

**RULE 2.25**  
**METAL PARTS AND PRODUCTS COATING OPERATIONS**

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100 GENERAL

- 101 **PURPOSE:** The purpose of this rule is to limit the emissions of volatile organic compounds (VOCs) from metal parts and products coating operations.
- 102 **APPLICABILITY:** The provisions of this rule are applicable to any owner or operator of a facility using coatings or strippers for the surface coating of metal parts and products, or any person who sells or distributes any material subject to the provisions of this rule.
- 110 **EXEMPTION - GENERAL:** The provisions of this rule shall not apply to coating operations subject to the provisions of Rule 2.26, MOTOR VEHICLES AND MOBILE EQUIPMENT COATING OPERATIONS.
- 111 **EXEMPTION - STANDARDS:** The provisions of Section 300 shall not apply to the following:
- 111.1 Stencil Coatings;
  - 111.2 Safety-temperature indicating coatings;
  - 111.3 Powder coatings; and
  - 111.4 Adhesive coatings
- 112 **EXEMPTION - COATING LIMITS:** The provisions of Section 301 shall not apply to the use of up to fifty gallons per year of non-compliant coatings, as approved in writing by the APCO.
- 113 **EXEMPTION - APPLICATION METHODS:** The provisions of Section 302 shall not apply to the following:
- 113.1 The application of touch-up coatings, repair coatings, textured finish coatings, metallic coatings with a metallic content of more than 30 grams per liter and mold-seal coatings; and
  - 113.2 Facilities using less than one gallon of coating per day, as applied, including any VOC-containing materials added to the original coating as supplied by the manufacturer.
- 114 **EXEMPTION - LIMITED:** The provisions of Section 301 and 302 shall not apply to the application of coatings while conducting performance tests on the coatings at paint

manufacturing facilities provided that written prior approval has been obtained from the APCO.

## 200 DEFINITIONS

- 201 **ADHESIVE:** Any substance that is used to bond surfaces together by attachment.
- 202 **AIR-DRIED COATING:** A coating that is cured at a temperature below 90°C (194°F).
- 203 **BAKED COATING:** A coating that is cured at a temperature at or above 90°C (194°F).
- 204 **CAMOUFLAGE COATINGS:** A coating used, principally by the military, to conceal equipment from detection.
- 205 **COATING:** A material which is applied to a surface and which forms a continuous film in order to beautify and/or protect such surface.
- 206 **CONTROL DEVICE:** Equipment such as an incinerator or adsorber used to prevent air pollutants from reaching the ambient air.
- 207 **DIP COAT:** A coating which is applied by dipping an object into a vat of coating material and allowing any excess coating material to drain off.
- 208 **ELECTROSTATIC APPLICATION:** The electrical charging of atomized coating droplets for deposition by electrostatic attraction.
- 209 **EMISSION CONTROL SYSTEM:** A control device and its associated collection system.
- 210 **ETCHING FILLER:** A coating that contains at least 0.5 percent acid by weight, and is used instead of applying a pretreatment coating followed by a primer.
- 211 **EXEMPT COMPOUNDS:** As defined in District Rule 1.1, General Provisions and Definitions.
- 212 **EXTREME PERFORMANCE COATING:** A coating used on a metal surface where the coated surface, in its intended use, is frequently or chronically exposed to:
- 212.1 Corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures or solution;

- 212.2 Repeated exposure to temperatures in excess of 250°F; or
- 212.3 Repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleansers, or scouring agents.
- 213 **FLOW COAT:** A coating which is applied by flowing a stream of coating over an object and allowing any excess coating material to drain off.
- 214 **HAND COAT:** The application of coatings by manually held nonmechanically operated equipment. Such equipment includes paint brushes, hand rollers, caulking guns, trowels, spatulas, syringe daubers, and sponges.
- 215 **HEAT-RESISTANT COATING:** A coating applied to a substrate that must withstand a temperature of at least 204°C (400°F) during normal use.
- 216 **HIGH GLOSS COATING:** A coating which, when tested in accordance with ASTM Test Method D-523-1989, has a reflectance of 85 percent or more on a 60° meter.
- 217 **HIGH PERFORMANCE ARCHITECTURAL COATING:** A coating used to protect architectural subsections and which is required to meet the specifications of the Architectural Aluminum Manufacturer Association's publication number AAMA 605.2-1980.
- 218 **HIGH TEMPERATURE COATING:** A coating applied to a substrate that must withstand a temperature of 538 °C (1000°F) during normal use.
- 219 **HIGH-VOLUME, LOW-PRESSURE (HVLP) SPRAY EQUIPMENT:** Spray equipment permanently labeled as such and which is designed and operated between 0.1 and 10 pounds per square inch gauge (psig) air atomizing pressure measured dynamically at the center of the air cup and at the air horns.
- 220 **METAL PARTS AND PRODUCTS:** Any components or complete units fabricated from metal, except those subject to the provisions of other District source specific rules.
- 221 **METALLIC TOP COATING:** A coating which contains more than 5 grams of metal per liter of coating, as applied, where such particles are visible in the dried film.

- 222 **MOLD-SEAL COATING:** The initial coating applied to a new mold or repaired mold and associated tooling to provide a smooth surface which, when coated with a mold release coating, prevents products from sticking to the mold or to the tooling.
- 223 **PAN BACKING COATING:** A coating applied to the surface of pots, or other cooking implements that are exposed directly to a flame or other heating elements.
- 224 **POWDER COATING:** Any coating applied as a dry (without solvent or other carrier) finely divided solid, which when melted and fused, adheres to the substrate as a paint film.
- 225 **PRETREATMENT WASH PRIMER:** A coating which contains no more than 12 percent solids by weight, at least 0.5 percent acid by weight, is used to provide surface etching, and is applied directly to metal surfaces to provide corrosion resistance, adhesion, and ease of stripping.
- 226 **REPAIR COATING:** A coating used to recoat portions of a product which has sustained mechanical damage to the coating following normal painting operations.
- 227 **ROLL COATER:** A series of mechanical rollers that forms a thin coating film on the surface of the roller, which is applied to a substrate by moving the substrate underneath the roller.
- 228 **SAFETY-TEMPERATURE INDICATING COATING:** A coating which changes physical characteristics, such as color, to indicate unsafe conditions.
- 229 **SILICONE RELEASE COATING:** Any coating which contains silicone resin and is intended to prevent food from sticking to metal surfaces such as baking pans.
- 230 **SOLAR-ABSORBANT COATING:** A coating which has as its prime purpose the absorption of solar radiation.
- 231 **STENCIL COATING:** A coating which is rolled or brushed onto a template or stamp in order to add identifying letters and/or numbers to metal parts and products.
- 232 **STRIPPING:** The removal of cured inks, cured adhesives, and cured coatings.

- 233 **SURFACE PREPARATION AND CLEANUP:** The removal of contaminants such as dust, soil, oil, grease, etc., prior to any step in a manufacturing process from parts, products, tools, machinery, equipment, and general work areas.
- 234 **TEXTURED FINISH:** A rough surface produced by spraying large drops of coating onto a previously applied coating.
- 235 **TOUCH-UP COATING:** A coating applied by brush, air brush, or hand held, non-refillable aerosol cans to repair minor surface damage and imperfections of less than four square feet.
- 236 **VACUUM-METALIZING COATING:** The undercoat applied to the substrate on which the metal is deposited or the overcoat applied directly to the metal film.
- 237 **VOLATILE ORGANIC COMPOUND (VOC):** As defined in Rule 1.1, General Provisions and Definitions.
- 238 **VOLATILE ORGANIC COMPOUND (VOC) CONTENT:** Weight of VOC per volume of material as calculated pursuant to the applicable Sections of 600.

**300 STANDARDS**

- 301 **COATING LIMITS:** A person shall not apply to metal parts and products any coatings, including any VOC-containing materials added to the original coating supplied by the manufacturer, with a VOC content in excess of the limits in **Table 1**.

<b>TABLE 1</b>			
<b>Grams of VOC per Liter (or Pounds of VOC per Gallon) of Coating Less Water, and Less Exempt Compounds</b>			
<b>COATING CATEGORY</b>	<b>VOC CONTENT G/L(LBS/GAL)</b>		
	<b>BAKED</b>		<b>AIR DRIED</b>
<b>General Coatings</b>	275	(2.3)	340 (2.8)
<b>Specialty Coatings: Etching Filler</b>	420	(3.5)	420 (3.5)
Solar-Absorbent	360	(3.0)	420 (3.5)
Heat-Resistant	360	(3.0)	420 (3.5)
High Gloss	360	(3.0)	420 (3.5)
Metallic	360	(3.0)	420 (3.5)
Extreme Performance	420	(3.5)	420 (3.5)
Silicone Release	420	(3.5)	420 (3.5)

TABLE 1			
Grams of VOC per Liter (or Pounds of VOC per Gallon) of Coating Less Water, and Less Exempt Compounds			
COATING CATEGORY	VOC CONTENT G/L (LBS/GAL)		
	BAKED		AIR DRIED
High Performance Architectural	420	(3.5)	420 (3.5)
Camouflage	360	(3.0)	420 (3.5)
Vacuum-Metalizing	420	(3.5)	420 (3.5)
Mold-Seal	420	(3.5)	420 (3.5)
High Temperature	420	(3.5)	420 (3.5)
Pan Backing	420	(3.5)	420 (3.5)
Pretreatment Wash Primer	420	(3.5)	420 (3.5)

302 **APPLICATION REQUIREMENTS:** A person shall not apply coatings to metal parts and products subject to the provisions of this rule unless the coatings are applied using properly operated equipment, and by using one of the following application methods:

- 302.1 Electrostatic application equipment operated in accordance with manufacturer's recommendations;
- 302.2 High-Volume, Low-Pressure (HVLP) spray equipment operated in accordance with manufacturer's recommendations;
- 302.3 Flow coat;
- 302.4 Dip coat;
- 302.5 Hand coat;
- 302.6 Roll coater; or
- 302.7 Any other coating application method demonstrated, in accordance with the provisions of Section 608 to have a transfer efficiency equivalent to or greater than the coating application method listed in Section 302.2, and is approved in writing by the EPA and APCO.



- 303 **STRIPPER LIMITS:** Effective January 1, 2009, a person shall not use VOC containing materials which have a VOC content of more than 200 grams per liter of material, as determined in accordance with Section 600, for stripping any coating governed by this rule.
- 304 **EMISSION CONTROL SYSTEM:** In lieu of complying with the applicable provisions of Section 300, an operator may use a VOC emission control system that controls emissions from the source operation provided the following conditions are met:
- 304.1 The VOC emission control system shall be approved in writing by the APCO,
- 304.2 The VOC emission control system shall be operated with an overall capture and control efficiency of at least 85 percent by weight during periods of emission producing activity.
- 305 **STORAGE AND DISPOSAL - GENERAL:** All VOC-containing materials, whether in its form for intended use or as a waste or used product, including items such as cloth or paper laden with VOC containing materials, shall be stored in non-absorbent, non-leaking containers which shall be kept closed at all times, except when filling or emptying, and disposed of in a manner to prevent evaporation of VOCs into the atmosphere at the facility.
- 306 **REQUIREMENTS FOR SURFACE PREPARATION AND CLEANUP MATERIALS:** Any solvent cleaning of application equipment, parts, products, tools, machinery, equipment, general work areas, and the storage and disposal of VOC-containing materials used in surface preparation and cleanup operations shall be carried out pursuant to Rule 2.31, Surface Preparation and Cleanup.

#### 400 ADMINISTRATIVE REQUIREMENTS

- 401 **PROHIBITION OF SPECIFICATION:** A person shall not specify the use of any coating or stripper to be applied to any metal parts and products subject to the provisions of this rule that does not meet the limits and requirements of this rule where such applications result in a violation of this rule. The requirements of this Section shall apply to all written or oral contracts.
- 402 **COMPLIANCE STATEMENT REQUIREMENT:** The manufacturer of coatings or strippers subject to this Rule shall provide on coating containers or on separate data sheets the

designation of VOC content (as supplied) including any recommended thinning ratio. The VOC content shall be expressed as grams per liter of coating or pounds per gallon and may be determined either by calculation or analysis.

403 **QUALIFICATION FOR CLASSIFICATION AS EXTREME PERFORMANCE COATING:** A person shall apply to the APCO to have a coating classified as an extreme performance coating prior to the application of such coating. The APCO may classify a coating as an extreme performance coating provided that the petitioner demonstrates that the intended use of each coated object would require an extreme performance coating and has successfully demonstrated that general compliant coatings are unsuitable.

404 **OPERATION AND MAINTENANCE PLAN (O&M Plan):** Any person using an emission control device pursuant to Section 304 of this Rule, as a means of complying with this rule, must submit with the application for Authority to Construct, pursuant to Rule 3.1, GENERAL PERMIT REQUIREMENTS, an O&M Plan for the emission control device to the APCO for approval. The O&M Plan shall specify operation and maintenance procedures which will demonstrate continuous operation of the control device during periods of emission producing operations. The O&M Plan shall also specify which records must be kept to document these operation and maintenance procedures. These records shall comply with the requirements of Sections 501.2 and 501.3 of this Rule. Any person using an emission control device must fully comply with all O&M Plans submitted for approval, even if such O&M Plans have not yet been approved, unless notified in writing by the APCO.

## 500 MONITORING AND RECORDS

501 **RECORD KEEPING - GENERAL** Any person subject to the requirements of Section 300 of this Rule shall maintain records in a current file that contains all data necessary to verify compliance and shall include the following:

501.1 A list of each coating, stripper and solvent used at each process, including the following information:

- a. The name of the solvent;
- b. The name of the solvent manufacturer;

- c. Mixing instruction;
- d. The VOC content of the material expressed in grams/liter of pound/gallon;
- e. Weight percent water;
- f. Weight percent exempt solvent; and
- g. Thinning solvent composition and density.

501.2 Monthly usage records including the type and amount of material used for all materials compliant with the standards of Section 300.

501.2 Daily usage records including the type and amount of coatings used that do not meet the requirements of Section 301, and whether such usage was in conjunction with an emission control system.

501.3 Usage records of materials exempt from the requirements of this rule by Section 112 can be kept on a quarterly basis.

501.4 Daily usage records of materials for facilities using less than one gallon per day, exempted under Section 113.

502 **RECORD KEEPING - EMISSION CONTROL SYSTEMS:** If compliance with this rule is achieved through the use of a emission control system, in addition to the provisions of Section 501, the owner or operator shall maintain:

502.1 Daily usage records of all materials in TABLES 1 or 2.

502.2 Daily records of key operating parameters such as temperatures, pressures, flowrates, and hours of operation of the control device to verify compliance of the capture and control device.

502.3 Maintenance work which interferes with the operation of the control device.

503 **REPORTING:** All records required by this Rule shall be maintained on site for a period of two years and made available to the APCO upon request.

## 600 TEST METHODS AND CALCULATIONS

601 **GENERAL:** For the purposes of this Rule, the following test methods or calculation methods shall be used. Other

test methods determined to be equivalent and approved in writing by the District and the EPA may also be used. VOC emissions or other parameters determined to exceed any limits established by this Rule through the use of any of the following test methods or calculations shall constitute a violation of this Rule.

602 **VOC CONTENT:** The VOC content of materials subject to the provisions of this rule, shall be determined by procedures contained in EPA Reference Test Method 24 (40 CFR 60, Appendix A).

603 **EXEMPT COMPOUNDS:** Measurement of exempt compounds shall be conducted and reported ASTM D4457-85.

604 **CALCULATION OF VOC CONTENT:** The VOC content per volume of material shall be calculated as follows:

604.1 The VOC content per volume of coating shall be calculated less water and less exempt compounds as follows:

$$\text{VOC}_{\text{con}} = \frac{W_s - W_w - W_{\text{es}}}{V_m - V_w - V_{\text{es}}}$$

Where:  $\text{VOC}_{\text{con}}$  = Grams of VOC per liter of material  
 $W_s$  = Weight of volatile compounds in grams  
 $W_w$  = Weight of water in grams  
 $W_{\text{es}}$  = Weight of exempt compounds in grams  
 $V_m$  = Volume of coating materials in liters  
 $V_w$  = Volume of water in liters  
 $V_{\text{es}}$  = Volume of exempt compounds in liters

604.2 The VOC content per volume of stripper shall be calculated by the following equation:

$$\text{VOC}_{\text{con}} = \frac{(W_s - W_w - W_{\text{ES}})}{V_M}$$

Where:  $\text{VOC}_{\text{con}}$  = Grams of VOC per liter of material  
 $W_s$  = Weight of volatile compounds in grams  
 $W_w$  = Weight of water in grams  
 $W_{\text{ES}}$  = Weight of exempt compounds in grams  
 $V_M$  = Volume of material in liters

605 **ACID CONTENT:** Measurement of acid content shall be conducted and reported in accordance with ASTM D1613-06.

606 **METAL CONTENT:** Measurement of metal content shall be conducted and reported in accordance with the South Coast

Air Quality Management District's (SCAQMD) Spectrographic Method 311.

- 607 **SOLIDS CONTENT:** Measurement of solids content shall be conducted and reported in accordance with EPA Reference Test Method 24.
- 608 **TRANSFER EFFICIENCY:** The transfer efficiency for alternative coating applications methods described in Section 302 of this Rule shall be determined in accordance with the SCAQMD method "Spray Equipment Transfer Efficiency Test Procedure for Equipment User," May 24, 1989.
- 609 **CAPTURE EFFICIENCY:** The capture efficiency of a VOC emission control system's collection device shall be determined according to EPA's "Guidelines for Determining Capture Efficiency," January 9, 1995 and 40 CFR 51, Appendix M, Methods 204-204F, as applicable.
- 610 **CONTROL EFFICIENCY:** The control efficiency of a VOC emission control system's collection device shall be determined by using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Method 25, 25A, or 25B for measuring total gaseous organic concentrations at the inlet and outlet of the control device. EPA Method 18 or CARB Method 422 shall be used to determine the emissions of exempt compounds.
- 611 **OVERALL CAPTURE AND CONTROL EFFICIENCY:** For VOC emission control systems that consist of a single VOC emission control device, the overall capture and control efficiency shall be calculated by using the following equation:

$$CE_{\text{overall}} = [CE_{\text{capture}} \times CE_{\text{control}}] / 100\%$$

Where:  $CE_{\text{overall}}$  = Overall Capture and Control Efficiency  
 $CE_{\text{capture}}$  = Capture Efficiency of the collection device\*  
 $CE_{\text{control}}$  = Control Efficiency of the collection device\*\*

\*As determined in Section 609

\*\*As determined in Section 610