RULE 4603 SURFACE COATING OF METAL PARTS AND PRODUCTS, PLASTIC PARTS AND PRODUCTS, AND PLEASURE CRAFTS

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1.0 Purpose

The purpose of this rule is to limit the emissions of volatile organic compounds (VOC) from the coating of metal parts and products, large appliances parts or products, metal furniture, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure crafts, and from the organic solvent cleaning and storage and disposal of solvents and waste solvent materials associated with such coating. This rule also specifies the administrative and recordkeeping requirements and the test methods for determining the VOC content, the VOC emissions, the VOC capture efficiency, the acid content, the metallic or iridescent quality of coatings, and the VOC emissions from spray gun cleaning systems.

2.0 Applicability

The provisions of this rule shall apply to the surface coating of metal parts or products, large appliances parts or products, metal furniture, and plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure crafts, and to the organic solvent cleaning, and the storage and disposal of all solvents and waste solvent materials associated with such coating.

3.0 Definitions

3.1 Aerospace Vehicles: the completed unit of any aircraft, helicopter, missile or space vehicle.

3.2 Adhesion Primer: A coating that is applied to a polyolefin transportation plastic part or business machine plastic part to promote the adhesion of a subsequent coating. An adhesion primer is clearly identified as an adhesion primer or adhesion promoter on its accompanying material data sheet.

3.32 Air Dried: a process whereby the coated object is cured or dried at ambient temperature or at a temperature below 194°F.

3.43 Air Pollution Control Officer (APCO): as defined in Rule 1020 (Definitions).

3.54 Antifoulant Coating: any coating applied to the underwater portion of a pleasure craft to prevent the attachment of biological organisms, and registered with the EPA

as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code Section 136).

3.6~~5~~ Application Equipment: a device, including, but not limited to, a spray gun, brush, and roller, used to apply adhesives, coatings, or inks.

3.7~~6~~ ARB: California Air Resources Board.

3.8~~7~~ ASTM: ~~means~~ ASTM International, formerly known as the American Society for Testing and Materials.

3.9~~8~~ Baked: a process whereby the coated object is heated above ambient temperature to a temperature at or above 194°F for the purpose of curing or drying.

3.10~~9~~ Basecoat/Clearcoat: a two-step topcoat system in which a highly pigmented, often metallic, basecoat is followed by a clearcoat, resulting in a finish with high gloss.

3.11~~10~~ Bench Scale Project: a project (other than at a research and development facility) that is operated on a small scale, such as one capable of being located on a laboratory bench top.

3.12~~11~~ Brush Coating: the manual application of coatings using brushes or rollers.

3.13~~12~~ Business Machine: a device that uses electronic or mechanical methods to process information, perform calculations, print or copy information or convert sound into electrical impulses for transmission, including devices listed in standard industrial classification numbers 3572, 3573, 3574, 3579, and 3661 and photocopy machines, a subcategory of standard industrial classification number 3861.

3.14~~13~~ Camouflage Coating: a coating used primarily by the military to conceal equipment from detection.

3.15~~14~~ CFR: Code of Federal Regulations.

3.16~~15~~ Clearcoat: a transparent coating usually applied over a colored, opaque coat to improve gloss and provide protection to the colorcoat below.

3.17~~16~~ Clear Coating: a colorless coating which contains binders, but no pigment, and is formulated to form a transparent film.

3.18~~17~~ Coating: a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealers, and stains.

3.19~~18~~ Coating of Plastic Parts of Automobiles and Trucks: the coating of any plastic part that is or shall be assembled with other parts to form an automobile or truck.

3.20~~19~~ Coating of Plastic Parts of Business Machines: the coating of any plastic part that is or shall be assembled with other parts to form a business machine.

3.21~~20~~ Coils: metal sheets or strips which are rolled into coils for further industrial or commercial use.

3.22~~21~~ Continuous Coating: an enclosed coating system where spray nozzles coat metal parts and products as they are conveyed through the enclosure. Water wash zones control the inlet and outlet of the enclosure. Excess coating drains into a recirculation system.

3.23~~22~~ Cured Adhesive, Cured Coating, or Cured Ink: an adhesive, coating, or ink that is dry to the touch.

3.24~~23~~ Degreaser: a tank, tray, drum or other container in which objects to be cleaned are exposed to a solvent or solvent vapor in order to remove contaminants. The objects to be cleaned include, but are not limited to, parts, products, tools, machinery, and equipment. An enclosed spray application equipment cleaning system is not a degreaser.

3.25~~24~~ Dip Coating: the process in which a substrate is immersed in a solution (or dispersion) containing the coating material, and then withdrawn.

3.26~~25~~ Dissolver: an organic solvent that is added to an adhesive, coating, or ink in order to melt or to liquefy solid particles.

3.27~~26~~ Electric Dissipating Coating: a coating that rapidly dissipates a high-voltage electric charge.

3.28~~27~~ Electrodeposition: a dip coating application method where the paint solids are given an electrical charge which is then attracted to a substrate.

3.29~~28~~ Electrostatic Application: a method of spray application of coatings where an electrostatic potential is created between the parts to be coated and the paint particles.

3.30 Electrostatic Preparation Coating: A coating that is applied to transportation plastic parts or business machine plastic parts solely to provide conductivity for the subsequent application of a primer, a topcoat, or other coating through the use of electrostatic spray. An electrostatic preparation coating is clearly identified as an electrostatic preparation coating on its accompanying material data sheet.

3.31~~29~~ Electro-Magnetic Interference/Radio Frequency Interference (EMI/RFI) Shielding Coating: a coating used on electrical or electronic equipment to provide shielding

against electromagnetic interference, radio frequency interference, or static discharge.

3.32~~30~~ EPA: United States Environmental Protection Agency.

3.33~~31~~ Exempt ~~Organic~~ Compound~~s~~: a~~ll organic~~ compound~~s~~ identified as exempt under the definition of ~~not classified as volatile organic compounds (~~VOC~~)~~, as listed in Rule 1020 (Definitions).

3.34~~32~~ Extreme High Gloss Coating: any coating which achieves at least 95% reflectance on a 60-degree gloss meter when tested by ASTM D-523-89.

3.35~~33~~ Extreme Performance Coating: a coating used on a metal surface where the coated surface is, in its intended use, exposed to any of the following:

3.35~~33~~.1 Repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial grade solvents, cleaners, or abrasive scouring agents; or

3.35~~33~~.2 Unprotected shipboard conditions; or

3.35~~33~~.3 Temperatures consistently in excess of 250°F; or

3.35~~33~~.4 Chronic exposure to corrosive, caustic or acidic agents, chemicals, chemical fumes, chemical mixtures or solutions.

3.36~~34~~ Flow Coating: a coating application system, with no air supplied to the nozzle, where paint flows over the part and the excess coating drains back into the collection system.

3.37~~35~~ Fog Coating: a coating that is applied to a plastic part for the purpose of color matching without masking in a molded-in texture. A fog coat shall be applied to a thickness of more than 0.5 mils of coating solids.

3.38~~36~~ Finish Primer/Surfacer: a coating applied with a wet film thickness of less than 10 mils~~ or more~~ prior to the application of a topcoat for purposes of providing corrosion resistance, adhesion of subsequent coatings, or moisture barrier, or promoting a uniform surface necessary for filling in surface imperfections.

3.39 Gloss Reducer: A coating that is applied at a thickness 0.5 mils or less of coating solids to a business machine plastic part or a transportation plastic part solely to reduce the shine of the part.

3.40~~37~~ Grams of VOC per Liter of Coating Applied, Excluding Water and Exempt Compounds: the weight of VOC per combined volume of VOC and coating solids and can be calculated by the following equation:

$$\text{Grams of VOC per Liter of Coating Applied Excluding Water and Exempt Compounds} = \frac{Ws - Ww - Wec}{Vm - Vw - Vec}$$

Where:

Ws = weight of volatile compounds, in grams
Ww = weight of water, in grams
Wec = weight of exempt compounds, in grams
Vm = volume of material, in liters
Vw = volume of water, in liters
Vec = volume of exempt compounds, in liters

3.41~~38~~ Grams of VOC per liter of Material: the weight of VOC per volume of material and can be calculated by the following equation:

$$\text{Grams of VOC per Liter of Material} = \frac{Ws - Ww - Wec}{Vm}$$

Where:

Ws = weight of volatile compounds, in grams
Ww = weight of water, in grams
Wec = weight of exempt compounds, in grams
Vm = volume of material, in liters

3.42~~39~~ Heat Resistant Coating: any coating, which during normal use, must withstand temperatures of at least 400°F.

3.43~~40~~ High Build Primer/Surfacer: a coating applied with a wet film thickness of 10 mils or more, prior to the application of a topcoat, for purposes of providing corrosion resistance, adhesion of~~or~~ subsequent coatings, or a moisture barrier, or promoting a uniform surface necessary for filling in surface imperfections.

3.44~~41~~ High Gloss Coating: any coating which achieves at least 85% reflectance on a 60-degree gloss meter when tested by ASTM Method D-523-89.

3.45~~42~~ High Performance Architectural Coating: a coating used to protect architectural subsections and which meets the requirements of the Architectural Aluminum Manufacturers Association publication number AAMA 605.2-1980.

3.46~~43~~ High Temperature Coating: any coating that is certified to withstand temperatures of at least 1,000°F for 24 hours.

3.47~~44~~ High-Volume, Low-Pressure (HVLP) Spray Equipment: equipment used to apply materials by means of a spray gun which is designed and intended to be operated, and which is operated, between 0.1 and 10.0 psig of air atomizing pressure, measured dynamically at the center of the air cap and the air horns.

3.48~~45~~ Large Appliance Part: any organic surface-coated metal lid, door, casing, or other interior or exterior metal part or accessory that is assembled to form a large appliance product.

3.49~~46~~ Large Appliance Product: includes, but is not limited to, any organic surface-coated metal range, microwave oven, refrigerator, freezer, washer, dryer, dishwasher, water heater, or trash compactor manufactured for household, commercial, or recreational use.

3.50~~47~~ Light-Duty Truck: any truck having a manufacturer's maximum gross vehicle weight rating of under 6,001 pounds.

3.51~~48~~ Liquid Leak: a visible solvent leak from a container at a rate of more than three drops per minute, or a visible liquid mist.

3.52~~49~~ Magnet Wire: wire used in electromagnetic field application in electrical machinery and equipment such as transformers, motors, generators, and magnetic tape recorders.

3.53~~50~~ Maintenance Cleaning: the cleaning of tools, forms, molds, jigs, machinery, and equipment (except coating application equipment, ink application equipment, or adhesive application equipment), and the cleaning of work areas where maintenance or manufacturing occurs.

3.54~~51~~ Manufacturing Process: the process of making goods or articles by hand or by machine.

3.55 Marine Coating: is any coating, except unsaturated polyester resin (fiberglass) coatings, containing volatile organic materials and applied by any means to boats, ships, and vessels, their appurtenances, and structures such as piers, docks, buoys and oil drilling rigs intended for the exposure to either a marine or fresh water environment.

3.56~~52~~ Marine Vessel: any tugboat, tanker, freighter, passenger ship, barge, or other boat, ship, or watercraft. This includes both salt water and fresh water vessels.

3.57~~53~~ Mask Coating: a thin film coating applied through a template to coat a small portion of a substrate.

3.58~~54~~ Metal Containers or Closures: the interior or the exterior of formed metal cans, drums, pails, or crowns; or flat metal sheets which are intended to be formed into cans, drums, pails, lids, or crowns.

3.59~~55~~ Metal Furniture: includes, but is not limited to, the following types of products: household, office, institutional, laboratory, hospital, public building, restaurants, barber and beauty shop, and dental furniture, as well as components of these products. It also includes office and store fixtures, partitions, shelving, lockers, lamps, and lighting fixtures, and wastebaskets.

3.60~~56~~ Metal Parts and Products: any component or complete unit fabricated from metal, except those subject to the coating provisions of other source specific rules.

3.61~~57~~ Metallic/I~~i~~ridescent Coating: any coating which contains more than 0.042 lb/gal or 5 grams/liter of metal or iridescent particles, as applied, where such particles are visible in the dried film.

3.62~~58~~ Military Specification Coating: a coating which has a formulation approved by the United States Military Agency for use on military equipment.

3.63~~59~~ Mold Seal Coating: the initial coating applied to a mold to provide a smooth surface which, when coated with a mold release coating, prevents products from sticking to the mold.

3.64~~60~~ Motor Vehicle: a vehicle which is self-propelled and is a device by which any person or property may be propelled, moved or drawn upon a highway, excepting a device moved by human power or used exclusively upon stationary rails or tracks.

3.65~~61~~ Multi-Colored Coating: a coating which exhibits more than one color when applied, and which is packaged in a single container and applied in a single coat.

3.66~~62~~ Multi-Component Coating: a coating requiring the addition of a separate reactive resin, commonly known as a catalyst or hardener, before application to form an acceptable dry film.

3.67~~63~~ Non-Absorbent Container: a container made of non-porous material that does not allow the migration of solvents through it.

3.68~~64~~ Non-Atomized Solvent Flow: solvents in the form of a liquid stream without the introduction of any propellant.

3.69~~65~~ Non-Leaking Container: a container without liquid leak.

3.70~~66~~ Normal Business Hours: Monday through Friday, 8:00 am to 5:00 pm.

3.71~~67~~ One-Component Coating: a coating that is ready for application as it comes out of its container to form an acceptable dry film. A thinner, necessary to reduce the viscosity, is not considered a component.

3.72~~68~~ Optical Coating: a coating applied to optical lenses.

3.73~~69~~ Organic Solvent: the same as "Solvent."

3.74~~70~~ Organic Solvent Cleaning: as defined in Rule 4663 (Organic Solvent Cleaning, Storage, and Disposal).

3.75~~71~~ Plastic Part: a piece made from a substance that has been formed from resin through the application of pressure or heat or both.

3.76~~72~~ Pleasure Craft: marine vessels which are manufactured or operated primarily for recreational purposes, or leased, rented, or chartered to a person or business for recreational purposes. The owner or operator of such vessel shall be responsible for certifying that the intended use is for recreational purposes.

3.77~~73~~ Pleasure Craft Coating: any marine coating, except unsaturated polyester resin (fiberglass) coatings, applied by brush, spray, or roller, or other means to a pleasure craft.

3.78~~74~~ Polyester Resin Materials: materials including, but not limited to, unsaturated polyester resins such as isophthalic, orthophthalic, halogenated, biphenol-A, vinyl-ester, or furan resins, cross-linking agents, catalysts, gel coats, inhibitors, accelerators, promoters, and any other VOC-~~-~~containing materials in polyester resin coating operations.

3.79~~75~~ Polyester Resin Operations: methods used for the production or rework of products by mixing, pouring, hand-layup, impregnating, injecting, forming, winding, spraying, and/or curing unsaturated polyester resin materials with fiberglass, fillers, or any other reinforcement materials and associated cleanup.

3.80~~76~~ Pretreatment Coating or Pretreatment Wash Primer: any coating which contains no more than 12 percent solids by weight, and a minimum of one-half (0.5) percent acid by weight, is necessary to provide surface etching, and is applied directly to bare metal or fiberglass surfaces to provide corrosion resistance and adhesion.

3.81~~77~~ Propellant: any gas, including air, in a pressure container for expelling the contents when the pressure is released.

3.82~~78~~ Repair: recoating portions of previously coated product to cover mechanical damage to the coating following normal painting operations.

3.8379 Repair Cleaning: a solvent cleaning operation or activity carried out during a repair process.

3.8480 Repair Process: the process of returning a damaged object or an object not operating properly to good condition.

3.8581 Research and Development: a facility or portion thereof used to further the development of useful materials, devices, systems, or methods, including, but not limited to, design, development, and improvement of prototypes and processes. Research and development does not include the manufacturing process itself.

3.86 Resist Coating: A coating that is applied to a business machine plastic part or transportation plastic part before metallic plating to prevent deposits of metal on portions of the plastic part.

3.8782 Roll Coating: the application of coatings from a paint trough to a flat surface by a mechanical series of rollers.

3.8883 Rolling, Consecutive 365-Day Period: any given date plus the immediate, previous 364 days.

3.8984 SCAQMD: South Coast Air Quality Management District.

3.9085 Scientific Instruments: instruments (including the components, assemblies, and subassemblies used in their manufacture) and associated accessories and reagents which are used for the detection, measurement, analysis, separation, synthesis, or sequencing of various compounds.

3.9186 Shock-Free Coating: a coating applied to electrical components to protect the user from electric shock. The coating has characteristics of being of~~having a~~ low capacitance and high resistance, and having~~being~~ resistance to breaking down under a high voltage.

3.9287 Silicone Release: a coating which contains silicone resin and has as its primary function the release of food products from metal surfaces such as baking pans.

3.9388 Solar Absorbent Coating: a coating which has as its primary purpose the absorption of solar radiation.

3.9489 Solid Film Lubricant: a very thin coating consisting of a binder system containing as its chief pigment material one (1) or more of the following: molybdenum disulfide, graphite, polytetrafluoroethylene (PTFE) or other solids that act as a dry lubricant between closely-fitting surfaces.

3.95~~90~~ Solvent: as defined in Rule 4663 (Organic Solvent Cleaning, Storage, and Disposal).

3.96~~91~~ Solvent Flushing: the use of a solvent to remove uncured adhesives, uncured inks, uncured coatings, or contaminants from the internal surfaces and passages of equipment by flushing solvent, by a non-atomized solvent flow, through the equipment.

3.97~~92~~ Stationary Source: as defined in Rule 2201 (New and Modified Stationary Source Review Rule).

3.98~~93~~ Stencil Coating: a coating that is applied over a stencil to a plastic part at a thickness of 1 mil or less of coating solids. Stencil coat is most frequently letters, numbers, or decorative designs.

3.99~~94~~ Stripping: the use of solvent to remove material such as cured adhesives, cured inks, cured or dried paint, cured or dried paint residue or temporary protective coating.

3.100~~95~~ Surface Preparation: the removal of contaminants from a surface prior to the application of coatings, inks, or adhesives or before proceeding to the next step of a manufacturing process.

3.101~~96~~ Transfer Efficiency: a ratio of the amount of coating solids adhering to the object being coated to the total amount of coating solids used in the application process, expressed as a percentage.

3.102~~97~~ Thinner: a solvent that is used to dilute coatings to reduce viscosity, color strength, and solids, or to modify drying conditions.

3.103~~98~~ Texture coating: a coating that is applied to a plastic part which, in its finished form, consists of discrete raised spots of the coating.

3.104~~99~~ Topcoat: any final coating applied to a substrate. Several layers of topcoat may be applied in some cases.

3.105~~100~~ 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.

3.106~~101~~ Vacuum Metalizing/Physical Vapor Deposition (PVD): a process whereby metal is vaporized and deposited on a substrate in a vacuum chamber.

3.107~~102~~ Viscosity Reducer: an organic solvent which is added to an adhesive, coating or ink to make it more fluid.

3.108~~103~~ Volatile Organic Compounds (VOC): as defined in Rule 1020 (Definitions).

3.109~~104~~ Waste Solvent Material: any solvent which may contain dirt, oil, metal particles, sludge, and/or waste products, or wiping material containing VOC including, but not limited to, paper, cloth, sponge, rag, or cotton swab used in organic solvent cleaning.

3.110~~105~~ Wipe Cleaning: a solvent cleaning activity performed by hand rubbing an absorbent material such as a rag, paper, sponge, brush, or cotton swab containing solvent.

4.0 Exemptions

4.1 Except for large appliance parts and products, metal furniture, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure craft coating operations subject to Section 5.4.1, Section 5.5.1, Section 5.6.1, and Section 5.7.1, respectively, an operator at a given stationary source may use up to a total of 55 gallons of non-compliant coatings per rolling, consecutive 365-day period. All other provisions of the rule, including application methods and administrative requirements shall apply to the use of the non-compliant coatings.

4.1.1 A non-compliant coating is a coating with VOC content, as applied, in excess of the applicable VOC content limits in Sections 5.1, or 5.2.

4.1.2 The 55-gallon exemption limit is the total amount of non-compliant coatings, as applied, for all operations that would otherwise be subject to Section 5.1, or Section 5.2 VOC content limits.

4.1.3 The 55-gallon exemption limit does not apply to non-compliant coatings used in a coating operation with an APCO-approved VOC emission control system that meets the requirements of Section 5.8.

~~4.2 Effective until December 31, 2010, the requirements of this rule shall not apply to metal parts and products touch-up and repair coating operation. On and after January 1, 2011, touch and repair coating used on metal parts and products shall comply with the applicable VOC limit specified in Section 5.2 Table 1.~~

4.2~~3~~ Any source which is in full compliance with the provisions of this rule shall be exempt from otherwise applicable portions of Rule 4661 (Organic Solvents).

4.3~~4~~ The requirements of this rule shall not apply to the application of coatings to aircraft, aerospace vehicles, marine vessels, cans, coils, and magnetic wire.

4.4~~5~~ The provisions of this rule shall not apply to an operation subject to the requirements of Rule 4602 (Motor Vehicle Assembly Coatings).

4.5~~6~~ The provisions of this rule shall not apply to an operation subject to the requirements of Rule 4612 (Motor Vehicle and Mobile Equipment Operations ~~Phase II~~).

4.6~~7~~ The provisions of this rule shall not apply to polyester resin operations and the application of polyester resin materials to metal parts and products that are subject to Rule 4684 (Polyester Resin Operations).

4.7~~8~~ For plastic parts and products coating operations (except for automotive/transportation and business machine plastic parts as specified in Section 4.9~~10~~), the VOC limits of Section 5.5, Table 3 and the solvent cleaning requirements of Section 5.10 shall not apply to the types of coatings and coating operations specified in Sections 4.7~~8~~.1 through 4.7~~8~~.9, provided the operator complies with the work practice standards in Section 5.9 and coating application methods in Section 5.12 of this rule.

4.7~~8~~.1 Touch-up and repair coatings.

4.7~~8~~.2 Stencil coatings applied on clear or transparent substrates.

4.7~~8~~.3 Clear ~~or translucent~~ coatings.

4.7~~8~~.4 Coatings applied at a paint manufacturing facility while conducting performance tests on coatings.

4.7~~8~~.5 Any individual coating category used in volumes less than 50 gallons in any one calendar year, if substitute compliance coatings are not available, and the total usage of all such coatings does not exceed 200 gallons per calendar year, per stationary source.

4.7~~8~~.6 Reflective coatings used on highway cones.

4.7~~8~~.7 Mask coatings that are less than 0.5 millimeter thick (dried) and the area coated is less than 25 square inches.

4.7~~8~~.8 ~~Electro-Magnetic Interference (~~EMI~~)~~/~~Radio Frequency Interference (~~RFI~~)~~ shielding coatings.

4.7~~8~~.9 Heparin-bezalkonium chloride (HBAC)-containing coatings applied to medical devices, provided that the total usage of all such coatings does not exceed 100 gallons per calendar year, per stationary source.

4.8~~9~~ For plastic parts and products coating operations (except for automotive/transportation and business machine plastic parts as specified in Section 4.9~~10~~), the coating application methods in Section 5.12 shall not apply to airbrush operations using five (5) gallons or less of coating per calendar year, provided the operator complies with the applicable VOC limits in Table 3, work practice standards in Section 5.9 and applicable recordkeeping requirement of Section 6.2.

4.9~~10~~ For automotive/transportation and business machine plastic parts and products coating operations, the VOC limits of Section 5.6, Table 4 and the solvent cleaning requirements of Section 5.10 shall not apply to the types of coatings and coating operations specified in Sections 4.9~~10~~.1 through 4.9~~10~~.8, provided the operator complies with the work practice standards in Section 5.9 and coating application methods in Section 5.12 of this rule.

4.9~~10~~.1 Texture Coatings.

4.9~~10~~.2 Texture Topcoats.

4.9~~10~~.3 Gloss Reducers.

4.9~~10~~.4 Vacuum Metalizing/PVD Coatings.

4.9~~10~~.5 Adhesion Primers.

4.9~~10~~.6 Electrostatic Preparation Coatings.

4.9~~10~~.7 Resist Coatings.

4.9~~10~~.8 Stencil Coatings.

4.10~~11~~ For pleasure craft surface coating operations, the application method in Section 5.12 shall not apply to extreme high gloss coating provided the operator complies with the extreme high gloss coating VOC limit in Table 5 and the work practice standards in Section 5.9 of this rule.

4.11~~12~~ Except as provided under Section 5.10.3, t~~T~~he provisions of this rule shall not apply to stripping of cured coatings, cured adhesives, and cured inks, except the stripping of such materials from spray application equipment.

4.12~~13~~ The VOC content limits of Table 6 shall not apply to the following applications:

4.12~~13~~.1 Cleaning of solar cells, laser hardware, scientific instruments, or high precision optics.

4.12~~13~~.2 Cleaning in laboratory tests and analyses, or bench scale or research and development projects.

4.12~~13~~.3 Cleaning of paper-based gaskets.

4.12~~13~~.4 Cleaning of clutch assemblies where rubber is bonded to metal by means of an adhesive.

4.13~~14~~ The VOC content limit of Table 6, Category C, shall not apply to the cleaning of application equipment used to apply coatings on satellites or to the cleaning of application equipment used to apply radiation effect coatings.

5.0 Requirements

5.1 General Coating Limits for Metal Parts and Products, Except for Large Appliance Parts or Products, and Metal Furniture Subject to Section 5.4.1

Except as otherwise provided by this rule, no operator shall apply to any metal part or product any coating with a VOC content in excess of the following limits, expressed as grams of VOC per liter (or pounds per gallon) of coating, less water and exempt compounds, as applied.

5.1.1 Baked Coating: 275 grams/liter (2.3 pounds/gallon)

5.1.2 Air-Dried Coating: 340 grams/liter (2.8 pounds/gallon)

5.1.3 VOC Content Limit for Dip coating of steel joists (SIC 3441), air-dried.

5.1.3.1 340 grams of VOC/liter (2.8 pounds of VOC/gallon) for coatings with a viscosity, as applied, of more than 45.6 centistokes at 78°F or an average dry-film thickness of greater than 2.0 mils;

5.1.3.2 400 grams of VOC/liter (3.32 pounds of VOC/gallon) for coatings with a viscosity, as applied, of less than or equal to 45.6 centistokes at 78°F and an average dry-film thickness of less than or equal to 2.0 mils.

5.2 Specialty Coating for Metal Parts and Products, Except for Large Appliance Parts or Products, and Metal Furniture Subject to Section 5.4.1

An operator subject to Section 5.2 shall not apply to any metal part or product any specialty coating with a VOC content in excess of the limits in Table 1.

Table 1 - VOC Content Limits for Specialty Coatings, except for Large Appliance Parts or Products, and Metal Furniture subject to Section 5.4.1 Limits are expressed as grams of VOC-/liter (or pounds of VOC/gallon) of coating, less water and less exempt compounds, as applied.		
Coating Type	VOC Limit	
	Baked	Air-Dried
Camouflage	360 (3.0)	420 (3.5)
Extreme Performance	~~420 (3.5) Effective until December 31, 2010.~~ 360 (3.0) ~~Effective on and after January 1, 2011.~~	420 (3.5)
Heat Resistant	360 (3.0)	420 (3.5)
Extreme High Gloss	360 (3.0)	420 (3.5)
High Performance Architectural	420 (3.5)	420 (3.5)
High Temperature	420 (3.5)	420 (3.5)
Metallic Coating	360 (3.0)	420 (3.5)
Pretreatment Coating	420 (3.5)	420 (3.5)
Touch-Up and Repair Coating	360 (3.0) ~~Effective on and after January 1, 2011.~~	420 (3.5) ~~Effective on and after January 1, 2011.~~
Silicone Release	420 (3.5)	420 (3.5)
Solar Absorbent	360 (3.0)	420 (3.5)
Solid Film Lubricant	880 (7.3)	880 (7.3)

5.3 In lieu of complying with the applicable VOC content limits of Section 5.1, or Table 1, an operator may control emissions from coating operations with an APCO-approved VOC emission control system that meets the requirements of Section 5.8.

5.4 Coating Limits for Large Appliance Parts or Products Coating Operation and Metal Furniture Coating Operation

5.4.1 An operator whose total actual VOC emissions from all large appliance parts or products coating operations, or metal furniture coating operations, including related cleaning activities, at a stationary source are equal to or greater than three (3) tons of VOC per 12-month rolling period, before consideration of controls, shall not apply to any large appliance parts or products or metal furniture any coating with a VOC content in excess of the applicable limits in Table 2. In lieu of complying with the VOC content limits in Table 2, an operator may comply with Section 5.4.1.2.

5.4.1.1 An operator shall comply with the applicable recordkeeping requirements of Section 6.2 to demonstrate if the VOC emissions from all large appliance parts or products coating operations, or

metal furniture coating operations, including related cleaning activities, are equal to or greater than three (3) tons of VOC per 12-month rolling period.

5.4.1.2 In lieu of complying with the VOC content limits in Table 2, an operator may operate a VOC control system that meets the applicable requirements of Section 5.8.

5.4.2 An operator of large appliance parts or products coating operations, or metal furniture coating operations whose total actual VOC emissions from all large appliance parts or products coating operations, or metal furniture coating operations, including related cleaning activities, at a stationary source are less than three (3) tons of VOC per 12-month rolling period, before consideration of controls, shall comply with the applicable VOC content limits of coatings specified in Sections 5.1 and 5.2. An operator shall comply with the applicable recordkeeping requirements of Section 6.2 to demonstrate if the VOC emissions from all large appliance parts or products coating operations, or metal furniture coating operations, including related cleaning activities are less than three (3) tons of VOC per 12-month rolling period.

Table 2 - VOC Content Limits for Large Appliance Parts or Products, and Metal Furniture Coating Operations subject to Section 5.4.1 Limits are expressed as grams of VOC/liter (or pounds of VOC/gallon) of coating, less water and less exempt compounds, as applied.		
Coating Type	VOC Limit	
	Baked	Air-dried
General, One Component	275 (2.3)	275 (2.3)
General, Multi-Component	275 (2.3)	340 (2.8)
Extreme High Gloss	360 (3.0)	340 (2.8)
Extreme Performance	360 (3.0)	420 (3.5)
Heat Resistant	360 (3.0)	420 (3.5)
Metallic	420 (3.5)	420 (3.5)
Pretreatment Coating	420 (3.5)	420 (3.5)
Solar Absorbent	360 (3.0)	420 (3.5)

5.5 Plastic Parts and Products Coating Operations (Except for Automotive/Transportation and Business Machine Plastic Parts and Products Coating Operations that are subject to Section 5.6)

~~On and after January 1, 2011, a~~An operator of plastic parts and products coating operations, except for automotive/transportation and business machine plastic parts and products coating operations that are subject to Section 5.6, shall comply with the applicable requirements of Section 5.5.1 or Section 5.5.2.

5.5.1 An operator whose total actual VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure craft coating operations, including related cleaning activities, at a stationary source are equal to or greater than 2.7 tons of VOC per 12-month rolling period, before consideration of controls, shall not apply to any plastic parts and products any coating with a VOC content in excess of the applicable limits in Table 3.

5.5.1.1 An operator shall comply with the applicable recordkeeping requirements of Section 6.2 and calculate the VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure craft coating operations, to demonstrate if the VOC emissions from all, including related cleaning activities, are equal to or greater than 2.7 tons of VOC per 12-month rolling period.

5.5.1.2 In lieu of complying with the VOC content limits in Table 3, an operator may operate a VOC control system that meets the applicable requirements of Section 5.8.

5.5.2 An operator of plastic parts and products coating operations whose total actual VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure craft coating operations, including related cleaning activities, at a stationary source are less than 2.7 tons of VOC per 12-month rolling period, before consideration of controls, are not subject to the coating limits in Table 3. However, the operator shall comply with the applicable recordkeeping requirements of Section 6.2 and calculate the VOC emission to demonstrate if the VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure craft coating operations, including related cleaning activities are less than 2.7 tons of VOC per 12-month rolling period.

Table 3 - VOC Content Limits for Plastic Parts and Products Coating Operations Subject to Section 5.5.1, except for Automotive/Transportation and Business Machine Plastic Parts and Products that are subject to Section 5.6.
Limits are expressed as grams of VOC/liter (or pounds of VOC/gallon) of coating, less water and less exempt compounds, as applied.

Coating Type	VOC Limit
General One-Component	280 (2.3)
General Multi-Component	420 (3.5)
Electric Dissipating Coatings and Shock-Free Coatings	800 (6.7)
Extreme Performance	420 (3.5) for 2-pack coating
Metallic	420 (3.5)
Military Specification	340 (2.8) for 1 pack 420 (3.5) for 2-pack coating
Mold-Seal	760 (6.3)
Multi-colored Coatings	680 (5.7)
Optical Coatings	800 (6.7)
Vacuum-Metalizing	800 (6.7)

5.6 Automotive/Transportation and Business Machine Plastic Parts and Products Coating Operations

~~On and after January 1, 2011, a~~An operator of automotive/transportation and business machine plastic parts and products coating operations shall comply with the applicable requirements of Section 5.6.1 or Section 5.6.2.

5.6.1 An operator whose total actual VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure craft coating operations, including related cleaning activities, at a stationary source are equal to or greater than 2.7 tons of VOC per 12-month rolling period, before consideration of controls, shall not apply to any automotive/transportation

and business machine plastic parts and products any coating with a VOC content in excess of the applicable limits in Table 4.

5.6.1.1 An operator shall comply with the applicable recordkeeping requirements of Section 6.2 and calculate the VOC emission to demonstrate if the VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure craft coating operations, including related cleaning activities, are equal to or greater than 2.7 tons of VOC per 12-month rolling period.

5.6.1.2 In lieu of complying with the VOC content limits in Table 4~~3~~, an operator may operate a VOC control system that meets the applicable requirements of Section 5.8.

5.6.2 An operator of automotive/transportation and business machine plastic parts and products coating operations whose total actual VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure craft coating operations, including related cleaning activities, at a stationary source are less than 2.7 tons of VOC per 12-month rolling period, before consideration of controls, are not subject to the coating limits in Table 4. However, the operator shall comply with the applicable recordkeeping requirements of Section 6.2 and calculate the VOC emission to demonstrate if the VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure craft coating operations, including related cleaning activities are less than 2.7 tons of VOC per 12-month rolling period.

Table 4 - VOC Content Limits for Automotive/Transportation and Business Machine Plastic Parts and Products Coating Operations Subject to Section 5.6.1 Limits are expressed as grams of VOC/liter (or pounds of VOC/gallon) of coating, less water and less exempt compounds, as applied.	
VOC Content Limit For Automotive/Transportation Plastic Parts and Products Coatings	
Coating Type	VOC Limit
I. High Baked Coatings – Interior and Exterior	
Flexible Primer	540 (4.5)
Non-flexible Primer	420 (3.5)
Basecoat	520 (4.3)
Clearcoat	480 (4.0)
Non-basecoat/clearcoat	520 (4.3)
II. Low Bake/Air-Dried Coatings – Exterior Parts	
Primers	580 (4.8)
Basecoat	600 (5.0)
Clearcoat	540 (4.5)
Non-basecoat/clearcoat	600 (5.0)
III. Low Bake/Air-Dried Coatings – Interior parts	600 (5.0)
IV. Touch-up and Repair Coatings	620 (5.2)
VOC Content Limit For Business Machine Plastic Parts and Products Coatings	
Coating Type	VOC Limit
Primer	350 (2.9)
Topcoat	350 (2.9)
Texture Coat	350 (2.9)
Fog Coat	260 (2.2)
Touch-up and Repair	350 (2.9)

5.7 Pleasure Craft Coating Operations

~~On and after January 1, 2011, a~~An operator of pleasure craft coating operations shall comply with the applicable requirements of Section 5.7.1 or Section 5.7.2.

5.7.1 An operator whose total actual VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure craft coating operations, including related cleaning activities, at a stationary source are equal to or greater than 2.7 tons of VOC per 12-month rolling period, before consideration of controls, shall not apply any coatings on pleasure crafts with a VOC content in excess of the applicable limits in Table 5.

5.7.1.1 An operator shall comply with the applicable recordkeeping requirements of Section 6.2 to demonstrate if the VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure craft coating operations, including related

cleaning activities, are equal to or greater than 2.7 tons of VOC per 12-month rolling period.

5.7.1.2 In lieu of complying with the VOC content limits in Table 5, an operator may operate a VOC control system that meets the applicable requirements of Section 5.8.

5.7.2 An operator of pleasure craft coating operations whose total actual VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure craft coating operations, including related cleaning activities, at a stationary source are less than 2.7 tons of VOC per 12-month rolling period, before consideration of controls, are not subject to the coating limits in Table 5. However, the operator shall comply with the applicable recordkeeping requirements of Section 6.2 and calculate the VOC emission to demonstrate if the VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure craft coating operations, including related cleaning activities are less than 2.7 tons of VOC per 12-month rolling period.

Table 5 - VOC Content Limits for Pleasure Craft Coating Operations Subject to Section 5.7.1
Limits are expressed as grams of VOC/liter (or pounds of VOC/gallon) of coating, less water and less exempt compounds, as applied.

Coating Type	VOC Limit
Extreme High Gloss Topcoat	490 (4.1)
High Gloss Topcoat	420 (3.5)
Pretreatment Wash Primer	780 (6.5)
Finish Primer-/Surfacer	420 (3.5)
High Build Primer-/Surfacer	340 (2.8)
Aluminum Substrate Antifoulant Coating	560 (4.7)
Other Substrate Antifoulant Coating	330 (2.8)
All other pleasure craft surface coatings for metal or plastic	420 (3.5)

5.8 VOC Emission Control System Requirements

In lieu of complying with applicable provisions of Sections 5.1, 5.2, 5.4, 5.5, 5.6, 5.7, 5.10, or 5.12, an operator may use a VOC emission control system that controls emissions from the source operation and meets the requirements of Sections 5.8.1 through 5.8.4.

5.8.1 The VOC emission control system shall be under District permit.

5.8.2 The VOC emission control system shall comply with the requirements of Sections 5.8.3 and 5.8.4 during periods of emission-producing activities.

5.8.3 The VOC emission control system shall be operated with an overall capture and control efficiency of at least 90 percent by weight as determined in Section 6.3.

5.8.4 Use of a VOC emission control system shall not result in emissions in excess of those that would have been emitted had the operator complied with the applicable provisions of Sections 5.1, 5.2, 5.4, 5.5, 5.6, 5.7, 5.10 or 5.12.

5.8.4.1 The following equation shall be used to determine if the minimum required overall capture and control efficiency of an emission control system is at an equivalent or greater level of VOC reduction as would be achieved using compliant materials, equipment, or work practices, as stated in Section 5.8.

$$CE = \left[1 - \left(\frac{VOC_{LWc}}{VOC_{LWn,Max}} \; x \; \frac{1 - \left(VOC_{LWn,Max} \; / \; D_{n,Max} \right)}{1 - \left(VOC_{LWC} \; / \; D_c \right)} \right) \right] x \; 100$$

Where:

CE = Minimum Required Control Efficiency, percent

VOC_{LWc} = VOC Limit of Rule 4603, less water and less exempt compounds

$VOC_{LWn,Max}$ = Maximum VOC content of coating (or solvent) used in conjunction with a control device, less water and less exempt compounds

$D_{n,Max}$ = Density of solvent, reducer, or thinner contained in the noncompliant coating (or cleaning solvent), containing the maximum VOC content of the multi-component (or cleaning solvent)

D_c = Density of corresponding solvent, reducer, or thinner used in the compliant coating (or cleaning solvent) system = 880 gm/liter.

5.9 Work Practice Standards

5.9.1 Any coating operation subject to this rule shall minimize VOC emissions by complying with the work practice standards specified in Sections 5.9.2 through 5.9.5.~~An operator of large appliance parts and products, and metal furniture coating operations shall minimize VOC emissions by complying with the work practice standards specified in Sections 5.9.3 through 5.9.6.~~

~~5.9.2 Effective on and after January 1, 2011, a~~An operator of ~~metal parts and products coating operations, plastic parts and products coating operations,~~

~~automotive/transportation and business machine plastic parts and products coating operations, and pleasure craft coating operations shall minimize VOC emissions by complying with work practice standards specified in Sections 5.9.3 through 5.9.6.~~

5.9.2~~3~~ Store all VOC-containing coatings, thinners, cleaning materials, and waste materials in closed non-absorbent and non-leaking containers. The containers shall remain closed at all times, except when specifically in use.

5.9.3~~4~~ Close mixing vessels that contain VOC-containing coatings and other materials, except when specifically in use.

5.9.4~~5~~ Minimize spills of any VOC-containing materials and clean up spills immediately.

5.9.5~~6~~ Convey VOC-containing materials in closed containers or pipes.

5.10 Organic Solvent Cleaning Requirements

5.10.1 An operator shall not use organic solvents for cleaning operations that exceed the VOC content limits specified in Table 6.

5.10.2 An operator shall perform all solvent cleaning operations with cleaning material having VOC content of 25 g/L or less, unless such cleaning operations are performed within the control of an APCO-approved VOC emission control system that meets the requirements of Section 5.8.

5.10.3 An operator shall not use stripping agents that exceed 200 g/L (1.67 lb/gal) of VOCs, less water and less exempt compounds, as applied, to remove cured coatings, cured adhesives, and cured inks from metal parts and products upon satisfaction of both Sections 5.10.3.1 and 5.10.3.2 for the applicable 2008 or 2015 8-hour Ozone National Ambient Air Quality Standard.

5.10.3.1 EPA has issued final approval of this section as a contingency measure in the California State Implementation Plan for the San Joaquin Valley, and such approval has become effective; and

5.10.3.2 Following the effective date of EPA's approval described in Section 5.10.3.1, EPA has issued a final determination that any one of the contingency-triggering conditions specified in Sections 172(c)(9) or 182(c)(9) of the Clean Air Act have occurred with respect to the applicable ozone standard.

5.10.3.3 Upon satisfaction of Sections 5.10.3.1 and 5.10.3.2, the VOC content limit of 200 g/L for stripping agents used to remove cured coatings, cured adhesives, and cured inks from metal parts and products shall automatically apply sixty (60) days following the effective date of EPA's first, final determination described in Section 5.10.3.2, without further action by the District or EPA.

Table 6 - VOC Content Limits for Organic Solvents Used in Cleaning Operations Limits are expressed as grams of VOC/liter (or pounds of VOC/gallon) of material	
Type of Solvent Cleaning Operation	VOC Content Limit
A. Product Cleaning During Manufacturing Process or Surface Preparation for Coating Application	25 (0.21)
B. Repair and Maintenance Cleaning	25 (0.21)
C. Cleaning of Coating Application Equipment	25 (0.21)

5.11 Solvent Storage and Disposal Requirements

An operator shall store or dispose of fresh or spent solvents, waste solvent cleaning materials ~~such as cloth, paper, etc~~, coatings, adhesives, catalysts, and thinners in closed, non-absorbent and non-leaking containers. The containers shall remain closed at all times except when depositing or removing the contents of the containers or when the container is empty.

5.12 Application Equipment Requirements: An operator shall not use or operate any coating application equipment on any metal parts and products, large appliance~~s~~ parts and products, metal furniture, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure crafts subject to the provisions of this rule unless one of the following methods is used:

5.12.1 Electrostatic application;

5.12.2 Electrodeposition;

5.12.3 High-Volume, Low-Pressure (HVLP) spray,

5.12.3.1 High-Volume, Low-Pressure (HVLP) spray equipment shall be operated in accordance with the manufacturer's recommendations.

5.12.3.2 For HVLP spray guns manufactured prior to January 1, 1996, the end user shall demonstrate that the gun meets HVLP spray equipment standards. Satisfactory proof will be either in the form of manufacturer's published technical material or by a demonstration using a certified air pressure tip gauge, measuring the air atomizing pressure dynamically at the center of the air cap and at the air horns.

5.12.3.3 A person shall not sell or offer for sale for use within the District any HVLP spray gun without a permanent marking denoting the maximum inlet air pressure in psig at which the gun will operate within the parameters specified in Section 3.0.

5.12.4 Flow coating;

5.12.5 Roll coating;

5.12.6 Dip coating;

5.12.7 Brush coating;~~ or~~

5.12.8 Continuous coating; or

5.12.9 Any other coating application method which is demonstrated to the APCO to be capable of achieving at least 65 percent transfer efficiency. The transfer efficiency shall be determined in accordance with the SCAQMD method "Spray Equipment Transfer Efficiency Test Procedure for Equipment User," May 24, 1989, as contained in Section 6.3.8. Prior written approval from the APCO shall be obtained for each coating application method to be used pursuant to Section 5.12.9.

5.12.10 In lieu of compliance with Sections 5.12.1 through 5.12.9 an operator may control emissions from application equipment with a VOC emission control system that meets the requirements of Section 5.8.

5.13~~12~~ Prohibition of Specification

No person shall solicit or require for use or specify the application of a coating subject to this rule if such use or application results in a violation of any of the provisions of this rule. The prohibition of this Section shall apply to all written or oral contracts under the terms of which any coating is to be applied to any metal part or product at any physical location within the District.

6.0 Administrative Requirements

6.1 Labeling Requirements

6.1.1 Coating VOC Content

Each container or accompanying data sheet of any coating subject to this rule shall display the maximum VOC content of the coating, as applied, and after any thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating (less water and exempt compounds). VOC content displayed may be calculated using product formulation data, or may be determined using the test method in Section 6.3. For determination of compliance and enforcement of the limits specified in Section 5.0 of this rule, the VOC content of any coating determined to exceed its applicable limit through the use of either product formulation data or the test method in Section 6.3.1 shall constitute a violation of this rule.

6.1.2 Thinning Recommendations

Each container or accompanying data sheet of any coating subject to this rule shall display a statement of the manufacturer's recommendation regarding thinning of the coating. This requirement shall not apply to the thinning of coatings with water.

6.1.3 Solvent Compliance Statement Requirements

Manufacturers of any solvents subject to this rule shall indicate on the solvent container, or on a separate product data sheet or material safety data sheet, the name of the solvent, manufacturer's name, the VOC content, and density of the solvent, as supplied. The VOC content shall be expressed in units of ~~gm~~grams~~/~~ per liter (g/L) or ~~lb~~pounds~~/~~ per gallon (lb/gal).

6.2 Recordkeeping

An operator subject to Section 5.0 or exempt by Sections 4.1, 4.8.5, 4.8.9 and 4.9 shall comply with the following requirements:

6.2.1 Maintain a current list of coatings and solvents in use which contains all of the coating data necessary to evaluate compliance, including the following information, as applicable:

6.2.1.1 mix ratio of components used,

6.2.1.2 VOC content and specific chemical constituents of coatings as applied, and

6.2.1.3 VOC content and specific chemical constituents of solvents used for surface preparation and cleanup.

6.2.2 Maintain daily records which include the following information:

6.2.2.1 volume coating/solvent mix ratio,

6.2.2.2 VOC content (lb/gal or grams/liter) and, for dip coating operations, viscosity (cSt) of coating,

6.2.2.3 volume of each coating used (gallons), and

6.2.2.4 quantity of cleanup solvent used (gallons).

6.2.3 VOC Emission Control System Records

An operator using a VOC emission control system pursuant to Section 5.8 as a means of complying with this rule shall maintain records of key system operating parameters which will demonstrate continuous operation and compliance of the emission control system during periods of emission producing activities. Key system operating parameters are those necessary to ensure compliance with VOC limits. The parameters include, but are not limited to, temperatures, pressures, and flowrates.

6.2.4 Consistent records may be kept in grams/liter and liters instead of pounds/gallon and gallons. An operator of a stationary source subject to this rule shall maintain such records on a daily basis. An operator that is subject to the exemption of Section 4.1 shall maintain usage records of non-compliant coatings on the days that such non-compliant coatings are used.

6.2.5 The operator shall retain the records specified in Sections 6.2.1 through 6.2.4, as applicable, on site for a period of five years, make the records available on site during normal business hours to the APCO, ARB, or EPA and submit the records to the APCO, ARB, or EPA upon request.

6.3 Test Methods

The following test methods shall be used to determine compliance with the provisions of this rule. Alternate test methods may be used provided they are approved by the APCO, ARB, and EPA.

6.3.1 VOC content of coatings and solvents shall be analyzed by EPA Method 24 and analysis of halogenated exempt compounds shall be analyzed by ARB Method 422.

6.3.2 Emissions of VOC shall be measured by EPA Method 25, 25A, or 25B, as applicable, and analysis of halogenated exempt compounds shall be analyzed by ARB Method 422.

6.3.3 The viscosity of coatings used for dip coating of steel joists as specified in Section 5.1.3 of this rule, shall be determined by using ASTM D5478-98 or ASTM D5125-97.

6.3.4 The quantification of coating as a metallic/iridescent topcoat shall be determined by SCAQMD Method 318 (Determination of Weight Percent of Elemental Metal in Coatings by X-ray Diffraction Method), July 1996.

6.3.5 Acid Content: Measurement of acid content of pre-treatment wash primers shall be conducted and reported in accordance with ASTM D1613-96, Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products.

6.3.6 Determination of emissions of VOC from spray gun cleaning systems shall be made using SCAQMD "General Method for Determining Solvent Losses from Spray Gun Cleaning Systems," dated October 3, 1989.

6.3.7 Determination of Overall Capture and Control Efficiency of VOC Emission Control Systems shall be made using the following methods:

6.3.7.1 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.

6.3.7.1.1 Capture Efficiency, in percent, is the ratio of the weight of VOC in the effluent stream entering the control device to the weight of VOC emitted from coating operations that are subject to this rule, both measured simultaneously, and shall be calculated by the following equation:

Capture Efficiency (%) = (Wc ÷ We) x 100

Where:
Wc = weight of VOC entering the control device
We = weight of VOC emitted

6.3.7.2 The control efficiency of a VOC emission control system's VOC control device shall be determined using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25B for measuring total gaseous organic concentrations at the inlet and outlet of the control device. EPA Method 18 or ARB Method 422 shall be used to determine the emissions of exempt compounds.

6.3.7.2.1 Control Efficiency, in percent, is the ratio of the weight of VOC removed by the control device from the effluent stream entering the control device to the weight of VOC in the effluent stream entering the control device, both measured simultaneously, and shall be calculated by the following equation:

Control Device Efficiency (%) = [(Wc-Wa) ÷ Wc] x 100

Where:
Wc = weight of VOC entering the control device
Wa = weight of VOC discharged from the control device

6.3.7.3 For VOC emission control systems that consist of a single VOC emission collection device connected to a single VOC emission control device, the overall capture and control efficiency shall be calculated by using the following equation:

$$CE_{Capture\ and\ Control} = [\ CE_{Capture} \times CE_{Control}\ ] / 100$$

Where:
$CE_{Capture\ and\ Control}$ = Overall Capture and Control Efficiency, in percent
$CE_{Capture}$ = Capture Efficiency of the collection device, in percent, as determined in Section 6.3.7.1
$CE_{Control}$ = Control Efficiency of the control device, in percent, as determined in Section 6.3.7.2.

6.3.8 The transfer efficiency of alternative coating application methods pursuant to Section 5.12.9 shall be determined in accordance with the SCAQMD Method "Spray Equipment Transfer Efficiency Test Procedure for Equipment User," May 24, 1989.

6.4 Multiple Test Methods

When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.

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