

## SAN LUIS OBISPO COUNTY AIR POLLUTION CONTROL DISTRICT

**RULE 411 - SURFACE COATING OF METAL PARTS AND PRODUCTS**

*(Adopted 6/8/81; Revised 1/10/89 and 1/28/98)*

**A. APPLICABILITY**

This Rule is applicable to any person who applies or specifies the use of surface coatings to metal parts and products.

**B. DEFINITIONS**

1. "Air Dried Coating": A coating that is cured at a temperature below 194 degrees F (90 degrees C).
2. "Baked Coating": A coating that is cured at a temperature at or above 194 degrees F (90 degrees C).
3. "Camouflage Coating": A coating used, principally by the military, to conceal equipment from detection.
4. "Electric-Insulating Varnish": Any coating applied to electric motors, components of electric motors, or to electrical transmission wire.
5. "Etching Filler": A coating that contains less than 23 percent solids by weight and at least 0.5 percent acid by weight, and is used instead of applying a pretreatment coating followed by a primer.
6. "Exempt Compounds": Any compound specifically excluded from the definition of Volatile Organic Compound (VOC) in the current version of District Rule 105, Definitions.
7. "Extreme High Gloss Coating": A coating which, when tested by the ASTM test method D-523, shows a reflectance of 75 or more on a 60 degree meter.
8. "Extreme-Performance Coating": A coating used on a metal surface where the coating is, in its intended use, exposed to any of the following:
  - a. Industrial-grade detergents, cleaners, abrasive scouring agents, solvents, strong chemical agents, or petrochemical materials; or
  - b. Unprotected shipboard conditions; or
  - c. Water, waste water, or sewage; or
  - d. Other similar environmental conditions as determined by the Air Pollution Control Officer (APCO).
9. "Heat-Resistant Coating": A coating that must withstand a temperature of at least 400 degrees F (204 degrees C) during normal use.
10. "High-Performance Architectural Coating": A coating used to protect architectural subsections and which meets the requirements of the Architectural Aluminum Manufacturers Association's publication number AAMA 605.2-1980.
11. "High Temperature Coating": A coating that is certified to withstand a temperature of 1000 degrees F (538 degrees C) for 24 hours.
12. "High-Volume, Low-Pressure Application (HVLP)": Spray equipment which is designed to operate and is operated using a high volume of air delivered at atomized air pressures between 0.1 to 10.0 psig measured dynamically at the center of the air cap and at the air horns and which operates at a maximum fluid delivery pressure not exceeding the manufacturer's recommended inlet air pressure.
13. "Metal Parts and Products": Any metal parts or products except for those specified in Section C.
14. "Metallic Coating": Any coating except zinc filled primer which contains five (5) grams or more of metal particles per liter of coating as applied.
15. "Mold-Seal Coating": The initial coating applied to a new mold or a repaired mold to provide a smooth surface which, when coated with a mold release coating, prevents products from sticking to the mold.
16. "Prefabricated Architectural Component Coatings": Coatings applied to metal parts and products which are to be used in or as an architectural structure.
17. "Pretreatment Wash Primer": Any coating which contains a minimum of 0.5 % acid by weight, is necessary to provide surface etching, and is applied directly to bare metal surfaces to provide corrosion resistance and promote adhesion for subsequent coatings.

10. "Repair": Recoating portions of previously coated product due to mechanical damage to the coating following normal painting operations.
11. "Silicone-Release Coating": Any coating which contains silicone resin and is intended to prevent food from sticking to surfaces such as baking pans.
12. "Solar-Absorbent Coating": A coating which has as its prime purpose the absorption of solar radiation.
13. "Touch Up": That portion of the coating operation which is incidental to the main coating process, but necessary to cover minor imperfections or to achieve coverage as required.
14. "Transfer Efficiency": The ratio of the weight of coating solids which adhere to the object being coated to the weight of coating solids used in the application process, expressed as a percentage.
15. "Vacuum-Metalizing Coating": The undercoat applied to the substrate on which the metal is deposited or the overcoat applied directly to the metal film.
16. "Volatile Organic Compound (VOC)": As defined in the current version of District Rule 105, Definitions.
17. "Zinc Filled Primer": Any coating which has an elemental zinc content of not less than 240 grams/liter (2.0 pounds/gallon) of coating as applied.

### C. EXEMPTIONS

1. The provisions of this Rule shall not apply to:
  - a. Aircraft or aerospace vehicle coating operations.
  - b. Marine vessel exteriors (below water-line).
  - c. Automobile refinishing.
  - d. Architectural surface coating, as defined in District Rule 105.
2. The provisions of Subsections D.1 and D.2 of this Rule shall not apply to:
  - a. Any coating used in volumes of less than 20 gallons in any calendar year, provided that the source demonstrates that no complying coatings are available. Written approval must be obtained from the District.
  - b. Stationary sources using not more than four (4) gallons of paint, varnish, lacquer, thinner, and other solvent containing materials in any one day based on a monthly operating day average, provided the recordkeeping requirements in Subsections E.1 and E.2 of this Rule are satisfied.
  - c. Stationary sources electing to utilize control equipment demonstrated to the satisfaction of the APCO to result in the same or greater emission reduction as would compliance with this rule. Emissions, for the purpose of this exemption, shall be calculated on an hourly basis.
3. The provisions of Subsection D.2 shall not apply to:
  - a. Any coating operation where it can be demonstrated to the satisfaction of the APCO that a transfer efficiency of 65% cannot be achieved. In such case, the most efficient transfer method shall be used.
  - b. Metallic coatings which contain more than 30 grams of metal particles per liter of coating as applied.
4. Any emission unit subject to the requirements of this Rule shall be exempt from the requirements of Rule 407, Organic Material Emission Standards.

### D. REQUIREMENTS

1. A person shall not use, apply, or specify any coating for use on any metal part or product subject to the provisions of this Regulation which contains volatile organic compounds in excess of the following limits, as applied:

VOC Limitation				
Grams of VOC per Liter of Coating Applied, Excluding Water and Exempt Compounds*				
COATING	AIR-DRIED		BAKED	
	g/l	(lb/gal)	g/l	(lb/gal)
a. General	340	(2.8)	275	(2.3)
b. Military Specification	340	(2.8)	275	(2.3)
c. Metallic	420	(3.5)	360	(3.0)
d. Zinc Filled Primers	420	(3.5)	420	(3.5)
e. Etching filler	720	(6.0)	720	(6.0)
f. Solar Absorbent	420	(3.5)	360	(3.0)
g.. Heat-Resistant	420	(3.5)	360	(3.0)
h. Extreme-High Gloss	420	(3.5)	360	(3.0)
i. Extreme-Performance	420	(3.5)	360	(3.0)
j. Prefabricated Architectural Component	420	(3.5)	275	(2.3)
k. Touch-up	420	(3.5)	360	(3.0)
l. Repair	420	(3.5)	360	(3.0)
m. Silicone Release	420	(3.5)	420	(3.5)
n. High-performance Architectural	750	(6.3)	720	(6.0)
o. Camouflage	420	(3.5)	360	(3.0)
p. Vacuum-metalizing	800	(6.7)	800	(6.7)
q. Mold Seal	750	(6.3)	750	(6.3)
r. High-temperature	720	(6.0)	720	(6.0)
s. Electric-Insulating Varnish	620	(5.2)	620	(5.2)
t. Pretreatment Wash Primer	780	(6.5)	780	(6.5)

\* Grams of VOC Per Liter of Coating, Excluding Water and Exempt Compounds =

$$\frac{W_s - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

Where:

Ws = weight of volatile compounds (grams)

Ww = weight of water (grams)

Wec = weight of exempt compounds (grams)

Vm = volume of coating material used (liters)

$V_w$  = volume of water used (liters)

$V_{ec}$  = volume of exempt compounds used (liters)

1. Except as otherwise provided in Section C, a person shall not use or operate any coating application equipment subject to the provisions of this Rule unless the coating is applied by use of one of the following (properly operating) methods:
  - a. electrostatic application, or
  - b. flow coat, or
  - c. dip coat, or
  - d. high-volume low-pressure, or
  - e. such other coating application methods as are demonstrated to be capable of achieving at least 65 percent transfer efficiency and for which written approval of the APCO has been obtained.

#### 1. Solvent Disposal and Clean-up Requirements

- a. Surface Preparation, Clean-up or Coating Removal: Closed containers approved by the local fire agency shall be used for the storage or disposal of solvent-containing cloth or paper used for surface preparation, clean-up or coating removal. Containers shall be nonabsorbent.
- b. All VOC containing materials, including but not limited to fresh or spent solvent, coatings, and reducers, shall be kept in closed containers when not in use.
- c. Spray Equipment Clean-up Limitation: No person shall use materials containing VOCs for spray equipment cleanup unless:
  1. An enclosed gun washer is properly used for cleaning, or
  2. A gun washer, approved by the APCO, is properly used for cleaning and the composite vapor pressure of materials used is less than 45 mm Hg (0.87 psi) at a temperature of 20 degrees Celsius (68 F°).
- d. Disposal and Evaporation of Solvents: No person shall dispose of a total of more than one (1) quart per day of any organic solvent by means which will permit the evaporation of such solvent into the atmosphere. The volume of organic solvent in any disposed material containing organic solvent shall be included in the above total.

### **E. RECORDKEEPING**

1. Any person subject to the requirements of this Rule shall have coating manufacturer's specification sheets, material safety data sheets (MSDS), or technical data sheets available for review and shall maintain records which show, on a monthly basis, the following for each coating:
  - a. The amount and type of coating used by each piece of application equipment.
  - b. The amount of VOC in each coating and the volume of each coating at the time of application.
  - c. The amount of solvent and exempt compound(s) used.

- d. The VOC content of each solvent.
  - e. The method of application.
  - f. The amount of solvent disposed of or sent to a recycler.
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1. Such records shall be maintained for a minimum of two (2) years and be available for inspection by District personnel.
  2. Sources subject to Title V operating permits or other Federal requirements shall maintain records for a minimum of five (5) years.

## **F. TEST METHODS**

1. Coating solvent content shall be determined using EPA reference method 24 or its equivalent.
  2. Transfer Efficiency shall be determined by using a method which:
    - a. was modeled after the test method described in the EPA document: "Development of Proposed Standard Test Method for Spray Painting Transfer Efficiency," (EPA/600/2-88-26b),
    - b. simulates the transfer efficiency achieved during the actual operations, and
    - c. has received prior written approval by the APCO.
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1. The acid content of pretreatment wash primers and etching fillers shall be determined using the American Society for Testing and Materials (ASTM) Method D 1613.
  2. The solids content of etching fillers shall be determined using EPA Reference Method 24.
  3. The measurement of the metal content of metallic coatings shall be determined using Method 311, Determination of Percent Metal in Metallic Coatings by Spectrographic Method, contained in the South Coast Air Quality Management District's manual, "Laboratory Methods of Analysis for Enforcement Samples."

## **G. COMPLIANCE SCHEDULE**

1. All Subsections of this Rule shall apply to any new facility or source obtaining a District Permit to Operate on or after January 28, 1998.
2. For all existing facilities within the District which either apply or specify the use of surface coatings to metal parts and products, all Subsections of this Rule shall apply on January 28, 1998.