



Emission Standards for Particulate Matter from Abrasive Blasting

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
A CLEAN STATE OF MIND FOR ALL YOUR ENVIRONMENTS



LAC 33:III.Chapter 13 Subchapter F

The purpose of this Subchapter is to reduce particulate matter emissions from facilities that engage in abrasive blasting.



Applicability

Subchapter F applies to any facility or contractor in the state that:

- engages in or contracts to provide abrasive blasting AND
- is classified under a Standard Industrial Classification (SIC) Codes beginning with 34, 35 or 37 and codes 1622, 1721.



SIC 34 – Industry Groups

- **341: Metal Cans and Shipping Containers**
- **342: Cutlery, Handtools, and General Hardware**
- **343: Heating Equipment, Except Electric and Warm Air**
- **344: Fabricated Structural Metal Products**
- **345: Screw Machine Products, and Bolts, Nuts, Screws, Rivets, and Washers**
- **346: Metal Forgings and Stampings**
- **347: Coating, Engraving, and Allied Services**
- **348: Ordnance and Accessories, Except Vehicles**
- **349: Miscellaneous Fabricated Metal Products**



SIC 35 – Industry Groups

- **351: Engines and Turbines**
- **352: Farm and Garden Machinery and Equipment**
- **353: Construction, Mining, and Materials Handling**
- **354: Metalworking Machinery and Equipment**
- **355: Special Industry Machinery, Except Metalworking**
- **356: General Industrial Machinery and Equipment**
- **357: Computer and Office Equipment**
- **358: Refrigeration and Service Industry Machinery**
- **359: Miscellaneous Industrial and Commercial**



SIC 37- Industry Groups

- **371: Motor Vehicles and Motor Vehicle Equipment**
- **372: Aircraft and Parts**
- **373: Ship and Boat Building and Repairing**
- **374: Railroad Equipment**
- **375: Motorcycles, Bicycles, and Parts**
- **376: Guided Missiles and Space Vehicles and Parts**
- **379: Miscellaneous Transportation Equipment**



SIC 1622 and 1721 Industry Groups

- **1622: Bridge, Tunnel and Elevated Highway Construction**
- **1721: Painting and Paper Hanging**



Exemptions (1327.B)

- Abrasive blasting using iron or steel shot/grit
- Abrasive blasting using carbon dioxide
- Hydroblasting or wet abrasive blasting
- Vacuum blasting
- Other blasting as approved by the department on a case-by-case basis



Compliance Date

Subchapter F was effective on May 2, 2007.

Compliance dates:

- **New facility** - constructed after May 2, 2007 - shall comply before operation commences
- **Existing facility** - constructed prior to May 2, 2007 - shall comply as soon as practicable, but no later than May 2, 2008



Why Subchapter F was developed



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How to Comply

- Affected facilities shall either:
 - fully enclose the structure or item to be blasted; or (1329.A.1)
 - prepare and implement a best management practices (BMP) plan as described in LAC 33:III.1331. (1329.A.2)



Facility Requirements (1327.A.2)

- Use abrasives that contain less than 10% (by weight) of fines that would pass through a No. 80 sieve.
- Documented either by:
 - The supplier.
 - Samples taken according to method ASTM D 75-87 (1992).



Facility Requirements: (1329.C)

- Tarps (when used) shall:
 - have overlapping seams to prevent leakage of particulate matter;
 - have a shade factor of 80 percent or greater; AND
 - be repaired prior to use if any single tear greater than 1 foot in length is present or if multiple tears greater than 6 inches in length are present.



Facility Requirements: (1329.B and D)

- Blast cabinet exhaust shall be re-circulated to the cabinet or vented to emission control equipment.
- Permanent buildings that have a particulate matter collection system shall:
 - exhaust through control equipment
 - particulate matter outlet grain loading of 0.05 gr/dscf or less per the control equipment manufacturer.



Facility Requirements: (1329.H)

All emission control equipment shall be used and diligently maintained in proper working order according to the manufacturer's specifications whenever the facility is operating and emitting particulate emissions.



Facility Requirements: (1329.G and 1327.A.1)

- Minimize emissions from stockpiles of new and/or spent abrasive material. Measures may include:
 - covering stockpiled material;
 - wetting stockpiled material; or
 - keeping stockpiled material in containers.
- Material derived from wastes are prohibited from use as abrasive material.



Facility Requirements: (1327.A.3 and 1329.E-F)

- Abrasives may not be reused unless they meet the requirements of 1327.A.2 of this Subchapter.
- Prevent/minimize blasting material or visible floating solids from reaching waters of the state shall be prevented or minimized and addressed in BMP or LPDES permit program.
- Abrasive blasting activities shall not create a nuisance.



Nuisance

Any condition of the ambient air beyond the property line of the emission source that is offensive to the senses, or that causes or constitutes an obstruction to the free use of property, so as to unreasonably interfere with the comfortable enjoyment of life or property.



Nuisance, cont'd

- In determining whether or not a nuisance exists, the department may consider factors including, but not limited to, the following:
 - The frequency of the emission
 - The duration of the emission
 - The intensity and offensiveness of the emission
 - The number of persons impacted
 - The extent and character of the detriment to the complainant
 - The source's ability to prevent or avoid harm



Best Management Practices Plans

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BMP Plans (1331)

- BMP = Best Management Practices
- Only required when blasting is not fully enclosed
- A complete copy must be kept onsite and available upon request
- Do not need to be submitted unless requested
- Each facility must have a designated person who is accountable for the implementation and effectiveness of the BMP plan



Review and Amendment (1331.D-E)

- Review the plan at least every three years
 - Does it adequately reduce nuisances and adverse off-site impacts?
 - If not, amend within 90 days of the review.
- DEQ may require plan amendment if nuisances and/or adverse off-site impacts aren't prevented
- Amend if physical/operational facility modification makes the existing plan inadequate.
 - Prior to or concurrently with the facility modification.



BMP Plan Contents (1331.F)

- Facility name, mailing address, and location
- Facility operator name
- Date and year of initial facility operation
- Facility description, including:
 - Nearby recreational areas, residences, or other structures not owned or used solely by the facility
 - Their distances and directions from the facility;
- Description of any nearby waters of the state
 - Distances and directions from the facility
 - How emissions to those waters will be prevented or minimized



BMP Plan Contents, cont'd (1331.F)

- Procedures for preventing off-site impacts, including a description of control equipment;
- Procedures for taking corrective actions and/or countermeasures when off-site impacts occur;
- Written procedures for self-monitoring and self-inspection
- Personnel training records
- Responsible official's signature



Personnel Training (1331.G)

- Include in BMP plan
- Any employee and/or contractor conducting abrasive blasting shall be trained on:
 - Proper abrasive blasting methods
 - Proper handling of abrasive and spent material and floatable solids
 - The facility's BMP plan
 - Good housekeeping practices for the facility



Personnel Training, cont'd (1331.G)

- Train at least once a year AND when significant changes are made to the plan
- Employees, contractors, and customer representatives shall be instructed not to dispose of abrasive, spent, or floatable materials to air and water bodies or to drains, drainage channels, or trenches that lead to water bodies.
- Contractors shall be notified of and required to follow the BMP Plan



BMP Records (1333.H-I)

- Review BMP Plan every three years. Records of this review shall be kept for at least three years and signed or initialed by:
 - The person conducting the review
 - An appropriate supervisor or the facility designee
- Maintain records of self-inspection
- Document training dates, subjects, hours, and attendees (with attendee signatures)



General Recordkeeping

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Records (1333)

- Must be kept onsite and presented upon request
- Must be kept for at least 36 months



Records, cont'd (1333)

- Facility's permit to construct/operate, where applicable
- A description of the type of *emission control equipment* (defined in LAC 33:III.1325) employed at the facility
- Monthly record of abrasive material usage, including:
 - For new material, weight percent of fines in abrasive material;
 - For reused material, weight percent of fines as determined by sampling according to standard ASTM D 75-87



Records, cont'd (1333)

- Descriptions and diagrams of blasting locations
- Results of containment, ventilation, air, soil, fines, and other monitoring activities
- Records of how spent material is handled, recycled, reused, or disposed of
 - Include names of, and manifests/receipts from, any off-site facilities that accept spent material



Records, cont'd (1333)

- For abrasive blasting not fully enclosed:
 - Visual observations of particulate matter emissions
 - Recorded at beginning and prior to ending
 - At least every four hours
 - Observations of wind direction
 - Recorded simultaneously with the observations above
 - Daily record of actual operating times when blasting is performed
 - Based on a 24-hour clock



Questions?

Contact the Air Quality Assessment
Division's Engineering Support Group

225-219-3536