap material, excessively tangled scrap or pieces greater than fourteen (14) inches in length. To determine the scrap's chemistry, at least two representative pieces of scrap shall be taken from the bed of the truck and brought into the lab.

The pieces of scrap shall be traced on the scrap receiver form. If the pieces are pre-approved, the load will be accepted for chemistry without further spectrometer testing. Un-approved scrap will be tested for chemistry on the spectrometer. If the average analysis does not meet the incoming scrap specification for chemistry (MTCPM-08), the load shall be rejected.

#### 3. Galvanized Scrap

Scrap loads containing any galvanized scrap or galv-annealed scrap shall be rejected. Galvanized metal can be tested for a galvanized (zinc) coating using a copper sulfate solution which will turn black on contact with the zinc coating or muratic acid which will bubble in contact with the zinc coating. Take proper precautions when using either of these solutions as they are caustic and can burn the skin.

#### 4. Pre-approved Scrap

Certain types of scrap commonly appear at Metaltec. Some of these types have been identified, analyzed for chemistry and if approved, logged. All scrap pieces in the log shall be considered pre-approved and do not need to be analyzed on the spectrometer. Representative pieces from trial loads must be run on the spectrometer for approval.

Upon approval, the scrap shall be dumped into the scrap pit on the west end of the building of either the north or south foundry. The driver shall then return the truck to the truck scale to obtain a tare weight and complete the paperwork.

#### 5. Scrap Rejection

In the event a load is rejected, a Scrap Rejection form (MTW-028) shall be filled out and signed by the Quality Director and Lab Technician. The driver's dispatcher shall be notified by phone prior to the driver leaving Metaltec and a copy of the rejection form shall go back with the driver. The original form shall be filed in the lab office. All approved loads shall be logged on the computer database.

#### 6. Scale Errors

In the event that the Metaltec truck scale is not operational as determined by the lab technician and/or the Quality Director, the supplier's scale ticket shall be used if the weights were obtained from a state certified scale. If the supplier does not have a certified scale ticket, then the truck will be weighed on a certified scale or the shipment refused at the discretion of the trucking company's dispatcher. Metaltec's preferred scale repair company shall be immediately notified of the problem.