

RULE 67.11 WOOD PRODUCTS COATING OPERATIONS

(Adopted & Effective 3/14/89; Rev. Effective 8/13/97;
Rev. Effective 9/25/02; Rev. Adopted 6/27/12 & Effective 6/27/13)

(a) APPLICABILITY

(1) Except as otherwise provided in Section (b), this rule is applicable to all wood products coating operations.

(2) Any coating operation subject to the requirements of Rules 67.0 or 67.18 shall not be subject to this rule.

(3) Rule 66.1 shall not apply to any wood products coating operation which is subject to or exempt from this rule.

(b) EXEMPTIONS

(1) The provisions of Sections (d), (e) and (f) shall not apply to the following:

(i) Coatings applied using non-refillable handheld aerosol spray containers.

(ii) Any wood products coating operation at a stationary source where 20 gallons or less of coatings are applied to wood products per consecutive 12-month period. The volume of materials applied using non-refillable handheld aerosol spray containers shall not be included when determining the applicability of this exemption.

(iii) Any wood products coating operation at a stationary source where the VOC emissions from such operation are 150 pounds or less per consecutive 12-month period, excluding surface preparation, cleanup, and stripping materials. The volume or VOC content of materials applied using non-refillable handheld aerosol spray containers shall not be included when determining the applicability of this exemption.

(iv) Any wood products coating operation where not more than 20 gallons of non-complying coatings are used per consecutive 12-months, provided that the total amount of non-complying coatings used at the stationary source does not exceed 20 gallons in any consecutive 12-month period.

It is the responsibility of any person claiming an exemption pursuant to Subsections (b)(1)(ii), (b)(1)(iii) and (b)(1)(iv) to maintain monthly purchase and monthly or daily usage records and all records necessary to calculate VOC emissions. These records shall be maintained onsite for three years and made available to the District upon request.

(2) The provisions of Subsection (d)(1) shall not apply to the following:

(i) Any coatings applied by air brushes with a capacity of two ounces (59.1 ml) or less.

(ii) Any coatings applied during touch-up operations.

(3) The provisions of Subsections (d)(2) and (d)(3) shall not apply to coatings applied to wooden musical instruments.

(c) **DEFINITIONS**

For the purposes of this rule the following definitions shall apply:

(1) "**Adhesive**" means a material applied to a wood surface for the sole purpose of bonding the wood surface with another wood or non-wood surface by attachment.

(2) "**Application Equipment**" means equipment used to apply coatings, inks, and adhesives, including, but not limited to spray guns, rollers, and brushes.

(3) "**Binder**" means a non-volatile polymeric organic material, such as a resin, which forms a surface film during coating applications.

(4) "**Cleaning Material**" means any VOC containing substance which is liquid at atmospheric pressure and ambient temperature and which is used as a cleaning agent, surface preparation agent, or for other similar purposes.

(5) "**Clear Topcoat**" means a final coating which contains binders, but not opaque pigments, and is specifically formulated to form a transparent or translucent solid protective film. Clear topcoats include clear lacquers and varnishes but exclude conversion varnishes.

(6) "**Coating**" means a VOC containing material, which can be applied as a thin layer to a substrate, and which either dries or cures to form a continuous solid film or impregnates a substrate for protection, decorative, or functional purposes. Such materials include, but are not limited to paints, varnishes, sealers, lacquers, inks, fillers, washcoats, toners, and stains but exclude adhesives.

(7) "**Coating Operation**" means all steps involved in the application, drying and/or curing of surface coatings, including touch-up operations, and associated stripping, surface preparation and coating application equipment cleaning.

(8) "**Conversion Varnish**" means a topcoat or sealer which is comprised of an alkyd or other resin blended with amino resin in a homogeneous liquid that, when acid catalyzed and applied, hardens by evaporation and polymerization.

(9) "**Dip Coat**" means a coating application method accomplished by dipping an object into the coating material.

(10) "**Electrostatic Spray**" means a coating application method accomplished by charging atomized paint particles for deposition by electrostatic attraction.

(11) "**Exempt Compound**" means the same as defined in Rule 2.

(12) "**Filler**" means a material used to fill in cracks, grains and imperfections of wood before applying a coating.

(13) "**Flow Coat**" means a coating application method accomplished by flowing a stream of coating over an object and draining off any excess coatings.

(14) "**Hand Application Method**" means a coating application method accomplished by applying a coating by manually held, non-mechanically operated equipment. Such equipment includes, but is not limited to, paintbrushes, hand rollers, rags and sponges.

(15) "**High-Solids Stain**" means a stain containing more than one pound of solids per gallon of material.

(16) "**High-Volume Low-Pressure (HVL) Spray**" means a coating application method using a spray applicator and pressurized air which is designed to be operated and which is operated at an atomizing pressure between 0.1 and 10.0 psig, measured dynamically at the center of the applicator's air cap and the applicator's air horns.

(17) "**Ink**" means a liquid that contains dyes and/or colorants and is used to make markings, but not to protect surfaces.

(18) "**Low-Solids Coating**" means a coating containing one pound of solids or less per gallon of material.

(19) "**Low-Solids Stain**" means a stain containing one pound of solids or less per gallon of material.

(20) "**Medium Density Fiberboard (MDF) Coating**" means the initial coating which is applied directly to the surface of MDF. MDF is a wood product composed of tightly compressed wood fibers bonded with resins, and has a density greater than 45 pounds per cubic foot.

(21) "**Multi-Colored Coating**" means a coating which exhibits more than one color when applied and which is packaged in a single container and applied in a single coat.

(22) "**New Wood Product**" means a wood product which has not been previously coated. A wood product from which coatings have been removed to repair flaws in initial coating applications is a new wood product.

(23) "**Pigmented Coating**" means an opaque coating containing binders and colored pigments, and formulated to hide the wood surfaces either as an undercoat or topcoat.

(24) "**Refinished Wood Product**" means a post-consumer wood product which has had some or all of the coatings removed, and to which new coatings are applied in order to preserve or restore the post-consumer wood product to its original condition. A wood product from which coatings have been removed to repair flaws in initial coatings applications is not a refinished wood product.

(25) "**Roll Coat**" means a coating application method accomplished by rolling a coating onto a flat surface using a roll applicator.

(26) "**Sealer**" means a coating which contains binders and which seals wood surfaces prior to the application of subsequent coatings.

(27) "**Stationary Source**" means the same as defined in Rule 2.

(28) "**Stripping Material**" means a liquid containing VOC and applied to remove a coating, coating residue or adhesives.

(29) "**Toner**" means a coating which contains not more than one pound of binders and dyes or pigments per gallon of material and which is used to add tint to a coated surface.

(30) "**Touch-up Operation**" means the portion of a coating operation which is incidental to the main coating process but necessary to cover minor imperfections or minor mechanical damage incurred prior to intended use, or to achieve coverage as required.

(31) "**Transfer Efficiency**" means the ratio of the weight of coating solids adhering to the part being coated to the weight of coating solids used in the application process expressed as a percentage.

(32) "**Volatile Organic Compound**" (VOC) means the same as defined in Rule 2.

(33) "**VOC Content Per Volume of Coating, Less Water and Exempt Compounds**" means the same as defined in Rule 2.

(34) "**VOC Content Per Volume of Material**" means the weight of VOC per volume of low-solids coating, cleaning or stripping material and is calculated by the equation provided in Rule 2.

(35) "**Washcoat**" means a low-solids coating containing not more than one pound of solids per gallon of material, which is used to seal wood surfaces, prevent undesired staining and control penetration. A washcoat may also be used to provide a barrier coat when paper laminates are applied to the wood surface, or when glazes are applied during the coating operation.

(36) "**Wood Products**" means any objects that are made of or primarily fabricated with solid wood, wood composition, bamboo and/or rattan, including, but not limited to furnishings, art objects, tables, chairs, beds, sofas, shutters, and cabinets.

(d) **STANDARDS**

(1) Coating Application Equipment

Except as provided in Subsection (b)(2), no coatings shall be applied unless one of the following coating application methods is used:

- (i) Hand application method; or
- (ii) Dip coat; or
- (iii) Roll coat; or
- (iv) Flow coat; or
- (v) Electrostatic spray; or
- (vi) High-volume low-pressure (HVLP) spray. Facilities using an HVLP spray gun shall have available on site pressure gauges in proper operating condition to measure the air cap pressure or have available manufacturer's technical information regarding the correlation between the handle air inlet pressure and the air cap pressure. If the correlation option is used to demonstrate compliance, a handle air inlet pressure gauge will be required on site in proper operating condition to measure the handle air inlet pressure; or
- (vii) Other coating application methods that are demonstrated to have a transfer efficiency at least equal to one of the above application methods, and which are used in such a manner that the operating parameters under which they were demonstrated to achieve such transfer efficiency are permanent features of the method. Such coating application methods shall be approved in writing by the Air Pollution Control Officer prior to use.

(2) VOC Coating Limits for New Wood Products

(i) Except as provided in Subsection (d)(2)(ii) below, a person shall not apply any coating to a new wood product with a VOC content in excess of the following limits expressed as either grams of VOC per liter of coating (g/L) or pounds of VOC per gallon of coating (lb/gal), as applied, less water and exempt compounds:

<u>CATEGORY</u>	<u>VOC LIMITS</u>	
	<u>g/L</u>	<u>lb/gal</u>
Clear Topcoats	275	2.3
Conversion Varnishes	550	4.6
Fillers	275	2.3
High-Solids Stains	350	2.9
Inks	500	4.2
Medium Density Fiberboard (MDF) Coatings	550	4.6
Multi-Colored Coatings	275	2.3
Pigmented Coatings	275	2.3
Sealers	275	2.3
Any Other Coatings	275	2.3

(ii) A person shall not apply a low-solids coating, including toners and washcoats, to a new wood product with a VOC content in excess of 120 grams of VOC per liter of material or 1.0 pound of VOC per gallon of material, as applied.

The requirements of Subsection (d)(2) may be met using an Alternative Emission Control Plan (AECPP) that has been approved pursuant to Rule 67.1.

(3) VOC Coating Limits for Refinished Wood Products

(i) Except as provided in Subsection (d)(3)(ii) below, a person shall not apply any coating to a refinished wood product with a VOC content in excess of the following limits expressed as either grams of VOC per liter of coating (g/L) or pounds of VOC per gallon of coating (lb/gal), as applied, less water and exempt compounds:

<u>CATEGORY</u>	<u>VOC LIMITS</u>	
	<u>g/L</u>	<u>lb/gal</u>
Clear Topcoats	680	5.7
Conversion Varnishes	550	4.6
Fillers	500	4.2
High-Solids Stains	700	5.8
Inks	500	4.2
Medium Density Fiberboard (MDF) Coatings	680	5.7
Multi-Colored Coatings	680	5.7
Pigmented Coatings	600	5.0
Sealers	680	5.7
Any Other Coatings	420	3.5

(ii) A person shall not apply low-solids coatings to a refinished wood product with a VOC content in excess of the following limits expressed as either grams of VOC per liter of material (g/L) or pounds of VOC per gallon of material (lb/gal), as applied:

<u>CATEGORY</u>	<u>VOC LIMITS</u>	
	<u>g/L</u>	<u>lb/gal</u>
Low-Solids Stains, Toners or Washcoats	700	5.8
Any Other Low-Solids Coatings	480	4.0

The requirements of Subsection (d)(3) may be met using an Alternative Emission Control Plan (AECPP) that has been approved pursuant to Rule 67.1.

(4) Surface Preparation Materials

A person shall not use VOC containing materials for surface preparation unless the material contains 25 grams or less of VOC per liter of material.

(5) Stripping Materials

A person shall not use VOC containing materials for stripping unless:

- (i) The material contains 200 grams or less of VOC per liter of material; or
- (ii) The material has a total VOC vapor pressure of 2 mm Hg or less, at 20°C (68°F).

(6) Cleaning of Application Equipment

A person shall not use VOC containing materials for the cleaning of coating application equipment used in operations subject to this rule unless:

- (i) The cleaning material contains 25 grams or less of VOC per liter of material; or
- (ii) The cleaning material is flushed or rinsed through the application equipment in a contained manner that will minimize evaporation into the atmosphere; or
- (iii) The application equipment or equipment parts are cleaned in a container which is open only when being accessed for adding, cleaning, or removing application equipment or when cleaning material is being added, provided the cleaned equipment or equipment parts are drained to the container until dripping ceases; or
- (iv) A system is used that totally encloses the component parts being cleaned during the washing, rinsing, and draining processes.

(7) No person shall require for use or specify the application of a coating subject to this rule if such use or application results in a violation of this rule. This prohibition shall apply to all written or oral contracts under the terms of which any coating is applied to any wood product at any location within San Diego County.

(8) Spray application equipment shall not be used to dispose of waste coatings or solvents into the air.

(e) CONTROL EQUIPMENT

(1) In lieu of complying with the provisions of Subsections (d)(2), (d)(3), (d)(4), (d)(5) and/or (d)(6) of this rule, an owner/operator may use an air pollution control system which:

(i) Has been installed in accordance with an Authority to Construct; and

(ii) Includes an emission collection system which captures and transports VOC emissions generated by wood products coating operations to an air pollution control device; and

(iii) Has a combined VOC emissions capture and control device efficiency of at least 85% by weight.

(2) A person electing to use control equipment pursuant to Subsection (e)(1) shall submit to the Air Pollution Control Officer for approval an Operation and Maintenance plan for the proposed emission control device and emission collection system and receive approval prior to operation of the control equipment. Thereafter, the plan can be modified, with Air Pollution Control Officer approval, as necessary to ensure compliance. Such plan shall:

(i) Identify all key system operating parameters. Key system operating parameters are those necessary to ensure compliance with Subsection (e)(1)(iii), such as temperature, pressure, and/or flow rate; and

(ii) Include proposed inspection schedules, anticipated ongoing maintenance, and proposed record keeping practices regarding the key system operating parameters.

(3) Upon approval of the Air Pollution Control Officer, a person subject to the requirements of Section (e) shall implement the Operation and Maintenance plan and shall comply with the provisions of the approved plan thereafter.

(f) RECORD KEEPING REQUIREMENTS

(1) Any person conducting operations subject to this rule shall maintain records in accordance with the following:

(i) Maintain a current list of coatings, and stripping, surface preparation and cleaning materials in use which provides all of the VOC data necessary to evaluate compliance, including, but not limited to:

(A) Manufacturer's name and identification for each coating or coating component for multi-component coatings (such as bases, catalysts, thinners or reducers, when supplied in separate containers), and stripping, surface preparation and cleaning material; and

(B) For coatings, other than low-solids coatings, the VOC content expressed in grams per liter (or lbs/gal), as applied, less water and exempt compounds; and mix ratio of components, if applicable; and

(C) For surface preparation, cleaning and stripping materials or for low-solids coatings, the VOC content expressed in grams per liter (or lbs/gal) of material, as used; and density, mix ratio of components and/or vapor pressure, if applicable.

(ii) Maintain current documentation to demonstrate applicability of any coating category pursuant to Subsection (d)(2) or (d)(3) of this rule.

(iii) Maintain monthly or daily records of the amount of each coating or each coating component for multi-component coatings used.

(iv) Maintain monthly inventory, purchasing or dispensing records of the amount of each stripping, surface preparation and cleaning material used.

(v) Maintain records of the dates and amounts of material added to coating dip tanks as applicable.

(2) Any person using control equipment pursuant to Section (e) of this rule shall:

(i) Maintain records in accordance with Subsection (f)(1); and

(ii) For all coatings, and stripping, surface preparation and/or cleaning materials not in compliance with Subsections (d)(2), (d)(3), (d)(4), (d)(5), or (d)(6) of this rule, maintain daily records of the amount of each coating or each coating component for multi-component coatings, and stripping, surface preparation and cleaning material used; and

(iii) Maintain daily records of key system operating parameters as approved in the Operation and Maintenance plan. Such records shall be sufficient to document continuous compliance with Subsection (e)(1)(iii) during periods of emission producing activities.

(3) All records shall be retained onsite for at least three years and made available to the District upon request.

(g) TEST METHODS

When more than one test method or set of test methods are specified in this Section, 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.

(1) Measurements of transfer efficiency pursuant to Subsection (d)(1)(vii) of this rule shall be conducted in accordance with the South Coast Air Quality Management District (SCAQMD) "Spray Equipment Transfer Efficiency Test Procedure for Equipment User," May 24, 1989. The equivalency of coating application equipment pursuant to Subsection (d)(1)(vii) shall be determined by the SCAQMD "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns," September 26, 2002.

(2) The VOC content of coatings containing more than 50 grams of VOC per liter shall be determined by the Environmental Protection Agency (EPA) Reference Method 24 (40 CFR Part 60, Appendix A) (Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings), September 11, 1995, or by the SCAQMD Method 304-91 (Determination of Volatile Organic Compounds in Various Materials), February 1996.

(3) Measurement of the VOC content of ultraviolet radiation-cured coatings subject to Subsections (d)(2) or (d)(3) shall be conducted in accordance with ASTM Standard Test Method D5403-93(2007) (Standard Test Methods for Volatile Content of Radiation Curable Materials) or its most current version. Measurement of the water content and exempt compound content, if applicable, shall be conducted and reported in accordance with ASTM Standard Test Methods D3792-05(2009), D4017-02(2008)e1 and D4457-02(2008), or their most current versions.

(4) The VOC content of surface preparation, cleaning or stripping materials containing 50 grams of VOC per liter or less shall be determined by the SCAQMD Method 313-91 (Determination of Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry), June 1993, or by the SCAQMD Method 308-91 (Quantitation of Compounds by Gas Chromatography), February 1993.

(5) The content of methyl acetate, acetone and parachlorobenzotrifluoride shall be determined in accordance with the ASTM Standard Test Method D6133-02(2008) (Standard Test Method for Acetone, p-Chlorobenzotrifluoride, Methyl Acetate or t-Butyl Acetate Content of Solventborne and Waterborne Paints, Coatings, Resins, and Raw Materials by Direct Injection Into a Gas Chromatograph), or its most current version.

(6) Measurements of exempt compound content, other than determined in accordance with Subsection (g)(5), shall be conducted in accordance with the SCAQMD Test Method 303-91 (Determination of Exempt Compounds), August 1996.

(7) Calculation of total VOC vapor pressure for materials subject to Subsection (d)(5) of this rule shall be conducted in accordance with the District's "SD 1, Procedures for Estimating the Vapor Pressure of VOC Mixtures," dated June 20, 1990. If the vapor pressure of the liquid mixture, as calculated by this procedure, exceeds the limits specified in Subsection (d)(5), the vapor pressure shall be determined in accordance with ASTM Standard Test Method D2879-10 (Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope), or its most current version.

(8) The overall control efficiency of air pollution control equipment operated pursuant to Subsection (e)(1)(iii) shall be determined by multiplying the capture efficiency of the emission collection system by the control efficiency of the air pollution control device. The control efficiency of the air pollution control device shall be determined using EPA Reference Methods 25A and/or 18, (40 CFR Part 60, Appendix A) and in accordance with a protocol approved by the Air Pollution Control Officer. Capture efficiency shall be determined according to EPA Test Methods 204 and 204A through 204F (51 CFR Appendix M), as applicable, and technical document, "Guidelines for Determining Capture Efficiency," dated January 9, 1995. Subsequent to the initial compliance demonstration period, appropriate key system operating parameters as approved by the Air Pollution Control Officer may be used as indicators of the performance of the emission control system.

(9) Other test methods which are determined to be equivalent to the test methods specified in this rule and approved, in writing, by the Air Pollution Control Officer, California Air Resources Board, and EPA may be used in place of the test methods specified in this rule.