

**MARICOPA COUNTY
AIR POLLUTION CONTROL REGULATIONS
REGULATION III – CONTROL OF AIR CONTAMINANTS**

**RULE 312
ABRASIVE BLASTING**

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SECTION 100 – GENERAL

- 101 **PURPOSE:** To limit particulate matter emissions from abrasive blasting operations.
- 102 **APPLICABILITY:** This rule applies to abrasive blasting operations.
- 103 **EXEMPTIONS:** This rule shall not apply to the following:
- 103.1 Self-contained, enclosed abrasive blasting equipment that is not vented to the atmosphere or is vented inside a building with the exhaust directed away from any opening to the building exterior, or
- 103.2 Hydroblasting.

SECTION 200 – DEFINITIONS: For the purpose of this rule, the following definitions shall apply: See Rule 100 (General Provisions and Definitions) of these rules for definitions of terms that are used but not specifically defined in this rule:

- 201 **ABRASIVE:** A solid substance used in a blasting operation. This includes but is not limited to sand, slag, steel, shot, garnet, walnut shells, or carbon dioxide pellets.
- 202 **ABRASIVE BLASTING OPERATION:** Cleaning, polishing, conditioning, removing or preparing a surface by propelling a stream of abrasive with pressurized liquid or compressed air against the surface.
- 203 **CERTIFIED ABRASIVES:** An abrasive, that has been certified by the California Air Resources Board (CARB) in accordance with Section 92530 of Title 17, Division 3, Chapter 1, Subchapter 6, Article 4 of the California Code and Regulations effective as of December 26, 2000. An abrasive purchased during the certified period remains certified for use following its expiration date.
- 204 **CONFINED ENCLOSURE:** A structure that is used, in whole or in part, for abrasive blasting operations. The structure consists of three or four sides, a roof or cover, with or without an exhaust to the atmosphere. The blasting shall be directed away from the open side of the structure.
- 205 **EMISSION CONTROL SYSTEM (ECS):** A system for reducing particulate matter emissions, consisting of both collection and control devices, that is designed and operated in accordance with good engineering practice, and, if permitted, is approved in writing by the Control Officer.

- 206 **HYDROBLASTING:** Any abrasive blasting operation that uses a pressurized liquid as the propelling force.
- 207 **MULTIPLE NOZZLES:** Two or more nozzles positioned in such close proximity that their separate plumes are indistinguishable.
- 208 **OPACITY:** A condition of the atmosphere, or any part thereof, in which an air contaminant partially or wholly obscures the view of an observer.
- 209 **UNCONFINED BLASTING:** Any abrasive blasting operation that is not performed in a confined enclosure.
- 210 **VACUUM BLASTING:** Any abrasive blasting operation in which the spent abrasive, surface material, and dust are immediately collected by a vacuum device.
- 211 **WET ABRASIVE BLASTING:** Any abrasive blasting operation that uses compressed air as the propelling force, abrasive, and adds a liquid to minimize the plume.
- 212 **WIND EVENT:** An occurrence when the 60-minute average wind speed is greater than 25 miles per hour.

SECTION 300 – STANDARDS

- 301 **LIMITATIONS FOR BLASTING:** All abrasive blasting operations shall be performed in a confined enclosure, unless one of the following conditions are met, in which case unconfined blasting according to Section 302 of this rule may be performed:
- 301.1 The item to be blasted exceeds 8 ft. in any one dimension, or
 - 301.2 The surface being blasted is fixed in a permanent location, cannot easily be moved into a confined enclosure, and the surface is not normally dismantled or moved prior to abrasive blasting.
- 302 **REQUIREMENTS FOR UNCONFINED BLASTING:** At least one of the following control measures shall be used:
- 302.1 Wet abrasive blasting,
 - 302.2 Vacuum blasting, or
 - 302.3 Dry abrasive blasting, provided that all of the following conditions are met:
 - a. Perform only on a metal substrate.
 - b. Use only certified abrasive for dry unconfined blasting.
 - c. Blast only paint that is lead free (i.e. the lead content is less than 0.1percent).
 - d. Perform the abrasive blasting operation directed away from unpaved surfaces.
 - e. Use the certified abrasive not more than once unless contaminants are separated from the abrasive through filtration and the abrasive conforms to its original size.

303 REQUIREMENTS FOR CONFINED BLASTING: Dry abrasive blasting in a confined enclosure with a forced air exhaust shall be conducted by implementing either of the following:

- a. Using a certified abrasive, or
- b. Venting to an ECS.

304 REQUIREMENTS FOR ECS AND MONITORING DEVICES: The following requirements apply to blasting equipment that vents through a required ECS and requires a Maricopa County permit under Rule 200 of these rules. Buildings and/or enclosures are not considered control equipment. Equipment that meets the following two criteria and is operated and maintained in accordance with manufacturer's specifications, is exempt from the requirements of this section:

- a. Is self-contained and the total internal volume of the blast section is 50 cubic feet or less, and
- b. Is vented to an ECS.

304.1 Operation and Maintenance (O&M) Plan Required for Emission Control System (ECS)

- a. An owner or operator shall provide and maintain, readily available at all times, an O&M Plan for any ECS, other emission processing equipment, and ECS monitoring devices that are used pursuant to this rule or to an air pollution control permit.
- b. The owner or operator shall submit to the Control Officer for approval the O&M Plans of each ECS and each ECS monitoring device that is used pursuant to this rule. If the O&M plan has not been filed, any owner or operator employing an approved existing ECS on the effective date of this rule shall by December 18, 2003 have an O&M plan filed with the Control Officer.
- c. The owner or operator shall comply with all the identified actions and schedules provided in each O&M Plan.

304.2 Installing and Maintaining ECS Monitoring Devices: An owner or operator operating an ECS pursuant to this rule shall properly install and maintain in calibration, in good working order and in operation, devices described in the facility's O&M Plan that indicate temperatures, pressures, rates of flow, or other operating conditions necessary to determine if air pollution control equipment is functioning properly.

305 OPACITY LIMITATION: No owner or operator shall discharge into the atmosphere from any abrasive blasting operation any air contaminant for an observation period or periods aggregating more than three minutes in any sixty minute period an opacity equal to or greater than 20 percent. An indicated excess will be considered to have occurred if any cumulative period of 15-second increments totaling more than three minutes within any sixty minute period was in excess of the opacity standard.

306 WIND EVENT: No dry unconfined abrasive blasting operation shall be conducted during a wind event.

307 TRAFFIC MARKERS: Surface preparation for raised traffic delineating markers and pavement marking removal using abrasive blasting operations shall be performed by wet blasting, hydroblasting or vacuum blasting. Dry blasting may be performed using only certified abrasives when:

307.1 Removing pavement markings of less than 1,000 square feet

307.2 Performing surface preparation for raised traffic delineating markers of less than 1,000 square feet.

308 WORK PRACTICES:

308.1 Unconfined Blasting: The owner or operator shall clean up spent abrasive material with a potential to be transported during a wind event and, until removal occurs, shall, at a minimum, meet the provisions of Rule 310 of these rules regarding work practices.

308.2 Confined Blasting: At the end of the work shift the owner or operator shall clean up spillage, carry-out, and/or trackout of any spent abrasive material with a potential to be transported during a wind event.

SECTION 400 – ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE: All abrasive blasting operations shall be conducted in compliance with this rule upon adoption.

SECTION 500 – MONITORING AND RECORDS

501 RECORDKEEPING AND REPORTING: At a minimum, an owner or operator subject to this rule shall keep the following records onsite, that are applicable to all abrasive blasting operations. Additional reporting may be required by an air quality permit:

501.1 If blasting operations occur daily or are a part of a facility's primary work activity, then the following shall be kept as a record:

- a. A list of the blasting equipment,
- b. The description of the type of blasting as confined, unconfined, sand, wet, or other,
- c. The locations of the blasting equipment or specify if the equipment is portable,
- d. A description of the ECS associated with the blasting operations,
- e. The days of the week blasting occurs, and
- f. The normal hours of operation.

501.2 If blasting operations occur periodically, then the following shall be kept as a record:

- a. The date the blasting occurs,
- b. The blasting equipment that is operating,
- c. A description of the type of blasting, and
- d. A description of the ECS associated with the blasting operations.

501.3 The type and amount of solid abrasive material consumed on a monthly basis. Include name of certified abrasive used, as applicable.

- 501.4** Material Safety Data Sheets (MSDS) or results of any lead testing that was performed on paint that is to be removed via unconfined blasting, as applicable.
- 502 RECORDS RETENTION:** Copies of reports, logs, and supporting documentation required by this rule shall be retained for at least 5 years at permitted Title V sources and for at least 2 years at Non-Title V sources.
- 503 COMPLIANCE DETERMINATION:**
- 503.1 Control Device Efficiency:** Manufacturer's specifications, testing results, or engineering data that demonstrate control efficiency shall be submitted upon request of the Control Officer.
- 503.2 Paint Lead Level:** Prior to unconfined blasting of paint, the owner or operator must be the generator with firsthand knowledge of lead content in the paint, or retain evidence of the lead level from the material MSDS or from a lead test performed in accordance with Section 506 of the rule. Unconfined blasting is prohibited if the lead content of the material is >0.1percent.
- 504 CERTIFIED ABRASIVES LIST ADOPTED BY REFERENCE:** The list of abrasives certified for permissible dry unconfined blasting is found in Executive Order G-00-066 in accordance with the California Code of Regulations, Subchapter 6, Title 17, Section 92530, Exhibit A effective as of December 26, 2000 and is adopted by reference. A copy of the list of currently certified abrasives can also be obtained at Maricopa County Air Quality Department.
- 505 OPACITY OBSERVATIONS:** Opacity shall be determined by observations of visible emissions conducted in accordance with EPA Reference Method 9 and with the following provisions:
- 505.1** Emissions from unconfined blasting shall be observed at the densest point of the emission from the closest point of discharge, after a major portion of the spent abrasives has fallen out.
- 505.2** Emissions from unconfined blasting employing multiple nozzles shall be considered a single source unless it can be demonstrated by the owner or operator that each nozzle, evaluated separately, meets the emission standards of this rule.
- 505.3** Emissions from confined blasting shall be observed at the densest point after the air contaminant leaves the enclosure or associated ECS.
- 506 TEST METHODS ADOPTED BY REFERENCE:** The EPA test methods as they exist in the Code of Federal Regulations (CFR), July 1, 2001, as listed below, are adopted by reference. This adoption by reference includes no future editions or amendments. Copies of these test methods may be obtained at the Maricopa County Air Quality Department. When more than one test method as listed in Sections 506.2 through 506.7 is permitted for the same determination, an exceedance of the limits established in this rule determined by any of the applicable test methods constitutes a violation.
- 506.1** EPA Test Method 9 ("Visual Determination of the Opacity of Emissions from Stationary Sources") (40 CFR 60, Appendix A).

- 506.2** EPA Test Method for Evaluating Solid Wastes (Lead), SW-846 Method 6010B (Inductively Coupled Plasma-Atomic Emission Spectrometry).
- 506.3** EPA Test Method for Testing Lead by Atomic Absorption, Direct Aspiration, Method 0239.2 (EPA Report 600/4-79-020).
- 506.4** EPA Test Method for Testing Lead, SW-846 Method 3050B (Acid Digestion of Sediments, Sludges and Soils).
- 506.5** EPA Test Method for Testing Lead, SW-846 Method 7420 (Lead (Atomic Absorption, Direct Aspiration).
- 506.6** OSHA Method ID-121 (Metal and Metalloid Particulates in Workplace Atmospheres [Atomic Absorption]).
- 506.7** OSHA Method ID-125G (Metal and Metalloid Particulates in Workplace Atmospheres [ICP Analysis]).